

Volume 2: Memory bank Alexander L. Kielland-accident

# Those of us who saved, rescued and investigated

Editor: Marie Smith-Solbakken

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## Synopsis

This book is part of a collection of five works on memories from the Alexander L. Kielland oil platform disaster in 1980. The book includes memories of those who were in some way involved in the rescue operation without being among the survivors of the accident. When we phrase ourselves in this way, it is an acknowledgment of the survivors themselves playing a crucial role in the rescue. Many of those who survived the accident did so thanks to the efforts of others who were part of the accident. Some of those helpers survived and others died. The memories of the survivors are included in another publication in the series of memories after the accident.

The rescue operation after the accident involved all North Sea nations. The focus of this collection is on memories from Norway. However, we wish to acknowledge the importance of rescue workers from other nations as well and hope that we will also be able to include their memories in future editions.

The memories are from interviews conducted by the listed authors with those involved in the rescue operation. The interviewees have all read the interview transcripts, have sometimes altered them and made additions, and in a few cases have rewritten them to such an extent that they themselves are listed as authors.

An included list of references is a selection of archival sources as well as published sources related to the memories in this collection. More substantial bibliographies, as well as lists of archival sources, are included in Smith-Solbakken (2016) and in Smith-Solbakken and Weihe (2019). Further specialized publications focus on subjects such as post-traumatic stress disorders (Smith-Solbakken and Weihe, 2018) and grief (Weihe and Smith-Solbakken, 2012), and include additional bibliographies.

## Pictures from the rescue at Ekofisk



Photo 2. In this photo, three out of four pontoons are visible. The men in the boat are presumably preparing to attach ropes to tow Alexander L. Kielland from Ekofisk to the mainland. The vessel on the left side is the Seaway Falcon. The vessel on the right side is the Wildrake. Photo: Torger Berge/Norwegian Oil Museum. Used with permission.



Photo 3. Edda 2/7 C and rescue vessel after the accident.  
Photo: Norwegian Oil Museum. Used with permission



## NORTH SEA, EDDA, ALEXANDER L. KIELLAND

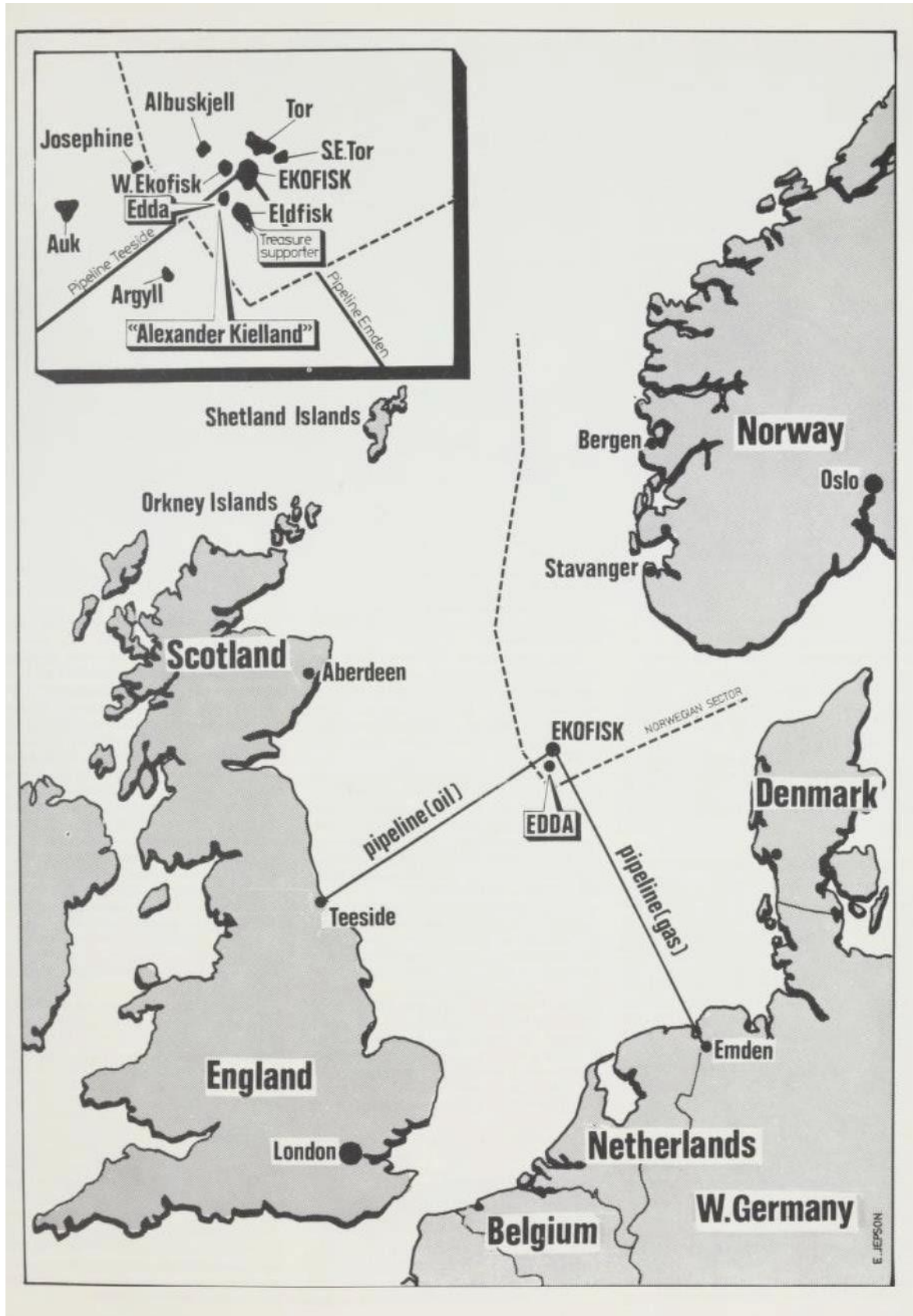


Figure 1: Overview of the North Sea.  
 Hovedredningscentralen Southern Norway (1980): 3.

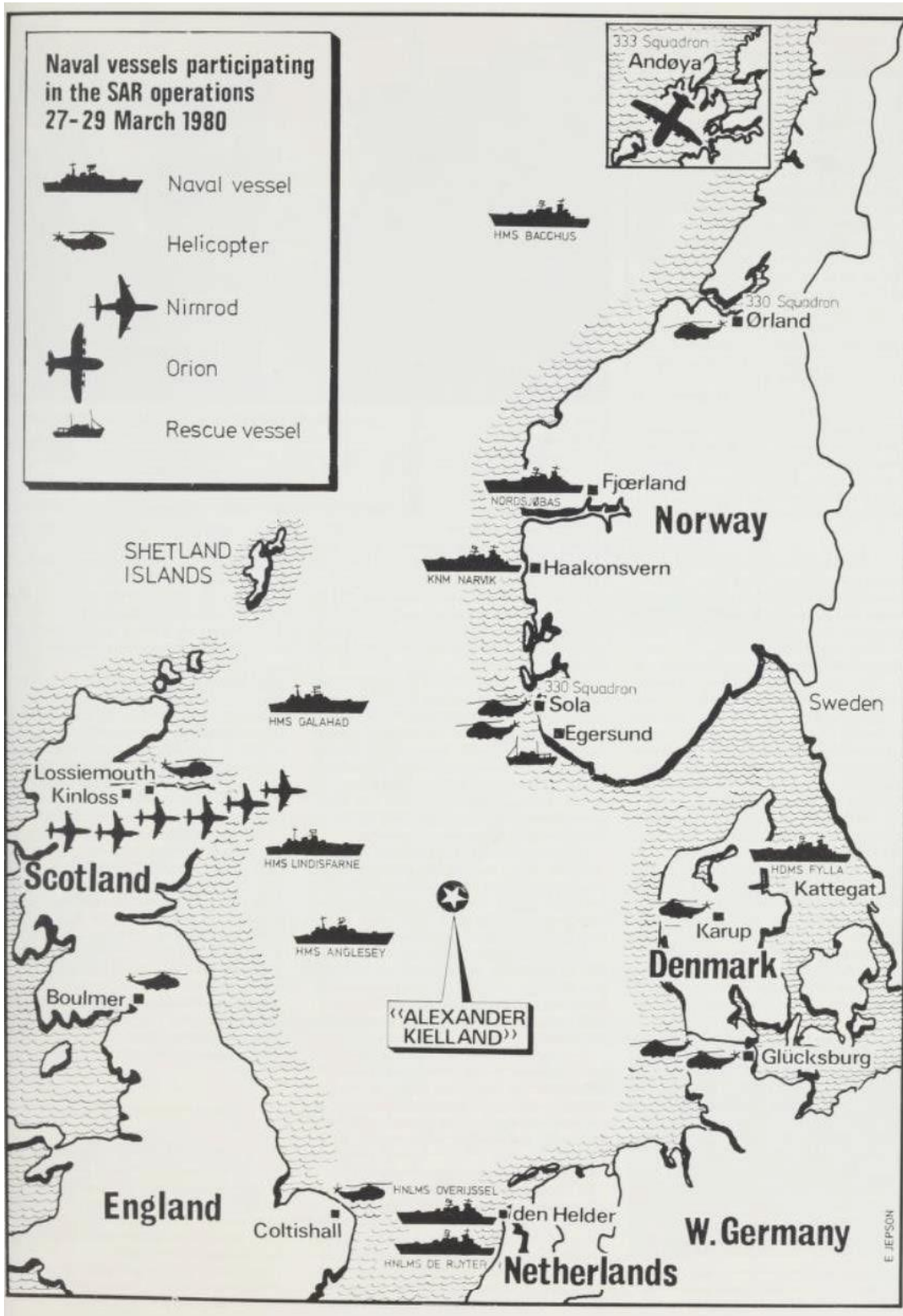


Figure 2: Vessels that participated. Hovedredningscentralen Southern Norway (1980): 11.

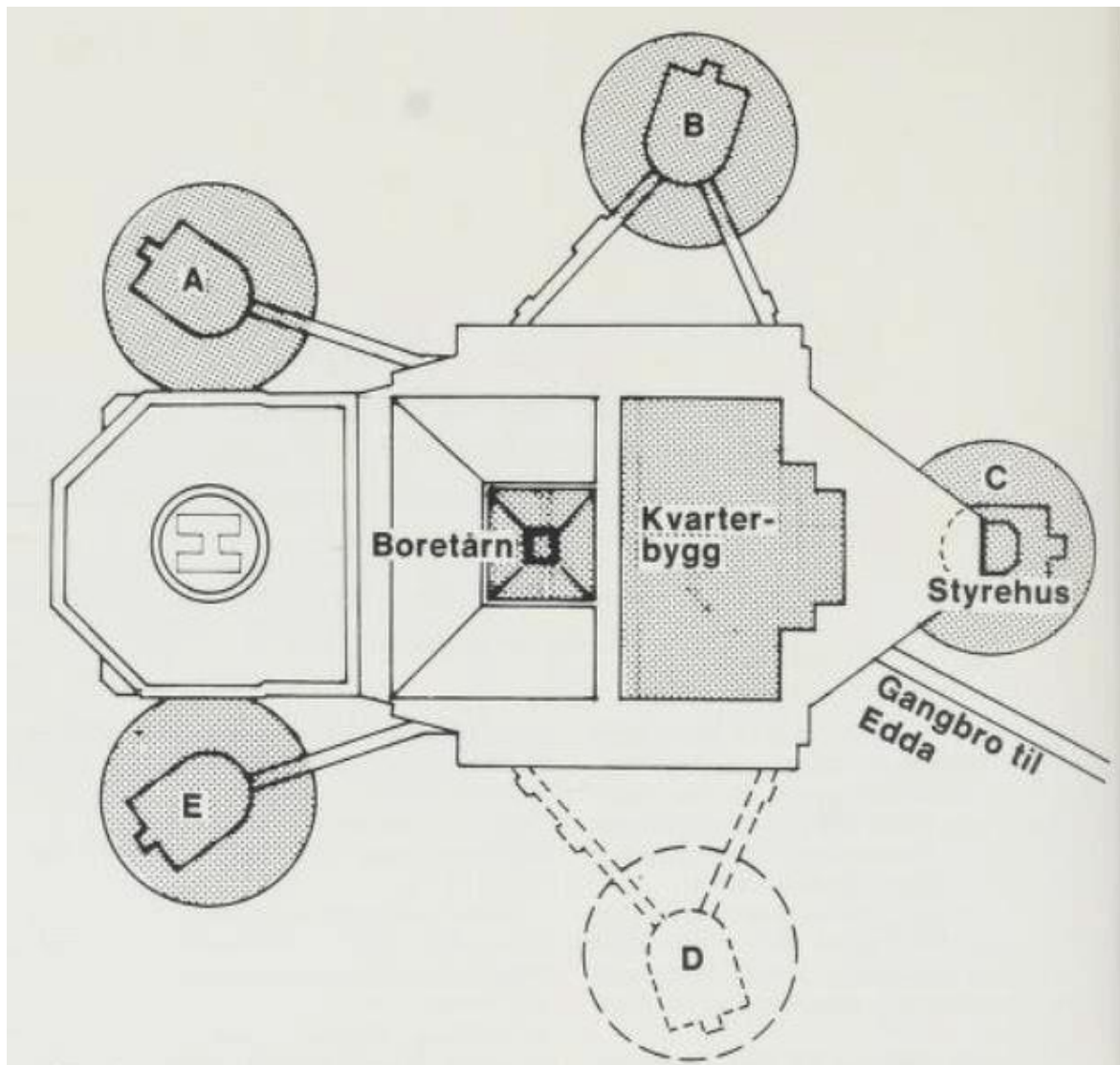


Figure 3: Alexander L. Kielland seen from above, with four support columns gridded, while column D is dashed and ungridded. With support column D gone, the platform's center of gravity will be close to the axis between support columns C and E. Hovedredningsentralen Southern Norway (1980): 2.

## OVE URHEIM, LOFFLAND BROTHERS

By Marie Smith-Solbakken, April 12, 2016

## PERSONAL DETAILS

[ove.urheim@haugnett](mailto:ove.urheim@haugnett)

Born 1948

## FACEBOOK-UPDATE MARCH 27, 2016 :

*«I will never forget that day, that evening. Me and a college from drilling, I think it was Henriksen who lived at Sotra, were downstairs to retract the gangway between Edda and AK. We were midway up the ladder and the rig was moved away from Edda. Then the leg broke and the rig began to capsize. This was my last stay on Edda because I had got a new job on Statfjord A, for Mobil, I was supposed to move there after some onshore training»<sup>28</sup>.*

## IMPLEMENTATION AND USE

Informed about the project and its purpose. The notes were sent for review and correction on the 15<sup>th</sup> of April 2016. The notes were corrected on the 16<sup>th</sup> of June 2016, and Ove Urheim has consented to its use (27.06.2016) via email and SMS.

Urheim has consented that notes from the conversation can be made public and included in the memory collection about the Alexander L. Kielland- accident, which is handed over to the Norwegian Petroleum Museum, the State archives in Stavanger, the National library and the Labour Movement's archive and library so that posterity can take part in this history.

## BACKGROUND

1975: Seaway Diving dive technician, keeps the equipment in technical condition and is in the control room and accompanies the divers underwater, and during ascent and descent. It is important that they have the right water temperature in the diving suits.

New Year's Eve 1979: Loffland as auxiliary worker and engine attendant during drilling, prepared, looked after the power and ran the unit. It was on Edda. The last trip was when Kielland capsized, had gotten a job for Mobil as an operator.

May 1980: Mobil and later Statoil. Was on Statfjord A 1980-1988.

1988: Senior technician on Veslefrikk for Statoil.

1991-2008: Production manager on Veslefrikk.

2008: Early retirement; received Statoil package.

## EDDA MARCH 27.

I worked the nightshift; it was around 6 or 6:30 pm. We were supposed to retract the gangway to Kielland. It was strapped together. It was me and Tore Henriksen. We were halfway up the second ladder on our way to the drilling deck when we noticed that something was happening. We saw that Kielland was starting to tilt towards us. A maximum of five or ten minutes had passed since we loosened the straps. We were probably the first to see it. We were barely midway up the second ladder (staircase). There were at total of four ladders to the top.

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<sup>28</sup> Urheim 2016



## NOISE

We heard noise when we climbed the first ladder, probably from the leg starting to detach. It normally takes two minutes to walk from the gangway to the first ladder. We didn't understand where the noise came from.

From the second ladder, we can see that the platform is tilting, the leg closest to Edda is giving in – it's the leg on the left side – when we look at Kielland from the Edda.

When we are midway up the second ladder, we observe a helicopter getting ready to land on Kielland. They begin the decent, but then the helicopter ascends back up, and Kielland tilts even more. The helicopter disappeared.

I remember seeing the leg floating in the water, but I cannot recall when I first saw it. We were busy trying to rescue people.

It lists 30-40 degrees. At the same time, we see containers and loose equipment (gas cylinders etc.) plummeting down and into the sea.

We quickly turned around and ran to the radio operator (I can't remember his name) to tell him that Kielland was capsizing. He wouldn't believe us. He thought we had gone mad. He headed out onto the walkway to see for himself. The platform manager (look his name up in the newspaper, he was let go) also came to have a look. We tried to lower life rafts, but they were caught by the strong winds. We decided to find the crane operator, Roger Marcussen. We attached the crane to the basket and the crane operator steered the crane towards the people floating in the sea. We went up to the helipad to receive those who were picked up. I think we received 8 people. We led them to the showers and warmed them. I welcomed Olav Skotheim. He was the first one I received. We gave him dry clothes.

It was noisy and it took some time before the platform completely overturned. We were afraid that it would crash onto the Edda platform.

## EVACUATED

We were transported by helicopter to another platform (can't remember the name). We spent the night there. We went out to search for people the next morning. We were 5-6 people who were looking out of the shuttle-helicopter window.

We didn't see anything. Helicopters found people later, but not while I was there.

We were there for two or three days, then we were flown ashore. We were still wearing overalls when we landed in Stavanger. Loffland's personnel manager received us there. The first thing he said was: you're going back to sea in 8 days, but now you are going to Sandnes to buy new clothes (a store in Sandnes city centre) and you will spend a night in a hotel. I found it bizarre that we were meant go back to sea so quickly.

I was going to Statfjord. But when the time approached, I couldn't leave. I hadn't slept since I got home. I got a sick leave for one month. I never worked offshore for Loffland again.

I met four or five people. Met with a psychologist (specialised in disasters in Norway, I was told). We saw him one by one and together with others. We talked about what had happened. Those who received us gave us liquor, a lot of liquor, it was insane. The psychologist told us to drink a bottle of hard liquor and then talk with each other. I don't know if that was a good idea?

A taxi picked us up the following day and drove us to Stavanger to the Westamaran. I didn't have any money, nor did I have my ID. I told the receptionist that I didn't have money because I was among those brought ashore from the Kielland accident. She said I'll talk to the skipper, and you can sit with him. I sat with him. The follow-up was tragically poor.

I never got my bags and other personal belongings back. They were on Edda; it was strange that we didn't get it back. I didn't care either, I just wanted to put the whole thing behind me.

I met the personnel manager from Loffland when I started to work for Statoil. He later became the personnel manager in Statoil.

#### COLLEAGUE TORE HENRIKSEN

Tore Henriksen, Skålevik, Sotra. He was very vocal in the media, in *BT*. He was blacklisted and never got to go back to work in the North Sea. He criticised the rescue from Kielland as well as the lifeboats. We didn't have any training. He criticised the fact that the routines were not followed. During my time on Edda, I attended lifeboat training only once. According to today's rules, it should have been mandatory once on every stay.

#### WHAT DO YOU THINK?

I spent some time on Kielland, borrowing films, I knew those people. They were doing some welding in one of the legs. It was the one that broke off. Black electrical power cables ran through the door down to the leg. I'm pretty sure about it. There were additionally red and blue hoses there (supply for open-flame welding/burning).

This could mean that they were working on the bracings. Maybe they had discovered a weakness that they tried to repair – these are speculations. The welding may have triggered an unintentional explosion. There were cables and gas hoses going down there.

I know that they were working on the bracings. I saw it.

Henriksen and I told people this when we were at the hotel in Sandnes. Another person agreed. They did it! He was from Egersund.

#### LIKELY CAUSE

Hauling, rough seas, heavy load on that leg in addition to it being damaged. They were repairing something there.

#### THERE WAS NOISE

The sounds could come from the helicopter, but I wasn't sure. We wondered whether it came from an explosion. But we were mostly concerned and with getting the rescue

equipment, so we didn't think a lot about the cause. It is unfortunate that we never got together to talk about what we saw.

#### DIDN'T REPORT ANYTHING— DIDN'T SAY ANYTHING

We expected that we would be called in for questioning. I never heard anything, it never happened. It was strange that they did not want to talk to us – we were the first people to witness it all.

It frightened me that Henriksen was blacklisted and not allowed back to work in the North Sea. I kept quiet and chose to not contact the media. I answered questions when people asked me. It seemed like someone (Loffland, the Platform Manager on Edda who was fired, Phillips etc.) didn't want to know what we had seen and heard.

#### AMUNDSEN DIVING

Leif Georg Amundsen has his own company, Amundsen diving, lives in Spain.

Amundsen and I, we used to be friends. He was mostly interested in what the platform looked like. I showed him the cinema room and the crew mess on the pictures I had taken. I gave him 10-20 photos. He told me that they were very helpful to him. They wanted to keep them for the investigation. I never got them back.

I told Amundsen what I believed to be the cause, but he never informed me of what they found. I don't know how involved he was. They went inside of it to search for people.

Skotheim; I remember meeting him at one of the gatherings. You may remember that it was me who picked you up and took you to the shower and brought you clothes. He just grinned. Didn't want to talk about it.

#### QUIET

We were not keen on talking about it. We wanted to forget.

#### THE PHOTOS THAT WENT MISSING

Leif Georg Amundsen: remembers where the photos are. There are photos showing the load on the deck. Photos taken from the helipad showing how many containers there were, and where they were located. The photos are gone.

#### MOST VIVID MEMORY

To be placed in a room with liquor and not be followed-up and not be heard or be able to contribute with what we knew.

I still picture people in the sea crying for help. I had nightmares for 10 years after the accident. I still do sometimes. Now, in relation to this interview, I have started to think about it again. I have woken up in the middle of the night to put on a life belt. I did this during the first years after the accident. I woke up in the middle of the night and put on a

life belt and survival suit. My roommate came into the cabin several times and found me sitting in bed wearing survival suit and life belt. He just looked at me and thought I needed help.

#### CONSEQUENCES

It has affected me greatly. I am very concerned with safety. I have never had an accident on my shift. I'm weary of warning signs. It's been ok.

ROGER MARCUSSEN, PHILLIPS

By Marie Smith-Solbakken and Else M. Tunglund, January 18, 2016, Bømlo.

Conversation with Roger Marcussen in his home in Bømlo. Approved notes on the 20<sup>th</sup> of June 2016. He has consented to the publication of the notes from the conversation and that it can be included in the memory collection of the Alexander L. The Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State Archive in Stavanger, the National Library and the Labour Movement archive and library for posterity to take part in this. (Messenger 12/21/2018).

#### BACKGROUND

Born 1953

Vocational training

Forestry

1972: Aker Stord as crane operator.

1976: hired by Mobil at Stord in relation to building Statfjord A as a crane operator.

1977: Phillips as crane operator.

1981: Mobil as crane operator.

1987: Statoil as crane operator.

1987: Hydro until integration as crane operator.

2005: Statoil/Hydro as crane operator.

and still works in Statoil as crane operator, logistics expert.

#### BEFORE KIELLAND

I'm not afraid of authority figures, the Phillips management chased me away from Edda. They viewed me as arrogant. I was transferred to the centre and stayed there for three or four months. Suddenly they needed people on Edda. I was transferred there by coincidence. I had worked there before, but they chased me away. I had criticised the fact that we were breathing diesel smoke. We got sick. We could vomit while we were working because of the diesel exhaust, depending on the direction of the wind that came through the crane house. The exhaust came from the diesel generators.

Every day, I loaded/unloaded drilling equipment through Edda and down to Alexander Kielland. It was probably not completely legal because there were lots of equipment that could roll around. They did it to save time. Kielland was going ashore to remove the housing unit and then it was going over to the British continental shelf to drill.

#### MARCH 27, 1980

I sat and watched a film when the alarm went off. I ran up towards the crane, only wearing slippers, jeans, and a t-shirt. Kielland was slightly tilted. I saw a guy on the top deck who attached the basket. I still don't know who it was, but I helped him hook it on. I thought we could lift people over from Kielland in the basket. I had forgotten that it had been moved away because of the storm. The crane didn't reach all the way over.

Then I see that the disaster is a fact, the leg is about to break off. I see a man who is walking on the leg, quite a plump man. He comes out of the winch house on the broken leg, he walks upwards, turns, and walks inside. Then he comes back out wearing a survival suit. I don't know where he went. When the leg broke off, the deck was in the ocean.

At first, it has a 20–30-degree list for five to six minutes, then it is at 75 degrees, hanging by the anchor chain. I saw a flash of light in my side view when the anchor chain snapped. Those who stood on the highest point and went around with the platform fell too far from the crane and it was impossible to pick them up.

#### RESCUED WITH THE CRANE

People were paralyzed, they crawled like rats towards the highest point. Our only option was to pick people up from the sea. Several people jumped into the sea either via a non-working lifeboat or from the platform (Alexander Kielland). Some caught hold of the steering rope underneath the basket but slowly slipped off as I tried to hoist them up. We weren't allowed to have a knot in the end of it because it could tangle up in things. But then there was nothing holding against it either. One lost grip right before he came onto the platform (Edda). Some were almost inside the basket but couldn't get hold of it. One slammed his feet in the railing when I tried to bring him and the basket onto Edda, but he managed to get on board. I tried to catch several people at the same time, but I lost them. A wave washed them out. I was about to cry, I had to choose between him or him. I put the ones who were about to fall off towards the housing side on Edda so that if they fell off, they would do so on one of the food containers on Edda, they got hurt but at least they would get on board.

Svein Vik, tried to jump into the basket but fell off twice. He was rescued by a life raft which was thrown from Edda. I met him later and he joked that maybe I didn't like him because I kept landing the basket on top of him.

The helicopter lit up the area so I could operate the crane and the other boats could see. One boat backed up and hit two or three people. Fuck, I hit someone – I heard on the radio.

At first, Alexander Kielland lists to 20-30 degrees for five to six minutes, then it is at 75 degrees, hanging by the anchor chain. There was a flash of light in my side view when the anchor chain snapped. Those who stood on the highest point and went around with the platform fell too far from the crane and it was impossible to pick them up. I was too far above sea level to see all the details.

I hoisted the basket up and down four or five times. I kept on for about 15 minutes. That was all. After this, there were no more people who could be rescued with the crane. They drifted along with the waves across from Edda.

The cowardly management in Phillips and cowardly colleagues irritated me. I wanted to lower a rescue boat and drive after them. The Philips management said no, and people did not dare to do it. «I would gladly lose my job if it meant that I could save the life of a colleague», I told them. After this, we threw out life rafts. The platform manager told us to stop. «Waisted money», he said. I grabbed him by the collar and said, «people are worth more than rafts». We threw everything into the water, all the rafts we could find.

When we were done with this, there was nothing else we could do. People were to be evacuated from Edda (at 21:04 The Joint Rescue Coordination Centres were informed that 53 people are transported from Edda to Treasure Supporter, 5 of these are from Kielland,

The main rescue centre South Norway, 1980). Get in the helicopter, they said. I boarded the first helicopter. I had reported the platform manager for not doing anything about the diesel exhaust. Diesel exhaust kept coming into the wheelhouse on the crane.

Therefore, they had something on me. They didn't like me. I only stayed on Edda for 20 minutes after the capsizing.

I was brought to a flotel at Eldfisk with most of the others. There was one crane operator left on Edda. He had lost his sister's son while skiing and already had enough to deal with, and I asked to take his place. But I had to get out of there.

#### BASTE FANEUBUST

Baste steered the boats.

Baste started an orphanage later.

#### FORUS

Arrived at the Forus-base. There were representatives from catering and drilling companies who welcomed their employees there, took them to the hospital, bought them clothes and gave them food. There was no one there to receive me. There were no representatives from Phillips. I didn't have any money or clothes. I didn't get to bring my belongings from Edda, and I never got my stuff back. Some of my close friends from Stord lived in Tananger. They gave me a place to sleep, food and money, and clothes to travel home in. A kind-hearted taxi driver drove me to Tananger.

#### STRONGEST MEMORY

Looking at the broken lifeboats and all the people in the sea. I was disappointed that I didn't rescue more people. I was sad that I couldn't pick more people up. People signalled me when they were above the deck, then I released them. They might have been bruised, but it was more important to pick up more people.

#### NJORD A

The Swedish rig got a list.

The alarm went off in the morning. I lived on Njord and saw that the flotel was tilted. There were some complications with the flotel. Then they decided to evacuate it. The anchor had punched a hole in the ballast tank.

#### THE LESSON

Always bring a flashlight and know where all the emergency exits are. My hair quickly turned greyer, and I didn't sleep well afterwards.

#### NOW

The standby boats are too far away.

The rescue helicopters are too far away.

Area security has been reduced.

The personal HSE has improved, almost too much, there is so much paperwork that you hardly get to the finish line.

AWARDED BY PHILLIPS

I was later awarded for honourable effort at a Phillips gathering. After the ceremony, we were encouraged to help ourselves to the bar. I'm usually not one to pass up alcohol but I didn't find this an appropriate thing to celebrate. I left the place after this.



ROGER MARCUSSEN IN BØMLO-NYTT, 29.07.2019.

By Ingvild Sjo <sup>29</sup>

Saved seven people with the crane.

In Langevåg we find a retired crane operator with special memories. Roger Marcussen had the front row seat when the platform Alexander L. Kielland capsized and turned the sea into a killing field. Luckily, he managed to save a few people.

– No, I don't have to close my eyes to picture it, he says about what he experienced almost 40 years ago. Thus, Roger Marcussen is one of the most important witnesses to the biggest industrial accident in Norway ever to have happened. *Bømlo-nytt (Bømlo News)* is in the south of Bømlo to hear his story and to conserve this history which touches so many of us. Many years have passed. Wounds that could be healed, have somewhat healed. No director has taken upon themselves to make a film about the madness that went down on the Ekofisk field on the 27<sup>th</sup> of March 1980. Nevertheless, this is a film Roger Marcussen has seen many times. He is happy to tell in detail, although his voice might tremble a little because his story is about his friends who lost their lives.

– Several people have come forward to tell their stories now. Most of us have retired so we don't need to fear for our jobs, he smiles and sits down in a large leather chair. In his time, he was known as a whistle blower. He was not afraid to speak to management about safety, and this was not always appreciated. Quite the opposite. He was told off or treated badly, or even transferred. The culture in the oil industry was rough, people were afraid of losing their well-paying jobs. It was an unforgiving business.

– But the camaraderie was great, Marcussen says and makes a fist-bump gesture. It probably contributed to many saved lives, but it might have caused some deaths as well. That's a strange thought.

Marcussen worked as a crane operator on the Edda platform which was on block 2/7 C on the Ekofisk field.

– It was a bit bizarre. He had fallen out with the Phillips management after reporting something illegal. He had stayed on the Ekofisk field centre and worked there for six months when they needed a crane operator on board Edda. Marcussen was 27 years old and had returned to Edda a few days prior to the accident. It had its own crew and its own life, while Aleksander L. Kielland functioned as a housing platform, a floatel, which was connected to «Edda» for a short period of time.

– When you read encyclopaedias and other texts about the accident, you get the impression that it was a provisional arrangement?

– Indeed, it was a provisional arrangement! It was illegally anchored, Marcussen says and refers to the two anchors which were not ensembled according to the manufacturers' requirements. There was not enough room for the wires around Edda. Additionally, there had been reports about cracks in the welding in the D bracing. Marcussen had himself lifted drilling equipment across deck that same day because Alexander L. Kielland was

going on a drilling mission for Shell on the British continental shelf on the 13<sup>th</sup> of April. We were short on time, and it was always a matter of making money.

– I knew that it was illegal, Marcussen says. But had he refused to load the equipment, he would have been fired within the hour. The fact that the floating platform functioned as housing was a temporary solution. There were steel barracks on deck, and in the basement, there was a dining hall and cinema room.

– A death trap says Marcussen. He saw this with his own eyes. 212 people had just finished their shifts and crossed the gangway at 18:00. There was a storm, and the waves were between 8 and 10 meters. The gangway had been retracted and the floatel had been moved a few meters away. Some people were eating in the dining hall, others were in the cinema room, and some were in their cabins. They heard load bangs. Load noises were not uncommon, they called it the Frenchman. The platform was constructed in France, and they joked that a Frenchman was welded into the shafts and haunted the place with a sledgehammer.

– Roger Marcussen had friends on board the floatel. There wasn't a much to do that day and he talked to many different people. He particularly enjoyed talking to the uncle of a friend from Stord. When they parted ways, he said: -Take care, you never know what might happen on these platforms. It was like a prediction. This man died in the accident.

– The alarm went off.

– Roger Marcussen had just finished his dinner and sat in the cinema room on Edda when they were informed through the speakers about some problems on Kielland. He ran out to the external staircase tower, wearing slippers and a t-shirt.

– I could see on the bracings that something was wrong. The angle was off, he says about platform leg D. He thought he could get the personnel basket over to Kielland and use it to evacuate people back to Edda. Luckily, he remembered where the personnel basket was, between some containers, and he lowered the hook and managed to attach the basket with help from some crew members on deck. He saw someone signalling circles with their hands and he started to slowly hoist the basket up and was ready to help. The beam on the crane was about 40 meters. It was 50 meters down to the sea.

– But Kielland was too far away. I couldn't reach it, Marcussen says. Kielland had been moved a bit further away due to the storm. The platform listed between 30 and 40 degrees. Marcussen illustrates with a flat hand the way he remembers it. He could see the panic among those who were trapped on the dangerous inclined plane. They were all fighting for their lives. Many people climbed towards the highest point in panic, others jumped into the sea. People struggled to lower the lifeboats, which had turned into death traps as they crushed or tipped over. Marcussen can recall the propeller on a lifeboat. It was spinning and tangled itself into the steel fence on the railing on the stairway down to the sea. It wasn't lowered. He imagines the panic of the people inside of it. These images are stuck in my mind. So are a few other episodes. A mysterious man. Marcussen saw a

man who came up from the D leg right before it broke off. He was a small, slouching man in his mid 50s, grey hair and beard. Blue overall. He cannot remember whether he came out of the winch house or through a hatch – but it was mysterious either way.

– What on earth was he doing down there? Marcussen asks himself for the thousandth time. This is something he has frequently thought about.

– I guess I'll never know the answer. I think he died as well, he says. Later, his explanation to the police was changed to that he observed the man on the C-leg. Marcussen shakes his head and wonders why no one wants the truth to come out. What are they hiding?

– Were you close enough to recognize people you knew on the platform and in the sea?

– No, I could not see who the people were, he replies and tells us about another incident he particularly remembers. It was a man who came out on deck when the platform listed but he went back inside.

Then he returned with a survival suit. He put it on and when he was fully dressed, the platform was so tilted that he stood on the walls, next to the window.

– He did the right thing, Marcussen says and adds: - But I don't know if he survived. Roger Marcussen only had one thought: to rescue as many people as possible. I wanted to lower the personnel basket to the surface so that people could climb into the ring and hold onto the net. In 8-10-meter-high waves, it's difficult both for the crane operator and the people in the sea. Some had their survival suits filled with water and were too heavy.

Marcussen saw to his despair that people lost grip and fell off as he hoisted the basket back up. This is the worst memory I have from the accident.

– Have you thought about what you could have done differently?

– No, I don't think like that. I think I did what I could. After all, I rescued seven people.

### **Like a rocket**

Marcussen saw that the loose D leg was shot 50 meters across the sea like a rocket when it broke off. The waves were high, and the sea filled with people, both dead and alive. For a little while, some wires were delaying the fall, but they eventually snapped with a loud sound. When the platform overturned, those who had climbed to the top fell like projectiles and slammed against the deck to their deaths before they fell to the sea. Many were hit by the derrick in the ocean. Many were dragged down by the suction and disappeared.

### **Life rafts**

The crane had to stand still when the rescue helicopters arrived and landed on the helipad on Edda. Roger Marcussen and one other person on board Edda wanted to lower a lifeboat and try to rescue people with it but weren't allowed by the platform manager. Again, they were threatened with dismissal. What reason the platform manager could have had for this is unknown. Maybe he wanted to have his rescue team and crew intact.

Still, Roger Marcussen found it impossible to do nothing while his friends and colleagues were drowning in the freezing waves. He grabbed his manager and pushed him against the wall before he refused his orders and started to release the life rafts, wearing only a t-shirt

and slippers. He was later told that one of those who fell out of the basket managed to climb on to one of these rafts and survived.

– Knowing that a man was saved by my actions is enough for me, Marcussen says. The platform manager has also, after the accident, told the police that the crane operator on Edda did an outstanding job.

Sent ashore.

Roger Marcussen was transported away from Edda in the first round. He got to Sola, via a floatel where he spent one night, still only wearing a t-shirt and slippers. He didn't have any money. Luckily, he had friends from Stord who lived in Tananger. They received him and paid for the taxi.

His friends had a party, so Roger Marcussen ended up at a party that night. Then everything went black, and he cannot remember anything from the next three days. There was no such thing as emergency therapy at the time, and after three weeks he had to go back to work. He didn't stay with Phillips Petroleum for long. The next year he worked for Mobil. He doesn't know how he managed to get rid of the anxiety and other problems after a trauma like this. He kept working.

- I have been at Philips once after the accident, other than that I have been working. The last 20 years he was stationed at different floating platforms in the North Sea. But the aftermath that was supposed to give answers for those left behind has been far from impressive.

- They concealed a lot of information from the public. They weren't supposed to know what it was like out there, he says. The accident was a turning point for the safety in the oil industry, but Marcussen believes there is every reason to still pay close attention.

- After Kielland we agreed that we would never be there without a standby-boat again. Every installation was supposed to have their own standby boat. However, Marcussen has experienced that three installations shared one standby-boat on the Njord field.

- We are going backwards. He states that the Kielland-accident should function as a good reminder in this respect. The Petroleum Museum in Stavanger has a permanent exhibition that is worth a visit.

- Visiting the memorial site gives me a lump in my throat, he says. There were 30 men who were never found.

### **I would have liked to meet them.**

Roger Marcussen have never met those he saved with the personnel basket. I would have liked to meet them. He got to know the name of one of them and called him to check how he was doing. I barely got a thank you. Marcussen also knows that he has worked with several of the people he rescued but none of them have contacted him.

- I received this, he says and shows us a plaquette signed by the platform manager. Yes, and I also got a ballpoint pen, but I've passed it on to one of my grandsons.

-What does it say on it?

-It says Phillips Petroleum.

OVE URHEIM IN BØMLO-NYTT, 29.07.2019

By Ingvild Sjø<sup>30</sup>

When Marcussen needed someone to hook the personnel basket onto the crane, Ove Urheim was there to help.

– I was the one who attached the basket, says Urheim who is from Rubbestadneset. He worked with drilling for Loffland Brothers on board Edda and had the same shift schedule as Roger Marcussen.

It was Ove Urheim and a guy from Sotra who retracted the gangway to Kielland on the fatal night. Right after they did this, they saw that the D-leg gave in under the platform. It was tilted.

– It was unbelievable, Urheim says. He was the first to alert the others. Urheim saw how Kielland started to tip over towards Edda. Urheim saw a helicopter preparing for landing on Kielland. It had started the decent but then it started to ascend again and Kielland tilted even more. The helicopter disappeared. Ove Urheim and his colleague abruptly turned around and ran to the radio operator to inform him that Kielland was tilting. He didn't believe them at first and ran outside to see for himself. The platform manager also came to see.

– We tried to throw out some life rafts, but it was useless. They disappeared with the wind in the wrong direction, far away from Kielland, says Urheim.

#### BROUGHT PEOPLE INSIDE

When Marcussen managed to hoist some people up on Edda's helipad, Ove Urheim was there to receive them. The rescue operation lasted for about 15 minutes. After this people had drifted too far away in the storm. The crane operator was able to hoist the basket 4-5 times.

– They were stiff from cold. We brought them to the showers and undressed them so they would get some heat back in their bodies, he says. The first person Urheim received later became his platform manager when he worked on «Veslefrikk».

– I recognized him right away, but he didn't recognize me. He didn't remember anything from what happened during the accident, Urheim says.

#### NO GRATITUDE

After the accident, Ove Urheim experienced just like Roger Marcussen that they received poor support, and no one thanked them.

– They had to leave Edda wearing a coverall and were transported to shore where they were accommodated in a hotel. They received some clothes and were offered to talk to some professor. That evening, the manager in Loffland told them to get drunk on hard liquor at the company's expense and then talk about their experiences.

– That was far below any standard, says Urheim and recalls how he didn't have anything when he went home from Stavanger with the fast ferry the next day.

– I didn't have a penny, says Urheim. He was allowed to sit in the wheelhouse during the transport after explaining his situation to someone who worked there.

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<sup>30</sup> Sjø 2019

## WILL NEVER FORGET

Ove Urheim, like Marcussen, continued to work in the oil business. After quitting Edda in 1980, he worked on Statfjord for 8 years and then on Veslefrikk for 25 years. He is now retired and an avid motorhome tourist.

- I guess we'll never know what really happened to Kielland, he says.
- Did you see when the platform capsized?
- Yes, and that's a sight I'll never forget, says Ove Urheim.

## JOHN REIDAR GARD, LOFFLAND BROTHERS

By Tor Gunnar Tollaksen, January 17, 2019

## PERSONAL DETAILS

Born: 9th of February 1957.

Occupation: Started as drilling worker on Edda, finished his career as Assistant Driller.

Employer in 1980: Loffland Brothers.

Married: Two children.

Residence: Stokka in Stavanger. Lived in Kristiansand when the Kielland-accident took place.

## IMPLEMENTATION AND USE

John Reidar Gard reached out after he read an article in *Stavanger Aftenblad* stating that many archives are still closed to the public after the Kielland accident. He wants to make it clear that the causes of the Kielland accident have not been finally clarified. He watched the series «Lykkeland» on NRK and recognized himself in an incident in an episode (episode 4) where a diver dies while his colleagues are threatened not to say anything about how he died. He went up to the attic and found books and newspaper clippings. He believes that it is time to get a complete picture of the Kielland case and particularly to shed light on Phillip's role.

Gard was interviewed in Stavanger on the 17<sup>th</sup> of January 2019. He was informed about the memory database where interviews with survivors, witnesses, bereaved and others with connection to the accident are made public and available for further research. Gard supports this work and wishes that his interview will be included in the memory database. The interview was approved with additions and clarifications on the 7<sup>th</sup> of February 2019. He also has private photos of Edda and Kielland that he wants to share.

## BACKGROUND

Educated building and construction technician. I attended safety training in Stavanger during the summer of 1979. In the meantime, we were looking for jobs. I stopped by Stavanger Drilling's office to inquire about a job, but I was told that they had enough people and thank you. I eventually got a job at Loffland Brothers. I had my first job on Edda in September 1979. Loffland lost their contract with Phillips in the summer of 1980, and I continued to work in the North Sea until 1984. After this, I got a job at Rogalandsforskning (Rogaland research) and assisted in the construction of Ullrig. I worked there until 1987 and started to work in The Norwegian Road Administration that same year. Working as a control engineer in 2019.

## EDDA, MARCH 27, 1980

I worked the night shift that day. We worked on the drill deck changing the drill bit. Around 6/ 6:30 pm when we were eating in the crew mess, we heard a loud bang. The galley boy came running and was completely out of it, we quickly realized that something was terribly wrong. We ran out on the deck, and we stood on the deck above the deck where the gangway to Kielland was located. That's when we saw that the leg had torn off and started to drift while the rig sank towards sea level, tilting more and more. We immediately got scared that it would fall over us.

We ran down to the lowest point on the rig to get an overview of how we could rescue people. I panicked down there, as I suddenly saw that Kielland was heading towards Edda. I was sure we would end up in the same situation as Kielland and I quickly ran back up to the

deck while I, in my thoughts, was reliving periods of my life. Equipment and containers slid downwards.

Kielland stopped moving, heavily listed. It took some time before people started to come out. I remember seeing some people boarding a lifeboat and starting to lower it down. It was tricky because the rig was so tilted and at the same time there were large waves and strong winds. They had difficulties releasing one of the hooks. One person climbed outside and managed to release one of the hooks, but the lifeboat was still attached in the other hook. The lifeboat was then left hanging upside down and was slammed into the shafts. The wheelhouse on the lifeboat was splintered and people fell out of the boat.

We saw people climbing towards the highest point on the rig, others ran towards the lifeboats. We were surprised to see Kielland overturning so quickly. The anchor cable snapped. One of them crashed through the air, hitting people, and dragging them with it. I'm sure they died instantly. Everything moved. We saw people being crushed by containers, we heard their screams and cries for help.

It should have stayed afloat longer. Since it happened so quickly, we understood that doors were open. I was somewhat familiar with Kielland, we were there from time to time, and I knew that the corridors were small and narrow. There was so much going on. We were aware that they were doing some work on the shafts, there were cables going down there. The rig was going to leave the field and it was being prepared for drilling.

#### THE RESCUE OPERATION

We put out rope ladders, life jackets and life rafts from Edda. They were caught by the wind and flew away. Two people from Kielland managed to swim over to the life raft and we had cut the rope, so it was at sea level. One of them climbed into the life raft. The other lost his grip. I don't think he made it. We wanted to help people, but it was like we were paralyzed, there weren't much we could do. We saw a lifeboat floating upside down, someone swam over to it and managed to right it. Later, when I worked on Vildkat, I worked with one of the people who had been inside of this lifeboat. He explained that when they felt that someone was trying to turn the lifeboat around, they threw themselves on the walls to help turn it. It was a miracle that they were rescued because the lifeboat had started to fill with water.

We became good friends. He lived in Lillesand, and he said that it was a kind of therapy for him to go back to the North Sea again. But he didn't like it when the weather was bad, or when the rig rocked a bit.

We ran over to the lifeboat deck. Some people from Phillips stood in front of two lifeboats. They blocked the way and signalled with their arms that we shouldn't try to lower the lifeboats. We had to walk away. We knew that it wouldn't be easy to lower the lifeboats, but we could have perhaps rescued more people. The crane operator did an amazing job, and I believe he rescued 6 people. He said that it was like fishing in a shoal of fish because of the height of the waves and the amount of people in the sea. Those who were rescued with the crane operator's basket were brought right inside for a hot shower. Actually, it is quite incredible that as many as 89 people were rescued considering the difficult conditions both on the rig and in the sea.

When I returned to Edda after the Kielland accident, we demanded to test the lifeboats. We had seen that people on Kielland had difficulty releasing them. We were lowered down in a



lifeboat and the same thing happened to us. The lifeboat would not detach from the hook. When we were to be hoisted back up, the winch didn't work, and we had to wait there for quite a while before it was repaired.

#### EVACUATED

Edda was evacuated. I think it was around 8 pm when we were transported by helicopter to the Ekofisk hotel. There, we were taken care of. Some went to the cinema, but they showed a rough Vietnam-film, the film «Apocalypse now», and I had to leave to get some fresh air. I spent the night there. I stood on deck and saw that supply boats came in with dead people. Then, we were transported to a hotel rig, I think it was Safe Concordia.

We were gathered and told by an American drill manager to go back and continue drilling on Edda. They were so worried about the well closing. We didn't like it. Us from Loffland were split up. Some were sent ashore. I remember that we walked around and waited. We were sent to shore on Saturday afternoon. We were received by our management on the helicopter landing at Forus. Our belongings were left on Edda, and we were taken to Sandnes to buy new clothes. Loffland paid. Since the store was closed, they had the owner come open it for us. We were transported in a minibus.

#### EXAMINED IN THE HOSPITAL

Us from Loffland Brothers were brought to the hospital. We were around 15 people. We were met by some psychologists. Their group was completely new to dealing with people in crisis. We sat with them while they explained, and we listened. They said we would be followed-up, but we didn't hear from them again.

We went to the doctor and were discharged. The doctor prescribed Valium. Then we were back in the minibus which brought us to the pharmacy in Kirkegata in Stavanger. It was closed, but someone came to open it for us. I was given a box of Valium, but I never touched it. Then I travelled to Talgje by boat. My parents had an old farm there which they used as a holiday home. They were there on easter holiday. It was a big transition for me to arrive there where everything was so calm. It made me uneasy, the first night I sat outside on a bench and thought about what I had been through. I stayed there until Monday and then I went home to Kristiansand. In the afternoon I travelled to Hovden, where a group of my friends had rented a cabin. A glimpse of this evening that I will never forget and that keeps reappearing in my mind: One of my friends came to me when he saw me and said «John Reidar, you're supposed to be dead, aren't you? ». They didn't know anything and thought that I was among the deceased or missing.

#### THE QUESTIONING

I was summoned for questioning by the commission of inquiry. I think it was in May 1980. Right before I was summoned, I was called by someone who didn't introduce themselves. But he told me that he was calling from Tananger (Philips Petroleum had their headquarters there). He told me to be careful of what I said about Phillips when I was to be questioned by the commission. He said that I had to be careful not to say anything wrong or incorrect and that it could affect my future and career in the North Sea if I did. I saw it as a threat, but I can't say it affected what I told the commission. I also told the commission about this incidence. There were three or four people in the room at the old police station in Nygata in Stavanger.

One was a police officer, the other was Næsheim (magistrate Thor Næsheim who led the commission of inquiry), and then there were two others. I believe that one of them was a shipping inspector. There was a model of Kielland in the room. I showed them the photos I had taken, they kept one photo of Kielland and that's the photo which is included in the NOU-report. I have never read the interview they did with me.

#### THE TIME AFTER

I talked a lot with people afterwards. It was important for me to get back to sea. 21 days later, I went back. When I landed, I saw that the rig was gone. It felt like I experienced it all over again. Others on my shift didn't want to go back to sea, they were struggling. It was therapeutic for me to get back out. I continued to work on Edda, it went ok. It felt good to be around the others again. Loffland lost the contract with Philips in the autumn of 1980.

That's when I started to work for Sverre Ditleff Simonsen on the rig Vildkat and I stayed there until 1982 when I started to work for Jepsen Drilling.

When I worked on the shore of Aberdeen, on the rig Aladdin, I experienced something in the helicopter. We were on our way to the rig and just before flying in for landing, we heard a loud bang. One of the engines exploded, but the pilot managed to stop the descend just a few meters above the sea. We were told to prepare and be ready to hit the sea. I noticed hydraulic oil on the window. We flew back to Aberdeen with only one engine, a rescue helicopter came to escort us. We were told to go back out but no one wanted to go. We were brought to a hotel by the airport and told to wait in the bar for a new helicopter to be ready. After a couple of hours everyone was ready, expect for one person who refused to go.

I suffered from nightmares for many years afterwards. I can still hear the screams from Kielland. I particularly remember the sounds; the screams and cries for help and the sight of people being crushed to death by containers is stuck in my mind. I knew many people in Kristiansand who lost someone. I know of a father who went outside to paint his house after he lost his son on Kielland. That's also a method for moving on. I have been very bothered by the fact that widows were looked down upon when they received a compensation of one million kroners after the accident. It is absolutely terrible that they had to suffer and be looked down upon even after losing their dearest loved ones.

An episode from this time period that stuck in my mind was when I attended a memorial service in Kristiansand Cathedral right after easter where bereaved and survivors were present. It was a powerful experience.

Every time I read about the accident or when new things come up, the old film rewinds. In the first years after the accident, I made some appointments with a psychologist. The Kielland film would typically return in my mind during Easter holidays. I occasionally visit the memorial site at Smiodden to think. The memorial site has helped me in difficult times.

#### CRITICAL TO PHILLIPS

In connection with the accident, I have thought back on other incidents I've had with Phillips. We stayed on the old Ekofisk field which was undergoing renovation during Christmas in 1979. Everything was messy. We went to find our lifeboat; no, there were no lifeboats. We discovered a door that read Philips safety: three people sat there, playing cards. «What are you doing here». "We can't find our lifeboat", we said. "Get out, find yourselves another lifeboat» was what they told us.

Every time the Norwegian Petroleum Directorate came to Edda for inspection, we were told to tidy and clean. It was a mess out there. The people from Phillips were meant to check that everything was in order. An incident with a fire hose, we reported that there was a hole in it. They told us to turn around it so they wouldn't notice it. I was shocked by this culture in Phillips. Phillips was also the responsible operator on Kielland, so I've lost a lot of respect for them.

I get pissed off when I think about everyone in management who made the accident on Kielland possible. There has been a failure in the system which was not investigated at all. Something happened there which has not been brought to light. Therefore, the case must be reopened. Phillip's role is under-communicated. Many people died simply because of carelessness. This must be reviewed so that the bereaved can know the true cause of the accident.

#### LIFE AFTER THE KIELLAND ACCIDENT

Loffland lost contract with Phillips Petroleum in the autumn of 1980. I then got a job on the rig «Vildkat» for Sverre Ditlev Simonsen Drilling. We went everywhere in the North Sea - I worked there until 1982 and was headhunted for a new job in Great Britain. My manager had a new job in Jebsen Drilling in Bergen as a rig manager in Aberdeen. When I started in Jebsen, I set the condition that they paid a full salary drilling course which was necessary to work as an assistant driller.

My first trip was on a decommissioned H3 rig from the Norwegian continental shelf named "Sindbad Saxon", on the Norwegian continental shelf I think it was called Nord Trym. Part of the management and a few others were Norwegians, the rest were Englishmen and Scots. The first person I greeted was the driller. I was to be his assistant. I was told that everyone on board hated Norwegians and were angry because we came over to the English continental shelf and took their jobs. He did everything he could to make life miserable for me, yelling and correcting me practically all the time to make me quit the job.

The only time he acted normal was when the Norwegian management was present. I pushed myself to go out every time, we worked 2 weeks on and 2 weeks off. I eventually had to get a sick leave and told the doctor that I suffered aftereffects from Kielland. I asked for leave for 6 months to complete another drilling course. After this course I ended up on the rig «Aladdin» back to the same type of atmosphere that was on «Sinbad Saxon». This time, I was more prepared, but I still dreaded going out every time. Everyone on the drill deck hated the driller on my shift.

The crew had standing orders that every time they went for cigarette breaks, they had to bring him coffee. One time during the nightshift I saw that one of the crew members urinated in his coffee cup. He was terrified when he discovered me because he knew that I could get him fired. When the drill crew realized that I wouldn't say anything, I became well liked. They told me they had been doing this for a long time and that it was their way of getting revenge.

After this, I understood why the driller told me that the coffee I served him was better than what the others served him. One day we had a dangerous task in a connection down in the drill string. We were changing the drill bit and he wanted to use two of the large tongs. To spare the workers, I was made to hold the tongs in position until he activated the tension on them. This caused them to slip, and I was hit by one of them in my back and ended up in a cover two or three meters away. I was sent to Aberdeen for a check-up at the hospital.

The doctor told me that I had blood in my urine because my kidney was hit. I was obviously worried because I only have one kidney. When I went back out on my next shift, the crew told me that they had started to call me «The Flying Norwegian».

I realized that I'd had enough of life in the North Sea in 1984 and I wanted to go home and start a family.

TORLEIF HOLSÆTHER, PHILLIPS

By Marie Smith-Solbakken, August 27, 2016.

#### USE AND IMPLEMENTATION

Torleif Holsæther was contacted by phone and reference was made to his comment about the Alexander Kielland accident on the Facebook page of Norwegian oil and gas on March 27, 2016.

Notes from the interview was sent for review and correction on the 27<sup>th</sup> of August 2016. The notes were corrected on the 26.09.16 by Torleif Holsæther. Consent was given for use as a basic document in the representations of the Alexander L. Kielland accident including photo narration, essays, and polyphony (compilation of different statements from several of the affected) 26.09.16.

Consented that notes from the interview can be made public and included in the memory collection of the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the States archives in Stavanger, the National Library and the Labour Movements archives and Library. Email 08.01.2019.

#### BACKGROUND

Radio operator on Edda 27. March 1980

Employed by Phillips Petroleum Company Norway, from 19.09.1977 to 01.04.2014.

#### FACEBOOK 27TH OF MARCH 2016

*«I was on duty as a radio operator on Edda, the platform next to Alexander Kielland at the time of the capsizing and I reported the accident. We did everything we could to rescue people from Edda but under the prevailing weather conditions our opportunities were limited. Our crane operator managed to rescue 7 people by lowering the personnel basket. Edda also had to be evacuated because the anchor cables around the platform made it at risk. A fantastic effort was made by many people, and I had the honour of attending an event where medals for noble deeds were awarded to different people. I accepted the medal on behalf of the crew on Edda. »<sup>31</sup>*

#### THE EVENING OF THE ACCIDENT

We were two radio operators on board. One worked during the day and the other during the night. I worked the day shift, and the weather was commonly bad. The standard procedure was retracting the bridge between Kielland and Edda when the weather demanded it. Kielland was moved away with the help of anchor cables, and this happened on this day too. I announced on the radio that people who worked on Edda and lived on Kielland had to walk over to Kielland because the bridge would be retracted. The last time I made the call was at 18:12. Twelve minutes past six.

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<sup>31</sup> Holsæther 2016

The last person who stopped by the radio room before the gangway was retracted was a young engineer who was employed by PPCO. He was among the last people to cross the bridge. Then Kielland was winched away.

Right before 6:30 pm we heard some bangs and noises from Kielland. And Kielland announced on the radio «Mayday Mayday, this is...». Then it was disconnected. I recognized the voice; at the same time, I received phone calls stating that «Kielland is listing» and people came running. I saw the leg break off with my own eyes.

Kielland was located on the east side of Edda and Kielland remained on the north-eastern corner of the Edda platform. We could see the leg from the northside of Edda. The bridge between Edda and Kielland was on the south-eastern corner of the Edda platform. I could not see the platform from the radio room.

#### DECLARES MAYDAY

I announced Mayday. I notified both on the helicopter frequency 129.75 Mhz and on VHF channel 9 at 18:29.

I also informed platform manager on Edda, Phil Case. The radio operator on the Tor platform called and offered to inform the main rescue service at Sola. Then we ordered all personnel to the east side of the platform and requested the crane operator to go to the crane and prepare the basket.

I woke up my colleague Jon Erik Opheim. He was sleeping. Furthermore, I declared emergency at the Ekofisk Hotel PA and asked Medical Supervisor to contact Edda Radio. The intention was to requisition all medical equipment and personnel that would be needed. That they had to get ready.

18:37 There was already some crew from Kielland in the sea. 6 life rafts (which hung on the railing), life rings, and rope ladders were released from Edda (by the platform managers' account).

The life rafts were tied to Edda with ropes but were caught by the wind and thus did not reach the sea level. The ropes were cut but the life rafts disappeared with the wind and were therefore of no use. The platform manager then decided that we should stop attempting to lower lifeboats and rafts to the sea. This was done to not put any more lives at risk. It was a tough decision, which was criticised by some at the time, but later fully supported.

#### EVACUATION OF EDDA

We were informed from the control tower on the helicopter radio that Edda was to be evacuated. Our platform manager was not informed, and he stopped the evacuation until he was informed by his superiors.

About the same time, the power went off on Edda. It probably happened because we were shutting down the platform. Something happened with the electricity, and we had a black out.

There were only emergency lights left. The platform manager ordered everyone to put on survival suits. Edda was eventually evacuated. There were 14 of us (all PPCO employees) who stayed on Edda.

Everyone was wearing their survival suit throughout most of the night. We had a helicopter standing with the rotors running on the helideck, ready to evacuate us, should Kielland or the leg damage the platform and those of us who were left. There were 2 pilots, 1 medic and 1 cabin attendant in the helicopter. There was a total of 85 people from Edda and 7 from Kielland when the evacuation started. 78 people were evacuated.

Evacuating a platform is a demanding task. I am glad we were two radio operators. It would have been critically difficult to oversee the evacuation and shutting down of the platform as well as securing the production and drilling with only one radio operator.

#### CONTACT WITH LIFEBOATS

There was much contact with the lifeboats in the beginning. Some lifeboats were crushed, some were on the sea. We tried to keep in touch with them for as long as possible. They drifted because of the winds and weathers. In addition, there were disturbances (Qrm/Qrn) which made the communication challenging.

#### THE TIMELINE

Kielland listed at 18.29 when the leg broke off. The coup de grace and the tragic things that happened on the platform. I could see the leg but not the platform.

I don't know the exact time when the platform completely overturned. There went sometime between its listing until it capsized. I don't know exactly when it capsized. «I can see from the report of platform manager (Phil Case) that Kielland capsized at 18:53». We began evacuating Edda at 18:53. 7 people were rescued by the crane operator on Edda.

#### REPORT

My colleague and I wrote a report after the accident. *The Alexander L. Kielland-accident 27. March 1980*. Adressed to adm. Superint. Knut Lorentzen, written by Torleif Holsæther and Jon Erik Opheim.<sup>32</sup>

#### THE CAUSE

The Norwegian commission of inquiry concluded that there was an error in the welding. I choose to believe them. I intend to support the Norwegian commission of inquiry. Afterwards, there was little talk about the cause.

#### THE FIRST TO LEAVE AND THE FIRST TO ARRIVE

Skotheim was the engineer who was in the radio room at 18:12 when I announced that everyone who lived on board Kielland had to leave Edda. He left at that moment, and I believe he was the first person to be rescued from Kielland.

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<sup>32</sup> Holsæther 1980

He was brought up in the basket, taken care of and showered. We found his coverall when he was in the shower and read the name on it, that's how we knew that he had been rescued. He was also the first of the survivors to be interviewed.

#### RESCUE FROM BOATS

The North Sea is one of the busiest areas at sea. All ships are obliged to assist in the case of an emergency at sea.



EDDA 2/7C 30/3-80-

Til: Admin. Supt. K. Lorentzen  
 Fra: R/O T. Holsæther ( Vakt:1200-2400)  
 R/O J.E. Opheim ( " :0Q00-1200)

"ALEXANDER L KIELLAND"- ulykken 27. Mars 1980.

- Kl. 1829 Brak og smell fra østre side av Edda.  
 A.K. sender "Mayday" på vhf kanal 9, sendingen avbrytes før nødmelding blir sendt. Rapport fra personell på Edda: En legg på A.K. holder på å brette av.  
 Edda radio sender "Mayday" på helikopterfrekvens 129,75 Mhz og vhf kanal 9.  
 Rapporterer til prod. supv. P. Case.
- Kl. 1831 Tor Radio lover å underrette redningssentralen på Sola.
- " 1832 Annonserer over P.A. alt personell til østre side, kranfører til krana og gjør klar basket.
- " 1833 Purret radio-operatør av vakt.
- " 1834 Etter ordre fra medic annonserte "Emergency" over "H" P.A. og medic supv- kontakt Edda Radio. (For rekvirering av alt mulig medisinsk utstyr/personell.)
- " 1840 Ordre om evakuering av Edda gitt fra "H"tårn over helikopter-radio. Kun 15 mann skulle holdes igjen ombord. Prod- Supv. P. Case var ikke informert om evakueringen (av sine foresatte) og han beordret oss å være avventende inntil videre.  
 Samtidig gikk strømmen på Edda. (Black Out).
- " 1845 Ordre om å ta på overlevingsdrakter og livvester gitt av prod. supv- P. Case.  
 Kontakt med livbåt fra A.K. på frekvens 2182 Khz, Qsa 2-3. Rapporterer driver i ukjent posisjon og antall ombord 25-26 mann. Ukjent om noen skadet. Ber livbåt om å sende peile-signal. Forsyningsskipene "Norido Sun" og "Silver Pit" arbeider med å peile seg inn. Problem med å få skikkelig peiling p.g.a. mye Qrm/Qrn
- " 1853 Annonsert over P.A. ledig personell på Edda til helidekk og stand-by for evakuering. En del forvirring om hvem som skal være igjen ombord.
- " 1900 Mottar beskjed om hvem som skal være igjen ombord. Navneopprop til helidekk etter romliste.
- " 1910 Avgang første helikopter L-QE til "H" med 25 pax inkludert 7 mann fra A.K. som var tatt ombord med basket.

Forts. av rapport fra Edda Radio ang. A.K. -ulykken:

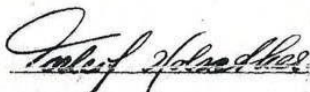
- Kl. 1920 Avgang andre helikopter L-QY til "Treasure Supporter" 8 pax.  
 " 1930 Avgang tredje helikopter L-QE til "Treasure Supporter" 25 pax.  
 " 1935 Avgang fjerde helikopter L-QY til "TreasureSupporter" 11 pax.  
 " 2010 Avgang femte helikopter L-QZ til "Treasure Supporter" 9 pax.

Helikopter stod på dekk med siste ladning til "Treasure Supporter" mens alle lugarer ble undersøkt enda en gang for å være helt sikker på at alle var oppe. Navneopprop ble også foretatt før QZ tok av.

Totalt var det 85 mann fra Edda og 7 mann fra A.K.da evakueringen startet. Det ble evakuert 78 mann. 14 mann ble igjen ombord. Alle PPCO-N ansatte.

Helikopter L-QN sto på helidekk med rotorene igang. Ombord L-QN var 2 H/S piloter, 1 PPCO medic og en PPCO cabin attendant. L-QN ble utpå morgensiden skiftet ut med et annet helikopter. Begge radiooperatørene var på vakt utover kvelden og natten, og fulgte med på radioen i ettersøkningen.

Sign:



T. Holsæther.



J. E. Opheim

Image of sources/documentation 1: Report from the radio operator on Edda. Holsæther, T., Opheim, J.E. (1980). The "Alexander L Kielland" accident 27 March 1980. Report from radio operator to Admin. Supt. K. Lorentzen, Edda 2/7 C 30/3-80. THPA.33

<sup>33</sup> Holsæther (1980)

## TORE CHRISTIAN HALVORSEN, PHILLIPS

By Marie Smith-Solbakken, October 4, 2016.

## PERSONAL DETAILS

Born 1952

## USE AND IMPLEMENTATION

Interview conducted on the 4<sup>th</sup> of October 2014. Notes were sent for review and correction. Consented that the notes can be used as a basic document in presentations and that the notes from the interview can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the National Library, and the Labour movements archive so that posterity can take part in this history. (Email 02.01.2019)

## BACKGROUND

He is from Engelsviken outside of Fredrikstad. I started to work in Fredrikstad workshop before I started to work on Ekofisk. Travelled overseas. I started to work for Phillips in 1979 on Edda. I worked there as an electrician during hook up. Most people who worked in Phillips started on the Ekofisk complex.

I was employed by Phillips from 1979-2006 as an electrician, supervisor, and team leader. In my spare time, I was involved in the production of leisure boats and boat repairs. Made a factory in Poland. We made them in Poland and completed and repaired them in Norway. In 2013, the market disappeared. Boat sales plummeted. I let people go and shut it down. Now works as an expert in legal cases and writes for boat magazines.

## ALEXANDER L. KIELLAND

We were next to the Alexander Kielland during hook up. I had friends on board who died. They never found Erling Pedersen. There were many Scottish people there. I had close connections with many of the Scots. I visited the office of the Scots (in some containers). They lived on Kielland and worked on Edda just like me. I also lived on Kielland and worked on Edda. Not many people lived on Edda, it wasn't finished. On Edda there were four-person cabins, we smoked inside the cabins.

There was close cooperation between the Scots and HDG. Erling Pedersen was leased out from Haugesund Mekaniske to Haugesund de Groot. He was a good friend of mine. The Scots were responsible for technical drawings, design, and interior services while HDG executed it. We worked 6-6 and 8-day trips. 4 trips and then 21 days off. I talked with Erlin Pedersen down on deck at 17:30 before I went to eat. He walked across to Kielland and never returned. Many people were ordered across because of the weather, they were to retract the gangway between Kielland and Edda.

## THE EVENING

I had been on lunch break. Otto Kårtveit (electrician) made noises. He worked on two platforms, and this evening he was on Kielland. We had some issues with the gas turbines on the east side of Edda. This is why I worked through the evening on Edda and hadn't walked across to Kielland that evening. I'd been there in advance because I knew I would be working overtime. We were on the east side of Edda which was facing Kielland. The platform was 22 degrees to the north.

We were entering the turbine room. That's when it began. There was a lot of noise in there, so we didn't notice it at first. We were outside on the walkway to get some fresh air. I heard sounds but I didn't understand what was happening. I saw that the leg and bottom foot moved, it slowly moved out and it looked like the platform was damaged. The platform stood upright for a while, then it began to tilt. I don't know how long it took before it started to list, but when I saw the platform tilting towards Edda, I pressed the general alarm. I did it, then and there.

#### THE REASON

They tightened the wires too much during the hauling, and there were structural failures and bad welds.

#### THE MANAGEMENT

American management. Cunningham production supervisor and Carson had gone home. Phil Case arrived and Fred Moore arrived. They were somewhat jealous of us. They worked 28 days on and 28 days off. They arrived from Texas and were completely exhausted. They had been on the plane all night. They were the best people who could have been there at that time.

#### KIELLAND CAPSIZES

I was an electrician and MOB (man overboard) driver. That boat hung between Edda and Kielland. And I wondered what I would do if I was ordered to operate it, what would I do then? It was in no condition to be in the water. I wasn't told to operate it.

As Kielland started to list, containers began to slide. We were so close that I could see the faces of those on Kielland when I stood on the walkway. There were many different reactions both for us and them.

Someone started to operate the lifeboats very early. They must have started this before the alarm was raised. Some of the lifeboats ended up below deck and crashed up and were smashed to pieces by the underside of the platform. I saw that something on deck went into the sea. I saw that some of the boys clung to the railing. I saw the waves pulling back. The sea washed back and forth on deck and over the people there and then they disappeared.

I saw that some of them came out of the door of the housing on Kielland to have a look, then they went back inside. I don't think they realized what was happening. They didn't react to what they saw. Others went back inside to fetch their survival suits. Some put it on correctly, others not.

Some did not understand that they had to tighten the legs, you must pull up the trouser legs on both legs. When they forgot to do this, their legs filled with air. When they jumped into the water, their legs floated, and they drowned. There was air in their legs.

The sea started to fill with people. Many people. We had rope ladders. I cut them free so they would reach the water. But it was so windy, they stood out from the platform at 45 degrees, they had the angle of a flag. No one could reach them. There were people everywhere and we threw out life buoys. We had to wait until people drifted off, we saw the buoys behind them.

We weren't many operators on board.

We had a crane operator on board. He lost his job. He started to operate the crane without orders to do so. He dropped the basket between Edda and Kielland. I remember that some people were able to climb inside, some grabbed it from the outside, others hung underneath it. People were hanging there. Some fell off. He swung them onto the helipad and emptied the basket before he lifted it back out. I led one of those who were rescued to the shower.

#### THE CRANE

The platform manager denied him to operate the crane, but he did it anyway. The platform manager was afraid that the crane would get stuck in the structure on Kielland. If it had gotten stuck, the crane would have tipped over. Now, the wire is not attached to a drum. If the crane gets stuck, e.g., in a supply boat, which has happened before, the wire simply releases itself.

#### THE LIGHT GOES OFF

There was a black out. Everything stopped. Edda was pitch black. We were in a total darkness until we got the emergency generator going as well as the emergency lights. Tor Vik was the lead operator and Lasse Kalvik was in the control room. They shut everything down. For a period of time, it was pitch black. We eventually got the lights back on.

Emotional atmosphere. I entered the control room. We were going to start the emergency generators, no one said anything, but it was electric. Strange atmosphere. People don't get rational; they don't act normally.

#### SUPPLY BOATS

Some supply boats arrived. It was difficult to navigate properly in the waves. People got stuck in their propellers. There were three of them. There were such rough seas and when you don't have engine power, the boat starts to wobble and then there will always be a propeller in the air. The wheelhouse on the supply boat is in the front. It's like a truck, and it is not easy to pick people up. They aren't built for it. It only works as an idea. No supply boat has ever saved lives. None of them have been able to pick people up from the water, as far as I know. Many people were hit by the propellers.

#### EVACUATION FROM EDDA

I remember what I thought. If Kielland drifted into Edda and hit Edda, we would have had to go to the flare stacks. I didn't say this to anyone, but that's what I thought. We started to evacuate from Edda to Safe Concordia. We were flown over to Safe. The entire rig was emptied and then we returned in the morning. It lived a life of its own that night.

#### THE NEXT DAY

The following day, we were flown back. I stayed on «the Safe» for 3 days. We were flown back and forth for three days. I travelled home in my coverall. All my personal belongings were on Kielland. There was no one there to receive us at Forus. Then I spent three or four days at home and then I went back to sea. I don't know why.

#### NOTIFIED MY PARENTS

My second cousin who worked on Edda, employed by Loffland, called my parents. THE MEDIA I became well-known in my hometown. It was a bit strange.

## GOT BACK OUT

All the people from Hdg and Stord electro (contract workers) could be messed with. You could do what you wanted with the contractors. Us operators could mess with them; they were bought labour and we could make them do any tasks. They had to put the work-clothes in plastic bags with strips and white tags. They left it there, that's how it was. When we came back out, the bags and lockers were still there.

Phillips had its own people who worked in security. We were supposed to pack everything up and send it ashore to the families of those who died, that was a strange experience.

There were many thoughts. I saw him in the water. Or I spoke with that person at that point.

I found divorce papers and letters from mistresses when I cleaned out the lockers. There was no point in returning the letter from Kari to a wife named Grete. I organised it and threw some of it out.

## AFTERWARDS

A lot happened on Edda. People disappeared. The crane operator didn't return. Something was going on behind the scenes. Some went back to sea just on one or two more times. They disappeared, I don't know if it was the management or because they didn't want to work anymore.

Several people got white spots on their skin, pigment changes in the skin, stress.

Many people disappeared.

Some got problems with alcohol.

I've been on Berge Istra, Berge Vanguard. I've been on Tor when there was a gas blowout there. I've experienced several things. I have learnt some things. You can train. But there are some people who become paralyzed.

## COMMEMORATION

We who were on Edda that night have not been invited to the commemoration.

I cut lifebuoys and untied rafts. They flew like a loose trampoline; they rolled away in the waves like a ball.

## TORE CHRISTIAN HALVORSEN'S REPORT

By Tor Christian Halvorsen

## EXPERIENCES AFTER ALEXANDER KIELLAND

I clearly remember most of this evening, night, and the following days. Also, the reaction of other people on the Edda platform. Many of these experiences have followed me through life. There were major changes and dropouts of crew on Edda in the time after. But a fundamental group remained, we had a good atmosphere and stuck together. It was a good group of people who talked about it, Alexander Kielland, we were not negatively affected.

Unfortunately, not everyone coped with it well. They disappeared slowly and surely.

I have had many emergency functions, as:

Lifeboat driver MOB boat driver

Claims manager

Site manager

Leader in LOBS Heliguard. etc.

In addition to many other safety related jobs. I know that I always analyse people in stressing situations (when there is an abnormal operation on board) e.g., shut down. You can learn a lot from doing this and see what is useful in an unexpected situation. These are things you may not learn from courses or training.

For example, I always kept a flashlight ready in my desk drawer in my office and in my cabin. I also bought a good pair of binoculars that I kept in the same desk drawer. It came in handy several times, e.g., during MOB boat drills when I as the claims manager could guide the MOT boat quickly to the target. I went high up on the platform to get an overview and could see things that I was not able to see from further down. The photo camera also became an important tool. Unfortunately, I was later also involved in another tragic accident on the Ekofisk field (2/4 E Tor) where my experiences from Kielland came back to me. I had wondered whether my reaction pattern would be the same as the last time. I saw the same things over again. People you thought would endure things, failed completely. But those you thought would fail, turned out to be competent.

I know many examples of this, but it's not always easy to express interpersonal experiences and knowledge. We saw this during the training, like for example (effective presentation) when one person was filmed during the exercise and performance. Many people didn't show up to these training sessions. They were frightened and avoided it.

I've experienced other accidents as well, but I have used my brain. Would my reaction be the same so many years later. I've had two new experiences this year (2016). In May, after the 17<sup>th</sup> of May, I rescued a person from drowning from my own private boat. In August 2016, I saw a woman who had fallen outside of XXL in Fredrikstad and she had heart and breathing problems. In both cases, it was a matter of seconds and not minutes.

In both cases, it went well thanks to good training in Phillips, practice, and knowledge of my own reaction pattern.

Important: Stay calm, do not panic during a disaster or accident. If that happens, you can lose control and make the wrong decisions and even lead other people to make the wrong decisions, this can have major consequences. I have seen plenty of people in management positions who shouldn't be in a leadership position and who's only put there to satisfy emergency management requirements.

HOW TO BE RESILIENT? THIS IS WHAT I THINK:

1. Tolerate frustration.
2. Know yourself.
3. Believe in yourself.
4. Be realistic.
5. Have one or a few confidants in life, who you can trust.
6. You become stronger as person, and this might entail some things that other people won't like?
7. Work under pressure and in an accident situation.

YOURSELF:

- One does not waste time feeling sorry for oneself.
- One does not avoid changes or conflict.
- Do not waste time and energy on things you cannot control.
- Other people's success is fun.
- You do not give up if you fail the first time.
- Is not afraid of being alone.
- You do not expect something from the government but know that you must manage and rely on yourself.
- Don't bother spending time trying to please everyone.
- Challenges and unknown situations, that you don't know the answer or outcome of, that's fun?
- You make decisions on your own and trust yourself more than others.

BAD EXPERIENCES AFTER ALEXANDER KIELLAND

- You are never done with the accident, as long as you live.
- Constant reminders of what happened.
- Lost close friends, they are gone forever, and some were never even found.
- To see your friends die in front of your eyes and be helpless due to the conditions as they were that evening.
- People who talk about something they don't understand or have experienced themselves can be frustrating.
- It has shaped and changed my way of thinking and I coped well with this crisis. For others it has been different.



## TORE CHRISTIAN HALVORSENS ON BOARDING LADDERS

### OFFSHORE THERE WERE ROPE LADDERS AT EVERY LIFEBOAT STATION

These are located at each lifeboat station, but often high above the water's surface. 20 to 30 meters down to the water's surface, with no other support. When you try to climb these, they move around. You cannot walk in the centre but on one side and with one leg on the outside and the other leg on the inside of the corners. You can calculate the number of steps, there are 35 mm in between every step. On a pilot ladder on a ships side, there is a function to prevent the ladder from twisting under the given weather conditions during use.

This was, in order words, a false security and no one would have been able to climb the ladder in windy weather. They would not have been able to do so even on a quiet summer day either. When Alexander Kielland capsized, the winds were so strong that the ladders did not even reach the surface. They hung in the air, between 7 and 10 (?) meters above the water surface and never even touched the sea. These rope ladders must be something from the old ships. They were never tested or tried offshore as far as I know, in those hights and without other physical support?

The deck on a platform is far above the water's surface. If someone is to come on board, the thought is to use these rope ladders which are rolled up and hang on the railing by the lifeboat stations. They are produced by the Iso-standard, Iso 799.

Those who have approved and found this a good safety measure should demonstrate themselves how to use them on a dark night, with cold water underneath. I'm sure it would be a shocking experience for them?



#### THE PILOT LADDER

Is a rope ladder that is used when the pilot must embark or disembark a ship. This is necessary because it is difficult to board or unload a ship, as the ship cannot afford to slow down. According to international regulations, all ships must have pilot ladder on board. The pilot ladder should be rigged in accordance with recommendations by the international pilot association.

#### LIFEBOAT LADDERS

Embarkation ladder (lifeboat ladder) of manila rope with wooden steps. Supplied with clamps at the top.

#### CONSTRUCTION

The ladders are made of rope and hardwood, machined steps, each about 500mm x 110mm, Manila rope binds each step to the ropes at 350mm intervals. A maximum interval of 9 steps and the standard step is replaced by a spreader.

STEIN BØGWALD, PHILLIPS

By Else M. Tungland, June 2015.

#### USE AND IMPLEMENTATION

Stein Bøgwald consented that notes can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the state archives in Stavanger, the National Library and the Labour movements archive and library so that posterity can take part in this history. (Email 06.02.2019)

#### BACKGROUND

Worked for Phillips when the accident took place. Was on Edda.

#### THE LIFEBOATS BECAME DEATH TRAPS

Edda was located about 100 metres from Kielland, so they were fairly close to each other. I remember that we wondered what would happen if it hit us. Many people were standing outside, some jumped from the platform and others boarded lifeboats. Me and my colleague, who worked with the safety equipment, noticed that the lifeboats did not lower as they should. They hung from the wire winch attached to the platform. They slammed into and crushed against the bracings. I thought to myself that I would have stayed on board. I remembered that those who remained on board during the Deep-Sea Driller accident were the ones who survived.

#### THE RESCUE OPERATION FROM THE NEIGHBOURING PLATFORM

I saw my colleague from Phillips, Olav Skotheim. He stood on the edge and did an elegant swan dive into the sea. Then he swam over to the basket which had been lowered by one of the crane operators on Edda. As far as I know, there were 7-8 people who were rescued this way and he was one of them. These were the only people to be picked up on Edda.

#### POWERFUL MEMORIES

When I entered the hangar on the helideck, I think about corpse smell. The bodies did not smell, but that's how I associate that smell. It made a strong impression on me.

#### EXPERIENCES AND CROSSROADS

As a platform manager, I always personally welcome those who come offshore. I think it is important to have that personal greeting and a handshake. It makes people accountable – Kielland taught me that it's important that people don't just waltz in.

ÅGE HJALMARSEN, SAS CATERING, REPORT TO THE UNION

By Åge Hjalmarssen, May 23, 2017.

Åge Hjalmarssen consented that the notes can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the States archives in Stavanger, the National Library and the Labour movements archives and library. (Telephone 08.02.2019, with some additions 04.03.2019).

#### THE ACCIDENT

On the 27<sup>th</sup> of March 1980 at approx. 18:30, I ate «breakfast» in the crew mess onboard Edda. I worked the nightshift as a cook/baker, and it was my third time on board. Then the alarm went off on Alexander Kielland.

Then there was someone who shouted that Kielland was about to tip over, and we ran out on the landing facing A Kielland to see what was going on. That's when we saw that it was about to capsize.

Some tried to lower rope ladders, but they didn't reach all the way down because of the wind, at the same time others threw down life rings. We saw people come out on A Kielland and disappearing into the sea, a lifeboat was lying upside down in the water, it was a total chaos. On board Edda we had to wake up those who were sleeping, some believed that it was a drill and wanted to go back to sleep but they quickly realized the seriousness of the situation.

The crew mess was cleared, and we did the best we could to turn it into an emergency infirmary, brought woollen blankets, first aid equipment etc.

I remember the medic standing outside on the landing and making the sign of the cross, I think it was an Englishman.

We eventually got 8 people on board and down in the crew mess, some were in their t-shirt and underpants, some got a hot shower and were wrapped in woollen blankets and given a hot drink, one we had to carry on a stretcher up to the helipad when the helicopter arrived for evacuation!

I remember one who hung onto the basket by his hands. The people on deck had trouble getting his fingers free when the crane landed him on the helipad. He held onto the basket for his life.

After about an hour, a helicopter came to evacuate us. Everyone except the safety staff. I believe the rig we were transported to was called Treasure Support but I'm not sure of the name today.

We weren't allowed to bring anything except for the clothes we were wearing. We stayed on that rig for two days and I only had the cooks uniform I was wearing.

Some were asked to participate in the helicopter search for survivors. Most people were restless, couldn't sleep and talked about what had happened.

Late on the Saturday night they started to transport people to shore, and I think we arrived in Stavanger at around 22:00-23:00. Our steward tried to get our operations manager in SAS catering to meet us at Forus, but he couldn't because his wife was out, and he had to look after their children.

There was no one from the company's management there to receive us. On shore, we were eventually taken care of by someone from another company (I think it was Baker Hughes or something). I was transported on a minibus together with others from Edda to Rogaland hospital for debrief by a disaster psychiatrist.

There we sat, in a circle on the floor and talked about our experiences and about what kind of reactions we might get later.

After the debrief at the hospital, we were brought to a clothing store in Stavanger where we received new clothes, toiletries, etc, this was around 01:00 in the night. Then we were brought to a hotel where we got food and beer and the guy who took care of us earlier that day had sorted flight tickets for us the next day!

I worked on Edda for the next 3 years. I remember that I didn't want to go fishing there anymore, to me the Edda field had become a graveyard for the biggest accident on the Norwegian continental shelf!

In my spare time I was active in Bodø ck for many years, I was a leader there too. I also helped establish Nordland Cyklekrets in the early 1980s. It was important for me to have activities outside of work, to have some balance in life, especially after experiencing an accident like Alexander Kielland.

## ÅGE HJALMARSON, SAS CATERING

By Marie Smith-Solbakken, February 9, 2019

### USE AND IMPLEMENTATION

Åge Hjalmarson consented that notes from the conversation can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the States archives in Stavanger, the National Library, and the Labour Movements archives. (Email 09.02.2019)

### BACKGROUND

Employed as a baker/cook. Worked the nightshift 1 week on Eldfisk Bravo, then shuttled over to Edda and stayed there for a week. Worked 2 weeks on, 3 weeks off. Employed in SAS catering, the forerunner of Eurest. (ESS).

It was his third time in the North Sea when the Kielland accident happened.

I lived in Bodø. I got the job because a friend of mine was working there as baker and cook.

### THE EVENING ON EDDA

I had been sleeping, gotten up, and sat and ate breakfast with the other people from the nightshift. We stayed in four people cabins back them. Then the alarm went off. It was around half past six in the afternoon.

There was normally a gangway between Kielland and Edda. I often walked across to Kielland to play table tennis. We got soda on Kielland, coke cans. They had retracted the gangway. A storm was coming. Then someone shouted that Kielland was tilting. We ran over to the landing outside of the crew mess on Edda and looked over to Kielland, we could see that it was tipping over. It was tilting sideways to our left side. We were about 30-40 meters away. We were close.

They had been winched away from the Edda.

### THE CATERING WOKE PEOPLE UP AND CLEARED THE CREW MESS

Us from catering went to wake people up. The alarm was ringing, and we woke people up. There were several floors. Loffland was drilling on board. Someone got angry when we woke them up, they thought it was an emergency drill. You have to get out, we said, Kielland is capsizing.

We cleared the crew mess to make room for people who were rescued. The tables were screwed to the floor. 8 people came. We could see that the basked was hoisting people up. There was one who hung onto the basket with his fingers, they had to break him free.

I remember that we asked platform manager Phil Case (American) to lower the lifeboats. He refused because they could be crushed against the legs. There was a full storm. We saw what happened to the lifeboats on Kielland. It could lead to even more deaths. The rope ladders were horizontal in the air. I saw some people who disappeared

into the ocean. Got woollen blankets.

We turned the crew mess into an infirmary. The crew mess was the only room we had. We brought the people who were hoisted up in the crane inside. We gave them woollen blankets and hot drinks.

#### EDDA EVACUATED

We were evacuated after a while. It was around seven thirty in the evening. We were evacuated to Treasure Support. They wouldn't let us bring anything. One person was injured. We had to carry him on a stretcher.

#### EVACUATED TO TREASURE SUPPORT

We only saw the leg floating in the sea. We stayed on Treasure Support until Saturday evening. Some people contributed to the search for survivors. We didn't have a full overview of the situation. We found it incomprehensible that it could capsize. What had happened, we didn't know, we didn't get it? We talked about the accident and everything that had happened. We were full of energy. We figured that many people had died. That's what we thought about.

#### KIELLAND

I was over at Kielland from time to time to play table tennis. It was cramped. I walked through the cinema room to play table tennis.

#### IT WAS IMPORTANT TO US TO RECOVER KIELLAND

We wanted it to be turned around and recovered to figure out the cause and to find survivors. What caused it and why?

#### IT WAS UNBELIEVABLE THAT IT WAS SUNK

I don't think they got any answers. They shouldn't have sunk it. Still there are different theories as to what happened and didn't happen. They rushed it. They should have done a more thorough investigation when they were there. Why were they in such a hurry to get rid of it? I did and do not understand it.

#### WHAT IT MEANT

Shortly after Kielland capsized, everyone was sent on safety training. It lasted for 14 days. We had to take safety seriously. When I started to work in the North Sea, there were no safety training.

The Kielland accident also made the unions stronger. The Americans' attitude was that Norwegians were «white niggers». Not all Americans were like this. After some time, they started to listen to what the Norwegians were saying. Safety was taken seriously. The Americans realized that you couldn't just work all day.

#### THE SHIFT SCHEDULE

Phillips' employees worked 8 days on and 8 days off. Every fourth time, they had 24 days off. This results in a lot of helicopter shuttling. Helicopters came out all the time.

## FOLLOW UP

Disaster psychologist at the hospital, that was all. I spoke to some of the survivors afterwards, met them at work. Some suffered from trauma, others got alcohol problems. They didn't get any help.



## SVEIN BERNHARD LIND, SAS CATERING

By Marie Smith-Solbakken

## PERSONAL DETAILS

5336 Tjeldstø

Born 1950

## IMPLEMENTATION AND USE

Interview conducted in his home in Øygarden on the 29th of October 2015. The interview was read out to Lind on telephone on the 4th of July 2016. He consented that the notes from the interview can be used as a basic document in the representations of the Alexander L. Kielland accident and that the notes can be made available to the public.

## NIGHT COOK, BAKER, AND COOK IN DIFFERENT CATERING COMPANIES IN THE NORTH SEA

I got a job in the North Sea in 1978. I worked on the Ekofisk field until 1984, then on Statfjord, then on Gyda. Has worked in SAS Catering which after many acquisitions and merges with other companies became Eurest Support Services AS. From 2000-2005 baker and cook in Sodexo.

## MARCH 27, 1980

I was made aware of it the day before; we were meant to go out to sea. I thought that I wouldn't have to go but I was ordered to meet up anyway. I met up at the usual time and was supposed to travel out in the morning.

## MARCH 28, 1980

I arrived at Forus and was told to wait for a while. We knew that Kielland had capsized. We had seen it on the TV and heard it on the news. I was eager. Got out there. (The heliport was at Forus at the time).

## THE HELIPORT

We were informed about it the day before. We heard on the news that there had been an accident. I thought that I wouldn't have to go out but was told to meet up anyway. I met up at the usual time, I was excited, wondered whether I would get out.

## SAFE CONCORDIA

We were all flown to Safe Concordia. All non-emergency personnel were flown there. There, we heard stories, and everyone talked about what had happened.

It made a great impression on me to meet everyone who had been evacuated and to hear their stories. I became anxious but I got on board and took the job. Many of those I worked with never went back to sea.

I met someone who had been picked up from the water, he had already decided that he was never going back to sea.

I heard that the crane operator and Henriksen who had rescued people from the sea were criticised for not being good enough. I heard of someone who was rescued who had held

onto the line on the basket. He held on so tightly that they had to break his hands open.

EDDA

There was a helicopter going to Edda. I was called to come over and be part of the team there. Those who were there needed food.

I came on board. In the beginning I was a bit worried. The crew mess had been cleared, there were woollen blankets on the floor intended for those who were hoisted on board in the basket. There were 7 or 8 people who were rescued in the basket. They were being transported to shore when I arrived.

I started to clean the mess, removed beds and blankets, turned it back into a dining area and cooked for those who were still there.

They had only had dry biscuits to eat for a day. I cooked the best food I could find. Found tenderloin in the cooler, made bearnaise and made cakes. I tried to make it good for those who remained. They started to drill again. Pretty soon. I know that some people were sent ashore because they were too anxious to stay.

ABOUT THE CAPSIZE AND THE ATMOSPHERE ON BOARD EDDA

They told me what had happened, when it started to tilt, that the alarm went off and that everything got dark because of the power cut. That everyone had been ordered out on deck for evacuation.

Kielland had been connected to Edda with a gangway. Everyone on Edda was ordered to walk across and board Kielland. It had been winched away due to rough seas. During the move, one of the legs began to tip over. Those who were on Edda stood and watched the whole thing.

There was nothing they could do – the crane operator tried to rescue those who were in the sea. They caught some while others were washed out of the basket by the waves. They saw people crying for help in the sea.

When it tilted, one of the pontoons was held in place by the chain. Many people climbed up there to avoid falling into the sea. After a while the anchor chain snapped and swiped those standing there into the sea. They watched it all.

I heard that the cook in the galley on Kielland stayed behind to turn off the heat, as he was supposed to do, and as he did it, the frying pan fell over him. Everything fell to the floor.

The man I replaced was wearing socks and cook's uniform. He removed his clogs because he kept tripping in them, he was shaking. He had been in the galley when the alarm went off.

The divers – they found several bodies, they were hoisted on board Edda, they were wrapped up and flown ashore by helicopter. The crabs had already started to eat on some of the first bodies to come on board.

#### WHAT DID THE ACCIDENT MEAN?

What if something like this happens again. It took some time for me to feel safe again. We talked about it in the beginning, then we discussed it now and then. It dabbed off eventually. I don't know what the Kielland accident has meant. New generations are working at sea now. They weren't there when it happened. People don't talk about it anymore.

The management onshore told us that it was safe. Then «Henrik Ibsen» got a list. Then people started talking again. Ibsen was supposed to be there when Kielland capsized. Kielland was not supposed to be there, «Ibsen» was delayed, so Kielland stayed. And it capsized.

It meant a lot in the beginning. I was very unsure of what to do but I decided to stay. After a while the thoughts of the accident disappeared. No one talked about it anymore. I felt safe.

It was a relief when they removed Kielland, so we didn't have to look at the pontoons on the surface of the sea.

## RESCUE FROM BOATS



Normand Skipper in the North Sea. The photo belongs to the Norwegian Petroleum Museum. Used with permission.



Photo 5: The crew on Safe Truck receives a medal for their efforts during the rescue operation. Able seaman (AB) Alf Magne Skeime, AB Arne Birger Hansen, AB Bjarne Dybvig, AB Leif Ødegård, Chief mate Reiulf Maalen, Captain Trygve Møkster, 1. Mate Kjell Erga, Engine man John Rafoss, Machine manager Gunnar Elefskås, 1. Machinist Johannes Nordland, Electrician Arne Misund.

The image belongs to the shipping company. Reproduced with permission.

## ALF SKEIME, SAFE TRUCK

By Marie Smith-Solbakken and Else M. Tunglund, April 3, 2016

## PERSONAL DETAILS AND BACKGROUND

Born 1952

Telephone, Gullfaks

3. April 2016

Residence: Snartemo.

Occupational career: Ship mechanic

1975: Cod Truck, Larsen and Hagen at Gausel.

1976: Eko Truck.

1980: Safe Truck.

## IMPLEMENTATION AND USE

Interview conducted by telephone, he agreed to meet us when he returns from sea.

Notes from the interview was sent on the 3<sup>rd</sup> of April 2016 on email together with a description of the project. Else Tunglund talked with Alf Skeime in the end of May. Alf Skeime read through the notes and consented that they may be used as a basic document in representations of the Alexander L. Kielland accident including a photo narration, essays and polyphony which is a compilation of different statements from different people.

Skeime consented that notes from the interview can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the states archives in Stavanger, the National Library and the Labour Movements archive and library. (Email 13.12.2018).

## MARCH 27, 1980

Departed from Tananger and went to Cod to deliver a container. There, we were told to deliver an urgent container to Eldfisk Alpha. We were only a couple of nautical miles from Edda.

18:29: We hear a weak Mayday on the VHF. Listening. Right after there is a Mayday from Ekofisk Complex ordering everyone to Edda.

We were on location just after six thirty. Approx. 18:40-18:50. We arrived on the east side of Edda. Kielland was located on the west side so we couldn't see Kielland. We did all rescue operations on the starboard side, with a view to the north. I didn't see what was happening on the other side. The people we found and picked up where on the side of the ship facing away from Edda and the Alexander L. Kielland.

## RESCUES FIVE PEOPLE

I was ordered to stand on deck and look for people in the sea. We were on the east side. The first thing I saw was a guy in a survival suit. I threw him a life buoy which he put over his head and I pulled him with the line to the ships' side by the ladder. I helped him to the deck. He was an older man in his fifties. (Some photos were taken; I don't know where they are. I don't know his name. Check with the shipyard, deck logbook).

Then we noticed a raft drifting around. I threw out a heaving line. It took a couple of attempts. They got hold of it, one of the guys held onto the other end and we were able to pull it over to the pilot ladder. Four people climbed on board. We lost the fifth who held the raft by the ships' side by the ladder so that the other people could climb on board. It was very windy, some forty knots. The waves were large. He was only wearing underpants and a white t-shirt. Then, he let go of the rope to climb the ladder, but the raft drifted away. He jumped into the sea and swam towards the ladder. Leif Ødegård (deceased) climbed down the ladder to help him, but he couldn't find him.

At that point we had rescued a total of five people. It went fairly quickly.

It's possible to ask the shipping company about what was written in the deck logbook. The names of those who were rescued will be written there. It will be recorded.

#### THE SEARCH

We were later assigned an area to search. We crossed north of Edda towards the Ekofisk centre. We searched throughout the night and morning. The captain did a good job. The five people on board participated in the search so that they wouldn't be left alone to think about the friends they had lost. They contributed to the search.

#### NORMAND SKIPPER

It was a Solstad boat, I can't remember the name, Normand Skipper. It was quick to reach the area. We almost collided with them. They also picked up some people.

#### THE NIGHT

It was completely dark. We stood by the spotlights. Looked around and it was just darkness. There was a strong gale, rough seas, cloudy and no moon. Pitch black. The only light we had were two spotlights.

We saw the white sea when we swept over the waves with the spotlights. No one knew which way people were drifting. I couldn't get over the man we lost. I was constantly thinking about what I could have done to save him. The fact that we couldn't rescue everyone from the raft really affected me. It has stuck in my mind.

#### PROCESSING

We talked about it among the crew. We didn't receive follow up or debrief afterwards. We only had each other. We sat in the crew mess and talked a bit while the rescue was ongoing. Afterwards, we haven't talked about it much.

Neither the office nor Phillips brought up our efforts. We had to process it ourselves. We kept it inside. I clearly remember the 27<sup>th</sup> of March 1980. I got married on the 27<sup>th</sup> of March 1976 and I had a father in-law whose birthday was on the 27<sup>th</sup> of March. I had been married for four years when the accident happened.

#### THE OTHERS ON BOARD

Kjell Egra from Farsund, was on board. The chief engineer has quit and two of the sailors are retired. Ødegård is dead. In the office, there is a photo of everyone who was on board, and all our names are written there.

#### AFFECTED YOU

I have become more aware and more conscious of safety. I have worked in supply for 41 years and I've just had one blue nail during those years. I enjoy life.

#### THE CAUSE

I have discussed what caused it. We have talked about it. The procedure was that the gangway between Kielland and Edda was to be retracted and Kielland hauled away from Edda when there were strong winds. An operation like that puts great weight on the leg. There are two legs that take most of this weight. If you don't release at the same time as you tighten, one of the legs will be torn off. That's what I think. We discussed it, several people had similar thoughts.

#### THE NEXT DAY

I remember the leg floating and the legs floating upside down. The more we heard, the worse it got. When it was clear that 123 people had lost their lives, it got quiet. What made it extra tragic was that there were so many people there who were simply at the wrong place at the wrong time because of the storm.



## BJARNE DYBVIG

By Marie Smith-Solbakken and Else M. Tunglund, 1. June 2016.

## PERSONAL DETAILS

Born 1950

Sailor 1976 to 2015 in the company which is now called Gulf Offshore. Has changed names many times.

Worked as a sailor on Safe Truck in 1980

## IMPLEMENTATION AND USE

Telephone interview on the 1<sup>st</sup> of June. Notes sent for review and correction. Notes were corrected on the 3<sup>rd</sup> of June during a conversation with Bjarne Dybvig. Consent has been given that the note can be used as a basic document in the representations of the Alexander L. Kielland accident including photo narration, essays and polyphony which is a compilation of different statements from different people.

Dybvig consented that notes from the conversation can be included in the memory collection about the Alexander L. Kielland accident and be handed over to the Norwegian Petroleum Museum, the National Library, and the Labour Movement archives.

## SAFE TRUCK

We had just eaten dinner and were off duty when we received a phone call from the bridge stating that we had received message from the Ekofisk transport to head over to Edda. They had lost contact with Kielland. All they had heard was «Alexander Kie...» then the connection was lost. All crew got involved. I was on the bridge to be on the lookout. We head off towards Edda in rough seas and fog.

When we closed in on Edda, everyone was called to the bridge and the first thing we saw were containers floating in the sea. Then we saw some spots drifting around. We saw them when they were on the wave crests. They drifted away from us. When we came closer, we realized that it was actually people drifting in the sea. They were dead. There were many. We probably saw somewhere between 10 and 20 bodies. Then we noticed a raft with people on it, they waved at us.

## RESCUED SOME PEOPLE FROM A RAFT

We went over to the raft and threw them a heaving line and managed to pull them over to the ships' side. Then we put out a ladder. The guy who held the raft close to the ship when the others climbed on board disappeared into the sea when it was his time to climb the ladder. We also went down the ladder to help them up. He was exhausted. The entire time, he held the raft up to the ships' side. The others were rescued, but he was not. He wasn't wearing a life belt or survival suit.

The guy who was furthest down in the ladder recognized the sweater (brown-ish). We later found it in a lifeboat that we discovered in the sea and brought ashore. The lifeboat was lowered onto our deck by a crane on a platform.

#### A SAD DAY IN THE NORTH SEA

We searched all night, more boats came. Everyone was searching. We saw the leg drifting. Those who were rescued came into the infirmary and we gave them warm clothes.

#### THE EVENING AND THE NIGHT

We stood by the spotlights, every single one of us. Machinists and those off duty, everyone was called outside, and we searched all night. The only thing we saw was wreckage. There was a lot of fog, we didn't see any helicopters.

I wondered whether I knew someone on board. I lost two people that I knew well. Åstad from Gyland and Kåre Marthon Jess. Arne Åstad was my friend, he was a seafarer. Kåre Marthon Jess lived next to my parents. He and my father used to catch crabs together and sell them on the marina.

#### THE NEXT DAY

In the morning, we saw a helicopter and lots of boats that were searching. The storm had calmed, and the weather improved. We drove to the hotel and dropped off those who had been rescued. We spent the entire day searching for people. We only found wreckage. Different things were drifting around, the leg, life buoys and containers.

#### WHAT ACTUALLY HAPPENED?

Lots of speculations about it. We can only wonder. I don't want to comment on it.

#### BIGGEST IMPRESSION

All those who drifted away from us, and he who held the raft to help the others on board and was unable to save himself. A wave came. He disappeared, he went backwards along the ship's side, and then he was gone. He saved the others. And was too exhausted to save himself.

#### MEMORIES

Safe Truck received a memorial plaque from Phillips.

There were gatherings at Atlantic for the boats who participated in the rescue operations. That was great. The crane operator on Edda got to tell what he had done. That was great.

ARNE MISUND

By Marie Smith-Solbakken, October 6, 2016

PERSONAL DETAILS

Born 1955

USE AND IMPLEMENTATION

The interview was conducted on the 6<sup>th</sup> of October 2016, and notes were sent for review and correction with a request to use it in our presentation of the Alexander L. Kielland accident including a photo narration, essays and polyphony which is a compilation of different statements from various people. Consent has been received to use the note as a basic document in the presentation and can be handed over to the Norwegian Petroleum Museum as a source. Consent given 07.10.16 by Arne Misund.

Misund consented that the notes from the conversation can be made public and handed over to the Norwegian Petroleum Museum and the national library and be included in the memory collection about the Alexander L. Kielland accident. (Email 16.12.2018).

BACKGROUND

International maritime transport

12 years as an electrician on a supply boat and 18 years as an electrician on platforms in the North Sea. Now on Heidrun.

1998-today: Electrician in Odfjell Drilling. Now electrician on Heidrun.

1980 ON SAFE TRUCK

First engineer Johannes Norland, Chief mate Reidulf Maalen (now lives in the US), able seaman Leif Ødegård from Bremanger, Alf Skeime, Bjarne Dybvig. I was an electrician. It was my first time on the Safe Truck. Johannes Norland wrote the names of everyone we rescued on a life buoy.

THE EVENING OF MARCH 27<sup>TH</sup>, 1980

The alarm went off just as we finished eating dinner. It was right after six thirty in the evening. Those who were wearing survival suits participated in the rescue on deck. I didn't have a survival suit and stayed on the bridge to keep watch.

MOST VIVID MEMORY

We were on the site of the capsized about fifteen to twenty minutes later. We were surrounded by wreckage. Crushed lifeboats and containers and people everywhere in the water. The things I saw from the bridge will always haunt me. I remember it like it was yesterday. We arrived at dusk and saw all the people as well as the broken lifeboats, containers rolling around and the shadow of the platform sticking out of the water. What on earth is going on here, I thought.

We quickly managed to pick some people up. We picked up one person who was almost naked. Then there were five people on a raft. We lost one of them. Leif Ødegård was down for a while.

He held him by his clothes but lost him. We brought the others inside and gave them clothes. I felt like we contributed to something good in the midst of misery.

## THE NIGHT

We talked with those we had rescued. They preferred to sit and talk with us. They talked about everything under the sun. We listened to the boat radio and followed the news. We searched all night. The conditions were decent.

## THE NEXT DAY

Sometime during the next day, the people we had rescued were hoisted on board a platform in a basket.

## LATER

One of those we rescued, he was from Jæren, came back to us to take some photos.

## ODD ARNOLD HANSEN

By Marie Smith-Solbakken, March 29, 2016

### PERSONAL DETAILS

Born 1961

Stord

### IMPLEMENTATION AND USE

Contacted through Facebook. Interview conducted by telephone on the 29<sup>th</sup> of March 2016. The notes were sent for review and correction. Consent was given by telephone on the 11<sup>th</sup> of June 2016 to use the note as a basic document in our presentation of the Alexander L. Kielland accident including photo narration, essays and polyphony which is a compilation of different statements from various people. Notes with some additions were sent to Odd Arnold Hansen.

Hansen consented that notes from the interview can be made public and be included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National library and the Labour Movements archives and library. (SMS 17.02.2019)

### BACKGROUND

Worked as a cook on a standby boat in the North Sea from 1978-1980. Quit right after the Alexander Kielland accident. Got a job on a fishing boat near his home. I was 18 years old when I started to work in the North Sea. I was young. I lied to get the job, and told them I could cook, the able seaman taught me how. Later, I worked with excavator and construction.

### ALCOR

I had just turned 18 years old and worked on Alcor, a standby boat belonging to a platform in the area between the British and the Norwegian continental shelves. Erica, the sister boat was located further south and didn't participate in the rescue operation. The boats were some old, repurposed whalers.

### MAYDAY

I was on the bridge talking to the captain, complaining that nothing was happening. Suddenly, we heard «mayday». We were half an hour- forty-five minutes away. When we got the clear signal from Rogaland Radio, we drove off at full speed.

When we got there it was a full chaos. It had already capsized, only the legs were visible. Lifeboats, life jackets, survival suits, and planks were floating around in the sea.

When we arrived, there were two supply boats already there. A fishing boat arrived on the opposite side. The platform had overturned. There was also a basket being hoisted down and picking people up. I couldn't believe my eyes. It was terrible.

## THE SEARCH

We were ordered to move away so we wouldn't hit survivors with the propellers. There were three boats which were closer and who tried to rescue people. We had to navigate with caution. We rolled around in the sea and could have hit them.

Our radius got bigger and bigger; we were supposed to look for survivors. We only found empty lifeboats and empty life jackets. We were ordered by the rescue central not to pick up the empty cargo. It looked quite macabre. Life jackets, lifeboats, and things and wreckage were floating around in a wide radius in the North Sea.

I was in the wheelhouse to look for people. Me and Agdestein were there. We could see something, but we didn't stand the chance to pick people up. There were large waves, and we couldn't get close enough. We floated around with several fishing boats and listened to Rogaland Radio. We didn't sleep for two or three days.

We listened to the divers. They were looking for survivors. We could hear them say «I found an arm», «There's another one», «There are two people here». The divers were reporting to the diving boat. It made a big impression on me. I was captivated.

We saw that they threw out a hawser for people to hang onto. They managed to hang on for a while before they lost grip. We heard so many sobbing voices on the radio before they disappeared. A lot of people want to forget about it. Not many people are talking about it. It was too painful. It was a helpless situation.

We also heard about the captain who rescued his brother and about those who were washed onboard by waves and came straight onto the deck.

I had a lump in my throat but didn't think much. I stayed rational. It was surrealistic. A couple of days went by before I realized what had actually happened.

## INSUFFICIENT RESCUE EQUIPMENT

Two people were searching from the wheelhouse, one inside of it, one in the engine, and two in the galley. One of them were cooking and one by one came in to warm themselves. We did not rest. We worked all day. After four or five days, we were ordered to move away. We had to stand by our platform. I don't think there were any of the standby boats who picked up anyone. They were repurposed whalers with high railings which made it impossible to pick people up from the sea. It was tragicomical. They were supposed to be rescue boats. We didn't have hoofs or lifts or cranes. We had no way to pick people up. We had a rope ladder that you could climb. It could work but it was almost impossible. It gave a false sense of safety.

## THE EXPERIENCE

It was tragic. It was an unbelievable scenario for someone who was 17-18 years old. I have later thought that when the accident happened, and I was in the North Sea I would not want to be without this experience. I think I was lucky, and I'm glad I was able to help when I was at sea anyway. I wouldn't want to be on the other end of the North Sea if I could choose.

We didn't get debriefed afterwards. We didn't talk about it afterwards.

#### SPECULATIONS

They wanted to sink it before they discovered the cause. They didn't want to know what had happened. It wasn't the storm. It was loaded too heavily. Bad welding and fatigue fractures, they say, but why? Only one of the legs broke.

It's strange that they didn't bring it ashore and to the dock to examine it. It was the biggest accident in Norwegian oil industry, the most tragic accident and they just scuttled it in the deepest fjord they could find. It's really strange. Many people agree with me. We didn't say anything.

I think there was too much stress, too little control and too much weight and that the welds were poor. There were strong winds and waves, but the waves were no more than 5-6-7 meters high. I don't think it happened because of the weather, especially because they sunk it.

#### THE WEATHER

People said that there were rough seas, but it wasn't that rough. They never found out why the accident happened. They said on the radio that there was a storm, but this is not true. The weather wasn't that bad. The winds made the rescue operation difficult, but it wasn't that bad. The description of the weather was exaggerated. We listened to the descriptions of the weather in disbelief.

It's easy to blame the winds and weather and mother earth. It was quiet for a long time; we didn't talk about it.

We wouldn't have been able to scout for people on the wheelhouse had there been a storm and enormous waves. We wouldn't have been able to search if there was a dense fog and no visibility. Rain, fog, waves, and wind was the normal weather condition in the North Sea.

#### HAULING

I have heard people say that the hauling and the anchoring might be the reason. Others have talked about the leg that broke and that the moorings were twisted.

#### OVERLOADED AND UNSTABLE

It was overloaded. There's no doubt about it. It was packed with drilling equipment in addition to the housing units. It was most definitely overloaded. Us seafarers talked about this. It couldn't hold all that weight and it was unstable.

#### THE CRANE OPERATOR WHO RESCUED MANY PEOPLE

I'm friends with the crane operator, the one who picked people up in the basket. He is one of the heroes. We never talk about it. We see each other, but we do not talk about it. It is never mentioned. I never talk about it.

## THE SILENCE

We have simply put a lid on it. My son didn't know about it until I was to be interviewed by you. My mom is sitting here and hearing about it for the first time. What happened in the North Sea stayed there. I never talk about it.

Came home, hush, then a party, then there was no more of it.

Of those who were on Alcor during the rescue operation, there are two of us left. Me and Gunnar Agdestein. The others became alcoholics and died.

11. JUNE 2016

When I read it, I was actually back in the North Sea— half an hour.



## DIDRIK STONGHAUGEN

By Else M Tunland, 14.12.2015, Veavågen on Karmøy.  
Approved.

### PERSONAL DETAILS

4295 Veavågen, Karmøy

### BACKGROUND AND CONNECTION TO THE ACCIDENT

Skipper on Normand Skipper, one of the two first boats to arrive after Alexander Kielland capsized.

The interview is conducted in Stonghaugen's home. We were allowed to come at a short notice even though he is currently being treated for an illness. Freshly brewed coffee and twist is on the table. The dog is sleeping next to the sofa. His home is filled with memories from many years at sea. In the hallway there is, among other things, a large model ship of Odland. The first boat he went to sea with(?). On the wall hangs the award from Phillips Petroleum for his effort in the rescue operation during the Alexander Kielland accident.

He has long experience as a sailor. He started working on boats belonging to his father and uncle. He later attended Maritime school. He worked, among other things, at Odland's shipping company. He was away from home for long periods at a time. After one of his trips, he met his son for the first time. The boy was then 1.5 years old. I asked him: do you know who I am? «Uncle Dikke», the boy replied.

### THE JOB ON NORMAND SKIPPER

After this, he worked for Solstad for 14 years. This is where he was employed in 1980. He was a skipper on Normand Skipper, one of the two first boats to arrive on the scene of the accident. The other boat, which arrived first, was Normand Ingenør Skipper. Solstad owned both boats. These two boats picked up the most survivors.

The tasks of Normand Skipper included towing rigs and transporting cargo between installations. We ran «taxi business». The boat was rented by Phillips and had a crew of 8 people.

### THE DAY OF THE ACCIDENT

One of the sailors on board Normand Skipper had booked a call home. The call had to go through the radio, and everyone could hear the conversations. We sat and listened to the conversation while we waited for them to finish.

It all went through the coastal radio. The page was number 2 on turn.

There was a wife talking to her husband who was on Kielland. You can hear when someone really love each other. They had a good relationship. Suddenly something happens and the contact with Kielland is lost. We could only hear her. That was the last time they spoke. He didn't survive.

Director Alf Kaasen of Stavanger Drilling A/S tells Stavanger Aftenblad (28 March 1980) that the exact time of the breach was 18.32.

-I called Farsund radio to get in touch with the platform. It turned out that Farsund radio had just had a disconnection during a conversation with the platform and the staff at the radio station realized that something was wrong. That's how I got to know about it, at about the same time, the SOS was signalled, says Kaasen.

Shortly after they announce that the platform was capsizing!  
We set full speed towards Kielland. The crew came to the wheelhouse to put on survival suits.

I told them that we were lucky if we managed to rescue 10 people in this weather. We rescued many more.

From the wheelhouse, we saw the disaster in panorama. It looked like the old scratch had been on the loose. People were drifting on wreckage, rafts... I once saw a photo from the capsize of Titanic. It reminded me of it. That's exactly what it looked like.

We put out climbing nets from the side of the boat. We managed to pick up two people from a raft this way.

One of those we rescued from the lifeboat was the brother of the deck officer on Normand Skipper. I was so surprised when I saw him. The deck officer had thought his brother was at home.

We heard that there was a lifeboat with 26 people in it, but we couldn't find it. We searched and searched. We eventually located it. The sea was rough. The lifeboat hit the ships' side. We picked up those who were wet and injured and then let the lifeboat continue to drift.

Control room operator Eivind Egeli was among those who were picked up from the lifeboat. The skipper knew him because he used to deliver mail to «Normand Skipper». When skipper Didrik Stonghaugen saw the tired man who had just been rescued from the waves, he grabbed Egeli's arm and asked: *Did you bring the mail?*

I gave Egeli one of my trousers, but it was way too big. He was skinny and could wrap it twice around him.

When we had picked up those we could from the lifeboat, we continued to look after it from a distance. A helicopter arrived but those who were inside of it were of no use. They didn't dare to go down in the basket. The pilot asked us to move away because we blinded them with our spotlights, but we didn't want to lose track of the lifeboat. We moved away and lost sight of it, but we were able to find it again.

I remember shouting into the transponder that we needed help. There was panic in the boat.

Eventually, the head of the squadron arrived. He knew what he was doing and went down to pick people up in the basket. Everyone was rescued into the helicopter within minutes.

After this, we took the lifeboat in tow and hoisted it onto a Sedco Phillips - a moving and repair rig.

The survivors spent the night on board and then we transported them to Ekofisk.

Then, we towed the leg to the Åmøy fjord. We worked nonstop for 3-4 days.

#### ABOUT THE RESCUE OPERATION

14 people picked up on Normand Skipper 2 on rafts.

12 in lifeboat –The brother of the skipper was in the lifeboat.

After we discovered the boat, we stayed there to look after it. The first helicopter to arrive was a foreign one.

2 helicopters were Norwegian. Roaldsøy (captain) was the rescuer. A phenomenal man. Quite the spectacle.

We picked up someone with a broken nose and a punctured lung. Survival suit.

#### “STOLPASJØ”

There was wind from the northwest and snowing. We searched in the direction the wind was blowing. We later realized that the bodies had drifted in the opposite direction due to the underwater currents. It was «stolpasjø» (cross waves), currents and waves hitting against each other.

#### TOWED THE RIG TO LAND

Stonghaugen says that it was not uncommon to work long hours. There were no regulations back then. It is different now. Once he literally had his hands on the wheel for days (?) He didn't even go to the toilet, he had a bottle. The shipping company expressed in the same period that they wanted to reduce staffing, but then I “lost it”. He managed to tell them that they actually needed more people, not fewer.

Were you prepared for such an accident to happen? We had emergency drills but we didn't really think that it could happen.

It's difficult to imagine a situation like that, he says. Tender Power, a tow boat from Wilhelmsen Offshore, picked up someone who jumped straight back into the sea. He had gone mad. They couldn't pick him up again.

#### THE CAUSE OF THE ACCIDENT?

I'm convinced that what caused it to overturn was the fact that it was anchored with 8 anchors instead of 10. Both of the missing anchors were supposed to be on the same side, where the gangway to Edda was attached. The Norwegian Maritime Directorate had approved of this. (They were «holy» and not to be critiqued). He told this to the commission and thinks it was included in the report?

#### ADDENDUM TO TESTIMONY

Fremsto på ny 1. vitne, Didrik Stonghaugen.

Vitnet ønsket å tilføye at det er galt at man ikke benytter 10 ankere. 2 ankerne burde også vært ute. Det burde dessuten vært en jevnere vinkel mellom ankerlinene. Det benyttede ankersystem har etter vitnets mening ført til en belastning både på ankerwirene og konstruksjonen.

Opplest og vedtatt.

De tilstedeværende polititjenestemenn ble gitt anledning til å stille vitnene spørsmål.

Ingen av vitnene ble edfestet eller avga forsikring på ære og samvittighet.

Møtet varte fra kl. 1145 til kl. 1445.

Thor Næsheim  
Torgeir Moan  
Sivert Øveraas  
P. Bekkvik  
A. Kloster

RA: screenshot, testimony Didrik Stonghaugen

NILS BØRGE LANDSNES

By Else M. Tunglund, November 17, 2015.

PERSONAL DETAILS

4370 Egersund

IMPLEMENTATION AND USE

Interviewed in Egersund

BACKGROUND

Worked as a fisherman until 1977.

Redningsskøytene (sea rescue vessels) 1978-2010 – retired at 62 years old.

Captain on Redningsskjøtene. Worked in the rescue service for 34 years.

Has experienced quite a bit.

Now works on Rødne fast ferry.

QUOTATIONS USED IN POLYPHONY

The next day was strange because the sea was so calm. It was daylight when we arrived at the scene of the accident the next morning. The atmosphere was strange, almost unreal. There was a lot of wreckage. We saw the leg floating in the sea. We picked up what we could find. When you're out on a search you just do the job without thinking about whether it's realistic to find anyone. We were there for tops 24 hours. What could be found, had been found. On our return, it was quiet in the boat. What could be said had been said. The scale of the accident dawned on us.

THE ACCIDENT

On the 27<sup>th</sup> of March 1980, Nils Børge was working from Redningsskøytene on the boat called Ambassadør Bay. It was docked in Haugesund.

<http://www.redningsselskapet.no/redningsskøytene/rs-62-ambassador-bay>

Redningsskøytene had approx. 35 boats in 1980. A shift consists of sitting in the boat, spend time in the crew mess, watch TV and do watch rounds.

*When there's a storm it can be tough. Sitting around waiting for a phone call you'd rather see never come, that's what makes you tired.*

ABOUT THE ACCIDENT

We received a message that evening that something had happened. There was a full storm. We called the main rescue services and asked if there was anything we could do.

The rescue operation was divided into 4 sectors. English boat (defence) was on sea commander. This means the boat that the main rescue services assign as leader of the search on site. Everyone is obliged to assist when there is an accident at sea.

AK was 16-17 hours away from us. On our way there, we thought about what it would be like. We listened to the communication among the supply boats on the scene. That's all the information we had. Open communication.

We arrived the next morning. It was daylight. The atmosphere was strange and almost unreal. There was a lot of wreckage. We saw the leg floating. We picked up the things we could.

When you are out on a search you just do the job without thinking about whether it is realistic to find anyone.

We were there for tops 24 hours. What could be found, had been found. On our return, it was quiet in the boat. There was nothing left to say. The scale of the accident dawned on us.

#### AFTEREFFECTS

I don't bring work home with me. I don't find it difficult to let work be work. But it exists in the back of my mind, I think about it from time to time.

I've been a fisherman and I know what it is like to be in the sea, you're helpless. It's been close a couple of times.

When you ask someone to talk about an accident, you rarely get two identical answers. Everyone experiences things in their own way. Now we know that there is something called debriefing.

The Alexander Kielland-accident did not lead to much change for us (Rednings-skøytene). Something happened after the «Sleipner»-accident. After which it was more focus on training and equipment.

#### OTHER

Most oil workers were landlubbers – not seafarers. People on boats are more experienced and have more training.

Journalists can be compared to seagulls. If you give them a piece of liver, a hundred more will show up within 10 seconds.

VICTOR ALLAN 76 YEARS OLD (34 YEARS OLD IN 1980)

In conversation with Kian Reme and Else M. Tungland (notes)  
Great Yarmouth, 8<sup>th</sup> of June 2022.

**Background:**

Victor grew up in a family with 8 children. He was the third youngest. They were 6 brothers and 2 sisters.

Victor started working on a fishing boat when he was only 15 years old. He worked as a fisherman until 1995. After that on a supply boat.

His father who was born in 1900 also started his grownup life early. He fought in the 1<sup>st</sup> World War, only 14 years old at the time. He probably survived because he injured his leg and was sent home.

Victor has been in Norway once, in Egersund. A man in their crew got ill and needed to see a doctor there.



Photo:  
Else M. Tungland/Norsk Oljemuseum

**27. mars 1980**

In 1980 he worked on the trawler Ripley Queen. He was the Mate<sup>1</sup> on the boat. They were fishing in the North Sea. The load was delivered in Lowestoft.

*It was good money in fishing at that time. For me there was no good reason to work on a rig, but many did.*

*There were 9 of us on the trawler. The time was about 18.00-19.00 in the evening. We were still fishing when we heard the call on Channel 16. The distress channel. That is always on, you can't close it. We thought it was a supply boat that had hit a rig and did not pay much attention at first.*

*Only once before we had a call on the emergency channel. It was when a mine from the second world war exploded and blew a hole in hull of a boat.*

*Now everybody was alerted. We were 16 miles away when we headed for Kielland. We only fished so far out at summertime. We got there 2 o'clock in the morning. It was pitch black and we couldn't see anything. We didn't have a search light.*

*When the daylight came, we could see. We passed the rig faced upside down. Bodies were floating in the sea. Most of them were only in T-shirt and Jeans. There where life belts, but no survival suits. They were blue. Some had bruises, maybe from the moment the rig tipped over?*

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<sup>1</sup> Second commander to the captain.

*We used the boat hook and took up seven bodies. We were not equipped for the job. We had no body bags. We only had one single engine. There was no way we could go by the side and deliver the bodies to a supply ship.*

We had no rescue training. We only carried a life belt, not a survival suit.

A small fisher protection boat came to help us, and a ship from the navy with a lot of young recruits. They loaded the bodies on their boat.

**Strongest memory:**

Allan's strongest memory of the disaster is the very young cadets on the navy ship, who loaded the bodies to the deck.

**After the accident:**

*It hit you hard after. It came when the bodies were transferred. At that time there was a lot of other boat around us. We went back fishing. Nobody asked us about the accident. There were some small stories in the papers, that was it.*

Back home Allan had wife and two kids.

*I told my wife about the accident when I came home. As a fisher man's wife she accepted it. Some years earlier the trawler "The Boston pioneer" (14.2.1965) went down in a storm. There were 9 men onboard. Nobody was found. At sea it was always a risk, but the trawler "Ripley Queen" was the best vessel I ever been on. I felt safe. No matter the weather conditions, and we had a good skipper.*

*After the accident the skipper asked the owner about compensation. We had lost 3 days of work. There was no compensation, but if we ever needed help the rigs had a lot of helicopters, that could rescue us. This was he low of the sea.*

*Once a chap on our boat injured his hand. We took him to a platform and a basked was lowered down. They took him to Stavanger. So, the help and rescue worked both ways.*



## JENS ONERVA

Born 1960

By Marie Smith-Solbakken, June 6, 2019

### BACKGROUND

Worked on supply boats and in various offshore positions. Currently on disability pension. Resides in Thailand.

### THE JOB

Worked on the diving vessel “Wildrake” for Anders Wilhelmsen. Started in 1978 and stayed until August 1981. I worked in the galley while also helping out on deck. I served the divers food, drinks, and whatever else they needed.

There was a crew mess and a separate diver’s mess. The divers had their own mess. The divers were American, English, Scottish, and Norwegian. There were no differences in mentality, and we had very good chemistry among us.

My job was to serve the divers. I sent food into the diving chamber during saturation. The food had to enter their atmosphere. Anything that came out had to be thrown away because it had been in a different atmosphere.



I still have a lot of contact with one of the divers, Einar Andersen, who lives in Sola.

### MARCH 27, 1980

I was at home with Erling when Erling’s mother received a phone call from my mother, telling me I had to get on board the boat as soon as possible because \*Kielland\* had capsized. The boat was docked at Dusavigå. We went full speed ahead. The skipper was Håkon Motøy. He has passed away. The boat was called Wildrake

When we arrived, it was all about working. The divers prepared themselves and tried to clean up.

### AT THE ACCIDENT SITE

There wasn’t much to see of Kielland. There was another diving vessel there as well.

I was in the galley. There wasn’t much I could do. It was hectic. I had to help the divers recover bodies. Many were floating dead on the surface, and they were retrieved immediately.

The divers went down. The bodies came up in a basket, and then we put them in body bags. I stood on the railing. It wasn’t easy for a 20-year-old. Someone had to do the job. I was a helper, and I didn’t have much to say.

No one had eyes. Shrimp eat the eyes. They were there immediately.

Next to where Kielland capsized, there is a trench, a 25 meter deep ditch. It’s quite deep. Equipment like containers, compressors, and chairs ended up down there. I saw it on the divers’ monitor. They

had cameras the whole way down. We could see into the trench. But the divers weren't allowed to go down there. There was a strong current and people lying there. No one was allowed to retrieve the equipment or the people lying there.

Visibility was poor. We saw the contours of people. There were a lot of shrimp where people were lying. They just had to shake and touch, then pull the body up. I saw it on the monitor.

There wasn't much talking. Most people were in light shock. We didn't know what to do.

#### MEMORY

I remember chaos. I see people running here and there. Many didn't know what to do. It was worse for those working on deck. Before I arrived, they had already retrieved many. One person had a container fall on them; they were crushed.

#### POLICE ONBOARD

I took some pictures.

Five or six police officers came on board. The police took my camera and confiscated it. I never got it back.

They weren't from Stavanger. All the police officers were from Eastern Norway. I assume they were from Oslo. They stayed with us throughout the operation. They observed everything. I don't know why they were there.

I never spoke with them. It was handled at a higher level. They spoke with the captain and the divers' chief.

#### THE TOW

Before we started towing, a net was set up, like a seine net, behind the platform to catch any bodies that might come out from the platform.

I don't know how long we had been towing before we had to stop. It was because a crane hit the bottom. We had to stop and cut the crane. Divers had to go down.

Here's the thing: if there were any bodies in the net, they would have fallen to the bottom. There was never any talk of looking for them. When \*Kielland\* detached from \*Edda\*, it was during lunchtime. A lot of people were eating in the mess at that time. What happened to them? We never found out how many were in the net when we stopped. I've concluded that several fell out then.

The tow continued into Stavanger. I went on leave then. I had been on the boat for four weeks. I was tired. It was the most stressful trip of my life. Håkon Notøy, a good friend of my parents, was the skipper. When we went ashore, I told the skipper I was resigning. The skipper replied, "You're a helper, so you have to do what you're told." I was only home for fourteen days before I went on another boat.

I told myself I would never go on a platform again. But I ended up there anyway.

I started with pressure testing and worked with that until 2006. Then I went on disability.

#### TALKING ABOUT THE CAUSE

There were many theories.

What stuck in my mind was that it was caused by a fracture because supply boats had collided with

the rig. We discussed the tow; if we pulled the wrong way, that could have happened. We discussed it.

Some believed it was an attack or sabotage. We just heard about it. There was speculation that someone had planted a bomb on the leg. If it was an attack, what would be the motive? It was just speculation.

People heard a bang when Kielland capsized. I've heard there was an explosion crater on the brace. The material was distorted. It bent outward. It could have been caused by an explosion from the inside out. Many believed that. The divers talked about it. They talked about it on the boat. It could have been a real cause.

An attack from a foreign power could have led to war. An explosion to fix it with insurance money. We talked about that too. First Kielland, then its sister platform.

#### WE SHOULD KNOW WHAT HAPPENED

Of course, we should know what happened. It's not fair to the people of Norway or the bereaved. If someone is hiding something, it should come to light.

The French were also involved in the investigation. Their investigation is not the same as the Norwegian one. The French investigation hasn't been made public. I don't understand why.

If it was human error that caused this, I assume it's being covered up. Insurance payouts could influence the cause. They wouldn't admit to an attack.

THE JOINT RESCUE COORDINATION CENTRE  
AND THE MILITARY

## ARNE HOEL GRAVDAL

By Marie Smith-Solbakken, December 9, 2015, Sola.

### PERSONAL DETAILS

Born 1932

1954: Employed in the Air traffic service at Sola

1970: Employed as rescue manager at the main Rescue Services in Sola when it was established on September 1<sup>st</sup>, 1970

1976: Employed in a new position as rescue inspector and head of the joint Rescue Coordination Services

1998: Retired

### USE AND IMPLEMENTATION

Interview conducted at The Joint Rescue Coordination Centres. Notes from the interview were sent for review and correction on the 5.12.2015. Hoel Gravdal sent a corrected note on the 9.12.2015. On the 24. 4.2016 we ask Hoel Gravdal for consent to use the note as a basic document in the presentations of the Alexander L. Kielland accident which includes photo narration, essays and polyphony which is a compilation of different statements from different people. Arne Hoel Gravdal consents the use of the notes from his interview.

Gravdal consented that the notes from the interview can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National library and the Labour Movement's archives and library so that posterity can take part in this history. (Email 15.12.2018).

### PROFESSIONAL BACKGROUND

In the air traffic service I worked, among other things, with tasks at the air rescue service at Sola under district manager Sverre A. Bredal. Although the air rescue service was only meant to be responsible for air rescue operations, it eventually became heavily involved in both sea- and land rescue operations. When the Joint Rescue Coordination Centres in Stavanger and Bodø were established in 1970, they were added to the existing air rescue services in those cities. The centres were now responsible for air, sea, and land rescue operations.

### THE INCIDENT MARCH 27, 1980

A few minutes after the accident occurred, the Joint Rescue Coordination Centre was notified from Ekofisk. The time was 18:42. Ships in the area had already been alerted by Ekofisk and Rogaland Radio. The owner of the platform was Stavanger Drilling and Phillips were the ones who operated it. The on-duty rescue manager, Tor Drabløs sounded the alarm. The rescue management and extra personnel were called in. 330-squadron, the central hospital in Rogaland, Stavanger police station, neighbouring rescue services in the North Sea, the Norwegian Petroleum directorate, Helicopter service, the armed forces, the ministry of justice and others were notified, this was the build up to one of the biggest rescue operations that has ever taken place in the North Sea.

This was followed by an overload of phone calls from local authorities and media.

The Joint Rescue Coordination Centre was primarily an operative body and was not designed to handle a lot of requests from the media and others at home and abroad. It was difficult to answer all requests that didn't directly concern the execution of the rescue operation.

When the accident happened, the police chief Carl A. Wendt (1923-2006) had relatively recently begun working as police chief in Stavanger and as chief executive at the Rescue centre. He was basically hit in the face with this operation.

#### THE ORGANIZATION OF THE RESCUE OPERATION

The rescue operation ended on the 29<sup>th</sup> of March at 19:00, two days after the accident happened. The decision was made after consultation with the affected parties and an assessment of whether anyone could still be alive. A total of 19 helicopters and seven planes participated during the rescue. 71 civilians and nine military vessels changed course so they could participate if they were needed. Planes and helicopters were made available by the Rescue Services in Aberdeen, Edinburgh, Karup and Glücksburgh in Germany.

Phillips, the central hospital, Stavanger police station, Sola air station, and units from the armed forces were called in to help. A medical reception unit was established at Sola and a medical team were transported to Ekofisk. Injured people who arrived at Sola were examined and transported to the hospital.

The police in Stavanger took responsibility for contacting and informing the next of kins. Orion- and Hercules planes were prepared on Andøya and Gardermoen and extra helicopter crew were transported by jet planes from Ørland to Sola.

The number of resources made it difficult to organise the rescue operation. In order to ensure the safety among many units within a small area, in dark and bad weather conditions, a professional local management of the units was necessary.

We designated the Dutch jet HR MS Overijssel to coordinate the assisting vessels and the British Nimrod planes coordinated the helicopters. They cooperated with the radio operator on Ekofisk. He did a remarkable job.

Because the accident happened so fast, it only took 20 minutes for the platform to overturn, it was mostly those who were close by who were able to rescue people from Alexander Kielland. The rescue operation was quick and hectic. People were rescued from Edda with the basket and picked up by vessels in the area. They did a fantastic job rescuing people and were later awarded for their efforts. Units that arrived at the scene some hours later could do little and were dismissed. Effective on-site emergency preparedness is crucial during incidents like this one.

In the countries around the North Sea area, many media planes and helicopters were ready and wanted to fly out to the area to take pictures. For safety reasons, the airspace around the operation area was closed to all other traffic than those participating in the rescue operation.

#### EVALUATION

At the time, this was the largest rescue operation during peace time to have happened in the North Sea. The cooperation with our neighbours went well. For several years, there had been rescue operation drills with all the countries by the North Sea and it paid off in this

situation. International conventions stipulate that in rescue cases one must help one another free of charge and the written and unwritten laws of the sea states that all ships must help in the case of emergencies. Norway did not pay anything for the assistance they received from other countries. The media was not allowed to fly out to the area. They were offered to come on a plane that we rented and were in control of. The rent we paid was 150 000 NOK. This was the only direct expense we had in connection to the rescue operation. We were not prepared for the great media pressure from home and abroad and were not ready to face the many journalists who came to Sola.

Fortunately, the state secretary Per Vassbotn at the prime minister's office' quickly came down from Bergen and handled the media in collaboration with the information desk at Phillips. We didn't have room enough to meet the media, but we had an agreement with Braathens Safe's technical department to use their canteen for press conferences. Vassbotn arranged for a press conference there with the Prime Minister Oddvar Nordli, the minister of Municipal Affairs Inger Louise Valle and Oil and Energy minister Bjartmar Gjerde who all came to Sola. Andreas Cappelen who was the minister of justice and responsible for the rescue service, did not come to Sola. When he was asked why he wasn't going, he replied that there had been established a rescue service and that he wouldn't be able to rescue anyone. The media and guests did, to some extent, disturb those who worked with the rescue operation. The operating room, which was approx. 40 square meters, was from time to time used as a TV studio. Rescue crew and the rescue management tripped over cables and floodlights. For a short period during the operation, Phillips and the Rescue Services stated two different numbers of people who were on board the Alexander Kielland.

The media took notice of this and portrayed it as if neither Phillips nor the Rescue Coordination Centre knew how many people had been on board. This was merely a result of a misunderstanding, and it was quickly clarified. The operation attracted great attention throughout the North Sea. We later had a meeting in Holland where we reviewed the operation with all the rescue centres around the North Sea. During the meeting, the Minister of Justice thanked the countries who had provided assistance.

#### THE AIR STATION

The deceased were brought into the air station. Autopsies were performed in the Soma-camp. This was led by police inspector Gunvor Molaug. She was concerned with finding everyone who had died. Brigadier Birger Strand, the chief of the air station knows more about this. The deceased were placed in the hangar. Police chief Wendt and I went over there in the night. A young soldier was there on guard. The two of us were walking towards him and behind him there were several bodies. He was frightened.

#### THE LESSON

The cooperation between the rescue centres in the North Sea worked very well and the shipping traffic in the area responded to us and wanted to help.

We learned that there should be an information apparatus that coordinates information and relieves the operational staff. The Ministry of Justice declared that we had to establish information preparedness.

The operational staffing was too small. Eventually, we were able to expand more positions. In 1983 we got 5 positions and went from 3 positions to 8.

The operating room was too small, it was approx. 40 square metres, and we lacked some equipment, especially better communication systems. During the blowout on Eldfisk Bravo in 1977, the Ministry of Climate and Environment and the Norwegian Pollution Agency established a crisis team in the premises of the main rescue centre. I wasn't happy with this.

Gro Harlem Brundtland, the head of the Ministry of Climate and Environment, initiated that the new building for the Air traffic services which was being planned at the airport should house both the Norwegian Rescue Coordination Centre and the Norwegian Pollution Agency action committee which was mobilized in the event of major pollution incidents on the continental shelf. The police group dealing with the bereaved also got premises in the new building.

#### BEREAVED

I was not noteworthy in contact with those who lost someone.

#### SERIOUS ACCIDENTS

During major accidents you don't see individuals. You look at the bigger picture. You are distant from the accident and only see the resources, the results and look at what needs to be put in place and what is an appropriate response. Smaller/individual accidents can make a bigger impression, especially if there are children involved.

The fact that we had so many means and still couldn't save everyone, affected us. We thought about it. Could we have done a better job, would we have been able to rescue more people? But often, the accident is fatal in the moment it happens. In plane accidents, it is usually fatal in the moment it happens.

When we reviewed the operation afterwards, we concluded that the rescue services wouldn't have been able to rescue more people under the given circumstances.

#### THE HELICOPTER ACCIDENTS ON THE NORWEGIAN CONTINENTAL SHELF

The accidents in 1977 and 1978, where 30 people died also affected the oil industry. General Mohr who was head of the Air Crash Investigations, stated that the oil industry could hardly tolerate more accidents with the transport helicopters without it affecting the oil industry. The helicopter transport was vital to maintain the business.

#### THE FERRY ACCIDENT SCANDINAVIAN STAR

Later, there was the accident when a ferry caught fire, it made a bigger impression on me. That was an accident which could have been avoided. It happened so suddenly. Nobody thought it could happen. It caught fire. The ships in the area did a fantastic job: resources from Denmark and Sweden were deployed. We were told that the weather was fine and that everyone had left. The main rescue centre demobilized. We thought that everyone had boarded the lifeboats and that the weather was fine, so we assumed that everything was ok. We were wrong. It ended in a terrible accident. The Commission of Inquiry made it clear that the main rescue centre should not trust the information from the accident site without having it investigating themselves.



Those who died, died almost instantly. It was an explosive fire, and for us it was a terrible experience. We were informed of one thing, but something else was true.

## BIRGER MARTIN STRAND

By Marie Smith-Solbakken, Sola Quality Hotel, April 10, 2016

### PERSONAL DETAILS

Born: 1929

Station manager, Sola Air Station 1979-1989

See Birger Martin Strand: *Jagerflyger under den kalde krigen*, Dreyer Bok, Stavanger, 2014: 147-150.

### USE AND IMPLEMENTATION

Notes sent for review and correction with request to use it in presentations of the Alexander L. Kielland accident: including essays, photo narration and polyphony which is a compilation of different statements from interviewees. Consent given under the condition that the quotes match the book: Birger Martin Strand: *Jagerflyger under den kalde krigen*.<sup>34</sup> Consent given on the 12th of April 2016.

### BACKGROUND

Born 1929

Trained fighter pilot in the Air Force in 1950.

The armed forces: 1950-1955 as pilot, instructor.

SAS: 1955-1956 as navigator.

The armed forces: 1956 until retirement: as pilot and instructor, Station commander at Sola air station 1979-1989. Long operational service, e.g., as squadron commander and group manager (3 squadron). Head of Bardufoss air station and Sola main air station for a total of 12 years - 1977 to 1989.

Retired in 1989 as brigadier.

### «KLAR STASJON» SIGNALLED

I was at home when the accident occurred. I was contacted by our operations centre and informed about the accident. Everything that happens, goes through there. I called back the operations centre and ordered all personnel to be called in. It was signalled «Klar stasjon» which means that everyone had to meet at the station as soon as possible. Then I went to my office at the station.

First, I had a meeting with the key staff. I knew that the air station would be the reception centre for survivors and deceased. The tasks were distributed as soon as the staff arrived. A reception centre for relatives was set up in a separate room in the welfare building. The station chaplain and the welfare officer took care of the relatives. The dining hall and kitchen was opened, and they served food throughout the night. The sports officer arranged to furnish the gym with field beds, etc., so that the Red Cross staff and others who needed rest could take a break.

The guard staff was reinforced and were given responsibility for guiding visitors to the appropriate places, such as the hangar where the injured people were admitted and to the commanders' mess where the next of kins' were looked after and taken care of.

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<sup>34</sup> Strand (2014): 147-150

#### RED CROSS

Then there was an operation on Sola air station to support the Red Cross with doctors and staff who came to look after the survivors.

The Red Cross took responsibility for survivors and injured. The reception of survivors and injured was handled by the Red Cross in 330-squadron hangar. This is where the first aid station was located. The Red Cross brought woollen blankets and other things and made coffee. We organised and arranged ambulance transportation to the hospital in Stavanger.

#### THE MEDIA

The media was very intrusive and showed little respect for fences and barriers. In one case I had to physically throw a photographer out of the rescue helicopter. He had forced his way inside. It was a Norwegian photographer.

#### DECEASED

The bodies were not brought into the 330-hangar but put in the emergency hangar next to it. We didn't want to place the survivors and the dead together. The dead had to be shielded. This job was done by the soldiers at the air station. They carried the bodies out of the helicopters and put them in the emergency hangar.

#### THE FOLLOWING DAYS

A couple of days after the accident, I discovered that our young soldiers had been ordered by the police to transport the dead from the emergency hangar to Soma camp. I called the police chief and told him that the rescue operation had ended and that it was the police's job to take care of the transportation of the dead. He asked me if I refused to obey orders. I told him that it was not the responsibility of the Armed Forces and that it was not appropriate to use my young soldier for this kind of job. The next day, I received a phone call from a bureau chief in the ministry of Justice asking if I had refused orders from the police. I explained him the situation and said that it was not the Armed forces' responsibility. He agreed with me and confirmed that this was a responsibility of the police. The police then received orders from the ministry to take responsibility for this sad and unpleasant job.

#### GUARDING

They stood guard outside the Soma camp. I didn't think it was right for young boys to transport the dead bodies. I told them no. My boys were not supposed to be ordered to do police tasks.

#### THE RESCUE OPERATION THE 330-SQUADRON

The wing commander Nils Reidar Roaldsøy and his crew took off with a Sea King helicopter 50 minutes after they were informed of the accident. We had an hour preparedness time back then. The task was extremely difficult, it was almost irresponsible to fly. It was never questioned whether we would be able to carry out the rescue operation.

The weather was extremely bad. Visibility and cloud cover was marginal, so the helicopter had to fly at a low altitude. When they reached the platform, they had to stop and lift the helicopter up to deck to land. Roaldsøy and his crew did an outstanding job. They picked people up from life rafts and boats. Flew close to the sea. Roaldsøy was a skilled pilot. It was later decided that the standby time should be no more than 15 minutes. Today, the emergency forces are stationed at the airport. They live there and can be in the air within 15 minutes.

#### HELICOPTER FROM ØRLANDET AND GREAT BRITAIN

Later in the night, the rescue helicopters from Ørland arrived. So did the British helicopter.

#### MOST VIVID MEMORY

I was present at the wreath laying ceremony by the memorial site “Brutt lenke” (“broken chains”). It was a powerful moment. To see the memorial site and the bereaved and the board with the names of everyone who died. That’s when you could concretely grasp the accident and its extent.

#### LESSON

Reducing the deadline emergency preparedness time from 1 hour to 15 minutes. It took several years before the requirement for emergency readiness was reduced from 1 hour to 15 minutes. This means that the entire crew on standby must stay at the air station for a continuous week.

TOR BJARNE OLSSON

By Tor Bjarne Olsson, Marie Smith-Solbakken and Else M. Tungland, April 7, Sola Strand hotel.

#### PERSONAL DETAILS

Born 1960

#### USE AND IMPLEMENTATION

Notes from the conversation were sent for correction and confirmation to use in presentations of the Alexander L. Kielland accident including photo narration, essays, and polyphony (compilation of different statements about the accident). Correction received on the 21.04.2016. Consent given on the 21.04.2016.

Consent was given that the notes from the conversation can be made public and included in the memory collection of the Alexander L. Kielland accident and be handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National Library and the Labour Movement's archive and library so that posterity can take part in this history. (SMS 26.01.2019)

#### BACKGROUND

Private (rank) soldier in the Air Force

Specialist consultant within planning and report in the public sector.

Researcher and consultant within business management, HSE/risk and working life culture.

Advisor in strategic communication, security management and crisis management.

Self-employed in consultancy.

#### HOW THE ARMED FORCES AT SOLA AIR STATION HANDLED THE ACCIDENT

I spent my compulsory military service at Sola air station. We lived in the barracks at the air station and were «thrown» into the job of receiving those who died during the Kielland accident. We were informed about an accident in the North Sea, but we weren't informed about where it had happened or the extent of it. We were picked up in a military Land rover, one of those with benches on the sides. We participated both in the preparation of the dining hall in the disused Soma camp and more directly in the reception of the dead.

We blinded the windows in the dining hall and arranged tables (we used the dining tables). There is something I remember particularly well. On our way out to the helicopter landing pad, a captain tried to prepare us for what was to come. He told us that dead bodies are a natural thing, but his body language said something else. He seemed very nervous and uneasy. I remember sitting there and thinking that he didn't have control of the situation. It wasn't a natural situation. I have often wondered why I remember this particular situation so clearly, and I believe it is because he made us more uneasy instead of less because of his behaviour and body language.

Our task was to carry the bodies on stretches from the helicopter to the hangar and place them on a loading platform of a pickup truck used for this purpose. We put a tarpaulin over them and drove them to the Soma camp. There, we carried them inside and placed them in rows next to each other on the tables. We were not involved in any other tasks inside. Hviding, from the funeral home, took care of the deceased and laid them in coffins. I remember being surprised by the guy I thought was Hviding himself. He was very rough in his treatment of

the dead. This is something he's used to, I thought. He wore a white apron and walked around whistling among the corpses, he broke arms and legs where necessary. He eventually looked quite dirty. I think most of them were put in zinc coffins after they had been identified. The coffins were then soldered.

#### THE OIL

I knew a few things about the divers and oil industry. I had worked on the glide and rolled concrete, and I'd been to the motor hotel and seen how some oil workers were spending money. I grew up next to the American school which was the predecessor to the international school in Stavanger. It was in the premises of Nylund school on Storhaug, east Stavanger. We were close to the pupils there, and I was under the impression that they were noisier, louder and more worldly than us. This was an early culture crash.

My father was an industrial worker and at the time I felt like I was among those who were affected by the accident. It was not those in power who died, so to speak.

#### IDENTIFYING THE DECEASED DURING EASTER

As time went on, many were in a bad condition. They smelled and made sounds. We who stood guard were told that taxi drivers had been ordered not to reveal to the media or other "unwelcome" people where the bodies were stored and identified. They brought in employers and others who could participate with identifying. There was also someone with expertise in identifying through dental studies who came, and I got the impression that some relatives also stopped by.

#### INTRUSIVE JOURNALIST

One evening, a taxi driver arrived with a French journalist. We stood guard, me, and another private soldier. I was in uniform and had the AG3 on my shoulder. We had not been given ammunition. I perceived the journalist as very insistent and ultimately aggressive; he wanted to go inside to see. I refused him entry, that was why we were there after all. He said he wanted to talk to the relatives and didn't leave. It was in the evening, and we were there by ourselves, two private soldiers.

I was so tired from everything we had experienced and finally got so provoked that I pointed the AG3 at him and told him to leave. He ran down the road and shouted in English «I have a job to do». I yelled back «It's a dirty job». I went back and told the taxi driver to pick him up and never bring reporters here again. The driver seemed a bit frightened but answered in the affirmative. Many of us were probably more and unstable and fragile than usual.

#### IT WAS A JOB

We were very caught up in the operational part of it, so we didn't really realize what we were a part of. The news flow was different back then, this was before the internet. The information that reached us was very random. It was a tough experience which we couldn't have been prepared for, and I believe it was reinforced by the fact that we didn't have an overview of the situation.

No one had experienced anything like it before. This was an incident that didn't only shock us, but the entire country and the rest of the world. In retrospect, I think it was interesting to have been a part of it. I haven't suffered from trauma afterwards; my life went on as normal.

I noticed how bruised some of them were from blows and injuries and how ugly you become after some time in the water. I've seen interviews with the responsible medical personnel who were there to receive those who were picked up from the seabed. They concluded that most people seemed to have died from drowning. This might very well be true, but I can best remember the physical injuries and the conditions the bodies were in.

#### AFTERTHOUGHT

To me, this accident was something that gave room for reflections around this industry. I stood guard and watched the people who came and went. I thought about who they were and what they did and how they were connected to the accident. People arrived in suits and looked stuck up, and I felt like many seemed unmoved by the situation. They were probably employers and managers and were there to try to identify bodies. There were some relatives who came, but not many. It was mostly managers and colleagues. In addition to dental specials and medical personnel who were there to help identify the victims. Many people were affected, in different ways. I remember standing guard and thinking that there must be many douche bags in the oil industry. Where there is a lot of money, there are many cynics, I suppose.

#### SILENCE

There were no resources or time set aside to process the incident. No one from the military leadership brought it up afterwards, at least not to me. It was never talked about. We didn't even talk about it during the period on guard, other than occasionally commenting when we walked around the dining hall among the dead. I believe there were 80 bodies there at most, but I'm not quite sure about that number today. But there were many. We saw it and kept quiet. It was quiet when it happened, and it was quiet afterwards.

Some years later, I read an article about an ex-military who had received compensation because of the trauma he suffered from these experiences. I'm not sure if the article was trustworthy, but I'm sure it could easily happen to someone who didn't manage to process it in a good way. There were two of us at a time who guarded the corpses in the Soma camp. We didn't know what to say. We sometimes had the door ajar into the hall. From time to time, we heard the rumble from bloated corpses releasing the gas. It smelled; it was an unfamiliar smell. We didn't know what to think or say.

It was like we went into a centrifuge and were inside for a few days. I had a centrifuge feeling that lasted a few days, it seemed. It wasn't talked about. There was silence. It took a few years before I felt that it was okay to talk about these experiences and how I encountered the Kielland accident as a 19-year-old private soldier at Sola air station during the Easter of 1980. I held back and thought that in such a big accident there are many who experience grief.

I was simply afraid to talk about these horrible events and risk that one of those listening had lost a father, son, colleague, or spouse. Today, I sometimes use the Kielland accident as an example in lectures I give. Even now, 36 years later, I am afraid that there will be someone in the room who has a close personal relationship with what happened. It was an event that affected many people.

## ODD MYRAN

Hans-Jørgen Wallin Weihe (HJWW), summer 2015, Marie Smith-Solbakken (MSS),  
03.01.2019

Odd Myran consented that the notes from the conversation can be included in the memory collection about the Alexander L. Kielland-accident and be handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National Library and the Labour Movement's archive and library 03.01.2019.

### PERSONAL DETAILS

Born 1928

### BACKGROUND

Graduated Civil Engineer in Karlsruhe with diploma thesis 1954.

Was stationed in the Brigade in Germany in 1948 – 1949 learnt to speak German, terrible conditions, lots of refugees from the east.

Has worked in the Armed Forces his entire professional life.

The Air Force from 1954-1968.

The Army's supply command as head of department 1968 – 1997 (for almost 70 years)

Chief shop steward for the civil engineers in the Armed Forces. Began association work after he transferred to the army - a bit of a change. We were organized as a government employee engineer's working group - all government employees. Our meetings were at Haakonsværn.

### VIKTOR ANDERSON

I knew Viktor Anderson who worked as a seafarer's chaplain, and my sons were friends with his sons. He led the morning service on the 28.03.1980. Hooked him up to the HJWW– he stayed in touch with many survivors.

Head of the documentation department in the Army's supply command, Løren on Sinsen in 1980. Later moved to Kolsås. Responsibility for acquisition and maintenance in the Armed Forces.

### THE KIELLAND-ACCIDENT

After the accident, I talked a lot about it at work. I was the shop steward and we frequently talked about the accident. We talked about the rescue operation, about someone getting stuck in the propeller, it was difficult to rescue people from boat. We also never understood why it capsized. We frequently discussed it. It was difficult because you don't want to blame anyone, it's easier to blame a technical failure, but often it is actually a matter of human failure.

### THE PROPELLERS

I heard about people getting stuck in the propellers. Some of our people participated in those conversations. There was an awful lot of talk about it at work. It's so terrible because someone feels responsible for it. It's difficult to manoeuvre when there is that many people and wreckage in the water. Rough seas and difficult conditions.



It's so terrible, some people may feel they are to blame. If some people are in the back to see that there are no people in the water, it doesn't help if someone swims towards the stern, and you hit it in reverse, to pull back for a big wave, so you won't hit them, but then you suck them in. It was horrible stuff. Hard to talk about it when you've seen people being cut to pieces.

Some were also struck against the ships' side. There were strong forces at play. The waves could knock those in the water against the ships' side.

I talked a lot about it at work, I was the shop steward, during meetings with other engineers. One stood on the bridge, concentrating to manoeuvre the boat, it was difficult to know what was going on by the side propellers and the stern.

#### RESPONSIBILITY

It is difficult to talk about something that might make people feel guilty. The only person who has accepted responsibility was Colonel Arne Pran after the Vassdal accident. Usually, no one wants to accept responsibility, you must blame someone in the lower ranks. He received an award as leader of the year by Norwegian civil engineers – I spoke with him right after this. I knew that he would get the award before he got it, someone named Bjørnstad suggested it. It is important that someone takes responsibility and is willing to do so. It's important to those who are left behind. It's important and necessary to know how things happened. Not everyone agreed that it was important to blame someone higher up in the ranks. It cost him his career in the military. Hindsight has brought him glory.

#### THE CAPSIZE

We talked a lot about it; why had they made something so unstable that it would overturn if only one leg was missing. I didn't get it.

The loss of stability is an important factor when something has gone wrong. It is possible to handle things if you don't lose stability. Could have filled it up with water on the opposite side and keep it stable enough to release the lifeboats.

It should be possible to recover even when something has gone wrong. Waterproofed bulkheads. It's quite a long time since «Titanic» sunk. It was ripped open, and the water flowed in, it filled room by room and eventually it rose vertically and sunk. It could not sink, but it did. The bulkheads were open.

If it had been possible to fill the rear legs with water, it would have capsized but at such an angle that it would be possible to lower the lifeboats. In new ships and passenger boats, the lifeboats are located lower down.

#### THE NAVY

Many from the navy came over, but most people were from the shipping companies or shipyards. I did not know any of them but the navy were on duty and several navy ships contributed to the rescue operation.

## AIR AND RESCUE CREW

## KNUT HEGLE, HELICOPTER SERVICE

By Marie Smith-Solbakken, February 8, 2016

## PERSONAL DETAILS

CAPTAIN, HELICOPTER SERVICE. 4353 KLEPP STATION

## BACKGROUND

Military Pilot training

First officer Sterling Airways

1977 First officer Helicopter Service (HS)

1978 Captain Helicopter Service HS

1985 Instructor Helicopter Service HS

2012 Instructor CAE

## IMPLEMENTATION AND USE

Interview conducted on the 8<sup>th</sup> of February 2016, sent for correction on the 8<sup>th</sup> of February 2016. Corrected by Knut Hegle on the 9<sup>th</sup> of February 2016 via email. Quotes are to be approved before use.

Hegle approved that notes from the interview can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National Library and the Labour Movements archive and library so that posterity can take part in this history.

## SHUTTLE ON EKOFISK

HS had a morning and a night shuttle on Ekofisk. People were transferred between the platform, twice a day. Two Sikorsky and one Bell was in use. The shuttle started at 0600 and 1800 with transportation between the installations in the Ekofisk field. The Sikorsky's could hold a maximum of 19 passengers each, the Bell could hold fewer. Some workers lived and worked on different platforms and therefore the Bell flew when necessary.

2 Sikorsky left from Forus at 04:00 in the morning and at 16:00 in the afternoon. When the shuttle was finished, the Sikorsky went back to shore while the Bell stayed permanently by the platforms.

## THE AFTERNOON MARCH 27, 1980

We had flown between Alexander Kielland and Eldfisk Alpha but in addition to bad weather, it was now getting dark. Cloudy weather and poor visibility in addition to strong winds. The visual requirements for flying were that when we could see the platforms, we were allowed to fly with less fuel. But due to poor visibility and night vision, we needed more fuel before we could fly to shore. We went to Eldfisk Alpha to fill up. When we had filled it up and were about to board passengers, we heard a Mayday call.

When we asked the Ekofisk centre, they told us that the radio connection with Alexander Kielland had been cut. We were therefore asked to see what had happened. The passengers who were on board were removed and we went towards Alexander Kielland. The wind came from south-east, and we had to fly on the south side and around Edda to get into the wind for landing at Alexander Kielland.

In the last turn before reaching the platform, we see a big piece floating in the ocean. We didn't understand what it was. We didn't know how Kielland was constructed, and we had not seen pontoons like that before. When we arrived at Kielland, we saw that it had a list. I don't know at what angle, but we still considered to land. If we had been able to land, we could have contacted someone on board and brought them with us.

We constantly reported everything we saw to the Ekofisk centre, we had a good connection with them. When I was piloting and about to land, Paul was the one who spoke with Ekofisk. As we were discussing whether it was safe to land, Kielland started to get a heavier list and we realized that it would not be safe to land. It almost felt like watching a movie. It slowly, slowly overturned. I cannot remember seeing any people.

We backed up to look for people in the sea. The only equipment we had on board was a large rope in the back of the cabin. We considered letting it out through the cargo door so that people could tie it around themselves, and we hoist them onto Edda.

The rope was not heavy enough to go down, the winds were so strong that the rope was almost horizontal in the air. The rope later had to be removed from the machinery. The fact that fishing boats and supply vessels were in the area, also made our operation difficult. It was dangerous for us to operate at such low altitude in the area. Back then, there was no maritime VHF installed, so we did not have radio connection to these boats, and we did not know where they were.

After some time, many others arrived in the area. The Bell was there, Nimrod – a British surveillance plane plus rescue helicopters from Sola and several others. Then the Ekofisk centre decided that we were to evacuate people from Edda. Kielland could potentially drift into Edda. We picked up as many passengers as possible. People in pyjamas, people in the baggage storage and people in the aisle. We picked up everyone who were ready on deck. I don't know how many times we flew back and forth between Edda and Eldfisk Alpha, but it was at least a few times.

When we had finished the evacuation of Edda, we were sent home. We had been working for over 12 hours. We normally ate on Kielland when the shuttle was over. If it had capsized sometime later, we might as well have been on Kielland. That's something I thought about afterwards.

#### FIRST MAYDAY AND ALEXANDER KIELLAND CAPSIZED

When does it get dark ?

1829: Mayday

1847: Alexander Kielland tilts

18 minutes from Eldfisk Alpha to Kielland, this equals only 13 minutes next to AK

## PAUL RINGHEIM, HELICOPTER SERVICE

By Marie Smith-Solbakken  
February 8, 2016.

Ringheim consented that notes from the conversation can be made public and be included in the memory collection about the Alexander L. Kielland accident which is handed over to the Norwegian Petroleum Museum, the National Library and the Labour Movements archive and library so that posterity can take part in this history. (Email 17.12.2018)

## BACKGROUND

1979: First Officer in Helicopter Service

1982: Captain in Helicopter Service

2006: retired

2006-2014: Continued to work as an instructor.

## MARCH 27, 1980

We were going out for shuttle. Alexander Kielland was used as a housing platform. There were several other hotel platforms. They were flown to work in the morning and evening. HS had two big ones on Ekofisk and then we flew out with the Sikorsky's for the shuttle.

There was another helicopter going out too, but it was called back because of the weather. Knut and I were ordered to go straight to Eldfisk, far south on Eldfisk and start the shuttling there. As far as I remember, we never landed on Eldfisk. We hovered above Eldfisk, waiting to land. Then we heard mayday on the radio. «Mayday - mayday».

The control tower on Ekofisk replied: «Who is calling Mayday, who is calling mayday». The weather was terrible, and it was getting dark. We discussed with Ekofisk where the mayday came from. The tower said they believed it came from the Edda area. Then they asked us to fly over there to have a look.

## IN THE AIR ABOVE ALEXANDER KIELLAND AND EDDA

When we arrived, Alexander Kielland had been moved away from Edda and the gangway had been retracted. Kielland was heavily listed. We hovered there. We hovered at the height of the deck on Edda, approx. 30 metres above the sea. I was happy that we weren't on Kielland.

It slowly tilts, slow motion like in a slow-motion film. We saw people in the sea. Suddenly, the entire rig rotates and falls over where the leg broke off. Slowly but surely, it gets a heavier list. It lies at 90 degrees for a few seconds, then it goes all the way around. The legs come up in the air and level with the surface, it was left floating upside down. Everything is under water, the entire structure, derrick, and all. Only the pontoons come up of the sea, one by one. We can only see the bottom of the pontoons floating in the waves.

Then we saw yellow life jackets drifting in the sea, and one of the lifeboats floating in the water. The wind came from southeast.

#### EVACUATING PERSONNEL FROM EDDA

Some people had been picked up on Edda, and we asked what we could do. We were told to evacuate people from Edda and those who had been rescued from Kielland. We flew them over to the Ekofisk hotel. We flew back and forth three or four times. We had 19 seats but brought 28 people at the most.

I knew someone who had been rescued, I saw him when we were about to evacuate Edda. It was one of my friends from Voss, Atle Slettemark, he has passed away now. He had been in the sea and was wet. We flew him to the Ekofisk hotel. It took a long time before the rescue helicopters arrived. Strong headwinds made it take even more time. The Brits had a coordination helicopter at high altitude, they were very professional and knew exactly where we were, asked for positions and directed us.

We were told to go to the deck on Eldfisk Bravo and we stayed there for some time. We couldn't stop the rotor, because of the wind. We stayed there for at least a couple of hours.

Many helicopters arrived in the area, the Sea King came and several helicopters from England.

I went out around 16:30 and didn't return to shore before passed midnight.

It was a hurricane, a full storm and in the end of March. The wind blew hard. We were there at dusk right when it gets dark.

#### STRONGEST MEMORY

I did not realize what had happened before I came home and back to shore. Knut and I talked about it when we flew home.

## ROLF EIDEM, 330-SQUADRON

By Rolf Eidem, 17.4.2016

## PERSONAL DETAILS

Report about Alexander Kielland by Rolf Eidem

17.3.2016

## IMPLEMENTATION AND USE

Interview conducted by telephone with Rolf Eidem on March 16<sup>th</sup>, 2016. Notes from the interview were sent for review and correction on that same day. Eide replied on the 17.03.2016 via email and asked to come back with a more detailed report of the rescue operation with special emphasis of what he himself was a part of, and to attach the logbook, newspaper clippings, etc. Rolf Eidem sends his «Report on the incident on the 7.4.2016», extract from logbook and *Vi menn*, 17-22. April 1980.

Eidem consents that the report can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National Library, and the Labour Movements archives. (Email 31.12.2018).

## BACKGROUND / CV

I grew up in Gardemoen and took an interest in airplanes already in my youth. At 15, I started with sail planes (gliding) and flew solo in the summer of 1972, at just 16 years old. When I finished Jessheim upper secondary school, I got my aeroplane licence. After Command school at Trandum, I applied to the air force's flight school in 1977. I was accepted and underwent pilot training in Norway and helicopter training with the US Army, Forth-Rucker, Alabama, USA. After returning to Norway, I was ordered to the 330 squadron at Sola. Here I underwent a check-out in the summer/autumn of 1978 and became operational as second pilot on the rescue helicopter Sea-King. I was then obliged to serve 6 years as a pilot in the air force.

At the time I was newly married, and we settled in Høgevoll outside Sandnes. From 1981 to 1984 I worked on a Lynx helicopter for the Coast Guard.

1984 I left the air force and started in Helikopter Service AS.

## THURSDAY 27. MARCH 1980

Crew on duty on Westland Sea-King Mk 43 073:

Commander captain	Captain Nils Reidar Roaldsøy
2nd pilot	Second Lieutenant Rolf Eidem
Radar operator	Captain Asbjørn Olafsen
Lift operator	Second Lieutenant Lars Egil Fosse
Rescuer	Grenadier (rank) Dag Ellingsen
Medic	Sola air station's doctor

After work and then dinner at home with my wife and our 9-month-old son, I returned to Sola air station to attend training. It was training that would qualify me as a civil pilot if that's what I wanted to do after completing my official duty. At around 19:00, my pager beeped. I had to find a telephone or meet up at the squadron as soon as possible. The training was held around 5 minutes away from the squadron, so I got in the car and drove over there.

Since I was the first to arrive, it was my job to check the weather forecast and call the rescue centre and inquire about the type of mission we were called to. Eventually, the rest of the crew arrived, and we had a joint briefing on what kind of mission we were going on. At the time, we only knew that the housing platform close by Ekofisk had gotten a list. The weather was not great, there was a full storm or hurricane and rough seas. The Ekofisk field consisted of several platforms with helipads and fuel. We were therefore able to set off relatively quickly and be updated along the way. As we flew south towards Ekofisk, the weather intensified. The wind increased significantly, and we could see that the sea turning white.

We eventually got in touch with Ekofisk radio, and they informed us that the situation had dramatically worsened. The housing platform next to Edda, Alexander Kielland with approx. 220 people on board had capsized and people and lifeboats had been observed in the sea. We therefore set course directly for the Edda platform and navigated our way to the helipad. Our doctor was dropped off and we left the platform to search the area. The weather gradually got worse, and we had problems navigating between all the platforms in the dark.

As this appeared to be a major disaster, we were informed that all available rescue units in the North Sea were called on and would soon arrive on site. We realized that the search area would soon be crowded and recommend Ekofisk radio to keep track of where the other helicopters were.

Ekofisk radio kept a good overview and assigned search areas to the different helicopters as well as keeping us updated on the weather conditions. Most of the rescue helicopters chose to fly as low as possible considering the difficult conditions. I was later told by our rescuer that he had seen flashing lights quite close to us. It was from another helicopter at the same height!

However, the poor visibility forced us to stop the search and we were assigned to wait for weather improvements on the platform Albuskjell A. After a couple of hours, the weather improved, and we could continue the search. We now had problems doing electrical search for the emergency position indicating radio-beacons as there are so many of them and they interfered with each other. However, we received a strong signal and followed this until we saw a lifeboat with people on the stern deck. We go into "hover" mode and start hoisting people up. When we had picked up 6 people, we stop and bring them over to Ekofisk. Then we return to the same lifeboat and hoist more people up. After a few lifts, our lift operator reports that the lift is starting to move slower. When we had hoisted up 7 people, the lift completely locked. There was nothing else we could do than to set course for Ekofisk and drop them off. All of the people we had hoisted up came to the cockpit to shake our hands, we saw this as their thank you.



We were now pretty distraught and at a loss for what to do with a rescue helicopter without a functioning lift. We reported it to Ekofisk radio and then shut it down on the platform. It was now well past midnight, and we were tired and hungry. After eating a meal and refuelling the helicopter, we started the helicopter and returned to Sola, via Edda to pick up the doctor. I can see from my logbook that we had been in the air for 9 hours, most of which under night conditions. I can also see that I went back to Ekofisk the next day and that's when I saw the Alexander Kielland platform floating upside down for the first time. We could also see the leg that broke off floating nearby. These were strong images that stuck in the mind of a 24-year-old.

We returned to Sola in the afternoon, the helicopter was filled with black body bags. The atmosphere on board was tense and there was little talk except about procedures related to the flight. In this moment the tragedy dawned on us.

Assignment no. to this crew in relation to Alexander L. Kielland was granted SAR 19/80

#### ADDITIONS

I have tried to write this in an understandable form for most people. "Airplane language" is a mixture of Norwegian and English and I have therefore created a glossary of special words and expressions with explanation/translation. Here, I mention that the lift locked during the mission, and as you can see this is not included in my interview with *Vi Menn*. The reason is that we were unsure of how the media would react to this, and that we knew that the remaining people in the lifeboat were rescued by another Sea King. However, a major investigation was launched into the cause of the lift locking and this was also the main reason why a couple of years later an additional lift was installed on the Sea King.

#### GLOSSARY

Ops'n: The operations department that notifies the crews.

Scrambled: Notified/ordered.

Electronic search: Navigate with the help of radio signals from emergency position indicating radio-beacon.

Hover: The helicopter stands still in the air.

Cockpit: The cockpit is where the pilots sit.

SAR: Search and Rescue

After my mandatory service in the armed forces, like so many other helicopter pilots at the time, transferred to civilian work. I have been employed by Helikopter Service since 1984. I have partly flown to and from platforms but have also been on SAR a lot. The mission on Alexander L. Kielland is probably the most dramatic mission I have ever been involved in. I still fly with SAR and of course hope that something like this will never happen again.

Best regards, Rolf Eidem

## LARS EGIL FOSSE, 330-SQUADRON

By Marie Smith-Solbakken, 10.- 16. March 2016, Ølberg.

## PERSONAL DETAILS

Machinist/lift operator Squadron 330  
Aker Solution

## USE AND IMPLEMENTATION

Interview conducted by phone on the 10th of March 2016. Notes were sent for correction on the 11th of March.

A meeting was arranged outside of the 330-squadron at Sola air station and at Ølberg on the 16th of March. Fosse had brought with him three books about the Alexander L. Kielland accident in addition to a collection for several articles. Fosse has scanned and sent several clippings from *Stavanger Aftenblad*, reports, and article from *Det Beste*, sent us a link to information about the ballasting, tracked down the artist who made the illustration of the Alexander L. Kielland capsized and answered questions concerning the rescue service and sources/ documentation on the Alexander L. Kielland accident in general, email 17. March and 22. March 2016.

Lars Egil Fosse told us that he did not want to be included in the photo narration and refused to be photographed. Notes from the conversations we have had on the phone and during the meeting at Ølberg and information provided by email have been compiled into one note.

Consent is requested to make the note public and include it in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National Library and the Labour Movements archive and library (Email 15.01.2019).

## RED CROSS YOUTH

In one of the books, it is described that some of those who had the most powerful experience were the Red Cross youth who stood and waited to receive injured people, but then came many people who could walk, and the rest were in body bags. Youth who had been called in were not needed. They just sat there and waited.

MAJOR DISASTER IN THE NORTH SEA MARCH 27<sup>TH</sup>, 1980

We were trained for happenings like this. What was exceptional about the situation was the weather and the scale of the accident. We had trained to rescue 5 people. During the Kielland accident we were supposed to rescue 200 people in extremely rough weather conditions. We followed the routines. We knew where we were and what we were supposed to do.

## FIRST HELICOPTER

The first helicopter to go out to the scene was under captain Roaldsøy and his crew. I was in the first helicopter. We returned with nothing but dead bodies.

## ON THE EVENING IT HAPPENED

I had finally come home after a day at work. I was on standby and had brought a large mobile phone home. My wife was in London. My aunt came over. Then the phone rang. I believe that I was at first informed that there was a barge that had tilted. I lived right behind Høyland church and drove to Sola right away. There, we were informed that it was in fact a platform named Alexander L. Kielland that had listed. We took off at 19:27 (See Birger Martin Strand, *Solabladet*)

## TOWARDS EKOFISK

When we had been in the air for a while, we saw that the wind had increased, and the waves got larger. We were updated by the main rescue centre that the platform had capsized, that everyone on board were in rafts or had jumped into the sea, and that there were over 200 people there. This woke us up. The worst part is when you're on your way and there's nothing you can do to help. That's the worst part. I looked at the time, and imagined that people were wondering where we were, will they not come? The wind and fog made it particularly difficult.

Underway, we were informed by HRS that some people had been picked up to Edda. And that some supply vessels had arrived in the area.

We got out there and saw nothing.

## EKOFISK HOTEL

Landed on Ekofisk hotel and dropped the doctor (Ole Jakob Nakling) off there. Nakling organised and sorted the dead and the survivors who came on board there.

## SEARCHING FOR LIFEBOATS

We flew into the area on the side of Edda shielded from the wind. At some point we saw the Edda platform on our radar. We established radio connection with the two lifeboats, but we couldn't see anyone in the sea, not visually or on the radar. When we entered the area, some of the supply vessels had pulled back. They did not know what it would be like to hit the loose objects in the sea. There had been containers on board, and many of them were now floating in the sea.

The fog was dense, very dense, and it continued, it didn't improve. We couldn't see. We had some bleeps on the radar and an indication of a direction, but we couldn't find anyone. The fog was too dense for us to get close to them. We couldn't see anything.

We dealt with two lifeboats. We flew around in a circle at the lowest altitude we dared, 20-60 feet above the sea. I hung out of the door with a powerful spotlight and lit up the area across the white waves. The entire time, we were almost certain there were lifeboats underneath us, but we couldn't spot them, and the radio connection was lost.

The conditions were constantly at the limit of what is safe to fly in. It is difficult to fly in fog. Helicopters cannot use a lot of light during fog because it makes everything turn white. We had spotlights in the back so that the light wouldn't disturb those in front. We were eventually ordered to go to Albuskjell Alpha and wait for the weather to improve.

Then it got dark.

## LANDING ON ALBUSKJELL ALPHA

We circled around the boats and in on Albuskjell Alpha. We flew at a low altitude. There are different methods for flying depending on the level of visibility. We chose to fly at a low altitude as we wanted to keep contact with the sea. If we had been higher up, it would have been difficult to see the edge of the platform.

Olavsén, who was on the radar, set course upwards and counted down the distance. We had planned which way we would break off if we were to get too close. If something would come in our way, we had a plan on how to avoid it. It was under control. I was in the front in cockpit. One is piloting, one is monitoring the instruments and I was an extra pair of eyes in the front. Roaldsøy piloted and Eidem monitored the instruments.

I can't recall how far we were from the platform when we saw it. We could suddenly see it through the fog, then we lifted to 60 feet up to the helipad. I can't remember if we backed up.

I have never landed in near such conditions before or since. It was well performed. We were saved by good internal communication as well as distribution of tasks. We landed in 60 knots wind and fog. After an hour or so, the weather cleared, and we could continue the search.

## ENTERING THE SEARCH AREA ONCE AGAIN

The fog disappeared and we went back into the area. We located the lifeboats right away. Our job was to hoist people up from the lifeboats. We started lifting people right away. Ellingsen went down and assisted them in the lift. I lowered him down. He had to trust me. We did double lifts, two and two were hoisted up together. We picked up a total of 13 people. One of them asked me if I could help him because he had a cut in his finger. I told him that we had to wait until we were at the Ekofisk hotel. We saw some life jackets next to the lifeboats, but no people.

## THE RESCUE LIFT BREAKS

I felt oil on my neck. A hydraulic leak had occurred. The wire on the lift had frayed. Particles from wires are a known problem, so we started to check if it really was true. We reeled it out and removed the hook inside the cabin to see if we could repair it there and then. We examined it thoroughly. It didn't work. The lift was on broken! We were disappointed with the situation and with the equipment.

We had helped some people, but we felt it when we had to leave someone who were waiting for us behind. We flew to the Ekofisk hotel to drop off those who had been rescued. Some of them were not wearing clothes, some were only in their knickers. Many people met us there to receive the rescued.

Then the main rescue centre ordered us to evacuate Edda. We became an evacuation helicopter. At the same time, Sea King helicopter number 2 was operating in that same area.

## EDDA

It was considered a great risk that the capsized platform and the leg could drift into Edda. Therefore, we stayed there for a while. Ellingsen and I folded down our rubber suits. We laid

down on the floor in a locker room and closed our eyes. We were in the radio room. We got coffee and breakfast. It was getting light enough for us to be able to see the area.

We could see the pontoons and the loose bit.

The crew on Edda told us that there had been many loose objects on Kielland. When it got a list the loose objects slid and hit lifeboats with people on board. The lifeboat was cut in half.

They told us about lifeboats that could not be lowered, about people climbing out of them and walking to the opposite side of the rig. The lifeboats did not release even though they were in the water. When they got down, the sea was too rough. There was always a wave through making one wire tight while the other was slack. The lifeboats got stuck, they became a trap. The crane operator on Edda lowered a basket and managed to pick some people up in it. Someone who had been in the radio room told us that he had seen people in the waves, but lost sight of them again in the darkness.

#### WHAT DID HE WANT TO TELL US?

We talked with an American who told us that there had been things on deck that weren't supposed to be there. He said he would call us so we could come to his office and that he would tell us everything. He did. He invited me and Ellingsen to his office in inner Stavanger.

We went there some days later. The reception was on the second floor in an old building. We were asked why we were there. We said that we had met him in the North Sea and that we had been invited over. They told us that it would not be possible to meet with him, then a security guard came and told us to leave.

#### THE DECEASED ARE BROUGHT TO SHORE

The deceased were transported to Ekofisk. We flew over to the Ekofisk hotel in the morning and landed on the helipad. They carried dead bodies on stretchers, and we put them into the helicopter and brought them ashore. We brought five bodies.

#### DID WE FLY WITHIN THE LIMIT OF WHAT'S RESPONSIBLE?

How would we the public react if we had turned around. Would they get mad at us. Were we operating within the limit or beyond it. Anyhow, I would have done it again.

We had been there the night before and we flew to shore in the morning. They had been in a stressful situation for several hours. There are many impressions. We knew that the most dangerous thing to do is to fall asleep. I made sure to chat with them, ask stupid questions just to keep them awake. Asking about coffee and sugar, you can risk that people just sit there and stare but not really being there.

#### THE RESCUE OPERATION

This was something we were trained for, what was new was the scale of the accident. We never felt powerless. We did not see 200 people in the sea, we only saw a few lifeboats.

There were strong winds. There were helicopters above you and underneath you, plus several boats in the area. Underneath us there were people that we should have seen. There were too many helicopters there considering the number of boats and platforms. It was a stressful situation. We did not know if what we were looking for was visible on the surface. There were things above us and around us. It was a difficult task to manoeuvre under such conditions. Captain Roaldsøy, now dead, had some reservation about the way the rescue operation was organized. There was a dangerous number of vessels in an area with poor visibility, large waves, and windy weather. I found something he wrote about it. He held lectures about the rescue. He had some tough days after the accident. It was difficult to fly in such conditions.

The combination of storm, fog, and many vessels in the air and at sea plus platforms sticking out of the sea, made it a difficult job. We got a radar image. We had a map of the Ekofisk area on a plate sheet in a bag that we took with us. The maps were not necessarily up to date. The platforms that were drawn in fit on our radar. We didn't fly blind, but we didn't have control over what was above, below, and next to us.

#### SOLA AIRPORT

All relief work had been moved to hangar 3. There were police, first aid workers, doctors, and nurses there. No one had use for them. The Red Cross youth just sat there and waited for injured people.

We landed and shut down. Our colleagues at the squadron received us. They said: «Just bring whatever you have, we'll take care of the helicopter». We didn't have to clear the helicopter. They took care of it.

Just after this, people from Helicopter Service arrived with people.

#### THE AFTERNOON ON THE 28TH OF MARCH AND THE DAYS THAT FOLLOWED...

We slept for a while into the next morning. Ellingsen and I went back out there to continue the search after we had slept. Everyone else in my family and friends who experienced the Alexander Kielland accident remember the news broadcasts, the flag at half-staff, newspaper articles, the Prime minister's speech, radio messages and extra news broadcasts. We did not see any of this. We watched the news, but not a lot. Most people had a different experience of the accident than us.

#### RESCUING UNDER DIFFICULT CONDITION WITH OUTDATED EQUIPMENT

I have flown a lot with Roaldsøy. He taught us much about flying. He was experienced. When we flew over the sea, he explained us what the wind was like by studying the shape and height of the waves. He always knew where the sun was, and he could navigate by looking at the sun and waves. If the wind is coming from northwest, it will blow like that everywhere, he said.

He had some principals that pilots today do not have. Something had affected him, that's for certain.

We were flying at 40 or 60 feet. The radar could tell us. We could not trust it 100 per cent. We did not have a maritime VHF radio. Usually, we could not get in contacts with the boats. We could not call on boats in the area. Everything had to go through the emergency channels.

The big concern of the pilots was that they did not have a radar display in the front. It was the person in the back who navigated. The radar technology was old fashioned back then.

There were so many helicopters in the area that we struggled to see much. We only saw a shadow which was dangerously close. We had an English Nimrod – it communicated what was picked up.

#### INADEQUATE RESCUE EQUIPMENT

The helicopter from HS which arrived in the area before us, had tried to put out a rope. We were also prevented by the fog itself. They didn't have the means to pick people up from the sea. We dropped a guideline. During training under normal conditions, we attached a bag with lead to it. This ensured a decent weight at the end of it. During the Kielland accident we had to use three of those bags due to the wind.

Radars more accurate than the one we had existed at the time. We should have had two lifts instead of one. The navigation equipment, Decca, was inaccurate. We did not have maritime VHF-radio or thermographic cameras. Had we had better equipment, we could have saved more people.

#### THE RESCUE SERVICE TODAY

Do the rescue services today have what they need to do a good job? I know and have been close to giving up because we don't have enough equipment.

We did talk about whether the equipment was good enough. It was a reoccurring theme. The equipment was inadequate. Were those higher up in the system aware of this? Why did we not have a maritime radio on board. There are great expectations on those who are meant to do these jobs. We should give them the best we have. They need to have the best equipment and adequate training.

#### CONSEQUENCES OF THE KIELLAND-ACCIDENT

Helicopters were equipped with two lifts. This was a direct consequence of the fact that the lift failed mid through the rescue operation. The helicopters were also equipped with new radars, VHF radio and a display at in the cockpit in front.

#### THE SINKING OF THE PLATFORM

Why was it that important to dump this platform as deep and quick as possible!

#### AFTERWARDS

There was a baby christening in my family right before Christmas, and after that were to clean up the house. In one of the books about the Alexander L. Kielland accident, I discovered the names of survivors and those who died. I noticed the name Theis Salvesen, the priest who had baptised by grandchild just a couple of days prior (he was in the lifeboat you picked 13 people up from).

I have worked with Kåre Magne Kvaale. We had a gathering at work before Christmas, he retired. I met him then. I have never talked with anyone about this, especially not with survivors. It turned out that he was one of the people in the lifeboat. What was it like to meet him after so many years? How did he react?



Reflections email: 15. 01 2019

You can publish this.

It was a bit strange to read. The conversation we had at Ølberg was the first time I've had a long conversation with someone about this incident and I had never even thought through everything that happened from A to Z.

Friends and acquaintances would maybe have asked «where you there? », «yes», «Oh, that must have been terrible!», but that's the way it is.

I think it is more stressful to sit still and be passive or to observe it on TV than it is to actually be there and do something about it.

We were trained for accident on platforms, but we had never trained with that many people and such bad weather, but all practise counts.

Lars Egil

SVEIN ARNE HAPNES, 330-SKVADRONEN  
By Marie Smith-Solbakken, April 25, 2016.

#### PERSONAL DETAILS

Born 1950

#### USE AND IMPLEMENTATION

Interview conducted on the 25<sup>th</sup> of April 2016 and on the 15<sup>th</sup> of March 2016 at Sola air station. Notes from the interview have been corrected. Consent received for the notes to be used as a basic document in presentations of the Alexander L. Kielland accident including photo narration, essays and polyphony which is a compilation of different statements from several people (28.04.2016). Consent to use photo in photobook given 12.11.2016.

Consented that notes from the interview can be made public and included in the memory collection and handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National library, and the Labour Movements archives. (Telephone 15.01.2019)

#### BACKGROUND

1978: Fully qualified doctor

1980: Finished medical rotation

26.3.1980: 10.03 and had just checked out of Sola air station, the day before the accident.

1980: Completed a military service at Sola airport from the 15<sup>th</sup> of March. Finished the day before the accident. Was off duty and was meant to have some time off until after easter.

#### NOTIFIED

We received a phone call at six twenty-five pm stating that a rig had capsized, and that they anticipated fatalities.

It was signalled "Station ready": All available crew had to meet immediately. This meant that even though it was my week off, I had to be there.

It was full alarm. Several crews were deployed to man the helicopters.

#### THE FIRST HELICOPTER

*Ole Jakob Nakling* (doctor) went out with the first one.

*Roaldsøy* was captain, and *Rolf Eidem* was Co-pilot.

The weather was foggy. The first Sea King with *Roaldsøy* and *Nakling* almost collided with an oil rig.

#### THE SECOND HELICOPTER

I went with the second helicopter, and we got ready while we waited for the pilots. One pilot *Øyvind Ottesen* (Stavanger) arrived by jet plane from Rygge to Sola. He sat in the back of the

jet plane and told the pilot to drive carefully so I wouldn't get sick. He got a little sick anyway.

Eventually, the crew had to relieve each other.

*Johannes Fosshaugen* flew our helicopter. I went out at dawn the next morning. We went out in the next helicopter. Fog, darkness, large waves.

#### ON SITE

The fog had lifted when we arrived. We did not find any survivors. We saw dead people in the sea, the torn off platform leg and platform legs coming out of the waves. It was quiet inside of the helicopter. No one had experienced anything like this. We searched among empty rafts and wreckage. The rescuer went down, the rafts were empty. We were stunned. The bodies were hoisted up by basket.

When we arrived, it was already over. We felt powerless. It was painful and heavy not being able to do anything. It was a nightmare. They were clearly dead. It's always tough.

It got quiet. Oh my, you could see how the elements had knocked out modern Norwegian industry. There was not much we could do.

We also saw supply boats searching for people. We came back to base with the bodies. The bodies were taken care of and brought into the hangar.

#### THE HOSPITAL

The hospital did not deploy a helicopter, but a disaster team (doctors and nurses) who had to be quickly insured if they were to follow one of the civilian machines into the sea. This team helped receive survivors who were transported to Sola Air Station.

#### MY EXPERIENCE AS AN EMERGENCY MEDIC

I experienced the worst thing when I first started working. A bus accident in Måbødalen with 15 teenagers made a big impression on me. It was the scale of the Alexander L. Kielland accident that was so overwhelming. We knew that a rig had capsized, but that was all we knew. We experienced how fragile human life is. We must respect the elements, we realized that on a day in March at sea, the elements are overwhelming. It can't get any worse than this, I thought and that's how it is. This was my baptism by fire as an emergency medic. And after 36 years as a medic this is still the most overwhelming experience I've had. The Alexander Kielland accident is always in the back of my mind, it has been there since it happened.

#### THE RESCUE SERVICES

It's in these kinds of situations you realize that the rescue services are valuable. It's a necessary service in society. We should have rescued many more people. The Sea Kings picked up a total of 43 people.

## SLEIPNER

We were a team who were ready to go out to Sleipner on the 26<sup>th</sup> of November 1999. We were ready to go, but we weren't allowed. We arrived later. They should have used us earlier.

## DOCTORS

*Ole Jacob Nakling*, Lillehammer

*Einar Servoll* also a doctor who participated, is now maybe in the east of Norway.

*Svein Arne Hapnes*, Sandnes, SUS

Three conscript doctors were there.

## JOHANNES FOSSHAUGEN, 330-SQUADRON

By Marie Smith-Solbakken, March 9th, 2016.

## PERSONAL DETAILS

Born 1953

## IMPLEMENTATION AND USE

Telephone interview conducted on the 9th of March 2016, and notes were sent for correction. The notes corrected by Johannes Fosshaugen were received on the 10th of March 2016 and were incorporated. Corrected notes were sent for review on the 23rd of April 2016 with a request to use the note as a basic document in presentations of the Alexander I. Kielland accident including photo narration, essays, and polyphony which is a compilation of statements from different people. Consent given on the 23.04.2016.

Consent was given that the notes from the interview can be made public and be included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the state's archives in Stavanger, the National library, and the Labour Movements archive and library (Email 26.12.2018)

## BACKGROUND

Educated, pilot in the military 1973-74

1974-1980: Served on the 330 squadron from 1974 to 1980, stationed on Ørlandet and Sola. Crew chief, captain on board and chief of the rescue helicopter.

1980: Helicopter service and became a member on the SAR team (search and rescue, which was created because of the Alexander Kielland accident).

1988-2011: SAS, captain until he retired.

## GOING OUT IN OSLO WITH SOME FRIENDS

On the 27th of March 1980, I was out with some friends in Oslo with some friends. I was on my way to Trondheim because I was supposed to be the best man at a wedding. We always had to give our address when we were away in case something happened. I had stated Trondheim and had not considered the fact that I had would spend one night at a friend's house in Oslo.

## INCORRECT BACK UP ADDRESS

We were out drinking beers that evening. I woke up early the next morning and turned on the radio. That's when I realised that something big had happened and that I had to call the squadron. My friend didn't have a phone at home, so I ran out on the street, found a phone booth, and made the call. The head of the operations centre (probably the second in command) scolded me for not stating where I was. They had spent half the night trying to get hold of me. I was meant to have left a backup address. I was ordered to get the hell over to Fornebu and come home to join the search.

## SEARCH ON EKOFISK

I flew to Ekofisk and participated in the search. So many hours had passed that there was no hope of finding survivors. We were only looking for bodies. I flew with a guy called Gjeldsvik who was a coxswain. We searched until we were out of fuel. We refilled one time. We did not find anyone in the sea. We only saw wreckage.

## THE ATMOSPHERE

An unreal feeling. We couldn't understand how a rig of that size could capsize. It surprised us. I will never forget arriving there and seeing the bottom of the pontoons. I thought that there might be people inside the rig under water.

## NIMROD «ON SCENE COMMANDER»

We had a professional approach to the job. We put up a professional search. There is a lot going on during a mission like this, with many helicopters in the air and many boats at sea. A Nimrod, so called «on scene commander» was above us and directed us in the airspace.

The pilots are hovering and flying in circles while those in the back of the planes are directing and navigating. The crew consists of two pilots, a tactical coordinator who is the head of the tactical stuff, people under him who operate systems such as the sonar operator, radio operator, navigators, and gunmen.

## THE DECEASED ARE TRANSPORTED TO SHORE

We landed on the Ekofisk hotel and brought three bodies ashore. That was all we had room for. We landed in front of the hangar of the 330-squadron and then they towed the helicopter into the hangar before the bodies were removed. This was to prevent outsiders (the media) from seeing them. The bodies were brought to the hangar.

## SAT AND DRANK COFFEE

We sat inside of the squadron house, drinking coffee and chatting about what had happened. We spoke with one of the boys who had been on mission in the evening and night.

It was: *Dag Ellingsen*, the rescuer, Sola. *Wilfred Ramstad* (deceased), rescuer in the first helicopter. (Killed in a helicopter accident during a rescue operation for Helikopter Service. They hit a mountain when they were to rescue a fishing boat in need), *Captein Roaldsøy* (deceased), was there in the first helicopter. *Terje Gjeldsvik*, coxswain.

Then I saw the head of a man who crept under the window, around the house and over to the hangar to take pictures of the bodies being carried out. I chased him off. I was not exactly in a great mood. He realized that he had crossed the line.

## OTHERS FROM THE 330-SQUADRON WHO CAN BE CONTACTED TO

*Øyvind Ottesen*, Sola

*Vidar Høggmo*, Hommersåk, spends a lot of time in Spain.

*Sverre Øvergård*, I think he lives in Evje (Setesdal). He was a man with order in his logbook and can certainly contribute with information.

## THE SIGNIFICANCE AND CONSEQUENCES OF THE ALEXANDER L. KIELLAND ACCIDENT

The scale of this accident was large. The accident had such a force. It was a massive affair. The focus turned to the equipment. We were promised so much, but when the cameras were turned away, nothing happened. The promises were not upheld. We were supposed to get better navigation systems and better radio systems, the lifts were to be modified, but none of this materialized within the first 10 years.

## STRONGEST MEMORY

The sight of the pontoons when we arrived at the scene. That picture is stuck in my mind. And the guy who snuck around at Sola.

## ON EXCHANGE IN DENMARK

A year later, we were on an exchange mission in Denmark. The crew was out for beers when we met a crew of Englishmen, and it turned out they were the ones on the Nimrod. It was part of that crew who operated during the Kielland accident. It was a demanding mission for them as well. It was hard to stay on top, direct a bunch of helicopters and boats and media planes. They had been sweating. They had to divide search areas and search for people, and at the same time pay attention to altitudes, which sectors and where they needed to go to refuel.

THE DIVERS WHO ARRIVED AT THE ACCIDENT SITE AND  
COLLECTED THE DECEASED



JAMES T. BEATTIE, SEA FORTH CAPE

By Tor Gunnar Tollaksen

Date of birth: 24. August 1954.

Occupation: Retired.

Residence: Edinburgh, Scotland.

**Background:** British pioneer diver. Started to work as a diver in 1974. Worked with offshore diving in the oil business, on the Norwegian side of the North Sea too, among other things on Sea Forth Cape med Norwegian seafarer papers. He later worked with shallow water diving for various companies, as a explosions diver, and on fish farms. In addition, he is qualified as a welding inspector by the British ship classification society, Lloyds.

Interviewed by: Tor Gunnar Tollaksen 26<sup>th</sup> of February 2019. The interview is based on Beatties own notes from his diving career. He has made the notes available and sent them to Albert Johnsen, Stavanger.

#### IMPLEMENTATION AND USE:

James T. Beattie is a previous British pioneer diver. He has written a memoir from his working life. On the 19<sup>th</sup> of February 2019, he approved that his notes from the aftermath of the rescue operation of the Alexander L. Kielland capsized can be made public.

The note was followed up by an interview on the 26<sup>th</sup> of February 2019 where Beattie was informed that his statement will be made publicly available in the Memory Bank (memory database) after the Kielland accident where interviews with survivors, witnesses, bereaved and others connected to the accident are made available to further research. Beattie was positive to this work.

#### 27. MARS 1980

James T. Beattie worked on board the vessel Sea Forth Cape, which waited for the weather to improve close by the platform Montrose A on the British side in the North Sea, when they were informed on the radio that Alexander L. Kielland had capsized.

- We were the first diving vessel to arrive at the accident site around 7.5 hours after the accident had occurred, before dawn. Here we were met with the sight of four pontoons lying upside down. The fifth pontoon was floating and held in place by a tugboat. Early that morning I stood on one of the pontoons and hit with a hammer to hear if anyone knocked back from the inside. I expected to dive and see if there were any survivors in the pontoons. From a Norwegian ship, which had arrived, word came that our help was not needed, and we were asked to leave the area.

The torn platform leg floated on its side with three visible break points. As a well-qualified welding inspector at the ship classification society Lloyds, I could clearly see that only one of these break points had new metal at the break point. The two other break points were heavily corroded. They were characterised by rust at the breakage point. Therefore, it cannot be ruled out that they were already torn off when the accident occurred.

So, with that in mind, combined with the fact that the rig had not been inspected for four years, you don't need to have an engineering background to realize that the accident

happened due to lack of maintenance. Therefore, the disaster cannot be interpreted as an accident.

I didn't come forward with my observations after the incident because I thought that everything was going to be made public. We discussed a bit on the bridge what we had seen and about the Norwegian boat that ordered us away. If I, with my background, could see that there had been a lack of maintenance, and the accident could easily have been avoided, I reckoned that many others would come to the same conclusion.

Later, 12-15 years ago, I sent a report to the Norwegian consulate in Edinburgh, it dealt with how the Norwegian authorities have treated British divers, but also included my observations of ALK shortly after the accident.

YOUR OBSERVATIONS ARE NOT MENTIONED ANYWHERE, NOT EVEN BY THE COMMISSION OF INVESTIGATION IN NORWAY, WHAT DO YOU THINK ABOUT THIS?

It doesn't surprise me at all. We were the first diving vessel to arrive on the scene, but we were never questioned or contacted. Nothing happened, except for some obfuscation and half-truths as time went on, until the owners of the Alexander L. Kielland could walk away from responsibility for the deaths of 123 people.

YNGVE TVEIT, WILDRAKE

By Else M. Tungland

PERSONAL DETAILS

Sola Strandhotell, May 23, 2016.

Approved for storage at the Norwegian Petroleum Museum. Telephone conversation June 16<sup>th</sup>, 2016.

Tveit consented that notes from the conversation can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National Library, and the Labour Movement's archive and library. Approved.

BACKGROUND

Diver from 1979-1985

Collected the deceased after the Kielland accident in the North Sea

Also dived on Kielland in Gangsfjorden

Diving training from the military. It was the best diving training in Norway, but it wasn't meant for the North Sea.

1980: Employed in the diving company Wilco, owned by Mike Williams. Worked on the diving ship Wildrake which was owned by Anders Wilhelmsen. Has also worked with dock diving, on a rig for Smedvig, fish farming, pest control, etc.

MARCH 27<sup>TH</sup>, 1980

Anders Wilhelmsen had a good standard; it was ok working there.

We were testing a new diving system at Klokberskjæret outside Stavanger when we were told that Kielland had capsized in a storm. I was already in saturation. We were told that we were going straight out to the North Sea. First, we went to Dusavik to get more gas and provisions. I don't remember what we expected it to be like on the way out, but we were not prepared for what met us.

At Ekofisk, we offered our assistance and got a job. I was inside the diving bell and don't know what the cooperation with other vessels was like. My world was in the diving system, inside the diving bell and on the seabed.

DIVING FOR BODIES IN THE NORTH SEA

It was different than I expected down there. It was a scrap heap of things that had fallen off the platform.

I found him quite early in the search. At the bottom of the North Sea, you are as alone as you are on the North Pole. I walked on top of the scrap heap. Bang! Suddenly, there's someone there. A corpse drifted towards me. I had stepped on his foot without noticing, and because his body was so stiff, he tipped up towards me.

I got scared... You know, I was so young. None of us had experienced anything like this before. He was wearing regular clothes and had a key chain in his hand. I don't know what he had intended to unlock with it.

We talked all the time so that the people above us would realize if something was wrong. All of those who found someone got quiet, many also stopped breathing for a while. That was the reaction.

The boat navigated above the body and dropped a net that we usually used for gas bottles. Our goal was to bring them up safely. We had to improvise.

I found another one fairly long into the search. He was fully dressed in a survival suit. He was bloated and shrimps were coming out of the openings.

I don't know the names of those I found. We wanted to distance ourselves from it. The emotional load was big enough.

They dumped mud while we were diving. I couldn't even see my hand in front of me. We brought it up. We complained, but they didn't stop producing. Later they only pumped in periods.

We were 6 divers who worked 8-hour shifts on the seabed. We had dived as close to the platform as we could, but had to steer clear of cables, containers, and equipment. We also burned the anchor chains etc. before the platform was towed. I can't remember if we were ashore before this.

#### AFTER-EFFECTS AND PROCESSING

I have not been bothered by nightmares or anything, but sometimes if I get frightened, he (the corpse?) can suddenly stand next to me.

There were many ways to react when we returned home. We did go out and there was a lot of alcohol.

What is difficult with working as a diver is that your life is at stake no matter what you do. No one really wanted to expose themselves to these dangers. Many only came out a couple of more times, and then we never saw them again.

There was nothing called debriefing back then.

#### SCOTT COBUS — THE GUY WITH THE HAT.

The first attempt to recover Kielland was in November-December 1980, with Scott Cubus in the lead role. An American at his worst and best. He had brought a film crew, and he walked around with a huge cowboy hat. Rumour is that when they found one of the dead, they were not allowed to lift the body up until the film crew was in place. Scott Cubus wanted to receive the body himself in a decks boat, like a Ronald Reagan.

Scott Cobus' method was too poor, and the recovery efforts were stopped.

We worked for 24 hours and 32 hours straight. We did what we were told. Those who refused, were not allowed back out. Those who kept quiet stayed. You don't fall asleep in the water. You just do your job, but it always comes at a prize.

#### CONSEQUENCES OF THE DIVING JOB

Nobody really wanted to expose themselves to the dangers that diving entails. All those who coped well are those who got another job and moved up in the ranks before they had dived "enough" to be harmed by it.

Some have killed themselves. The main issue is that they had a hard life. Many just sat in a dark cellar and drank. Many have travelled to Thailand, where they enjoy themselves as long as they can.

#### NOT INCLUDED IN HSE

Health injuries from diving is a combination of physical damage under high pressure and overload - similar to war injuries. The divers were never properly included in HSE - we didn't exist in such a context. The Norwegian state was also judged by the European Court of Human Rights in Strasbourg for a decision that the Working Environment Act should not apply to divers (2013).

#### OCCUPATIONAL INJURY BENEFITS

I have had a declining career but have mostly been working until the health problems were recognized as an occupational injury. I got this diagnosis in 2003.

A law was passed in 1990 which made it possible to apply for compensation in the Occupational Injury Association. If you have been exposed to an accident at work and have suffered losses as a result, you can apply for support from the Occupational Injury Association, even if the employer had not taken out occupational injury insurance. You could also make a claim for conditions that applied before 1990. I am one of two people who have received somewhat close to the occupational injury compensation that divers are entitled to. I am a stubborn person. I took it to court. The litigation cost NOK 2.5 million and I ultimately won on all counts.

#### TREATMENT

I got help from an expert during the trial, a psychiatrist at SUS, Odd Helge Bru. He had treated Vietnam veterans in the US and gave me a medication that worked well for me as well. It was a mixture of epilepsy medicine and a low dose of happy pills.

#### OTHER

I have no idea what caused the accident. It's like asking a farmer what fishing in the Barents Sea is like.

## ARVID ANDREAS BERTELSEN, SEAWAY FALCON

By Marie Smith-Solbakken, 4. April 2016

## PERSONAL DETAILS

Born 1955

Haugesund

## USE AND IMPLEMENTATION

Interview 4.4.2016. Informed about the purpose of the interview and its intent. Notes from the interview was sent to Arvid Andreas Bertelsen on the 4th of April for corrections. Corrections made by Arvid Andreas Bertelsen, see e-mail of 6 April 2016, with a message that when incorporating those corrections, the note can be used. Corrections incorporated and sent to Arvid Andreas Bertelsen. See email of 7 April 2016.

Consented that notes from the interview can be made public and included in the memory collection about the Alexander L. Kielland accident which is handed over to the Norwegian Petroleum Museum and the National Library (email 16.12.2018).

## BACKGROUND

Before I became an offshore diver, I was a navy seal. Many, most of the divers on the Seaway Falcon at the time, came from the navy as navy seals or mine divers - helmet divers.

1978 -1999 Seaway Diving - Stolt Nielsen Comex

1999 -2013 Operations manager /Diving supervios Riise Underwater Engineering (RUE) and Fugro RUE 2013 - 2015 Private business / consultant

## THE NIGHT OF THE ACCIDENT

Seaway Falcon was a diving and emergency response vessel for Phillips Petroleum at Ekofisk. The vessel was equipped with 4 large fire cannons, two on each chimney aft, these were activated behind the vessel to help increase the speed of the vessel.

## THE MORNING OF MARCH 28

One of the first measures Seaway Falcon/we did on arrival in Kielland/Edda was that Per Sætran and I were sent out on a pick-up boat and brought over to the pontoons. We were almost washed onto them. We knocked with hammers to hear if anyone was there. We heard no sounds, ascertained that there was no one alive there.

After we had ascertained no hammering back, we then moved out onto each of the anchor pads. Someone threw us a line and we threaded this around the pad and threw it back to the tugboat so that the tow wire was established. I connected the Norwegian Tender Power, which was one of several towing vessels. The rig was now secured against drifting and collision with Edda.

#### ORGANISATION OF THE JOB

Some of the divers worked on the surface to help on deck while others went into saturation. It was a tough task to receive the dead, but it was even tougher for those who collected them. There was no compulsion, if you went in and you couldn't take it anymore, you were decompressed and taken out.

#### SEARCH FOR DECEASED

6 divers were operational at a diving depth of 70 meters on arrival to Edda, these contributed to the search and "collected" the dead, placing them in baskets which were then hoisted to the surface. The search conditions were very difficult, the visibility was poor. It was alleged that mud was dumped from Edda, this did not improve the divers' difficult working conditions down in the tangle of constructions and casualties.

Many were badly injured. They had crushing injuries, and many had broken arms and legs. Those with broken bones were difficult to handle. Us on deck packed the dead who were sent up in trash bags. The bags were split, wrapped around them, and taped on with silver tape. After a while, the body bags came, but at first, we had nothing but trash bags. The bodies were stored behind the deck, then we transported them to the "complex" where they were hoisted up.

#### LOOKING FOR BODIES ON THE SEABED

I was on board for 14 days, on deck the entire time. The next time I was there, after 16 days at home, I dived. The vessel was still in the Edda area searching for bodies, cleaning up and securing the seabed around Edda. The bodies which had been there for a while became meals for snails and shrimps, it was not a particularly pretty sight or smell.

The boys who were diving had a lot of work to do. In between broken lifeboats and containers, they found the bodies of those who had died. They had to search and fumble their way through a crater of steel, wires, drilling equipment, lifeboats and objects that did not belong on the seabed. Most of the lifeboats were pulled down with the platform. We reacted to the fact that we found people with life jackets lying on the bottom, why did they not float to the surface. We assumed that they had been in the lifeboat which didn't release and were sucked down with it.

I was there for 14 days. We set up a search and gradually expanded the area. After 14-20 days I returned with the others. We went straight into the search and released the team who had been on deck immediately after the accident. Search and clean-up on the seabed around Edda lasted for several months after the accident.

#### EMOTIONALLY DRAINING

We worked permanently for Phillips, and we searched for bodies until well into the summer.

There were two or three who stopped diving offshore after the accident. There was one who found six people and was able to lift them all into the basket. Then he didn't want to be there anymore. He left the saturation. There were also other people who quit after the accident. It was a very stressful and terribly tough job.

## LESSON

It was unbelievable that such a big construction could tip over. I hope the ship classification societies have learnt from this.

## THE SUMMER OF 1980

I participated in a preliminary examination for the first recovery and turning attempt in the Gandsfjord in the summer of 1980.

## INVESTIGATED FOR THE FRENCH ACCIDENT INVESTIGATION BOARD

I carried out an investigation for the French accident investigation board. We did research on the bracing that the hydrophone was on, they wanted to check out the theory of the hydrophone. I was down by the hydrophone. I can't remember if it looked like it was torn apart. The platform was smashed, it didn't look pretty. We drifted and dived by the leg and in the area around the hydrophone. It was crushed. We dived for Comex, they leased me from Stolt Nielsen. A careful inspection of the damage site was carried out. We told them what we had seen.

## THE SECOND RECOVERY ATTEMPT IS DONE BY SEWAY DIVING

I helped prepare for recovery attempt number two. The remaining bodies were brought out when the platform was finally turned around and righted.

## SCUTTLED

The scuttling was carried out after the rig was turned around. It was the best thing they could do. There were no more bodies. They had understood what caused the accident, and there was nothing left to be done with it. "Brutt lenke" is a nice memorial.

## RECOMMENDS US TO TALK TO

*Magne Vågsli*: Diving supervisor. He knows more about how the work was organised.

*Ove Stave*: Diver who participated in the search. Is now a diving manager in Statoil. Used to work for Sandsli in Bergen.

*Arne Jentoft*: Union representative for divers.



## MAGNAR LIASKAR, SEAWAY FALCON

By Marie Smith-Solbakken, 4. April 2016

## PERSONAL DETAILS

Born 1949

## IMPLEMENTATION AND USE

At the request of former diver Per A. Jakobsen, Magnar Liaskar was contacted for a discussion about the divers' duties in relation to the Alexander L. Kielland accident on 4/4/2016. A telephone interview was conducted, and a note sent for review and correction.

05.04.16. Magnar Liaskar sent extracts from the logbook on 11.04.16 as illustration and documentation. The note was corrected on 18.04.16.

Consented that notes from the interview can be made public and included in the memory collection about the Alexander L. Kielland accident which is handed over to the Norwegian Petroleum Museum and the National Library (Email 27.12.2018)

## BACKGROUND

1975: Diver Comex.

1976: Diver Seaway Diving, Stolt Nielsen.

1978-: Diver and welder in connection with hyperbaric welding of pipelines offshore and on the Seaway on a pipeline.

1987- 2015: Consultant/supervisor in relation to pipeline and welding operations done on Statoil's pipe repair system (PRS).

## SEARCHED FOR DECEASED IN THE FIELD AFTER THE CAPSIZE

I (*Magnar Liaskar*) dived together with *Wigulf Schjøll Larsen*. We were the first to be lowered down. The next pair down were *Angus Kleppe*, Bergen and *Olav Paulsen*, Bergen. *Torgrim Rustad* (supervised the dive) and *Magne Vågsli* led the operation.

It's been 36 years. We remember what happened. We have logbooks, we know where we dived and at what time we dived.

## MARCH 27, 1980

I was on board the Seaway Falcon. I had come on board a few days earlier. We were down on H7, on the pipeline towards Emden. On Friday the weather was bad. Wigulf and I were ready to go into the chamber on Friday afternoon. It was postponed because the weather was too bad. At approx. 6 pm it was time for dinner, and then I went to the bridge to check the weather conditions. I was midway up the stairs on my way to the bridge when we heard a mayday from Rogaland Radio. They had received an emergency message which they passed on. It was repeated a couple of times. Within a few minutes we were on our way towards Alexander Kielland /Edda.

We were quite far south in the North Sea, so we travelled all night. There were four of us who were going to be the first in the saturation. We listened to the radio and to the messages and learned that Alexander L. Kielland had capsized. We thought it was a misunderstanding. After all, we had worked at Ekofisk. We eventually realized that it was actually true. We went to bed and when we got up for breakfast, we understood that this was a serious disaster.

## PREPARATION

The superintendent was Magne Vågsli. He lives in Vågsli and worked in Stavanger until he retired. He has worked for everyone and has broad and extensive experience. He has been doing this since day one. This time he led the diving operation in the search for bodies. He remembers it very well. You should talk to him.

We had a meeting on the way there. Us who were going to dive had a meeting to discuss what was likely to await us. There was a new diver who was going to dive. We won't send you in right away, Magne told him. He believed that the young man was too inexperienced. Magne realized that this was going to be a tough job.

We arrived and moored next to the platform. We entered the diving chamber at 09:00. Some frogmen were sent over to knock on the pontoons to check if there were someone inside of them. No response. We lowered a ROV to examine the seabed around the housing construction. Magne Vågsli can tell you more about this.

Wigulf and I was compressed down at approx. 09.00 in the morning. We waited inside the chamber. They wanted to use the remotely operated ROV during daylight. We were supposed to go down in the evening. Olav and Angus went in at night on the 29<sup>th</sup> of March at approx. 04:00.

## ON THE SEABED UNDERNEATH ALEXANDER L. KIELLAND

«According to the logbook, we went down on March 28 at 2045 and started diving on ALK. Our first task was to get an overview of the situation at the bottom. It was chaotic. We found the bracing on the seabed; one of the legs on ALK had been torn off.

A camera with a cable to the surface was sent down, and a video was made of the fracture surface. The surface of the break was very smooth and clean, but part of it was covered in rust that looked like it had been there for a very long time» (corrected by Magne Liaskar, email 12/02/2019).

Then it was time to get an overview of what had happened. Half the derrick was torn off. The derrick lay on the seabed. Containers, everything that was loose on deck was strewn across the bottom. Lifeboats, crushed lifeboats, all loose objects from the platform deck lay on the bottom. There wasn't a clean spot down there. While we investigated it, I found a dead body. The first one we found was by the derrick.

We sent them up. It was a makeshift arrangement. We had a diving basket which we normally used on shallow dives. It was approx. 1 meter x 1 meter and could fit two divers. That is what we used. We tied them to it. Sometimes we loaded it with three bodies at the same time.

Our big problem was the light. They wanted to use the ROV during the day and have the divers work at night. It was problematic. The light was a problem. We only had a small light in the basket plus the flashlight the divers had in their hands. We had to drag the hose around containers and wreckage. It was important for us to get an overview before we started a systematic search for bodies. Because we lacked proper lighting, the job was more stressful than it needed to be.

We didn't know what we would find around the next corner. After a couple of days, we got light in the basket.

It was still difficult to search. We searched meter by meter. Picked things up, touched them, and lighted them up.

In addition, Edda started dumping mud. One day it was completely dark. We had to break the whole thing off and wait for it to clear up again.

We found up to 8 bodies per dive in the first few days. There was one area where we found many. It was just below where the platform had capsized. We found a broken lifeboat there, but there were no people inside. The platform was floating above. It had been towed away a little. The bodies were under where it had been before, in the area by the derrick.

We tried to perform a systematic search. We continued with this, one day passed after another. It was a tough job. We were four divers who worked on this the first week. By then we had picked up much of what was there. What was the most stressful about the job was that we didn't know what awaited us.

We had a poor overview of the area, and the light made it difficult.

We worked for a week; it was the same every day. We got up in the evening, had a briefing. Then we went to search for bodies. Wigulf and I worked in the evening until 04 in the morning, then Angus and Paul went out to start their shifts.

#### MUDDING

Gray soup, Falcon protested.

#### THE UNDERWORLD

We knew that most of them were there. The search phase was the most stressful.

The first body I found was stuck to the derrick.

I orientated myself to get an overview and was over by the derrick. It was a massive construction. I went up along the derrick, it was quite narrow. It was at the very top of the derrick. I had a flashlight in my hand, not on my helmet. Lighted upwards. When I came to the corner of the derrick and was about to turn around, I felt something grab my diving tank. I turned around and suddenly I was face to face with the deceased. He was almost stuck in the sprinklers in the derrick half a meter away from me. These are things you remember. He was stuck about 5-6 m above the seabed. This episode was bizarre. He was the first to be found.

It was powerful to see the bright light hit his face. It happened so suddenly. After this I developed a tactic to avoid looking them in the eye. I tried to turn them away from me. But when I put them in the basket, I saw them. It was a tough job. I dreaded the next shift. It was difficult to sleep. We dreaded it. We were just there, either down on the seabed or in the chamber. Everything was done in accordance with the normal routines, except for the whisky.

#### SILENCE

Personally, I have never discussed this experience with the other divers. Even during the job, we didn't talk about it much, except perhaps if there were any problems. We came up to the diving chamber after every dive, showered, ate, and slept. We barely discussed our experiences with the others outside of the chamber.

I thought about it afterwards. Maybe it would have been a good idea to talk about it. A while after, I felt it. You can never forget it. I thought about it for many years, especially when I was in saturation. The last dive Wigulf and I did, was on the 3<sup>rd</sup> of April. That's when we started the decompression.

#### THE COMPLETE SILENCE

No one said anything. We were met with silence. I cannot remember us talking about it amongst each other either. We simply haven't talked about it until now. You kept it inside of you, and that was no good. I found it strange that we didn't talk about it. I thought about it when I was in the chamber, and it would especially haunt me at night. It stayed with me for a long time. It all came back. I had a hard time sleeping, and I wasn't the only one feeling this way. Many quit shortly after this. I didn't enjoy this chamber life. I did not find it enjoyable anymore.

#### ON DECK

Those on deck packed them up in bags and sent them ashore Magne Vågsli. He was in action.

#### WHO WERE THE OTHER DIVERS

«Katastrofe i Nordsjøen i 1980» («Disaster in the North Sea, 1980»). It's written there.

#### MOST VIVID MEMORY

Definitely the first one I found, half a meter away, face to face.

#### THE LESSON

Nothing came immediately from this. To talk about the experiences afterwards, but that is the standard procedure today.

All of us were thrown into it offshore. None of us were prepared for an accident of this scale, but it would have been appropriate to follow up on us when we came back to shore. We were very isolated and did not get much feedback from the outside. It was emotionally draining. I felt it, and I know that many others felt the same. Many quit diving after this.

Everyone had too much to deal with themselves offshore. I wish someone from the trade union would have picked up the phone to check on how we were doing and discussed what we had experienced. No one contacted me. It would have been the right thing to do. We had been through a lot of stress over time. We should have had a contact person, but there was no one whose task it was. It would have helped with a session afterwards.

You should also talk to Wigulf and Magne Vågsli.

ANGUS KLEPPE, SEAWAY FALCON  
By Marie Smith-Solbakken, 23. April 2016

#### PERSONAL DETAILS

Born 17.04.1948.

Diver. Contributed to the rescue operation and search for bodies after the Kielland Accident. Bergen.

#### USE AND IMPLEMENTATION

It was agreed by telephone on the 23<sup>rd</sup> of April 2016 that Angus Kleppe would be contacted with a time for the interview. Angus Kleppe received the notes from the interview with Wigulf Shcjøll to assess whether he recognizes the descriptions and can support Shcjøll's account, e-mail of 23 April 2016. Telephone interview conducted on the 21<sup>st</sup> of June. Notes from the conversation were sent for review and correction. Consent has been given to use the note as a basic document in our presentation of the Alexander L. Kielland accident, including photo narration, essays, and polyphony, which is a compilation of different statements from different people.

Consented that notes from the interview can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State's archives in Stavanger, the National library, and the Labour movements archives. (Email 16.12.2018).

#### OTHER CONTACTS

Kleppe recommended us to contact Magne Muledal who worked for another diving company.

#### BACKGROUND

1970: Commercial diver at Froskemannservice in Bergen.

1973: Trained helmet diver in the military and received a professional diver's certificate.

1974: Commercial diver in Bergen.

1975: Training at Stolt Nielsen on African Queen was trained in bell diving.

Employed in Stolt Nielsen and was transferred to Seaway Hawk.

1978: Lead diver on DSV Seaway Hawk.

1979: Lead diver on DSV Seaway Falcon.

1985: assisting dive manager DSV Sea Fort Cape.

1986: dive supervisor on DSV Seaway Pelican.

1993: dive supervisor on MSV Amethyst.

#### MARCH 27, 1980

We were on the Danish continental shelf with Falcon and received the sad news that something serious had happened to Kielland. A telex was set to the crew mess. I told us roughly what had happened and that we were on our way over to Kielland. There was little information on board. We understood that it was a tragic accident. When we approached Ekofisk, we were called in by Magne Vågsli, who was the head diver, and informed of the task that awaited us, and we were asked if we wanted to dive or not.

We were briefed that the platform had capsized and that there would most likely be many bodies on the seabed in that area, our task was to collect those we found. We were allowed some think to think about whether we wanted to do the job or not. I accepted the demanding job and to saturation dive with Olav Paulsen, Wigulf Schjøll and Magnar Liaskar.

#### EDDA

Falcon eventually arrived on Edda. We were met by the sight of four pontoons sloshing in the sea and one that was missing.

We had been diving by Kielland previously, when it lay there big and mighty, but now it was so small.

#### SATURATION

It was time and we prepared to enter the saturation. On the 29.3 we went into saturation at 04.00. We were blown into the system, into the chamber and there we were pressurized down to the depth we were supposed to be at. We had a storage depth of 160 feet.

#### THE FIRST DIVE: 29.3, 0530 - 1430

Olav Paulsen, diver 1

Angus Kleppe, diver 2

The visibility was poor. We could barely see anything. It was a despairing dive. We thought we were in an area where we would find bodies and things from the platform. We dived for 9 hours. Olaf went out first, then me. We didn't find anything. We had to feel our way around because we could barely see anything. It was tiring. We were both very disappointed that we didn't get the job done. The platforms around us were drilling and there was mud all around us. The conditions were difficult and the visibility poor.

#### DIVE NUMBER 2: 30-31. 03. 2100-0500

I dived first. My job was to film the torn bracings from Kielland. We spent a lot of time documenting. Then I looked for people. I didn't find anyone.

Then Olav Paulsen went out and found one, and he sent it up the basket.

It was good for us that we found a body. Then we finally felt that we did the job we were set to do. It was our job to find those who had died and bring them home so the families would have a grave to visit.

It felt good. I had picked up dead bodies before, and so had Olav. It's not a pleasant job. There must be something about it that motivates you, otherwise it becomes mentally challenging. We know that for the families it is important to get them home. It makes the job meaningful.

#### THIRD DIVE: 1.4. 0230-0430 (2HOURS), 0500-0230

Olav went out and found two bodies that he sent up.

At 02:30, the diving bell was hoisted back up.

The visibility was too poor to dive. We were in a difficult area, close to the big objects that were on the seabed. The derrick was nearby.

Then we went inside to eat. We were ready to dive again at 0500. Olav went out and found one more body and sent him up. We switched, I went down and found two bodies.

On this dive, we knew where the bodies were. They had been plotted out to us on a map. An underwater vessel had carried out mappings.

#### FOUND TWO

The first one I found had clung to a rope ladder belonging to the platform and lifeboat. I had to cut him loose. I couldn't break his fingers free from the ropes.

I talked to myself a bit, and I thought about what I saw and got some ideas of what it must have been like for him. I could see the terror in his whole body. He was scared, he was completely frozen. His skin was well preserved, and it was easy to read the terror in his expression. Dead bodies quickly attract starfish and hermits. I removed them and said, "you can't be sent up like that, you have to look proper". It is awful to send a body up with sea creatures all over it.

There are many thoughts that go through your head when you bring them over to the basket, you must get them up from the seabed, push them in front of you, carry them with you, tie them down. Then I picked up the next body. The other was lying in a foetal position with his face down on the seabed. The skin was well preserved. He lay peacefully, just like he didn't notice that anything had happened. Did the accident happen so suddenly that he didn't have time to react?

Those are the kinds of thoughts you have. It was so sad. He wore a Rolex. What kind of job did you have, I asked him. Are you English or American? Or are you one of the Norwegians who had a well-paying job.

#### GALLOWS HUMOUR

When no casualties were found, those on the surface asked if they should send down a leak finder (spray bottle to find gas leaks).

#### OLAF AND ME

We talked with each other about the job we did and the people we found. It's hard to forget them, even today I remember them. I can still see them lying at the bottom of the sea. These are strong impressions that sticks with you.

#### FOURTH DIVE 3.4

We had eaten breakfast and were handed a map of where to search for bodies. We knew there was someone lying next to a lifeboat. It was near the derrick. It was a difficult area to dive in.

When you dive in the evening and until midnight and it gets dark, you see the light gradually go from dark blue to black. The light that is there gets smaller with every meter you move away from the bell and there is only the strip of light from the flashlight left, then the atmosphere is intense and mysterious.

We found four bodies that evening. It was a tough job to get them over to the basket, tie them down and send them up on their last journey. It takes time. It must be done properly.

Every person you send up is a great satisfaction. You know that you have done something good when you get to send them to their families. Olaf completed the mission; he didn't find anyone else. We closed the bell bottom door and were satisfied with our job during the dive.

#### REFLECTIONS

It's difficult to look at them and their injuries. But it was also meaningful to collect them. The easiest part was to bring them up, the worst was to not find them. It was a scary experience looking for these people. The water was not crystal clear, there was a lot of particles in the water, currents, and a lot of mud, and we mostly dived in the dark. We were programmed to find dead people, that was our job. Death is terrifying.

#### DECOMPRESSION

We were five people in decompression. One more person than usual. We had a good conversation on our way out of the chamber; Wigulf Schjøll, Magnar Liaskar, Olaf Paulsen, Henning Ove Stava and me. A good conversation.

#### GOING HOME

When we came out of the chamber, there was only one thing on our mind, and that was to get home. We put our life on the line when we were lifted onto the EDDA 2/7 platform in rough weather, and then flown by helicopter to Sola.

#### AT HOME

My wife had seen the black body bags, she wouldn't touch me, because I had touched dead people.

#### TRAUMA

Yes, it has affected me. I can still picture the bodies as I picked them up and remember the feeling of looking for something you know is there but you're unable to find. I sometimes get flashbacks when I dive. I'm not the only person who was involved in this job to feel this way. I still remember it. I get a lump in my stomach when that time of year approaches.

#### THE RESCUE FROM THE SEABED

It is the first time so many bodies have been brought up from the seabed by saturation divers on the Norwegian continental shelf.



## WIGULF SCHJØLL, SEAWAY FALCON

By Marie Smith-Solbakken, April 14, 2016

## PERSONAL DETAILS

Born 1953

## IMPLEMENTATION AND USE

First contact by phone on April 5<sup>th</sup>, 2016. Was asked to direct inquiry by e-mail, e-mail sent on April 5<sup>th</sup>, 2016. Reply the same day with a proposal for a time of the meeting. Wigulf sent several pages from the logbook from the days dealing with the search for the dead. Interview conducted at Sola Strandhotell. Wigulf Schjøll brought with him a logbook, photos, and maps as a basis for documentation, and which will be included as illustrations in the book.

Notes from the interview on April 14<sup>th</sup>, 2016, have been sent to Wigulf 17 April 17<sup>th</sup>, 2016 for review and correction. Creations by Wigulf Schjøll have been incorporated and the notes returned to him for review.

Wigulf Schjøll sets as a condition for using the note that his story is verified with the others who participated in the rescue operation. This has been done. Some corrections made 17.01.2019.

Schjøll consented that notes from the interview can be made public and included in the memory collection about the Alexander L. Kielland accident which is handed over to the Norwegian Petroleum Museum, the National Library and the Labour movements archive and library. (17.01.2019)

## BACKGROUND

1973: Paratrooper, special training at the Navy's diver and frogman school.

1975-1979: Commercial diver combined with training, North Sea diver - «trainee» and diver in the British sector.

1979-1996: Norwegian and British sector as diver and diving manager, further training/development within subsea and especially deep diving.

1996 - 2001: Operational project positions within oil and gas. (Further education «Master»)

2001 - 2016: Statoil; projects, management, eventually project director.

## SEAWAY FALCON MARCH 1980

Magne Liaskar was my co-diver at the time. We worked shifts, equal time off and equal time on.

## THE ACCIDENT

I was 26-27 years old. It was time for Magnar and me to enter saturation. We were «compressed down» on Thursday 27.03.1980 at 09:00. – down to saturation depth on Seaway Falcon which was then working with normal maintenance and pipe work. 240 feet was the approx. the bottom depth at which we dived. 160 -180 feet was the saturation depth. The plan was for Magnar and me to continue this in the normal diving rotation. Then the ALK accident happened in the evening, the message reached the Seaway Falcon with a natural need for immediate assistance. The Seaway Falcon was also a standby vessel that had to deal with "all" possible situations. (ref. E.g., the "Bravo-blow out» in 1977. We had no idea of the extent of the accident, and the Seaway Falcon was ordered to the Edda platform for assistance.

Back then, it was not possible to communicate and provide information directly to us divers in the diving chambers.

FIRST DIVE 28.3-29.3. 80 H 20:45-05:00

The first dive began after it had gotten dark from 2045-0500. A ROV had located a body on the seabed. We went down and that was the first body I discovered. The way I recall it is that I found wallet or ID, made sure everything was secured so that those on the surface could read his name on the identification papers. His name was Åge Pedersen. I later saw him again pictured in Haugesund newspaper and recognized him. He was wearing a blue fleece jacket and was lying on his stomach with his face facing the seabed. I alerted the people at the surface, they lowered the basket, I swam him over to the basket, placed him carefully in it, and secured him. Once he was secured - I requested for him to be pulled up. They winched him up.

#### ETHICS

Magnar and I, who dived together, had a similar understanding of what this was. It wasn't pleasant, we did not particularly want to do it, but it was our turn. We did it because it was our job. We were cautious and careful. We treated those who had been injured by the accident with the greatest care. Our first priority was their families.

#### DANGEROUS

The vessel we dived from, the Seaway Falcon, had a fixed contract with Ekofisk for PPCON (Phillips Petroleum Company Norway). We were not prepared for this type of work. We were looking for something, but we didn't know what, or where it was. This was a dangerous job. Magnar and I were the first to be sent down from the Seaway Falcon. We dived between wreckage and large, rough and angular steel structures. The diving bell was lowered as close to the bottom and as close to the wreckage as possible. It was chaotic, unpredictable and at times very dangerous, because we could get stuck between pieces of wreckage, or the diving bell could get stuck.

On one dive we were lowered in the middle of the derrick construction, which now lay on the seabed after having been knocked off Alexander Kielland during the capsizing; the top of the derrick had hit the seabed. The derrick is a massive, large frame construction in steel. Due to rough seas the vessel Seaway Falcon, which lowered us in the diving bell, moved a lot. The diving bell followed the movements of the boat; went up and down, back, and forth - the diving bell could easily get stuck. It would have been fatal for Magnar and me. There were no instruments and systems back then that could position exact and compensate accurately. We reported the incident and the dive management decided that, after the incident in the derrick, the diving bell was stopped high above the seabed, so we avoided getting stuck. This was not a good solution either because we were attached with a hose from the diving bell and got further away from the search areas and had less space to move around. At the same time, it was very tiring with a lot of "midwater" swimming, and we lost a lot of contact and not least the light from the diving watch.

## SECOND DIVE 30.3.1980 H 0021-1000

Phillips was eager to get started with drilling and production. Perhaps something with the American attitude that production and earnings came before everything. They would drill and pump mud, with the result that visibility was often minimal on our dives. Then there was something about the insurance on the ROV. It didn't have insurance to drive at night - as far as I remember. It ran during the day, and we dived at night. The drilling, which was started, was protested by the divers (talk to Arne Jentoft for more information, see article by union representative Arne Jentoft in *Nopef Aktuelt*, October 1992, NOPEF's 15th anniversary).<sup>35</sup>

The drilling was then brought up with Phillips. We checked and inspected the Edda plant to see if it was damaged. Two lines (gas and oil pipelines) ran from Edda to the Ekofisk centre 2/4, rised the platform. Everything looked fine. As for Phillips, this was a good oil company to dive for, we got to develop good procedures and they let us develop good and warm teams. This provided security.

## THIRD DIVE 30.3 H 0121-1000

Located two bracings (stays). There was rust at the breaking point. It was hush-hush. Got a video camera down and filmed it. Whether it was "that stay" or something else, I don't know. In addition, I further documented the derrick and a lifeboat which was totally destroyed. I filmed the torn derrick, two bracings and the destroyed lifeboat, it says in the logbook (see logbook 30.3.).

We found two bodies on this dive. One of them sat in the ladder, perhaps 10 metres above the seabed and held on to it. He must have gone around with Kielland and locked himself in there, I could clearly see the fear of death on his face (other of the guys reported similar "vivid images"). Body and facial expression were frozen in the same position as when he died. He didn't release his grip on the ladder and had to be broken free.

## FOURTH DIVE MARCH 31, H 1540-0000

I searched between containers, bracings, and objects that did not belong down there. I came in from different angles. On this dive we found 8 bodies and another lifeboat. I wonder if it might have been the second lifeboat? Are we really going to bring all of them, I thought. There were people inside of the lifeboat. One of them had an iron pipe running through his body. Many of them were covered by heavy objects and were crushed or missing some body parts. Many of them were badly injured. I talked to them and said that this must have been painful but that now they were going home.

I asked one of the bodies in bad condition: how am I supposed to bring you up, or maybe you just want to stay down here. That's how it was. We always had good communication with the surface and the dive management. We were united on this boat, there was calm communication. The maritime crew as well. Many were from Haugesund. A nice and considerate team is good to rely on.

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<sup>35</sup> Jentoft 1992: 6-7

## WE TALKED TO THEM

When I found two, I left one behind. I gently put him aside and told him I'll bring your friend to the basket first, and then I'll come back and get you. You're not supposed to be here, I told him as I swam while carrying him with me. I put him in the basket, buckled him up and told him he had to wait a bit, while his friend was picked up. I swam back to his friend, and saw that he was lying there alone, so peaceful, as if he was asleep. I took him in my arms and swam him to the basket. I could say something like "this is not a good place to be". "Now I'm here with your friend", I said to the other, "you have to move a bit. There must be room for both of you". I tied them up and alerted the surface. They winched them up.

We kept the basket down there when we found more. We brought them to the basket, one by one. It was a sitting basket. Then one sat there waiting while we fetched another, came back with the other and said: " You have to move my friend, you've got company". That's how it went down, that's how our days were. Then we strapped them, and they were hoisted up.

## GALLOWS HUMOUR AND WHISKY

Our humour was a bit dark, but always in a proper and respectful way. We were offered a glass of whiskey for each body we picked up. For each one we found, we were sent a glass of whiskey into the pressure chamber after the dive. When we'd found 8 people in one dive, we said that this had to qualify for a bottle, at least. We got a bottle into the chamber after this dive (You can write this if Magnar and Ove agree). Magnar and Ove have approved.

## EXPANDED THE SEARCH MORE AND MORE

Many were picked up from our vessel, I think we picked up around 30 in the first few days. We – the first ones – were probably the best prepared. It got worse for those after us. It got longer and longer between each time we found someone. Some wore life jackets, and we had to be careful when we swam with them, so we didn't lose them. Bodies quickly became food for fish and sea animals. The corporal decay in the sea is fast. It is the brutal process of nature.

## STRONGEST MEMORY

Hard to tell. The strongest memory is probably the time after. Then and there, we were very focused on our job. After the job was done, we were sent home each to our own, it was difficult to talk about it. I tried to relax when I left the diving chamber, it wasn't easy. Personally, I haven't spoken (nor been contacted or asked) "civilly" about the Alexander L. Kielland accident until I was contacted in connection with Råolje (book) and the Memory Bank – thus not until over 36 years later.

I developed a form of claustrophobia with trauma and nightmares. Angus Kleppe, with whom I later dived a lot, helped me. I could suddenly, when I slept, lie in bed, or stand on the floor and hug the walls of the pressure chambers. Angus gently woke me and said, "Wigulf you are here, I am here." He never told me that I should take a break from diving or maybe stop diving, nor did he say that he didn't trust me. He could have done that, it's not necessarily comfortable to dive with someone who is struggling and not doing well.

We depend on each other and must trust each other. Angus still trusted me. He woke me up from the nightmares and I kept diving. After a while, I had dived the claustrophobia and anxiety out of me. I continued diving and completed a very active life as a deep diver, at great depths, with lots of dives and a long life in the pressure chambers as the logbooks show. (This can be written if Angus Kleppe confirms it, and thinks it is ok). Angus has approved)

Attached relevant pages from the logbook:

RECORD OF DIVE

28/3 - 29/3 - 80

Depth of Dive 240' Bottom Time

Worked for PHILLIPS - ALEXANDER KIELLAND  
(Customer Company)

Vessel M/V Seaway-Falcon

Geographic Location ELDERA - 250 NE (ALEX. KIELLAND)

Time of Day 2045 - 0500

Equipment Used: Deep Sea Mask Scuba  
X Bell Other SUPREX 17  
Breathing Medium: Air X Helium/Oxygen

Work Description  
Recovery of COMPX + RP  
Video of debris weight + snuff

Notes

Remarks (Decom. Table Used)  
(Include any unusual aspects of dive or incidence of decompression sickness)

BLOW DOWN 27/3-80 KL 0900 MAGN  
ALEXANDER KIELLAND ACCIDENT M. 26  
saturation

Approved

Signature: Wally Schjell-faxon  
Diving Supervisor: Magn Vagstad  
Company: Seaway Diving AIS



RECORD OF DIVE

Date: 30/3-80

Max. Depth of Dive 230 Bottom Time

Performed for Phillips = Alexander Kjelland  
(Customer Company)

Vessel M/S Seaway - Falcon

Geographic Location Edda (A.K.)

Time of Day 0121 - 1000

Equipment Used: Deep Sea Mask Scuba  
 Bell Other UMB-7

Breathing Medium: Air  Helium/Oxygen

Work Description

RECOVERY OF COMPS ++  
LOCATED 2 BRAZINGS AND THE DERRIS  
VIDEO TAKEN  
LIFEBOAT FOUND - TOTALLY DAMAGED

Remarks (Decom. Table Used)

(Include any unusual aspects of dive or incidence of decompression sickness)

3 L. OUTS. ALEXANDER Kjelland acc  
saturation

Approved

ver Njord Schou-Larsen

ving Supervisor Tagne Jørgensen

ompany Seaway Diving A/S



**RECORD OF DIVE**

Date: 31/3-80

Depth of Dive 230 Bottom Time .....

Performed for Phillips (Alexander Willard)  
(Customer Company)

Vessel M/V Seaway Falcon

Geographic Location Fotota (A.K)

Time of Day 1540-0000

Equipment Used:      Deep Sea                      Mask      Scuba  
                                   Bell                                      Other KASH 10-17

Lifting Medium:      Air                                       Helium/Oxygen

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**Work Description**      (brought to surface)

recovery of corpse, ++++++ bodies  
located beacon and took up to surface

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**Remarks (Decom. Table Used)**  
 (Include any unusual aspects of dive or incidence of decompression sickness)

2.0 Alexander Willard accident  
investigation.

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**Approved**

Wimpy Schipps  
 Supervisor .....

Rayon Vajsh  
 by ..... **Seaway Diving A/S**



**RECORD OF DIVE**

Date: 4/2/14 80

Max. Depth of Dive 240' Bottle Time

Performed for Phillips (Alexander Hillman)  
(Customer Company)

Vessel M/S Seawing Falcon

Geographic Location Edda (A. Hillman)

Time of Day 2345 - 0600

Equipment Used: Deep Sea Mask Scuba  
 Bell Other W/BSM/10

Breathing Medium: Air  Helium/Oxygen

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**Work Description**

Looking for bodies

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**Remarks (Decom. Table Used)**  
 (Include any unusual aspects of dive or incidence of decompression sickness)

320 SATURATION

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**Approved**

Diver W. Gulf Shipton Larsen

Diving Supervisor Reggie Jorgensen

Company Seaway Diving A/S



**RECORD OF DIVE**

Date: 4/2/14 80

Max. Depth of Dive 240' Bottle Time

Performed for Phillips (Alexander Hillard)  
(Customer Company)

Vessel M/S Seawing Falcon

Geographic Location Edda (A. Hillard)

Time of Day 2345 - 0600

Equipment Used: Deep Sea Mask Scuba  
 Bell Other W/BSM/10

Breathing Medium: Air  Helium/Oxygen

---

**Work Description**

Looking for bodies

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**Remarks (Decom. Table Used)**  
 (Include any unusual aspects of dive or incidence of decompression sickness)

320 SATURATION

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**Approved**

Diver W. Gulf Shipton Larsen

Diving Supervisor Reggie Jorgensen

Company Seaway Diving A/S



Date: 3/4 - 4/4 - 80

Max. Depth of Dive 230' Bottom Time

Performed for Phillips (Alexander Kiehl) (Customer Company)

Vessel M/S Seaway Falcon

Geographic Location Edda (A. L. Mill)

Time of Day 2355 - 0700

Equipment Used: Deep Sea Mask Scuba  
X Bell Other KBM

Breathing Medium: Air X Helium/Oxyg

Work Description

Looking for bodies

Remarks (Decom. Table Used)

(Include any unusual aspects of dive or incidence of decompression sickness)

2. L.O Saturation

Decompression CH III - MAGNAR - M14 - OVE - OLAV - ANK

Started decompression 4/4 KL 1100

on surface 6/4 - 2300

Approved

Diver Wigney Sigurdson

Diving Supervisor Magne Sigurdson

Company Seaway Diving AS

## PHOTO STORY BY WIGULF SCHJØLL



Photo: Husmo photo AS Skøyen, Oslo. Belongs to Wigulf Schjøll.

The diving vessel, Seaway Falcon, had a fixed contract for PPCoN at Ekofisk, including preparedness with the handling of *all types* of incidents.

Phillips (PPCoN) was a good oil company to dive for; unlike many other oil companies, PPCoN wanted long-term contracts. We were therefore able to develop better procedures and our own knowledge; this resulted in good and "warm" teams with safe, secure, and more efficient diving operations - Kielland included.

Still, we were not prepared for this type of work.

"What has happened has happened, it is what it is."

"What can I do about it"

"You have to be human, go straight into it".





Photo: Husmo photo AS Skøyen. Belongs to Wigulf Schjøll.

Seaway Falcon on the Ekofisk field and me from inside the diving bell on the Falcon wearing my diving helmet.



First dive 28 - 29.03 at 20:45 -05:00.

Logbook, Log print and picture of his bell diving certificate Seaway Falcon at the work site by Edda and ALK.



Photo: Belongs to Wigulf Schjøll.

Me and "Magnar", whom I dived with, had an agreed understanding of the job. It was not pleasant; a stressful job and we did not particularly want to do it.

But it was our turn, we did our dives, did the rotation, this was our job.

We were very cautious and careful in the situations, we treated those who had died with all care and respect.

We were all oil workers - colleagues.



### Dumping mud

Photo of diver and diving representative Arne Jentoft who participated during the Kielland diving. The picture here is related to NOPEF's 15th anniversary where the Kielland accident versus drilling and production with subsequent dumping of mud is mentioned in an article. Arne was a fearless shop steward.



Photo: Belongs to Wigulf Schjøll

We were united on this boat, the tone in this setting could be somewhat gallows-humorous and rough, especially between the diving team on board; but I perceived the tone as safe and not hurtful.

Good communication with colleagues is important and we were hardworking people - we knew what we were doing. I also want to highlight the maritime crew - they must not be forgotten, many great colleagues - many from Haugesund.

It is nice to be supported by a good and warm team.



Photo: Belongs to Wigulf Schjøll.



I considered myself reasonably robust with experience in demanding settings; I disconnected well when I was out of the pressure chamber - trained, built houses, engaged in resilient activities. But the Kielland diving and my experiences there have stayed with me ever since. Today, I dare say that this has been both good and bad.



Photo: Norwegian Petroleum Museum, edited by me.

Angus Kleppe on the left in the picture.

For a period, I developed a form of trauma / claustrophobia with occasional nightmares when I was in a pressure chamber. I dived a lot and Angus Kleppe after Kielland. He helped me.

Angus always woke me up gently ....

He never told me I should take a break from diving, nor did he say he wasn't confident in me.

He could have done that; it's not necessarily tempting to dive with someone who isn't well.

We are colleagues, dependent on each other and must trust each other. Angus still trusted me. He woke me up from the trauma, and I therefore continued to dive, I dived a lot, and I dived the trauma out of me after a while.



Photo belongs to Wigulf Schjøll. Me in the chamber of the Falcon during the Kielland dive.



Arvid in the hatch with a bottle of whisky.

«Whisky» to get «through» it, dark humour, everything in a decent way. Yes, we were offered a glass of whisky for each body we found. We accepted the offer and got a small glass of whisky sent into the diving chamber after each dive.

When we found eight bodies in one dive, we said that it qualified for at least a bottle.

Arvid Bertelsen sent a whole bottle of whisky into the chamber after this dive...

OVE HENNING STAVE, SEAWAY FALCON

Marie Smith-Solbakken, April 19, 2016

#### Personal details

Born: 1952

Principal Engineer Subsea Technology & Operations Diving

R&T FT DPR

Statoil

#### IMPLEMENTATION AND USE

Telephone conversation on April 18<sup>th</sup>, and meeting on April 19<sup>th</sup>, 2016, at Sola Strandhotell. Notes from the conversations sent for correction on April 24<sup>th</sup>, 2016. At the same time, consent is requested to use the note as a basic document in presentations of the Alexander L. Kielland accident, including photo narration, essays and polyphony which is a compilation of different statements from different people. Notes with corrections received on 26 April 2016. Consent given on the 26<sup>th</sup> of April 2016.

Stave consented that notes from the conversation can be made public and included in the memory collection about the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the National library, and the Labor Movements archive. (SMS 17.02.2019)

#### BACKGROUND

Educated mechanical engineer.

Navy seal.

Agreement with Seaway to be a diver.

1976: Diver Seaway Falcon.

1980 autumn: Leased from Seaway to NUI/Nutec as diving manager.

1981: Diving manager NUI/Nutec.

2007: Statoil as diving engineer.

#### FIRST DIVE – NIGHT DIVE

The first dive was a night dive. ALK had been moved aside. (I cannot find my diving logbook).

Everything was a mess like in a pick-up-sticks game. It was completely dark. The only light came from the diving bell and the flashlight I held in my hand. It was a true chaos down there, with broken lifeboats, bracings, containers, gas cylinders, drill pipes, crane beams, and everything that had been on deck lay strewn about.

I had never participated in a search like this one before. During this dive we found one body in a ladder and three inside a lifeboat. We informed those at the surface, and they were hoisted up in the diving basket.

#### STOOD IN THE LADDER

The guy who stood in the ladder wore a coverall and was not injured. His eyes were open. I had to break his fingers free to get him lose.

#### THE LIFEBOAT

Then, I found a crushed lifeboat without a roof. Inside of it, there were three people. They weren't injured. I brought one by one over to the basket. The people in the lifeboat wore ordinary coveralls and ordinary clothes.

None of them wore survival suits or life jackets. I informed those at the surface, and they lowered a basket.

#### THE WORK ROUTINE

We dived for 8 hours. One sat inside of the diving bell while the other was out. There was a minimum of 16 hours until the next dive. We were hoisted up to the chamber and got to shower, sleep and eat.

#### THE NEXT DIVE – DAY DIVE

It was broad daylight, and I swam in a 30-meter circle over the white seabed. We had then started on the area outside all the wreckage. We did a circular search. It was a corpse search, we searched for bodies on the seabed around the area.

My stomach turned. At one point it was so uncomfortable that I swam back to the diving bell. I don't quite know what happened. The conditions were good. I was constantly thinking about what the next corpse would look like. The man in the bell said I was extremely pale. I was normalized when I went back into the bell. I recovered quite quickly. The dive supervisor asked me how I was doing. I said that I could sit inside the bell, while that other dived. The diving supervisor decided that I was to be taken up and decompressed. *Knut Ertesvåg* was our diving supervisor, he lives on the east coast. He later worked at the diving school.

#### DECOMPRESSION

I was put on decompression Wigulf Schjøll, Olav Paulsen, Angus Kleppe and Magnar Liaskar. I (Ove Stave) was the fifth.

#### TALK TO

Sverre Gyllseth, DNV.

Petter Gundersen, Larvik.

Knut Ertesvåg, Østlandet.

ARNE RICHARD JENTOFT, SEAWAY FALCON

By Tor Gunnar Tollaksen, March 15, 2019

Born: September 3<sup>rd</sup>, 1943.

Residence: Hafrsfjord in Stavanger.

Occupation: Diver, worked for several diving companies, e.g., 3X and Seaway Diving.

Marital status: Married to Tordis Karin, two children, four grandchildren.

**Background:** Trained as a Navy seal and mine diver in the navy from 1964. Worked on Seaway Falcon at the Ekofisk-field when the accident happened. Among other things, we had the maintenance responsibility for the Teeside pipeline. During the second recovery attempt in the Gandsfjord, I worked in the office at Stolt-Nielsen.

Jentoft is also known as the divers' shop steward. After the creation of the LO confederation Nopef in 1977, he contributed to North Sea divers being organized in the union. At the start of the interview, Jentoft shows us various diving certificates and the diving logbook from the diving on Kielland. He has bell diving certificate number 869 from the Norwegian Petroleum Directorate.

#### IMPLEMENTATION AND USE

Arne R. Jentoft was interviewed on the 15<sup>th</sup> of March 2019. He was informed about the memory database where interviews with survivors, witnesses, and others connected to the Kielland accident are made available for further research. Jentoft was positive about this work and wants the interview to be made available in the memory database. The interview was approved with some clarifications on the 18<sup>th</sup> of March 2019.

MARCH 27, 1980

I was at home and off duty and was informed on the evening news that Kielland had capsized. I immediately feared the worst. When a rig capsized, there are strong forces at play. I first thought that people had probably escaped to the deck, but I had no idea how bad and serious it actually was.

#### SEARCHING FOR BODIES

A couple of days later, I got a call from the management to take an extra trip and enter saturation. Two of my colleagues wanted out, and they needed new people there. I understood that it wouldn't be comfortable. I told my wife that I was going on an extra trip, and that I had to participate in the search for bodies.

Before I left, I received a phone call from Lars A. Myhre in Nopef. He invited me to lunch at Hotel Atlantic to meet a captain called Ivar Garberg. Garberg had a number of theories about the Alexander L. Kielland that we didn't think were quite right. After a while Lars and I told him «good bye», and I said to Lars that we had to watch out for him.

I came out on the Seaway Falcon on the 1<sup>st</sup> or 2<sup>nd</sup> of April. Then I helped pick up the bodies who were hoisted into the basket. I think that must be the only time Phillips allowed drinking alcohol on the Ekofisk field. There were two bottles of fine cognac, from which those of us who picked up bodies could take "a small one". And we needed that because many of the bodies were in a poor condition. We found around 8 bodies one night I was there, and two-three bodies the next day. I can see from the logbook that I entered saturation on April 4<sup>th</sup> and was compressed down in the morning. We searched for bodies from 12:00 until 17:00. We found one body. The next day, we found two.

What was extremely sad was seeing these people with almost no clothes on. I remember thinking how awful it must have been for them. Many were probably in the cabin and had only put on minimal clothes before they ran out. Many were wearing life belts; they must have been dragged down with the rig when it overturned. It was hard to receive and find the dead. Krill (tiny shrimp) came out of nostrils, mouths, and open wounds, it was not a pretty sight. I couldn't eat shrimp salad for many, many years afterwards. We continued diving for the next few days, on April 6<sup>th</sup> we found one body on a seven-hour dive. I kept searching for bodies until the 10<sup>th</sup> of April. Then I had to leave because I was going back to my regular job.

#### HOW WERE THE CONDITIONS DURING THE SEARCH?

The visibility varied a lot. Sometimes the visibility down there could be top notch and we could see 20 to 30 meters in front of us while other times we could only see a few metres in front of us. We did circle searches when we were looking for people. When the visibility was poor, we only noticed things if we bumped into them. I didn't find the search particularly difficult, until one day when something strange happened when I was about to get out of the diving bell.

#### STARTED DRILLING

As soon as I got out of the diving bell, it was completely milky white on the seabed. The visibility was not even half a meter. I went out and down to the seabed. I saw right away that I wouldn't be able to search for bodies in these conditions. Phillips had said their priority was to find the dead. Now they had started drilling on Edda and were releasing drilling mud.

«What on earth is going on?», I thought. I got so angry, swam back to the diving bell. I picked up the phone and asked to speak to the highest ranked Phillips-representative on the boat. I made it very clear that if they didn't stop the drilling on Edda immediately, I was going to report it to the Norwegian Petroleum Directorate, the ministry and to my union (Nopef). He got the message and said he would pass it on, then they stopped drilling until we were done searching for bodies. But it probably took around 12 hours for the visibility to clear up enough for us to continue the search. I was really upset. It was very disrespectful of Phillips. I didn't report the incident further because they solved it. I didn't want to create unnecessary troubles. I had a bad reputation as a trade unionist after I organized the divers in 1977, and I could have put my diving company in a bad position if I had reported it.

Wildrake arrived at around the same time as Seaway Falcon started the search. It was ashore in Stavanger or Tananger without a contract and set course after the accident had occurred to contribute to the search. We didn't see any of the divers from Wildrake, but the ones on the bridge reacted, I remember, because it created a bit of trouble in the search plan we had created. But I think Wildrake also found quite a few bodies.

We also cleared the area of wreckage. We found all kinds of things. Mattresses, chairs, wire drums, steel, etc. We spent the last day looking for and picking up wreckage. The rig had really taken a beating, windows were broken, and many loose objects had fallen off. Our divers refused to dive inside of the platform. I told them there was no way that the divers would risk their lives to swim inside of the platform. One of the divers swam underneath the platform, and the next day we discovered that the helipad had fallen off. Had this happened when the diver was underneath it, he would have died.

DID YOU HAVE TO SIGN ANY NON-DISCLOSURE AGREEMENTS?

I think we signed some kind of NDA. The normal consensus on the rigs and platforms was that information was classified. We were not allowed to take photos of incidents and things, and we were not allowed to bring a camera. I don't think my diving team took pictures when we looked for bodies.

DID YOU TALK ABOUT YOUR EXPERIENCES?

When we were out there, we hardly spoke. It affected us, but we did the job we were set to do. Us divers eventually talked quite a bit about how something like this could happen. I had previously dived in connection with an incident on a pentagon rig. In the autumn of 1970, Neptune 7 was on the Frigg field and was blown off "location". Comex, who I worked for, were responsible for diving on the Frigg field and we were flown over to Neptune 7 to assist. I noticed that the movements in this rig were different from what I had experienced on other rigs which were constructed differently.

This was probably due to the unusual anchoring and that the legs were not attached to the solid H pontoon at the bottom. If we compare it to the H4 rigs from Aker for example - these appeared much stronger.

Because of the tension on the anchor wires, the bracings on Kielland were exposed to great strain, this, together with possibly bad quality steel and bad welding procedures, was maybe what allowed the accident to happen. In the summer of 1980, I experienced an incident as a diving supervisor on the Ekofisk field where the brake band of a French-made diving bell blew right off. This is not supposed to happen, and we tested the steel on the diving bell, and it turned out that it was made from low-quality steel. In retrospect, I have kept thinking about whether this also was the case on Kielland. Maybe the steel there was also of poorer quality since the leg could break off.

WHAT IMPACT HAS THE ACCIDENT HAD ON YOU?

I'm not the kind of person to be easily brought down. I tried to keep a sense of distance to the mission. It was a job I had to do.

Being in the middle of a major disaster like the Kielland accident will, of course, always leave its mark on those who take part in the rescue and search for the dead, in different ways. It has probably also left its marks on us who dived for bodies around the platform. Today I can acknowledge this. Personally, I do not suffer from trauma from my experiences and the things I saw down there in the depths by ALK. It was not pleasant at the time. But time heals all wounds, they say, and this is probably true in my case. When I handled the dead out there, I always told them: "Now you finally get to go home." It gave me relief; I helped get them up and ashore so that the bereaved would have a grave to visit.

Personally, I've experienced other things that have affected me more. For example, when a colleague died in front of my eyes during a dive from "Ocean Viking" in 1971. We worked on the four first wells in which they found oil. The wells were to be connected to the production platform Gulftide. We did bounce diving and were out every other day. My colleague was out of the diving bell to do some work. But something must have happened, he had too much air in his diving suit so there was too much buoyancy.



He was going to cut a rope with a hacksaw, but suddenly he threw it away and floated straight up until he stopped just above the diving bell. He clung to the top of the diving bell. I tried to give him a bit of slack in the bell umbilical so he could drag himself along the tubes that went around the diving bell and in this way get back into the diving bell. But he suddenly let go of the diving bell and went up towards the surface, then the umbilical snapped. I immediately noticed that the umbilical I was holding was very slack and it turned out that it had snapped close to the connection to his diving suit.

I immediately called the diving supervisor and told him that the diver was on his way to the surface. From the rig, they could see the diver approaching the surface before he disappeared back down. I wanted to go out and look for him but was strictly told to stay inside the diving bell. As a result of the rapid ascent, the diver had probably burst the blood vessels in his brain so that he was unconscious when he reached the surface. Both the police and representative Winsnes from the Norwegian Labor Inspection Authority came out. I thought it was strange that the police didn't question me. I had a short conversation with the Norwegian Labor Inspection Authority and the Phillip's manager on the rig. As the closest witness to the tragedy, I expected that I would have a more thorough questioning by the police and the Norwegian Labor Inspection Authority. This event probably affected me more than the Alexander Kielland accident.

HAVE ALL QUESTIONS BEEN ANSWERED IN THE KIELLAND CASE?

I think the Kielland network should stop demanding a new investigation. Many are unsatisfied with the presented cause of the accident, but I think it's time to accept it and let it go. The way I see it, and with my experience with equipment built abroad, I would think that it was poor welding procedures and weak construction that allowed the accident to happen.

However, I think it is a great injustice to the deceased, survivors, and relatives that they don't get to see the relevant documents from the authorities and other parties involved. This is shameful. What do they have to hide? I ask myself. Denying the bereaved access to relevant documents will create unease and suspicion among those left behind. They will never have real peace of mind. They will always live with the suspicion that something is being hidden from them.

They shouldn't have sunk ALK as quickly after it was recovered. Plenty of time should have been set aside for a thorough examination of the rig, especially in the areas where the leg was torn off. Now there are so many conspiracy theories about the cause of the accident, and that's not good. Had they taken their time and not been so eager to sink it, we would possibly know what the decisive cause of the capsizing actually was.

HOW MANY DIVERS WERE INVOLVED IN THE DIVING ON KIELLAND AFTER THE ACCIDENT AND UNTIL ITS RECOVERY IN 1983?

-If we include both air divers and saturation divers, there was extensive diving at Kielland. It is difficult to estimate, but I would guess that we are talking about somewhere between 100 and 150 different divers who have dived by Kielland.

## PER A. JACOBSEN, SEAWAY FALCON

By Marie Smith-Solbakken, April 7, 2016

## PERSONAL DETAILS

Per A. Jakobsen

## IMPLEMENTATION AND USE

Per A. Jakobsen was contacted because of an article in VG where he wrote about himself and the diving and rescue after the Alexander L. Kielland accident. Notes from the interview sent and approved on the 7<sup>th</sup> of April 2016. Consented on 26.12.2018 that notes from the interview can be made public and included in a memorial collection about the Alexander L. Kielland accident and handed over to the Norwegian Petroleum Museum, the State Archives in Stavanger, the National Library and the Labor Movement's archive and library (Email 17.01.2019)

## BACKGROUND

1973: Norwegian Navy's Diving and Frogman school

1973-1974: Mine diver.

1975: Diver in the North Sea. Started during the autumn at Stolt Nielsen: Seaway Diving. Completed training on African Queen (see picture in Tunland, 2004) in Bergen 1975/to qualify and train for diving missions in the North Sea.

1976 May/June: Diver on the Seaway Falcon on Ekofisk. The Seaway Falcon was given a long year-round contract with Phillips and carried out diving work throughout the year if the weather permitted it. In 1976, there were 13 fixed steel platforms and the Ekofisk tank on the Ekofisk field.

1981: Quits Seaway Diving, continues diving in the North Sea until autumn 1992.

## DIVING VESSEL

In the pictures from the Bravo blowout there is a yellow vessel with an S in the chimney spewing water with water cannons, it is the Seaway Falcon.

We lived on board the diving vessel. There was a chamber system in the middle of the ship, so that it would wobble as little as possible. If we were to work at a depth of 100 meters, we would be compressed down to approx. 100 meters inside the chamber. The chamber system is assembled as a T. The bell is on top. The bell functions as the lift to go down to the working depth. Then it was just a matter of doing the job.

## DIVING FOR BODIES AFTER THE ALEXANDER L. KIELLAND ACCIDENT

There were two diving vessels searching for the dead, the Wildrake and the Seaway Falcon.

I first dived with Ove Stave, then with Sverre Gylseth. Ivar Simonsen was another diver who was there, he was one of the boys on board Wildrake.

MARS 27, 1980

I got a phone call from Seaway Diving in Haugesund in the morning on the 28<sup>th</sup> of March stating that they needed extra crew for the search for victims of the Kielland accident. I travelled alone to Larvik. Normally I travelled out with many other divers. People (divers) came from several different parts of the country. This time I went out alone as a diver. I landed on Edda. I remember standing on the deck of Edda and looking at the pontoons floating there next to the Edda platform. It was a terrifying image. I stood there and thought and imagined the drama for those who were there the night before. I stood there waiting for the Seaway Falcon. It was doing a job on one of the pumping stations, B11 or H7, which was the pumping station in the middle of the pipeline to Emden and Teeside.

FIRST OVERVIEW WITH ROV

Falcon arrived at Ekofisk at approx. 13:00. I was picked up in a basket and lifted over to the Falcon. At this time, conditions on the field were quite chaotic because of everything that had happened. A ROV inspection was carried out, it is a propeller-driven camera system that is controlled from the surface and moves around underwater to check the conditions down there.

Ove Stave and I stood and watched this from the bridge. We could see many dead bodies which were plotted on the map. It was not hard to find them at first. Kielland was right by Edda. Phillips wanted to get an overview of the situation first. It was no longer a rescue operation; we all knew that. We listened for sounds from pontoons, whether there might be people there. Most people understood that pounding on the pontoons was a hopeless task.

The first dive from the Seaway Falcon started at 20:45 on a Friday, the 28<sup>th</sup> of March, the two divers in the bell were Wigulf Schjøll Larsen and Magnar Liaskar.

IN THE DIVING BELL

We prepared ourselves for saturation. There were already pressurized divers in the chamber system, but we needed two more. We knew what to expect when we were compressed down. We dived two by two in teams. It was Wigulf Schjøll Larsen and Magnar Liaskar together with the other pair Angus Kleppe and Olav Paulsen. Ove Stave and I came down as the third pair to those at working depth, then we were a total of six.

Two men enter the diving bell, and it is lowered to the seabed. One of them go out, while the other waits inside the bell and monitors the gas. You exit the bell, get some light, and stand there on your feet on the seabed. It's rather quiet and dark. You know where you're going. You have no one to talk to or lean on. It was the same for everyone. When the first pair have been down there for 8 hours, the dive is over. Then the bell is lifted and connected to the diving system so those who have been down can switch with two others and get some rest. A new pair is lowered in the bell, and they work for 8 hours. Then they are lifted back in the diving bell, get off and we get in. In theory, it could take 16 hours before Ove and I went down there in the diving bell.

When we dived, Ove Stave would go out first. It was always best to be the last to go out. The first to come back was wet and had to sit and wait for four hours in a wet suit before the dive was finished.

#### FOUND SIX BODIES NEXT TO A LIFEBOAT

What happened was that Ove Stave walked out, looked around and saw a shadow, something over there. It was probably a lifeboat. If you found a lifeboat, you just had to brace yourself. There were always many people around the lifeboats. When Ove got closer to the shadow, he saw that it was a crushed and broken lifeboat. He found six people around it. I'm sure he thought, "oh wow, how do I do this?". He came back to the diving bell and said, "this won't work". I said something like "what shall we do, do you want to switch?" But he wanted to do it himself. Then he went back out and picked up all six.

This is how I remember it.

We had a basket on board the Seaway Falcon that we used when we dived from the surface without the use of a diving bell. The kind of basket that the diver sat in when they were hoisted down to the seabed. The basket was lowered to the seabed, and the bodies were placed in the basket, they were secured so that they wouldn't fall out on their way up. That was the way we decided to do it. It was a fairly straightforward and suitable way. At first, we tried to bring two and two at a time. It was a bit scary, and we were unable to secure them well enough. We only tried that once. We were afraid of losing someone on the way up.

When Ove was finished, he said that he was done. I think I went out and finished the dive. I found a few and then we went back up.

The basket was equipped with a u-shaped bar with lights on it. We removed the lights from the bar and placed the bodies with their necks in there. The neck was in the bar and then we tied their legs. This was a good method. We almost lost two of the bodies when we tried to have two in it at the same time. We only tried this once.

Ove Stave wanted out of the saturation after he had picked up the bodies, and I got a new partner, Sverre Gylseth. That's how the days went by.

#### SEARCHING FOR BODIES ON THE SEABED

We searched for people for 14 days. I stayed there for 14 days. According to my logbook, my last dive was on the 12<sup>th</sup> of April 1980. One of the things I remember very well is when I saw some survival suits on the seabed. I didn't know if there were anyone inside them or not. There's 70 meters of water above you, its pitch black and then I stood there, shining a light on the survival suits wondering if there was anyone inside them. My heart was beating fast. I started swimming towards the survival suits. I swam back and forth and felt the hoods. Sometimes it was easy to tell that they were empty. I swam in from behind and felt the hood with my hand, squeezed it. If the hood was hard, my pulse dropped.

Then the moment of excitement was over. Then you knew it, it was defined. Another one was found. The search phase was over, and we could get him up. That was our purpose there. It took its time. It had to be done properly. Then the basket came down. I put them in the basket, put their neck in the hoop and tied their legs. I notified those on the surface, and they pulled up the basket. It was the search phase that was the most tiring and exciting.

Everything went slowly. I carefully put him down. Everything was dark around me. I could only see in the small beam of light. I cast light on the basket to locate the entrance. Then I would say: "Now we're going into the basket. Yes, here's the entrance. How are we going to place you? I'll take your upper body first, like that. That went well. But you have to be secured. How will we do this? I'll pull you up from behind and then I'll put your neck in the lamp holder. Look, now you're safe. Now, I will tie up your legs."

Then I looked around the basket to see that there were no ropes or things to tangle up in. Then I said: "Safe travels", and I went up to 10-15 meters with him, past the diving bell just to be sure that he would make it all the way up. Then I said "Now, you're on your own", then he disappeared. This was not something we usually did, but the tasks here were different. It's probably good to know that this is how it went down. It was respectful. Hell, you can call it care.

It gradually took longer and longer to find people. From the time you found and located and got the basket up and back down, maybe 30 minutes passed depending on the situation. Everything was very calm and quiet. The information from the surface was sparse. It was a quieter atmosphere than we were used to. It had to do with the nature of the situation.

#### COMMUNICATION

We had speaker headsets on our ears, and we had a microphone that we spoke into where the gas came in. The masks we used back then had a fiberglass front that hung onto the hood, which was made from neoprene. I could talk to the surface but couldn't talk to the guy in the diving bell. The one in the diving bell could only hear the surface.

#### FEELS WITH HIS HANDS FIRST

The orange survival suits had gold-colored hoods to be more visible. They were made to reflect the light. There were many suits scattered around on the seabed. It was difficult to tell if they were empty or not. I never went straight over and looked into the hood, that could easily be a bit too much to handle. I always felt it with my hand first, so I wouldn't have any surprises. If it's hard, you don't get surprised when you see a face. Then you just do what you have to do. I had to make a routine to make the job less dramatic. I had to eliminate the element of surprise.

#### THE SIGHT DOWN THERE

I too saw lifeboats and many human things that should not be on the bottom of the sea. Papers, suitcases, many wires, containers, gas cylinders and various equipment. After some time, we expanded the search area. The bodies on the seabed could change course because of underwater currents. We found someone quite far away from Kielland. When we found a lifeboat, there were always many bodies around that lifeboat. It didn't look like they had gone down with the lifeboat, they were next to it. Many people sought the lifeboat when it happened. There wasn't much help in them. They didn't function the way they should. They got stuck and were crushed. They became death traps.

#### PRODUCTION STARTED BEFORE WE FINISHED THE SEARCH

They started the production on Edda. It was bizarre. They dropped drilling mud over us. I don't know if the reason was that cash is king.

We complained about it. I think they stopped it. I was inside the chamber. It mostly affected us who were down there. It was chemicals and it was toxic. It is terrible that they started before the operation was finished (Per A. Jakobsen finds documentation). It ruined the visibility. We had a strong reaction. I don't know if they didn't own common courtesy or what it was, but it was awful. The chemicals they released on us were dangerous for skin and humans. There are pipes that go 10-15 meters down, and they released the mud right above us.

Usually when we dived, they stopped the drilling, so we didn't get mud all over us. In addition to being poisonous, it destroyed our visibility.

According to my logbook, I was there until April 15<sup>th</sup>. Then I finished the saturation dive.

#### THE TOW

On the 12<sup>th</sup> of April, I finished my last dive on Kielland. It says: "Looking for more bodies under Alexander Kielland." Kielland was being towed.

There was a lot of wire and chains hanging down from Kielland. When it was towed, the wires got dragged along. They were long. I kept a particular eye on one I remember; it looked like a thick crane wire. You could see how fast they towed.

The weight of the wire that was lying on the bottom held the tow back and it became tighter and rose from the bottom until it could no longer hold back and then the wire moved after the tow. This was important to keep an eye on and there were quite a few wires and chains that behaved as described. I would estimate that it was towed at swimming speed, at normal swimming speed. The diving vessel followed. We were not allowed to dive underneath Kielland. Officially, we did not dive under Kielland. But we cannot see borders underwater.

#### DROWNED

To see a drowned person underwater can be quite a calm experience. When they are down there, with hair that flows, it looks peaceful. When they come up, it gets worse, the weightlessness ceases, the hair sticks around the face, and in a way, there is a greater proximity to the tragedy. The boys who stood on deck and handled those who came up were perhaps worse off than us who were under water. Their advantage was that they had each other, while we were alone down there. It was tough on all of us.

#### AFTEREFFECTS

It's something I think about more than ten times a year. Most people should know more about this, and most people have benefited from the oil industry. Norway has greatly benefited from the oil industry. As such it is unkind to not offer those who work there recognition and attention. We need to be informed in a proper way, the more information the better. I think it's strange that we haven't been invited to visit a single school to tell our story. It has never happened.

The public has not been concerned with what happened to those who were affected and who took part in the search and rescue after the accident. This history is important in itself. I support all institutions that do something about this.

STRONGEST MEMORY

It is that while this was going on, it was good to feel that what we were doing had great significance for the relatives who were waiting on land.

RECOVERY/ TURNING THE PLATFORM IN 1983

We'll talk about that next time.

POLICE



## HENRY OVE BERG

By Else M. Tungland, June 17, 2014, Sandnes  
Approved.

### CONNECTION

Around 26 years old in 1980.

Now works as the head of Rogaland fire and rescue. Was a young police officer during the A.K. and was involved in the rescue operation, identifying bodies and the recovery of the platform. He went into the platform when it was turned to get the remaining bodies.

### THE EXPERIENCE

What I remember most is the enormous hope of finding more people, and at the same time feeling more and more certain that it won't happen.

This is an experience I wish I didn't have, but I do.

The Soma camp was used for the identification of the deceased:

When many bodies came in at once to be identified, there were so many coffins. We had many strong impressions and images. Then you go home in the evening to be a dad. We didn't talk about things like this at the time, but my wife said I became a little distant.

Entering the overturned platform wreck was not without risk:

We wondered what could happen to gas cylinders which had been lying in the sea and rusting for three years. Would they survive the turning operation?

The mudroom has a distinct smell. We found one body inside the mudroom. Many years later, I was on a rig and went into the mudroom. When I smelled that smell, an image of that body appeared in my mind. This shows you how much these kinds of experiences affect you psychologically, you feel it in your body.

### ABOUT THEORIES OF BAD WELDING

I would be careful to draw a conclusion from what the chassis looked like after the platform was turned. No one knows what 3 years in the water may have done to it.

## KJELL ÅGE MELDAHL

By Marie Smith-Solbakken and Else M. Tungland, January 18, 2016, Hinna.  
Approved.

## PERSONAL DETAILS

Born in 1946

Police in Stavanger, quit in 1986.  
Stavanger

## INVESTIGATION OF THE PLATFORM

I was part of a search team that investigated the platform after it was turned around and recovered. We were two police officers and a diver. We were there for three weeks. There were many search teams.

We were assigned specific areas to investigate. Everything had to be looked at, absolutely everything. The main task was to find bodies. Then some theories emerged that there might be large quantities of drugs on board. We also looked for drugs, looked at every detail but we didn't find any.

## FOUND BODIES

We had to dig through mud and remains. It was hard to know what we found. It could be human remains or a sheep carcass. Medical examiners determined what it was. We searched the accommodation unit from cabin to cabin.

We found bones in a cableway in the cinema.

We found one in a survival suit inside a cabin.

We found shoes with human remains.

I thought there would be many people in the cinema room, but we didn't find anyone there.

## GUNNAR TORSTEINBU

I had a friend who died. He was found in the sea wearing a survival suit. He was interested in the sea and in boats. We built a boat together. A desire for longer uninterrupted free time made him look for a job in the North Sea. He didn't know how to swim, even though he had grown up by the sea. He put out nets to catch crabs, even though he was afraid of them. Had a phobia of crabs.

They said he got into a lifeboat but tipped back out. He was on the right side of the deck. He was almost rescued. They got hold of him, he sat in the opening, but then he fell back out.

I was at work when it happened. The first thing I did when things calmed down was to call his wife, Aud. She had just spoken to him on the phone and heard some noise, and then they were interrupted. Then I realized he was there.

When we investigated the platform, it was strange to see the radio room and know that he had been there. I remember the sight of the telephone hanging there.

## TORBJØRN KNUTSEN

By Else M. Tunglund, Hinna, autumn 2015.

### CONNECTION

Torbjørn Knutsen, police/retired.

### USE AND IMPLEMENTATION

Several conversations with Torbjørn Knutsen, Else M Tunglund and Marie Smith- Solbakken Knutsen. Consented that notes from the conversations can be made public and included in the memory collection of the Alexander L. Kielland accident, which is handed over to the Norwegian Petroleum Museum, the State archives in Stavanger, the National library and the Labor Movement's archive and library (Telephone 21.02.2019)

### CONNECTION

Investigated the accident full-time for approx. 3 years.

Interviewed many of the survivors.

Assisted the commission of inquiry.

Went to London with the commission and to the shipyard in France where the platform was built, CFEM.

The police in Stavanger interviewed the survivors.

The commission of inquiry investigated everything technical.

All excess photos from the investigation have been handed over to the Norwegian Petroleum Museum.

### THE DAY OF THE ACCIDENT

I was at home watching TV when I learned about the accident on the news. I went to the office and stayed there to receive calls from relatives throughout the night and following day. There were many different reactions. I especially remember a lady who called from England. I asked if she was sure her husband was on Kielland. "Yes, I am sure he fucking was on Kielland."

### QUESTIONING:

All survivors who came to Forus were interviewed to confirm their identity and where they had been.

A more thorough interview was conducted in the days that followed. The interviews were constantly interrupted because people were going to the funerals. There was only one person who didn't want to be interviewed by the police.

The employees on Edda were also questioned.

I asked everyone if they had received any crisis management training. They did have safety training back then too. Leiro 1-2. There had been other accidents, so the police had its own group who worked with the North Sea. There were many diving accidents. The Bravo accident and other work-related accidents.

There was a lot of madness before we got it under control.

Details from the interrogations

Those who worked in the galley on Edda used to store juice bottles on deck to keep them cold. They also stored the empty bottles there. These were large plastic bottles that floated. These were thrown overboard so that the people in the sea could have something to float on. They became so eager that they also threw the full bottles into the sea, but they sank.

One person said that he had tried to get people to put on life jackets, but some stood as if hypnotized.

9 people saved themselves on a raft which was thrown out from Edda. They were picked up by an English helicopter three hours after the accident.

#### THEORIES

The police received inquiries from all over the world with tips about the causes of the accident.

#### EXPLOSION THEORY

The day after arrival at Åmøyfjorden. The Norwegian Defense Force's explosives experts examined the torn leg already the day after the accident. They concluded that the fracture could not be caused by an explosion. They stated that the metal would have been bent differently if there had been an explosion. There was no trace of an explosion.

The fact that some people heard two load bangs in a row supports the theory that the leg that broke triggered a "domino-effect" in which several of the vertical bracings broke in quick succession.

We didn't find any signs of an explosion below deck after the rig was turned around.

#### TURNING THE PLATFORM

The platform was towed to shore with a trawl in the back to try and catch any remaining bodies.

During questioning, one of the survivors talked about a cable drum that had fallen over a person in the cinema hall. Some people tried to help him and lift the drum away, but it was too heavy. They shouted for help, but the others were busy rescuing themselves. In the end, they had no choice but to leave him there. When the Alexander Kielland was turned, and we started the search for bodies, we found him under the cable drum, exactly where they had explained he was.

Svein Tønnesen and I were the first people to enter the platform after it was recovered.

Tønnesen first smelled it, then he spotted a shoe behind the gas cylinders. Here we found the first one. Another one was in the shower. There was one in a survival suit inside the housing unit. He was so well preserved that there was still some blood left in his heart.

We weighted all the containers and checked that the rig had not been overloaded.

The galley was covered in a thick sludge. There was food, bloated cans, the remains of animal carcasses and a terrible stench.

We searched every corner. We used a strainer to examine the sludge and if there was a tooth in there, we would have found it. It was like looking for gold.

I came across a small fish that had been trapped behind a fence. It was probably a small pollock that had lost its way in there and was unable to get out again. It hadn't had much to eat and therefore had not developed normally. It is the thinnest fish I have ever seen. Just skin and bones.

TORBJØRN KNUITSEN SPEAKS OUT IN *STAVANGER AFTENBLAD*

By Ellen Kongsnes, November 2016. <sup>36</sup>

Approved 17.1.19

## PERSONAL DETAILS

## BACKGROUND

Police detective

Knutsen was a police detective who worked on finding the cause of the Kielland-accident.

There is no reason to believe that Stavanger Drilling knew anything in advance about a crack.

Moan and Lian led the technical investigation. They had the expertise. They documented the crack and stated that it was there from the shipyard in France. The action that led to the crack happened in France.

It turned out that the fatal crack must have been there since before the rig left the shipyard after they attached the hydrophones. There were found traces of paint in a crack by the hydrophone, and the crack had grown bigger over time.

36 years is a long time, and the law has changed a lot over this time. Criminal prosecution is much more common now than it was back then.

As far as I know, prosecuting a foreign shipyard wasn't normal at the time. If the mistake had happened at a Norwegian shipyard, would the police have acted differently?

It depends on where the mistake happened, the question would have to be answered by a lawyer.

The leader of the commission of inquiry, Thor Næsheim, was a lawyer. There was never a recommendation from the commission to prosecute as far as Knutsen knows.

Responsibilities surrounding the safety training were assessed legally. Ref. trial case in Kristiansand district court.

As far as Knutsen knows, there was never made a case against Stavanger Drilling, Phillips, or the shipyard.

## WHO WAS THE RESPONSIBLE LAWYER IN THE POLICE INVESTIGATION OF ALK?

Police inspector Gunvor Molaug / the State attorney in Rogaland

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<sup>36</sup> Kongsnes 2019g

The sabotage theory:

On the same day that the leg with the hydrophone on was brought to Stavanger, explosives experts from the Norwegian Defence Forces boarded the leg to examine possible traces of an explosion. There were no indications of this. Metallurgical tests were also conducted. It was concluded in 1980 that there had not been an explosion before the leg broke off.

1983:

ALK was finally turned around. The commission was on board the recovered rig. There was no reason to carry out new explosions investigations as the results from 1980 were negative.

The narcotics theory:

The police searched the rig after it was turned around. They went about it very thoroughly. Found nothing.

-Could someone have dived on the platform before it was turned and retrieved the drugs? The police have no information that divers went down there with the necessary equipment. It was also very dangerous for the divers to dive inside of the rig.

-Do the police know if unexplainable holes were discovered in the tire on ALK+ Which could have stemmed from divers having been down on the platform to retrieve the drugs before it was turned around?

Knutsen only knows that the police themselves ordered the execution of so-called "drainage holes" in the lower deck to allow for the search. We looked for everything from drugs to watches, wedding rings, etc., says Knutsen.

The drainage holes were made by employees of Stolt Nilsen. This work took place after the rig had been turned around.

The theory of the crack:

Theories and statements about platform manager Sæd's inspections while the platform was at sea:

It wasn't possible to enter the leg via a manhole when the rig was in operation out on the field because it was underwater and filled with water.

Ultimately, theories of a crack emerged.

Knutsen believes that the widows and the speech therapist were questioned. It was probably tactical investigator Kjell Larsen who carried out these questionings. He was very involved in the case and led the tactical investigation.

Knutsen was Larsen's right-hand man when they worked on the ALK case.

He has thought a lot about the case during the 36 years that have passed. But he has a good conscience. It feels good to know that we addressed and debunked all rumours.

## TORBJØRN KNUTSEN (February 2023)

Interview conducted 15.02.23 in Arkivenes Hus,  
By Eva Joly, Frode Fanebust, Marie Smith-Solbakken

## APPROVED

Audio recording and note sent on the 22.02.23. Consent given 22.02.23 by email to Marie Smith-Solbakken. Knutsen has not had the opportunity to open the audio file. It will be published later if consent is obtained.

## BACKGROUND

Police, investigation on Kielland, retired.

## USE AND IMPLEMENTATION

Knutsen was informed that the purpose of the meeting is to find out more about how the police worked with Kielland. The conversation and audio recording from 15.02.23 will be included in the Memory Bank and supplements the previous conversations with Knutsen. Knutsen has consented.

## MARS 27, 1980

I worked as a police detective. That evening we sat in the basement sitting room, me, my two sons and my wife. We had a TV in the basement. The family was together. Then there was suddenly an extra new broadcast. This must be a joke, I told the others, "a platform can't capsize". I was engaged with a group in the crime unit, those who were supposed to investigate work-related accidents. I was called on and went to the police station.

## THE FIRST EVENING

The first task at the station was to answer calls from relatives. The lists we received were not accurate. They read that some were on a helicopter. Others were on other platforms. We didn't know exactly where people were, or how many were actually on Kielland.

We were overrun by relatives. I remember a woman who called from the UK and asked for her husband. We couldn't answer whether he was there or not. She said "bloody he was".

## THE INVESTIGATION

We tried to start the investigation.

- Kjell Larsen, deceased.
- Torbjørn Knutsen
- Odd Meling
- Bjørn Olsgård, deceased.
- Svein Tønnessen responsible for the technical part of the investigation.

We worked all night.

## MARCH 28, 1980

The investigation started on the 28<sup>th</sup> of March. The team was formally assembled and approved by Molaug.

There was talk of setting up a public commission of inquiry. The government decided to do it.



We in the police planned that all survivors would be questioned immediately. Survivors were interrogated by other people other than us. We asked about: Name, address, where they had been, how they were rescued. Eventually we (the investigative team) traveled around and questioned people.

The bodies were brought to shore. The ID group at the NCIS identified the bodies. The bodies were transported to the Soma camp. A proper job was done, dental status, tattoos. It was trustworthy identification.

#### QUESTIONING

During the questioning, us detectives were concerned with: Training with regards to HSE, escape routes and how they were rescued.

One person said that he was inside the lifeboat. He found his tobacco to have a last cigarette, but then the wire snapped, and the lifeboat overturned with the platform. Somehow this triggered the release mechanism.

The lifeboat came up upside down. They managed to right it, and 19 people were pulled inside. One person told us about his friend who was crushed under a cable drum. He tried to move it, but couldn't, and he eventually had to leave him there. When the platform was turned, we wanted to see if the story was true. We made our way through the rig and sure, there he lay - as described - under the cable drum.

#### EXPLOSION

Did they mention an explosion during the questioning?

We asked what people had heard and seen.

Some said it sounded as loud as World War II.

People imagined things and didn't remember it correctly.

Some said they heard a crack, others a bang.

#### COOPERATION WITH THE COMMISSION OF INQUIRY

We handed all our interviews over to the Commission of Inquiry and they gave us a copy of theirs.

We exchanged all information.

Open sources

We went to London, to visit Lloyds. It was the commission that spoke, we were bystanders.

We compared classification schemes.

We had heard that the platform was meant to go in for classification.

The inspection was postponed.

#### EXPLOSION

Did they mention the explosions during questioning?

Kjell Larsen interviewed platform manager Kjetil Hauge.

#### CRACK OR CRACKS

There will always be some cracks in a platform. This was also the case on Kielland. But was this a bigger, more serious crack? That's the question. He (Sæd) cannot possibly have known about this crack since it was under water. The theory was that there must have been harmless cracks. Had they known about that crack by the hydrophone, they would surely have done something about it.

Larsen investigated the information concerning cracks, and it was him who spoke to Egenberg about Sæd's statements.

Did you investigate it?

No, it was the commission that was supposed to deal with cracks, not us in the police. We had to concentrate on whether it was punishable according to The Working Environment Act or not. We had no idea about cracks on ships and platforms. We were police officers. People talked about Sæd's statements. I heard about it but I was busy with other things.

State Attorney Even Fredriksen wrote to the Attorney General: (see last page in the attachment) *"I would like to particularly mention that the investigation that was recently carried out regarding claims that a crack in the platform should have been discovered before the sinking have not given any indication that the claims may be correct."*

#### STABILITY

Allegations have been made that certain hatches were not closed... (see attached document).

That's probably true. The doors were open. The doors were tied open. We found pieces of rope after turning the platform.

But a distinction must be made between watertight doors and weathertight doors before it can be concluded that the rules have been broken. We mapped every opening, all doors and air hatches, whether they were open or closed. The biggest intake of water came through open cargo hatches.

Poststempel  
STAVANGER  
Anm.nr./Bak nr.  
Justis F. 1823/80

1d

Dette papiret er til bruk for oversendingspåskrifter i sak:

D. 173/82

ALEXANDER L.KIELLANDS FORLIS PÅ EKOFISKFELTET PÅ NORSK  
KONTINENTALSOKKEL 27.MARS 1980 CA.KL.1830

Sendes med vedlegg Riksadvokaten idet jeg i henhold til tidligere konferanse antar at påtaleavgjørelsen i saken bør treffes av Dem.

Jeg gir slik innstilling:

Det foreslås utferdiget forelegg mot

1. Phillips Petroleum Company Norway  
Boks 69, 4001 Stavanger
2. Oil Industry Services A/S  
Boks 46, 4620 Vågsbygd
3. Haugesund De-Groot Offshore  
Østervåg 9-11, 4000 Stavanger
4. Terotech A/S  
Tastagaten 30-32, 4000 Stavanger
5. Schlumberger Inland Services Inc.  
Boks 129, 4051 Sola
6. Analyst International  
Boks 113, 4056 Tananger
7. Stavanger Drilling II A/S & Co  
Stavanger
8. Sverre Bjørn-Nielsen, f.22.07.19  
Stokkabrutene 12,4000 Stavanger

idet de siktes for overtredelse av

I. Arbeidsmiljølovens §87 jfr. §14, 2.ledd bokstav h

som bestemmer at for å sikre at hensynet til arbeidstakernes sikkerhet, helse og velferd blir ivaretatt på alle plan i virksomheten skal arbeidsgiveren sørge for at arbeidstakerne gjøres kjent med ulykkes- og helsefarer som kan være forbundet med arbeidet og at de får den opplæring, øvelse og instruksjon som er nødvendig

Pollidistrikt  
STAVANGER

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Justis F. 1823/80

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D. 173/82

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nr. 1 - 8 som nevnt foranved at

noen som handlet på selskapets vegne i tiden forut for og fram til 27.mars 1980 unnlot å påse at nødvendig, grunnleggende opplæring om farer og sikkerhetstiltak ved opphold på Alexander L.Kielland i forbindelse med Deres arbeid på den norske kontinentalsokkel, var gitt til

for nr.1 : 1 av 3 arbeidstakere  
 for nr.2 : 12 av 71 arbeidstakere  
 for nr.3 : 75 av 77 arbeidstakere  
 for nr.4 : 3 av 6 arbeidstakere  
 for nr.5 : 1 arbeidstakere  
 for nr.6 : 2 arbeidstakere  
 for nr.7 : 2 arbeidstakere

som befant seg på Alexander L.Kielland ved forliset 27.3.80 og som selskapet var arbeidsgiver for.

II. Arbeidsmiljølovens §87 jfr. § 15 nr.1c

som bestemmer at når flere arbeidsgivere samtidig driver virksomhet på samme arbeidsplass, skal hovedbedriften ha ansvaret for samordningen av de enkelte virksomheters verne- og miljøarbeid, jfr. de i pkt. I gjengitte bestemmelser,

nr. 1 Phillips Petroleum Company Norwayved at

noen som handlet på selskapets vegne i tiden forut for og fram til 27.mars 1980 unnlot å sørge for kontroll med at alle de som i forbindelse med sitt arbeid på kontinentalsokkelen hadde opphold på Alexander L. Kielland hadde nødvendig sikkerhetsopplæring, og/eller unnlot å søke å få de respektive arbeidsgivere til å sørge for slik opplæring til alle, og/eller ikke sørget for å etablere faste ordninger der alle som kom ombord på Alexander L.Kielland for opphold/overnatting fikk grundig og detaljert innføring i forhold ombord som angikk deres sikkerhet, idet selskapet var å betrakte som hovedbedrift for arbeidet på Ekofisk-feltet og dermed på Alexander L.Kielland.

III Arbeidsmiljølovens §87 jfr. §15 nr.1c som gjengitt under pkt.II jfr. §14 b

som bestemmer at for å sikre at hensynet til arbeidstakernes sikkerhet, helse og velferd blir ivaretatt på alle plan i virksomheten, skal arbeidsgiveren sørge for en løpende kartlegging av det eksisterende arbeidsmiljø i virksomheten med hensyn til risikoforhold, helsefarer og velferdsforhold og iverksette nødvendige tiltak,

Nr. 1 Phillips Petroleum Company Norwayved at

noen som handlet på vegne av selskapet den 27.3.1980 og i dagene før dette, som operatør og hovedbedrift på



Ekofisk-feltet på den norske kontinentalsokkel, unnlot å påse at det hjelpefartøy som var en del av sikkerhetsforanstaltningene ved arbeid/opphold på Alexander L.Kielland, hadde en slik posisjon og fremdriftsevne at det i nødvendig tilfelle kunne nå fram på så kort tid som forutsatt i de planer som myndighetene hadde godkjent, og/eller unnlot å kontrollere at den til enhver tid tjenestegjørende fører på hjelpefartøyet "Silver Pit" var kjent med at fartøyet var hjelpefartøy for bl.a. Alexander L.Kielland og med de oppgaver som dette påla fartøyet.

- IV Strl.§339 nr.2, jfr. lov av 21.6.63 nr.12 §3, jfr.kgl. res. av 9.7.1976 §27 jfr.§3, jfr.delegasjonsvedtak av 12.7.1976 fra Industridepartementet, jfr.Sjøfartsdirektoratets forskrifter av 8.2.1978 om redningsutstyr m.v. for faste anlegg for produksjon m.v. av undersjøiske petroleumforekomster §5 pkt.2

som bestemmer at det skal være minst 3 erfarne båtmenn på hver livbåt

nr.8 Sverre Bjørn-Nielsen

ved at han

som styreformann og daglig leder for Stavanger Drilling II A/S & Co, og tross pålegg fra Sjøfartsdirektoratets brev av 5.7.1978, ikke sørget for at det ombord på boligplattformen Alexander L.Kielland, som lå i fast posisjon ved Edda-plattformen, et produksjonsanlegg på Ekofiskfeltet, fra sommeren 1979 til 27.3.1980, var utpekt minst 3 erfarne båtmenn på hver av plattformens 7 livbåter.

Jeg foreslår bøter av slik størrelse:

Nr.1 Phillips Petroleum Company Norway	kr.2.000.000,-
Nr.2 Oil Industry Services A/S	kr. 200.000
Nr.3 Haugesund De-Groot Offshore	kr. 500.000
Nr.4 Terotech A/S	kr. 70.000
Nr.5 Schlumberger Inland Services Inc.	kr. 40.000
Nr.6 Analyst International	kr. 50.000
Nr.7 Stavanger Drilling II A/S & Co	kr. 70.000
Nr.8 Sverre Bjørn-Nielsen	kr. 10.000, subs. fengsel i 20 dager.

Jeg tiltrer politiets forslag om henleggelse av forholdet for firmaet Rust Engineering på grunn av bevisets stilling. Likeledes tiltrer jeg forslaget om henleggelse for selskapene Dolphin Services A/S og Brown and Root Norge idet forholdet m.h.t. sikkerhetsopplæringen neppe er straffbart for disses vedkommende. Stavanger Drillings repr. må for samme forhold formentlig fritas for ansvar p.g.a. unnskyldelig rettsvillfarelse.

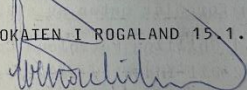
Jeg nevner spesielt at den etterforskning som i den siste tid har vært foretatt med hensyn til påstander om at det før forliset skulle vært oppdaget en sprekk i plattformen, ikke har gitt noen indikasjoner på at påstandene kan være riktige.

Det er fremkommet påstander om at enkelte åpninger i dekket ikke kunne lukkes, bl.a. fordi det var trukket slanger gjennom dem. Disse påstandene er i en viss grad bekreftet, men det er ikke derav mulig å fastslå at dette var tilfelle på ulykkesdagen. Det er etter min oppfatning heller ikke konstatert en fast praksis som har satt sikkerheten i fare. Man må legge til grunn at reglene om lukking av dører m.v. først og fremst har vært gitt av velferdshensyn. Det har aldri vært forutsatt at noe kan skje som ville gjøre at disse åpningene kunne komme under vann.

Jeg bekrefter for ordens skyld at jeg anser den foretatte etterforskning for å være så fullstendig som man kan forvente med de mannskapsressurser man har hatt til rådighet. Når det gjelder mindre overtredelser av forskrifter m.v. har man måttet foreta en viss begrensning. Men når det gjelder årsakene til ulykken og forhold som for øvrig bevirket dens tragiske utløp, anser jeg etterforskningen for å være så fullstendig som mulig. Spesielt nevner jeg at jeg ikke kan finne noe holdepunkt for at en snuing av plattformen kan antas å fremskaffe bevis som påtalemyndigheten kan ha behov for i strafferettslig sammenheng.

Jeg viser til samtale med Riksadvokaten forleden. Dersom det er ønskelig kan jeg, fortrinnsvis sammen med en etterforsker, gjerne bistå med gjennomgåelsen av saken og delta i drøftelse av den. Jeg nevner at jeg fra 8.-26. februar er opptatt i lagmannsretten, og påpeker endelig at de forhold som siktelsen omfatter formentlig foreldes senest 27.3.1982.

STATSADVOKATEN I ROGALAND 15.1.1982

  
Even Fredriksen

PS. For å lette ekspedisjonen er dok. 6,7,8 og 10 med fotografier av de omkomne, holdt tilbake her.

d.s.

THORLEIF MARTIN ENGH

By Else M. Tunglund, October 27, 2015, at their home in Stavanger. Approved.

USE AND EXECUTION

Interview with Thorleif Martin Engh born in 1929 (and a little with his wife who came in at the end).

AFFILIATION

Retired policeman.

ABOUT THE ACCIDENT

Police officer Kjell Larsen was in a very central position. He was there day and night.

"It never lets go." This was the first thing Torleif Martin Engh said when asked about the Kielland accident.

In 1980, he was the chief at the Sola police station near Sola Airport.

There were 5-6 people working there. Regular tasks included passport control, checks on foreigners, and similar duties.

On March 27, he received a message in his car as he was heading home from work. There had been an accident in the North Sea. The extent was uncertain, but it was serious. Engh turned the car around and drove back to work. Suddenly, he became a central figure in one of the country's worst accidents.

The dead and injured started coming in during the evening and night. It was Engh who led the rescue operation at Sola. They eventually received assistance from central authorities, both for the rescue operation itself and for identification, but these support systems only arrived in the following days.

His younger colleagues were completely unprepared for the impressions they faced. Most of them had never seen a dead person before.

"There was a lot of crying."

"It was hectic and painful days."

Some had to ask to go home when they needed a break, but he can't recall anyone quitting the police force.

CYNICAL REPORTERS

Looking back, what stands out especially is the behavior of the press amid everything. The foreign reporters were the worst, especially a French lady. They were so cynical!



### CENTRAL AUTHORITIES TOOK OVER

The Technical Department in Stavanger started the investigation, which was quickly taken over by central figures. "They took over in their sovereign way. We felt redundant."

Engh has no thoughts about what might have caused the accident. This could potentially be elaborated on by the Technical Department at Stavanger Police Station. He doesn't exclude the possibility that they might have reports here that didn't make it into the official investigation.

A person to talk to in this context is Svein Tønnesen (often at Madla Handelslag, especially after he became a widower).

### IDENTIFICATION

Identification was difficult. Airlines provided passenger lists, but there was no good overview of who was affected. At one point, the number of missing people was much higher than those who eventually turned out to have perished.

"Older people dying is somewhat natural, but it's different when it's young people."

"It's not something I think about regularly, but the images resurface when I look back."

### HOW IT AFFECTED PRIVATE LIFE

Engh received many calls from relatives who wanted to speak to the 'boss'. It was very distressing.

His wife noticed at home that he was affected by what had happened. They also received calls privately, day and night. As long as it was in Norwegian or English, it was fine, but he also received calls from people where language was an issue.

After working with corpses and identification during the day, it was difficult to go to social gatherings in the evening and try to live 'normally'. There were many questions. Or as his wife says:

"The accident affected us all, not just those directly affected."

### IDENTIFICATION AFTER 2 YEARS

Engh was also involved in identification after A.K. was towed ashore and turned. There are some particular events he remembers:

They found one of the deceased inside the shower. After 2 years at sea, it's not easy to identify bodies, but this person had a watch on when he died (Seiko). It was still running! There is a 'NUF number?' on such watches, a sort of serial number. Engh took the watch to a watchmaker in Breigata in Stavanger and found out who had bought the watch that way. This identified the man found in the shower. He was from the UK (the Seiko importer wanted to use the story for marketing, but then the chief of police got angry).

He particularly remembers a Finnish father. They found his son when A.K. was towed to land, two years after the accident. The father had been informed that the body of his son was found in the wreck. The man then called Engh and talked about "my boy" that they had now found, mentioning that they had to remember his son was diabetic and needed insulin.

23 of the deceased were British. Engh therefore had some contact with Mr. Adams at the British Embassy.

One of those found when A.K. was towed to land was a newlywed Brit. He had only been married for three months when the accident happened. Engh informed the British Embassy that the man had now been found and identified. Shortly after, Engh received a call from Mr. Adams, who could tell him that the message arrived at the widow on a somewhat special day. Life had moved on. She was going to marry someone else, and this was her wedding day.

#### HOW THE ACCIDENT CHANGED THINGS

After the accident, Engh was promoted and became head of the criminal department at Stavanger Police Station. He was responsible for drug-related crime, theft, and the department at Sola where he had previously worked. As a direct consequence of the Kielland accident, Engh established a new group called the 'Oil Group'. They worked on preparedness and prevention. Among other things, they conducted inspections on platforms in the North Sea.

Engh believes that the accident contributed to police officers today receiving more supervision and being offered psychological help when needed."

## GUNVOR MOLAUG

By Ellen Kongsnes, 11th May 2016.

### IMPLEMENTATION AND USAGE

Reviewed on 18th May 2016, Consent given on 19th January 2019.

### AFFILIATION

Police investigator under ALK

Molaug was the first female jurist in the police force. She was the assistant police chief when she retired in 2007 at the age of 65.

Molaug remembers the day of the accident with ALK very well, partly because her colleague Gunnar Stensland was set to retire from the police the following day. Almost no one attended his farewell because everyone was working on the accident.

Molaug herself had little or nothing to do with the accident when the platform capsized in the days and weeks that followed.

After the successful second attempt to raise the platform in 1983, Molaug became involved. At that point, the platform was considered a crime scene, with deceased individuals. Therefore, the platform had to be secured and treated accordingly.

Molaug was a police jurist and her role was to ensure that evidence was not destroyed. After the rig was thoroughly searched for the deceased, the case was closed from the police's perspective.

When the accident occurred, Molaug was a police trainee in Stavanger in the offense department. In 1986, Molaug became an inspector in the order department, appointed by the king in the council of state.

The police departments were organized differently back then, in different departments than today. The police did not consider the accident a crime. Therefore, it was investigated as an offense. Violation of the labor law is, for example, an offense.

Kjell Larsen was a central police investigator in the case at that time. He was also in the offense department at that time. Later, he was in the planning department, equivalent to today's preparedness department.

Check with Åsmund Norheim – later prosecutor – in the police at that time.

(Confirmed with Norheim in a phone call on 11th May 2016: He was in the Ministry of Justice at that time, on leave from the Stavanger police. Not involved in police interrogations or in the investigation of Kielland.)

Drug trail: Ask Torbjørn Knutsen and Åsmund Norheim. Henry Ove Berg or Torleif Engh, who was a senior officer in the criminal department in 1983. Håkon Otterbech was among the officers who cleared the crime scene on the platform.

(Talked to Torbjørn Knutsen – see separate interview.) It was the officers who conducted the interrogations.

The responsible jurist was updated daily, as was the case in large and special cases. Police colleagues informally talked to investigators in other departments about what they were working on. Emotionally, they talked little about it.

The work culture was characterized by a tough image back then. Emotional matters were not discussed openly. Today, the police have professional debriefings with employees.

There has been conflicting information from the press even though they were allowed on board at that time:

Molaug confirms that the press was allowed on board the Alexander Kielland platform after the police had cleared searched rooms on board the platform.

(Confirmed with Magne Olsen at Stavanger Aftenblad: Olsen confirms on the phone on 12th May 2016 that they were allowed on board. Olsen was in the first group from the press allowed on board. He remembers that it felt disappointing that so few were found. ALK had been in the sea for a long time and didn't look good. He had been on board a similar rig and remembers how the rig should have looked. He vividly remembers a guitar in the cinema. He recalls that Molaug asked the press not to take pictures of the guitar. The explanation was that there was a good chance that the owner of the guitar or their relatives would recognize it).

Molaug tells that on one occasion, she had to block doors so that the press did not enter areas that had not yet been cleared. Then she had to pass a headless body that had not yet been removed because the room had not been cleared. Initially, she did not want to walk over the body because it was unpleasant and frightening. But then she thought, what could be less dangerous than a dead person?

What impressed Molaug the most during the weeks they searched on board for the deceased was the cooperation and solidarity between Stolt-Nilsen employees and police officers. She did not work directly with crime scene investigations, but she was impressed by colleagues working in the unpleasant smell. It was old garbage, food remnants, and rotten mud that smelled when it was lifted, sifted, and examined by the crime scene personnel. Stolt Nilsen led the turning operation, and it was natural to get assistance from the company's employees on board.

Molaug herself was not present when the rig was sunk. The reason was that she was on another assignment in Aberdeen. It is one of the things she looks back on that she wishes she could have witnessed. What is sad is that we found so few, says Molaug.

She remembers finding an expensive wristwatch that had stopped at the accident time of 27th March 1980. When the watch was found in old mud and garbage over three years later, it started working again shortly after. The police did not want this to be made known, considering that a major international watch manufacturer would gain significant advertising value from it.

EILIF VANDBAKK

By Else M. Tunglund, undated

#### PERSONAL DETAILS

#### USE AND EXECUTION

Vandbakk consented to the publication of the conversation's notes and their inclusion in the memorial collection about the Alexander L. Kielland accident, to be handed over to the Norwegian Oil Museum, the State Archives in Stavanger, the National Library, and the Workers' Movement Archives and Library. Approved.

#### AFFILIATION

Turning.

#### BACKGROUND

32 years in 1980: Police

Now: Private investigator.

#### TASK

I worked as a police officer in Stavanger and was involved in securing the platform after it was turned. There were loose items that could fall, and the platform was deep in the water.

We were tense and nervous at the beginning. This was unfamiliar territory, and we were afraid of what we might find. We became more relaxed as we got familiar with the routines.

We cleared and shoveled dirt. The main point was to find remnants of the deceased.

We started from the outermost parts and systematically worked through all rooms. It was dark and gloomy. We needed work lights. The walls were starting to dissolve. In the cold and freezer rooms, there were plastic bags with remnants of chicken and turkey.

We worked there for several weeks..

## BENGT JACOB RODE

By Else M. Tungland and Marie Smith-Solbakken, 5th February 2016, Gamlaverket. Police (1980)  
/ Now a security advisor.

## USE AND EXECUTION

Rode has obtained consent from Rose to speak about his contact with her and for us to contact her.

Rode consented to the publication of the conversation's notes and their inclusion in the memorial collection about the Alexander L. Kielland accident, to be handed over to the Norwegian Oil Museum, the State Archives in Stavanger, the National Library, and the Workers' Movement Archives and Library. Approved.

## AFFILIATION

Police.

Alexander Kielland was the first encounter with a serious accident (28 years in 1980). Worked on systematizing/identifying the deceased and contacting relatives.

## WHERE WERE YOU WHEN YOU HEARD ABOUT THE A.K. ACCIDENT?

I was outside the house chopping wood around 6-7 pm. (It's strange that when such things happen, you remember insignificant details surrounding the event). My wife came out and said there was a call from work.

It was Easter, and it wasn't easy to reach people. I went to the office. It was almost unreal, something we almost couldn't believe was real.

## WORK ON THE KIELLAND ACCIDENT

A staff meeting was set up at the police chief's office. I was there for most of Easter. Systematized the status of those on board. We had a system on a small scale, but not for a catastrophe like this.

Dental status was one of the many things used for identification. Many had to interrupt their Easter vacation. Dentists were fetched on scooters all around.

The deceased were taken to the Soma camp, Reception was at Sola airport.

Notification to the relatives was done through the clergy.

## CONTACT WITH RELATIVES

There was a lady with two kids that I had contact with several times. She lived in the east, and their kids were 16-17 years old. She called us many times, at least once or twice daily. I gave her

my direct number and told her she could call me directly. There were still people on their way in, so I couldn't provide exact information yet. She called once or twice daily.

Having personal contact can be challenging. You get close, but it's important that those affected have a reliable contact and don't have to speak to different people every time.

In a conversation, she said to me:

"If he is found deceased, I want you to call me." I promised her that. During Easter, the news came that he was found, and I had to make that call. I remember sitting and looking at the phone for a couple of minutes, thinking about what I should say. So I called her, presented it as it was. That's how she wanted it.

Not many days later, a bouquet of flowers arrived from her. It made a strong impression that in the situation she was in, and from another part of the country, she remembered to show gratitude to me. It was powerful.

I contacted her again and told her that I found it overwhelming that she sent flowers to me. She thought it was a good experience that she could call and speak to the same person.

#### WHAT WE LEARNED

It taught us something, that in a crisis, one should have the same person to call. It helped her. In similar situations later, I have always done the same. It's important that people in crisis have a real person to relate to, not just an answering machine.

He mentions that, after we arranged this interview with him, he has been in contact with her again. He had thought about how she was doing but never had an excuse to get in touch.

I reminded her of the conversation we had when her husband had passed away. She remembered me. It was special to speak with her after 35 years. I've thought many times about calling you, I said. She talked about her life, that she lived in the same place, and had two boys. One was nearby; they didn't live far from each other. She had managed the money well, so she was doing okay financially, and she had gotten a new husband who was now deceased. She had friends in Stavanger, and they planned to talk the next time she was in the area.

#### OTHER

Saw the Henrik Ibsen platform in Croatia a few years ago.



## AT THE HOSPITAL

TORBJØRN ERGA

By Else M. Tungland, 23rd May 2016, Sola Strand Hotel

Consented to the publication of the conversation's notes and their inclusion in the memorial collection to be handed over to the Norwegian Oil Museum, the State Archives in Stavanger, the National Library, and the Workers' Movement Archives for posterity. Approved.

#### HOSPITAL RECEIVES NOTICE OF THE DISASTER:

I worked at the hospital as a porter. We were in the smoking room, everyone smoked back then. All the day shift had just left, so it was only Nils Pollestad at the central station and me left. Then the big black phone rings, and he answers; I can see he doesn't understand a thing, poor guy, so he hands the receiver to me. The call was from an English rescue helicopter that had picked up 5 men. They asked for permission to land at the hospital. I asked, "How many injured are out there?" "Around 300," was the reply. "Then you'd better call someone else than us, because they probably need you out there," I said. "Call the rescue services!" That was the first message that came to the hospital. That's when it exploded out there, but people didn't start coming into the hospital until after midnight.

The hospital was cleared to receive people from the North Sea, but not many stayed there. There was a lot of waiting at the hospital. The journalists were a nuisance. We kicked them out, but they turned around in the air and came back.

Some of those who came in didn't want to talk, but those who did tell their stories had been lucky, not just once, but many times. Everyone who survived had been lucky four or five times.

INGER ANN EDLAND HAGEN

By Else M. Tunglund, 13th June 2014, Tananger. Approved.

Details

22 years old in 1980

Affiliation

Student. Had practical training every fourth weekend. Had not heard about the accident until she arrived at the hospital the day after it happened.

At the hospital, everyone was just waiting – I couldn't do anything because I was just a trainee who felt completely out of place.

I reacted very strongly; they asked if I knew anyone, but I didn't - but I saw a face, someone I knew, a colleague who was a bit ahead of me, she had finished her education and had just become a mother. She was searching for her husband - and found him. (Vike's wife with their son)

The day before, I was visiting my grandmother. I remember that evening very well, not because anything particularly special happened there. I had visited my grandmother many other times without remembering it particularly well - but sometimes we remember insignificant events because of something else that happens. It was a completely ordinary evening until I found out what had happened; then it was strange to think that we were sitting there without knowing.

## CONVERSATION WITH REIDUN KRISTOFFERSEN (28 years old in 1980)

Interviewer: Else M. Tunglund

Phone call on March 1st and meeting at NOM on December 1st, 2022

Approved for publication on December 1st, 2022



Reidun grew up in Sola. Some may know her from Bok & Media, a Christian bookstore in Langgata, Sandnes, which she operated for many years. However, during the Kielland accident in 1980, she worked as a nursing assistant at Stavanger Hospital's emergency department.

The survivors were sent to the hospital for checks, EKG measurements, and blood tests as they arrived from the North Sea. The reception was at entrance 5 next to the ear, nose, and throat department. This was the old Stavanger Hospital located near the Stavanger Museum and theater.

The survivors came from various parts of the country. However, there was no influx of relatives coming to the hospital. No one stayed longer than a day; some were transferred to other departments in the afternoon. When they were well enough to dress, they were allowed to leave. Reidun remembers vividly how the rooms in the emergency department looked.

Many survivors expressed gratitude for having survived. "They became close to us when they arrived."

One particular survivor left a strong impression. He was well-wrapped in blankets when Reidun entered in her white hospital attire. Everything in the room was white - white walls, white bedding, even Randi's shoes were white. The patient asked:

"Can I ask you a question?"

"Yes, of course," replied Reidun.

"Am I in heaven now?"

He recounted that the last thing he remembered before waking up in the hospital bed was being completely exhausted and reaching his hand up. Reidun reassured him that he had survived and was now in the hospital.

Reidun also assisted in caring for the deceased. Some were foreigners who were to be sent back to their home countries. It was impactful for her to see all those fine young men of her own age who were victims of the accident.

Reidun is still active in Christian aid work for others. Here she is on a trip to Pakistan in the fall of 2022.



## INVESTIGATION AND TURNING OPERATIONS

## MY RELATIONSHIP WITH THE 'KIELLAND' ACCIDENT OVER ALMOST 40 YEARS

By Nils Gunnar Gundersen, May 28, 2019

I've worked with a mobile unit of the Pentagon type for a total of nine years. The platform was named Drill Master and was built in Le Havre, France, in 1973. I followed it every day throughout the entire construction period, during four years as a drilling platform, one year as an accommodation platform, and two years during its conversion from a drilling platform to a floating production platform.

I call this platform 'my first baby' since it came into operation just a few days before we had our first child. Later, we've had three more children of whom we are incredibly proud. The two eldest were with us while we drilled in the British sector and offshore Wales in the Celtic Sea. They were also with us when we lived for two years in the Hebrides during the conversion from a drilling platform to a floating production platform.

I'm not in any way trying to compare 'my first baby' to our four children. They are all unique and have brought a lot of joy into our lives over all these years. However, I have no problem being honest with myself and asserting that the Drill Master has also done so. It drilled a total of 19 wells almost at record speed, thanks to a fantastic French crew that gradually was replaced by Norwegian crew members as they became qualified for the job. During these four years, it drilled a total of 19 wells spanning nearly 60 kilometers (precisely 196,192 feet). It performed incredibly well in all kinds of weather, with an average of 3.76% 'waiting on weather' over those four years. For one year, it served as an accommodation platform at the Forties field for BP. We experienced no accidents of serious consequence. It operated for the last 35 years for BP/Talisman at the Buchan field, enjoying a total of 44 years of service life without significant technical issues.

Both the Henrik Ibsen (P88) and Alexander L. Kielland (P89) were two mobile units of the Pentagon type and were entirely like the Drill Master. The technical specification for both units was the same as for the Drill Master.

Most of us are aware that Alexander L. Kielland capsized in the Ekofisk field on March 27, 1980, resulting in the loss of 123 lives. On April 6 of the same year, Henrik Ibsen almost capsized in Tananger harbor. Fortunately, the seabed under the platform prevented it from capsizing, which could have had catastrophic consequences for those aboard. These two events occurred with a nine-day difference.

How could this happen with two nearly identical platforms, owned by the same company, and with such a short time between the incidents, has been a question I've asked myself throughout all these years? I've tried to involve myself as actively as practically possible in the investigation process that both public authorities conducted in the first years.

After the catastrophes involving both the Kielland and Ibsen platforms, following the conclusion of the public inquiry commission into the Kielland incident, I've increasingly raised critical questions about the conclusions drawn by this government-appointed commission regarding the causes of the platform capsizing and the fatal consequences it had for those involved, as well as, naturally, for the entire oil and gas industry in the country.

Here, I'll give a brief overview of the areas I've been involved in and finally express my incredible disappointment at the poor reputation this platform type has garnered, which, as I see it, it doesn't deserve in any way!

Just 2-3 days after the accident, I was contacted by the Stavanger police. They had heard about my experience with this type of platform and wanted to talk to me. This was at the same time that the government-appointed investigation commission had barely established itself in Stavanger. During the first meeting, Police Inspector Knudsen presented me with a certificate from Det Norske Veritas, clearly showing their approval for the use of eight anchors instead of ten. The utilization of 10 anchors was one of the key design criteria for a Pentagon-type platform.

This struck me deeply. The police took me the same day to the detached D column, which had just been anchored in the harbor area off Dusavik. I examined the fairleads of the anchor wire but couldn't see any clear damages. However, I took the opportunity to climb up to the wheelhouse of the harbor boat and ran my finger along some of the breakage on the large, horizontal D6 strut. My reaction was spontaneous. I shouted down to the police officers: 'This is clearly a fatigue fracture!!' I was quite sure as I had received excellent education from Professor Hardesty at college in Sunderland when I was a student there in the '60s. He was a metallurgist and had fatigue fractures as one of his specialties. He had plenty of examples of fatigue fractures that he passed around the lecture hall for us to feel with our fingers on the rough and rusty surfaces. That was precisely how the break on the D6 strut was. Undoubtedly a fatigue fracture around most of the circumference.

After the investigation commission was established, the police asked me if I could teach the members about the design and operation of a Pentagon-type platform. I had a large model of the Drill Master, which I brought to Hotel Atlantic where the entire investigation commission was gathered for three consecutive evenings. I explained the technical and operational aspects of this platform type to the best of my ability. At that point, I knew about the 8-point anchoring and stressed the importance of examining whether this highly unusual anchoring form had anything to do with the accident.

Numerous technical and operational questions were asked by all the participants. I vividly remember reacting quite critically to these questions as they clearly revealed that none of the members had any knowledge of how a Pentagon platform was designed or, most importantly, how it operated out at sea.



This complete lack of knowledge among the members concerned me. So, I asked the leader of the police investigation group, Kjell Larsen, if I could have a meeting with the investigation commission to further discuss how a Pentagon platform is operated, especially concerning anchoring, stability, and ballasting. I wasn't allowed to meet the commission members directly. All communication had to go through the police. Every time Kjell Larsen presented a proposal from me to consider some aspect, the response was: 'We have enough expertise!' This frustrated me greatly, but there was little I could do.

Onboard the Drill Master, we had two Norwegian platform managers who had been aboard for almost four years and were highly skilled. One of them lived in Stavanger. I asked him if he was willing to be an advisor to the investigation commission if asked. He agreed. Kjell Larsen proposed this to Professor Moan, who, once again, replied: 'We have enough expertise!'

As time went by, I became more and more frustrated with the way Stavanger Drilling had operated the platform. Therefore, on April 29, 1981, I chose to publish an article in Stavanger Aftenblad concerning the flawed anchoring. I tried, in a simple manner, to describe why and how the fatigue fracture had occurred. I received no feedback on the article, but several individuals with operational backgrounds supported my theory.

The accident commission contacted the owners of the other Pentagon platforms in writing. The director at Sigurd Herlofson in Oslo, who owned the Drill Master, wrote a response to the commission, offering, in a very appealing way, to provide any assistance the commission might require. He received no reply. This is entirely incomprehensible to me. The Drill Master was the prototype for both Kielland and Ibsen. They were built on the exact same design as the Drill Master and had been in operation for more than three years before the two platforms went into operation. We had preserved a vast amount of operational data, such as anchor loads, stability calculations at various depths, weather data over four years, completed logbooks, etc., etc. Yet, we were never asked to lend this to the investigation commission.

At that time, the Drill Master was taken over by BP and was under conversion in the Hebrides off Scotland. Most of the data from five years of operations was therefore taken over by BP. I don't know if BP received any inquiries from the investigation commission about this information, which I strongly believe would have been very useful during the investigation process.

Director Erling Steineger at Sigurd Herlofson & Co never received any contact from the commission either. I knew Steineger very well. He was exceptionally knowledgeable in both shipping and, notably, many operational aspects of the oil industry. He was also well-known and highly respected in shipping circles and the oil industry in Norway at that time. He even created his own statistics. He had closely followed the construction of the Drill Master with regular visits to the construction site in Le Havre. We had frequent contact throughout the five years that the Drill Master was in operation, and he was a very good advisor to me on technical and operational matters. He was always ready to assist, yet the investigation commission had no use for his extensive knowledge! They instead chose their advisors from 'their own!'

It was strongly rumored that Kielland was used as a 'drug den.' The rumors were spread by Captain Ivar Garberg, who worked for the Kielland commission. When Kielland was flipped and it was possible to board, the police asked me to join as a 'guide' to identify potential hiding places where one might expect any drug cargo to have been stashed away. This happened just a few days after the platform was flipped. We had some mechanics with various types of tools with us. Many inspection hatches were removed, and several ceiling panels were taken down. I recall the police also brought drug-sniffing dogs. Some places were difficult to access as loose objects were scattered almost everywhere. Therefore, the inspection took quite a bit of time, but I'm quite certain that most central hiding spots, where drugs could potentially have been stashed away, were thoroughly searched. Nothing was found.

Only nine days after Kielland capsized, on my own birthday, April 7, I was contacted by the police again. They had received information that Kielland's sister platform, Henrik Ibsen, almost capsized in the Tananger harbor. I vividly remember a police officer and myself climbing aboard via a ladder temporarily installed along one of the struts. Midway up the ladder, the platform moved quickly, tilting 2-4 degrees because one of the crane booms swung out towards open water. I remember the policeman loudly asking if this was dangerous. I recall replying: 'Not sure, but this is certainly very uncomfortable!'

When we boarded, we asked the platform manager to show us the stability calculations for that day. He searched for a while but found none. It turned out the crew hadn't made any stability calculations before departing from Stord workshop. However, he found stability calculations conducted by the workshop before departure, which indicated that 'Ibsen' had sailed from Stord to Tananger with negative stability. In technical terms, it's called the metacentric height (GM), which turned out to be minus 13 cm. The regulatory requirement at the specific depth (about nine meters) is: Plus 30 cm.

After discussing with the platform manager, I asked the police officer if I could write the report. He declined as he wanted to do it himself. Aware of his lack of expertise in stability, I asked to at least review the report, but I wasn't allowed since it was for police eyes only.

When the report was released, and the prosecution had reviewed it, the control room operator on duty was charged with negligent behavior. When he heard about this, he almost collapsed and asked for my help. He had worked aboard the Drill Master as a control room operator. I knew him well and naturally wanted to assist. I got him a defense attorney, and the case went to the Jæren District Court. There he was acquitted. However, the case was appealed by State Attorney Even Fredriksen directly to the Supreme Court. There, the control room operator was once again acquitted. He was, of course, very relieved, but life after this was unfortunately entirely different than before the accident!! It's recommended that the Supreme Court report be reviewed by the Office of the Auditor General, as it reveals a lot about the lack of control aboard the platform.

My significant question, therefore, is: What did the prosecution do regarding a thorough investigation into, in my opinion, the entirely wrong decisions made by the management aboard

regarding 'proper operation'? As I saw it, and still see it, this platform was so heavily overloaded by the enormously large living quarters that it far exceeded the design criteria set for stability aboard. Decisions to open hatches to the horizontal struts under such unstable stability conditions can only, in my opinion, be considered as 'negligent' as it gets. Why wasn't this considered by the prosecution? There's an English saying: 'Do not shoot the messenger'!

In this context, I've heard that the Norwegian Maritime Directorate approved postponing the stability test before departure from Stord and that it could be done upon arrival at Tananger. If this information is correct, this is a matter that should certainly be further investigated if the Kielland and Ibsen cases are reviewed by 'new eyes'!!

In my opinion, these two cases unfortunately have many parallels. The first issue I want to address is the 'lack of relevant expertise among the management at Stavanger Drilling, both onshore and aboard.' I've written a fair bit about this in the memory bank. Here, as I see it, lies the heart of the matter. The two platforms, in my opinion, were operated far beyond the design criteria specified by those who developed the Pentagon concept, namely the two French companies, Forex Neptune and Institute Francaise de Petrol (IFP).

All companies operating Pentagon platforms received these design criteria upon takeover of the platform. Stavanger Drilling had also received them but, in my opinion, took little or no heed of these criteria during operation.

In the early days on the Drill Master, we developed our own manual that clearly described how we operationally should adhere to these design criteria. Stavanger Drilling hadn't developed a corresponding manual and asked to purchase two copies from us. These were offered for a total of NOK 50,000. This was far too high a price for Stavanger Drilling, so the offer was retracted.

I've mentioned several times that the cases are far more extensively described in Memory Bank 5. What I haven't managed to explain well enough is my great frustration with how a company like Stavanger Drilling managed to 'fly under the radar' in terms of oversight from the authorities. I'm primarily thinking about how they managed to convince Det Norske Veritas about both the anchoring method and, notably, the postponement of the classification by one year so they could almost immediately switch to the British side to commence drilling for Shell.

In my opinion, they were in no way prepared for this, but Det Norske Veritas must have granted Stavanger Drilling this postponement without adequately verifying that both the structure aboard and all equipment had the integrity required by classification standards. I believe this is very serious and should definitely be thoroughly reviewed when the case is reopened by the Office of the Auditor General. There are also several other aspects that need reconsideration. Hopefully, these aspects have been adequately described in the memory bank. I sincerely hope that the Office of the Auditor General chooses to do this. It's especially important to look into the reason for a secret settlement between Storebrand/Phillips on one side and the shipyard CFEM/Forex Neptun on the other side.

How could Storebrand/Phillips agree to reduce their claims by around 99% when the entire official Norwegian investigative commission clearly concluded that the main cause of the disaster was clearly linked to a welding error during construction in Dunkirk? There must be reasons for this that are far beyond my comprehension. I truly hope that this reason will eventually come to light in the public eye!

I initially wrote about my first child, namely the Drill Master, which was a Pentagon-type platform that I was very proud of. Every single day while the platform was in operation, I had tremendous trust in the engineers who designed it and an equally great trust in the people who operated it every day in, in my opinion, a professional manner.

If it turns out now, nearly 40 years after the disaster, that this wasn't the case with the two platforms described above, it will make me both angry and, importantly, very sad. The loss of 123 lives is an incredibly huge catastrophe in itself. This also applies, of course, to several of the survivors who have suffered lasting injuries and, naturally, to the relatives who have had and still have a great void due to losing their loved ones.

I really hope that I can soon stop lying awake for hours at night pondering why and how this catastrophe could truly occur. This rumination isn't uncommon and makes me physically very restless. My wife doesn't appreciate this much as it undoubtedly disturbs her. She often shouts at me, 'Can't you finally get that 'Kielland' case out of your head? Enough is enough!!' I understand her!!

Two possible small cracks of about 70 cm and which must have been so thin that you probably couldn't have fit more than a sewing thread into the crack cannot possibly be the cause of this catastrophe. For 40 years, many of us have worked to reopen the case. It's been like 'howling' against the 'solid majority,' an expression Ibsen uses in one of his famous plays. Now I hope that this 'howling' will somewhat quiet down as the Office of the Auditor General begins its work to review the most important parts of the case.

In the book 'Ripples in the Water,' Professor Torgeir Moan, who was responsible for the technical investigations in the inquiry, says the following: 'It was not a particularly difficult accident to investigate. We had unique access to materials. We would have conducted the investigation the same way today.' I think I realize here that a comment on his statement would be entirely redundant!

NILS GUNNAR GUNDERSEN, Marine Engineer  
By Nils Gunnar Gundersen, 30th January 2019.

#### PERSONAL DETAILS

Born in 1942

#### BACKGROUND

Education: Marine Engineering from Newcastle University in 1969

#### EXPERIENCE WITH PENTAGON:

Worked as a roughneck in 1972 for a year aboard the Pentagon 81 (Neptune 7)

Acted as the shipping company's representative in Le Havre, France, in 1973 throughout the construction period of the Pentagon 83 (Drill Master), owned by Sigurd Herlofson & Co. "Drill Master" drilled 19 wells over 4 years in the Norwegian and British continental shelves.

Responsible for all maritime activities, liaised with the classification society, and planned the 4-year classification at shipyards in Haugesund. Worked aboard as the deck foreman during 19 relocations. Served as the operations manager when the platform was used as an accommodation platform for a year on Forties B and Forties C. Acted as a technical advisor for 2 years during the conversion to the production platform "Buchan A" for BP.

Various rigs: Served as the platform manager for the two permanent installations, "Valhall A" for 4 years and "Draugen" for 7 years.

#### THE ACCIDENT

How did you become involved in the accident?

The day after the accident, the Stavanger police contacted me to be an advisor in their own investigation group, to which I agreed. I was immediately asked by the police to educate the newly formed investigation commission on the structure and operation of a Pentagon. This took place shortly after the commission established itself in Stavanger. A model of the "Drill Master" was used to illustrate how the maritime systems were applied, especially focusing on ballasting, anchoring, stability, and organizational issues. I still remember being surprised by the lack of knowledge within the maritime sector when the questions came from individual members of the commission.

On the same day that the D column was anchored in Stavanger harbor, I was taken by boat to this column by the police to assess some technical questions they were already interested in. I distinctly remember standing on top of the wheelhouse and running my finger along the entire fracture surface. The fracture surface was exactly like the fracture surfaces I had analyzed in the laboratory with metallurgy professor Hardesty a few years earlier as a student in England. I vividly recall shouting to Police Inspector Knutsen, who was the technical expert in the group, "This is clearly a fatigue fracture." Since that day, I have never doubted that it was a fatigue fracture that had developed in the D6 bracing on the "Alexander Kielland" platform. However,

what I have always been, and am even more certain of today, is that I have a completely different theory than the official Norwegian investigation commission on WHY and HOW this fatigue fracture occurred.

#### COLLABORATION WITH THE POLICE

The collaboration with the police was both good and exciting. I received many technical questions and tried to answer them to the best of my ability.

On my first day meeting with the police, Police Inspector Knutsen presented a certificate from Veritas clearly showing that they had approved the use of only 8 anchors instead of 10. I had written the anchoring procedure for the "Drill Master," which explicitly stated that it was only permissible to use 10 anchors in any anchoring situation.

The procedure included a sketch made by those who designed the Pentagon platform, the French company Forex Neptune. The "Kielland" had the same sketch in its operations manual. I have kept the procedure for the "Drill Master."

The fact that only 8 anchors were used instead of 10 worried me greatly, and I was very interested in presenting my views to the investigation commission. However, I was not given the opportunity. I happened to meet Professor Moan almost by chance, where I tried to arrange a meeting on the matter. I was strongly rejected and told clearly that they had enough expertise. It was also stated that they had already performed calculations at the research institute in Trondheim, clearly indicating that the anchoring had no impact at all on the cause of the disaster.

I asked the police to contact Veritas to find out what additional calculations they had performed before accepting this deviation from the design criteria. I am not aware if the police contacted Veritas about this. I felt this was the police's task, and I could not proceed as an individual, even though I repeatedly raised the issue with the police due to my great concern that the procedure on board had not been followed.

The investigation commission instructed the police (Larsen) that all contact between the commission and myself should go through the police. As a result, I did not have any meetings with the commission during the years they were active. This disappointed me greatly as I believed I had many important pieces of information to contribute to the commission.

On the "Drill Master," we had a platform manager trained under the French captain for almost a year before he was qualified to take over responsibility on board. He was a highly skilled captain with over three years of experience as a platform manager on the prototype of the "Kielland," and I strongly believed he could contribute significantly as an advisor in the maritime aspects of the operation. I had to present this proposal through the police. The police chief raised the issue where Professor Moan clearly responded that they had enough maritime expertise. I remember this distinctly, and it also greatly disappointed me. In the investigation commission, they had a representative who had some experience as a platform manager on a movable structure of the

H3 type. I often say, with a bit of exaggeration, that an H3 and a Pentagon are as different as a plane and a helicopter; the only similarity is that both move through the air!

Sigurd Herlofsen in Oslo, who owned the "Drill Master," was approached early on by the investigation commission about some technical details, which the technical director, Erling Steineger, responded to. At the end of the letter, he explained that the "Kielland" was built on the exact same specifications as the "Drill Master" (the technical specification was "as 'Drill Master'"). He offered in a very appealing manner to be available to the commission if and when needed

He never received any communication from the commission. (Still has the letter he wrote to the commission.) This also disappointed me greatly because Steineger was, in my opinion, one of the

individuals in Norway at that time who truly followed the developments in the industry and, most importantly, had firsthand knowledge of the Pentagon type by conducting numerous inspections in Le Havre and notably advising me on all matters concerning the operation of our platform.

As time passed, I received fewer and fewer questions from the police. Moreover, I was heavily involved in the start-up of 'Valhall A.' When the report for the police was completed, I asked if I could have a copy of it. I received a reply stating that it was a police report not to be distributed outside the police. Naturally, I accepted this, but I have always been curious about what was written in this report regarding the issues I had discussed with the police.

**AFTERWARDS: WARNING ABOUT POSSIBLE MALFUNCTION, TELL:**

Over time, I increasingly thought that the platform's malfunction must have significantly influenced the development of the fatigue fracture in brace D6. I had not in any way engaged in a dialogue with the investigation commission about this matter. I was almost convinced that the anchoring without anchor wires on column C must have resulted in far greater stress in the lower part of the structure, especially in the horizontal braces. I received support from several individuals with operational experience and decided to write an article in Stavanger Aftenblad on 27th April 1981, just over a year after the disaster.

I believe I provide a simple and clear explanation here of how the extra-large stresses over the anchors D1 and B2 affected the structure, especially with adverse weather conditions towards column C. I argue that the stress level increased significantly beyond what would have been normal if the anchoring had been carried out according to the requirements in the operations manual. The considerably higher stress level resulted in a small and seemingly insignificant crack around the hydrophone holder, which the investigation commission firmly believes occurred during construction in France. This crack had the opportunity to develop far more rapidly than it would have under normal conditions. With a much slower development of the crack, it would hopefully have been detected during the 4-year classification by Veritas, and the accident could have been avoided. In my opinion, this is the most crucial main cause of the catastrophe.

However, the accident commission believes that the anchoring did not affect the development of the crack. We strongly disagree on this, and therefore, I have contacted several individuals whom I believe have very good qualifications to speak specifically on this issue (capacity within 'structural integrity' and notably extensive operational experience from movable installations). I'm not afraid to say that the support has been very substantial. Very few of those I have spoken to support the investigation commission's conclusion.

In addition to this, several control room operators claim that the tension in some anchor wires occasionally reached close to the breaking strength of the anchor wires. When the platform was frequently pulled in/out from the Edda platform, it resulted in extra stresses on the anchor wires, leading to a much higher stress level in large parts of the lower structure. This high stress level caused the fatigue fracture in the D6 brace to develop far more quickly than it would have if the platform had been operated within the design criteria that were clearly specified by Forex Neptune.

Therefore, in several interviews in newspapers and especially in several articles I have written, I have proposed that the authorities ensure that new calculations of the stresses in the lower part of the structure are carried out in the near future. The same calculations must be performed with both 8 and 10 anchors in use. The assumptions must, of course, be the same in both cases.

Such calculations should be done by two engineering companies with the necessary relevant expertise. I wouldn't rule out the possibility that the Norwegian Accident Investigation Board for Transport (Marine) could coordinate such a task if there is new political interest in re-examining the 'Kielland' case.

I have long said that 'Kielland' did not operate the ballast system as described in the operations manual delivered by the shipyard but was devised by Forex Neptune. Forex Neptune had set strict criteria for the ballast distribution in the 5 columns. Several control room operators claim that it was impossible to follow these criteria as the ballast system's measuring instruments were often out of order. Therefore, they claim that they often operated outside the criteria that were set. This situation could very easily have led to greater stresses in the lower structure than was assumed in the design, resulting in the fatigue fracture developing faster than if the requirements in the operations manual had been followed.

The accident commission's report identifies three main causes of the catastrophe. One of these three causes points to the stability of the platform. Professor Dahle was appointed as an expert for the investigation commission to examine if stability had an impact on the accident. Dahle has written a report on the matter, which, until today, has not been accessible to the public. However, I have had extensive discussions with Professor Dahle and firmly believe that he significantly focuses on the platform's stability after it lost leg D. The platform actually tilted to a 30-35-degree position within a very short time. Dahle claims that the cause of the disaster was rapid water ingress due to doors and hatches that should have been closed not being shut and



equipment not being secured. This is surely correct and entirely in line with what several survivors have also said. I consider this a gross irresponsibility from the on-board management.

But my clear assertion is that the cause of the disaster had nothing to do with the platform's stability. The stability during the entire period it served as an accommodation platform at the Edda platform was, in fact, very good, even with a large housing complex on the deck. Platform manager Hauge calculated the weight of the accommodation quarters to be 520 tons a few days after the accident. This provides a 'variable deck load' far below 2100, which is the maximum allowable 'variable deck load' when the platform has a draught of 22 meters. The fact that accommodation quarters have a slightly greater height above the deck compared to other equipment has very little significance for the stability in this context, as the metacentric height (GM) probably lay in the region over 3 meters. This is a very satisfactory result, clearly stating that stability was adequate before the accident occurred.

The day after the accident, platform manager Kjetil Hauge and director Sverre Bjørn Nilsen stated to the press that the platform was designed to remain stable with only 4 out of 5 columns. This says a lot, in my view, about the management's total lack of knowledge about the design criteria for a Pentagon. The fact is that the criteria for 'damage stability' are based on 'two adjacent compartments flooded' or 'one compartment flooded with a 50-knot wind.' 'One column lost' has never been a design criterion among the international classification societies. In this case, column D was rapidly torn away from the rest of the structure, resulting in the platform almost immediately tilting to a 30-35-degree angle. It is entirely out of the question that the crew have the opportunity to correct the platform to a horizontal position under the prevailing conditions, due to several factors, including the lack of power supply to the ballast pumps as the diesel engines almost immediately shut down at an inclination of about 20 degrees.

Little is said about the daily stability calculations carried out on board. I am very sceptical about the quality of such calculations and whether they were carried out at all. I base this on a visit I had as an advisor for the police on board the 'Henrik Ibsen' on April 6, 1980. The platform had just arrived in Tananger and was about to capsize in the bay. Along with the police, I asked if they could provide procedures they had used during the maritime operations they had carried out inside the harbor. Such procedures did not exist. They had absolutely no idea about the stability of the platform, neither during towing from Stord nor during the operation in the harbor. After a long time, the platform manager finally found stability calculations performed by Aker Stord. 'Henrik Ibsen' had left the shipyard with negative stability (a metacentric height (GM) of minus 13 cm), which is a completely unacceptable situation for towing with a draft of about 9.5 meters.

The control room operator on board was charged with violating Section 151 of the Penal Code by trimming the platform without ensuring it could be done safely. The individual was acquitted in the Jæren District Court.

However, the Rogaland Public Prosecutor's Office directly appealed the case to the Supreme Court (criminal case). The individual was again acquitted.

The following is stated in the Supreme Court judgment:

'The court finds it proven that such calculations and curves were not available on board the 'Henrik Ibsen' on 06.04.1980. The transition from stable to unstable position cannot be estimated by judgment and good seamanship. It requires specific calculations. It was thus impossible for the accused to know that his maneuver moved the platform into a zone with a negative metacentric height.'

The platform management had also instructed the control room operator to open the manholes from the horizontal braces to column C even though the platform was very unstable. The court papers conclude with the following:

'These two factors, the metacentric height and the open manholes, were fundamental in the sequence of events and were beyond the accused's control. Therefore, he must be acquitted.'

In my opinion, the prosecution chose to 'shoot' the control room operator instead of assessing who on board had full responsibility for both the stability and the structural integrity of the platform.

The story from 'Ibsen' is included here to highlight that the two Stavanger Drilling installations had management both onshore and onboard that, in my opinion, lacked relevant knowledge and experience in operating the two platforms in a responsible manner.

Odd Kristian Reme, who has represented the relatives since the investigation began, claims that a possible sabotage action in brace D4 could be the real cause of the accident. There was suspicion among some in the industry after Stavanger Drilling increased the insurance sum by a whopping 85 million kroner just a few days before the accident. He believes that experts have found signs that an explosion occurred in the upper part of brace D4. The accident commission has no trust in this theory, and on that, we are on the same 'wave length'. I consider it almost unthinkable that a shipping company would carry out such an action to claim a larger insurance sum.

However, civil engineer Albert Johnsen has recently written a detailed article on what he believes happened in brace D4 the day before the accident and on the day of the accident itself. This report is very interesting and is now available on the Kielland Fund's Facebook page. In brief, it suggests that two people were ordered on board to make repairs in this brace. There is no clarity on who ordered them and what the task was. I agree with the assessments in this report and recommend reading it with great interest.

Regarding this repair that started in the D brace the day before the accident, I have made the following observations: To start a repair on the structure itself, an approved workshop with

approved welding procedures is needed, including all functions such as cleaning, sandblasting, preparation, preheating, detailed welding procedures specifying the type of welding rods, post-heating, and finally, sandblasting and painting.

Who onshore and which position on board allowed such repairs to the structure (columns or braces) is almost incomprehensible to me! Did DNV receive notification of such repairs? I highly doubt it, and if so, it is a serious breach of the classification society's requirements from the company's side. They are always supposed to verify and approve such structural repairs.

What deviation procedures were used by the platform managers when cracks or external damages were discovered on the structure? One of them claims to have discovered several cracks on the structure and reported this to the land organization. Such discoveries must be immediately reported to the classification society through the land operations office and must contain as many technical details as possible, preferably accompanied by sketches and/or photographs. Using the deviation system for such reporting is often used in the industry. Did 'Kielland' have such a deviation system on board, and was it used in such cases?

Regarding DNV as the classification society, I understand very little about the approval given just before the accident occurred regarding a one-year postponement of the 'classification'. It is normally conducted every four years, but there is an opportunity to postpone it by one year if there is a good enough reason. In the case of 'Kielland', this 'classification' was postponed by a year so that 'Kielland', after removing the temporary accommodation quarters and taking on board the necessary drilling equipment, could proceed directly to the British sector to start drilling for Shell.

So, my natural question is, what verifications had DNV performed prior to this decision to ensure that the structural integrity of 'Kielland' was satisfactory?

'Evacuation and rescue' is one of the three main causes of the accident mentioned in the accident report. There is no debate that 'evacuation and rescue' did not work as hoped, but designating this as a 'cause' is completely incomprehensible to me. The lifeboats did not function as intended, and several were killed by loose and heavy equipment stored on the deck. According to witness statements, this equipment began to move at high speed and struck some individuals who were on their way to the lifeboats. Such factors I see it much more as a 'consequence' than a 'cause'. That a lot of loose equipment was stored on the main deck and not securely fastened is a tragedy in itself.

What was the reason for so many fatalities? This question is highly complex and not easy to answer. Some of my thoughts are as follows:

The lifeboats were of the 'Harding' type and could accommodate 50 people. The boats had to be in the water to trigger the two suspension hooks. They were very, very heavy to release and required a certain training of the lifeboat crew to do it safely and efficiently. So, my question becomes: Had the lifeboat crews on all 7 lifeboats (totaling 14 people) undergone an approved

lifeboat operator course before they operated as boat operators? Was there sufficient permanent crew on board from Stavanger Drilling to man these lifeboats?

Several survivors have stated that there was a lot of confusion with the lifeboat lists. Several survivors have also mentioned that they reported for each other during lifeboat drills, meaning that not everyone in the room needed to show up at the lifeboat. This, in my view, is a frightening routine. That the control room operator was designated as the permanent boat operator on boat number 2 seems almost unbelievable to me. In an emergency situation where everyone except those on standby teams go to the lifeboats, the control room operator, platform manager, and radio operator are essential individuals to lead the emergency situation from the control room.

Stavanger Drilling, as far as I know, had no relevant experience in operating movable installations. They had only operated ships and were not staffed with personnel, neither administratively nor technically, to operate these platforms professionally, as I saw it then and still do. I had several meetings with the management regarding the sale of the 'Drill Master' operations manual, which I was responsible for developing together with the platform manager and the French engineer responsible for the drilling operation. The manual was offered for NOK 50,000, but Stavanger Drilling declined the offer.

However, it was crucial for the management to get the two platforms into operation. Therefore, the crew hired on board had to assume positions very quickly without receiving an introduction to the operational and safety tasks on board. One of the platform managers on 'Kielland' had been present during the construction in Dunkirk, which, of course, mattered in terms of getting to know the construction itself and the equipment on board. However, the operational training this individual received from Forex Neptun is unknown.

I strongly want to emphasize that transitioning from maritime positions on a ship directly to a movable installation without significant or any training at all is, to me, completely incomprehensible. Stability calculations, ballasting, movements, anchor handling, crane operations significantly differ from ship operations.

Regarding the French investigation report, I have so far only read fragments of it. Therefore, it is somewhat challenging to comment on the conclusions they have made. However, having said that, I have at least seen that their assessment also points towards the lower part of the structure being subjected to overload in the form of significant bending stresses. However, I have not seen any description in the report of why and how these bending stresses occurred.

What worries me, however, is that there must have been a reason why the Norwegian Oil Insurance Pool and Phillips, together demanding approximately 700 million kroner from CFEM and Forex Neptune, eventually accepted only around NOK 6.5 million as almost

compensation for 'pain and suffering'. What was the reason that the plaintiffs accepted such a radical reduction of the claims?

They may have concluded that there was a high degree of mismanagement of the platform over a period of almost 4 years, which led to the fatigue fracture and its gradual development, resulting in the fatal consequence. This may have been realised and ultimately accepted by the plaintiffs. It would be intriguing to find out what actually transpired between the two parties in the lawsuit!!

Based on this, I am very surprised that the insurance company accepted paying the entire insurance sum of 400 million kroner, providing a 'gain' of around 150 million kroner to the owners! Is it profitable to operate a movable installation with an organisation that lacks relevant operational and technical competence in almost all areas and has operated the installation for several years without a qualified management system meeting the operational requirements specified in the design? When one knows the outcome of such an operation, I believe it is fair to ask this question! It is also fair to question how the 'gain' was distributed among the management of the companies owning the platform. This must be seen in light of the 'small compensation' paid to the survivors for what they lost during the accident.

Immediately after the accident, the Norwegian government, led by Justice Minister Cappelen, established an investigation commission to assess the cause of the accident. I am highly sceptical about how quickly the commission was formed and, more importantly, its composition.

Here, I try to draw a comparison with an aviation accident investigation where, as far as I know, the members are handpicked based on their relevant experience (technical and operational) with the specific unit (e.g. Boeing 737) to be investigated after the crash. I assume that all the members have extensive and relevant experience with this particular type of aircraft. I found no relevant operational experience among the members of the 'Kielland' commission, something I can elaborate on if asked.

#### WHO FAILED DURING AND AFTER THE ACCIDENT?

There must be a reason why so many survivors and relatives of the deceased wish to reopen the case. I can understand that very well as I believe that many of those involved failed, both during almost four years of operations and also subsequently in clarifying the circumstances of the tragedy.

In 1986, I wrote a letter to the Director of Shipping expressing my own assessments of the cause of the accident. I offered a more detailed briefing but received no response.

Recently, I have also contacted the management of the Norwegian Oil & Gas several times but have been verbally informed that they are not interested in hearing my version of the 'why'. I have also written a letter to the director of the Petroleum Safety Authority and

received a written response that they cannot prioritize this matter.

Why do both the industry and the authorities want to completely 'shut the lid' on this case, which has been one of Norway's most serious industrial accidents of all time and, according to many survivors and relatives, has not yet received a full clarification? Just because the case is almost 40 years old should not mean it is archived before revisiting to find out if significant aspects of the accident have been misjudged or omitted.

What perhaps becomes most important for me now is to re-evaluate the accountability of the various stakeholders. I firmly believe that the supervisory authorities lacked both knowledge of offshore technology and experience from similar major offshore accidents. If, in addition, they based the 'negligence issue' on the conclusions in the government-appointed investigation report, I believe it may be necessary to re-examine this if the actual causative picture significantly changes with any potential new investigation.

If it turns out afterwards that DNV approved the anchoring of 'Kielland' with 8 instead of 10 anchors without conducting a structured and careful technical risk assessment of allowing this significant deviation from the design assumptions, it would be extremely serious.

If it further transpires that this anchoring form contributed to much greater stresses in the D6 bracing, this would be much more serious. If DNV also accepted a one-year postponement of the classification without ensuring that the integrity of the 'Kielland' structure was satisfactory, that would also be very serious. The circumstances surrounding 'Ibsen', as described above, should also be reassessed.

At that time, the Norwegian Maritime Directorate, on behalf of the Norwegian authorities, had the supervisory responsibility for 'Kielland'. I am not aware of how much the Maritime Directorate followed up either 'Kielland' or 'Ibsen' at the time. I also do not know how many supervisory activities were conducted on the two installations and what, if any, orders were issued. This should definitely be investigated in any potential new inquiry into the matter.

The operator on a field always had the ultimate responsibility on the field. I am not familiar with the contract between Phillips and Stavanger Drilling regarding who was responsible for what. But as an operator, they have a 'duty of care' to ensure that the contractor operates in compliance with relevant regulatory requirements and contractual obligations. I don't know how much this 'duty of care' was executed, but the requirement to operate with only 8 anchors must have come from Phillips as they were the ones familiar with the conditions at the bottom near the Edda platform. Through relevant laws and regulations, the

Norwegian authorities impose strict requirements on 'the responsible party'. The operator Phillips had a specific responsibility to ensure 'safe' operations. Stavanger Drilling had the same requirement, but also a clear responsibility for the management of all daily activities while 'Kielland' operated as a living platform on the Edda platform.

When considering the human tragedy this accident caused, my immediate question becomes: How were the authorities' requirements for 'safe operations' verified and evaluated by the prosecuting authority during the investigation process?

From what I have seen, the only reaction from the prosecuting authority was a fine imposed by the Labour Inspectorate totalling approximately 2 million kroner for lacking safety training. I find this completely incomprehensible. Was the lack of safety training the only deviation from the principle of 'safe operations' identified?

#### FINAL COMMENT:

If we consider today's requirements for managing barriers as outlined in the management regulations §5 (one of the oil industry's 5 regulations), these requirements are divided into three parts.

- Technological
- Organizational (competence)
- Operational (or administrative)

These requirements were not formulated in the same way back then as they are today, but all were described in a manner that should leave no doubt about the responsibility both operators and individual contractors had regarding the principles of 'safe operations'. That's what I've tried to support my statements and assessments with. Many of my statements will surely provoke debate among some, as they might be perceived as 'overkill'. The purpose has been to emphasize how crucial it is to have these 'barriers' in place at all times, according to the authorities, to ensure the protection of the industry's most important resource: the people carrying out the individual activities.

Therefore, I genuinely hope that both the current government and the relevant regulatory authorities now recognize the severity and will reconsider the still unanswered aspects of the case. This tragic event definitely deserves handling in a manner that the survivors and relatives can have full confidence in this time. I hope that what has been described above can be of help in that regard.

# «Kielland» ikke rett oppankret

- Ankrene til «Alexander L. Kielland» ble ikke lagt ut slik konstruktøren hadde foreskrevet. Mangelfull oppankring kan ha hatt innflytelse på ulykken, men trenger ikke å ha vært avgjørende, sier sivilingeniør med mange års erfaring fra Pentagone-rigger, Nils Gunnar Gundersen, til Aftenbladet.

Han understreker at ingen Pentagone-rigger noen gang tidligere har vært oppankret med bare åtte ankerwire over så lang periode. «Kielland» hadde vekselvis åtte og ni ankere ute.

Gundersen er ikke i tvil om at den egentlige ulykkesårsaken

befant seg i hydrofonen, og han tror at ulykken kunne ha skjedd, selv om oppankringen hadde vært perfekt.

- Den utilstrekkelige oppankringen har ikke framkalt problemet, men den har forsterket det, sier Gundersen.

Konstruktørens anvisning går ut på at alle 10 ankrene skal ligge ute, og de skal ligge tilnærmet sesvis 36 grader fra hverandre.

«Kielland» hadde bare åtte ankere ute, fordi den lå så nær Edda-plattformen. Man mente det ville være for komplisert å ha alle ute.

- Ankerkreftene sammen

med bølgekraftene har virket unormalt på den nedre delen av strukturen på plattformen. Bøyespenningen på D6-staget ble sannsynligvis forsterket, sier Gundersen.

Hvis det hadde vært f. eks. ni ankere ute, så ville situasjonen vært annerledes i og med at C-søylen hadde fått sin del av de totale ankerpåkjenningene, samt at retningene på DI og BII-ankrene hadde vært gunstigere.

Når «Henrik Ibsen» blir ankret opp på Ekofisk, vil den ha 10 ankere ute, noe Gundersen mener er slik det bør være.



# Oppankringen av «Kielland»

Herr redaktør.

Jen antar at en del av Aftenbladets lesere nå etter hvert begynner å bli lei av å lese om «Alexander L. Kielland». Mer enn ett år er gått, og stadig dukker det opp nye teorier om årsaken til ulykken. Den offentlige rapporten er kommet, og den diskuteres heftig også langt utenfor oljekretser. Jeg regner derfor med en lengre debatt i tiden som kommer, spesielt fordi det i pressen er hevdet at rapporten inneholder regnestykker som er gale og at den også inneholder mange uklare formuleringer. Jeg anbefaler at vedkommende som har sagt dette kommer tilbake til saken og konkretiserer hva som er galt og hva som er uklart, slik at vi som ikke har funnet alle disse feilene kan få et riktig bilde av «hva stabilitet er».

Jeg har arbeidet i over sju år med en Pentagone-plattform. I alle disse årene har jeg betraktet denne type plattform som en av de absolutt sikreste. Det er en påstand jeg drister meg til å hevde den dag i dag, på tross av «Alexander L. Kielland». Dette vil kanskje vekke sterke reaksjoner hos pårørende, noe jeg selvsagt forstår.

Men det jeg ikke kan forstå er at en liten sprekk rundt en hydrofonholder skal være den eneste årsaken til at en slik massiv stålkonstruksjon skal gå så fullstendig «i kne». Jeg har tilbrakt mange døgn i full orkan (over 90 knop) om bord i en Pentagone-plattform, og jeg har mange ganger sett hvor fantastisk den oppfører seg i belteghøyder på over 20 meter. Aldri har en ankerwire brukket, selv etter fem år i sjøen.

Hvorfor har ikke en lignende ulykke skjedd med andre Pentagone-plattformer som er langt eldre enn «Alexander L. Kielland»? Hvorfor har det ikke skjedd med f.eks. Pentagone 81 (Neptun 7) som er mer enn åtte år eldre. Pentagone 81 har ikke horisontalstag mellom pongtong A og E og skulle være meget mer utsatt for spenninger i stagen B5 og D6 enn de andre Pentagone-plattformene. De har ikke hatt sprekker i hydrofonholderen fra første dagen, vil kanskje noen hevde. Det er riktig, men «denne lille tuen» kan da ikke alene være årsaken til at et slikt «stort lass» kan velte?

I de første dagene etter ulykken tenkte jeg meget over dette. Da jeg fikk høre at «Alexander L. Kielland» over en lengre tidsperiode kun hadde vært oppankret med åtte ankre i stedet for 10, så arbeidet jeg med teorien om at usymmetrisk oppankring med ingen ankerkrefter på søyle C kunne ha vært en av årsakene til havariet. Jeg la, via en tredjemann, fram denne teorien for undersøkelseskommissjonen, og

hadde et bestemt inntrykk av at dette ble nøye vurdert sammen med alle andre tekniske data som var samlet.

Norges Skipsforskningsinstitutt har utarbeidet to rapporter med analyse av «Alexander L. Kielland»s ankersystemer. Disse rapportene inneholder, så vidt jeg kan se, lite informasjon som direkte belyser dette forholdet.

Kreftene i DI ankerwiren må helt sikkert ha vært høyere enn de normalt ville ha vært dersom plattformen i tillegg hadde vært oppankret med de to ankerwirene på C-søylen. Det tenkes her spesielt på vind og bølger som virker i området 220°-275°, m.a.o. inn mot C og D søylen. Ankerkreftene som normalt ville ha blitt overført til stagen som går mellom C-søylen og de to andre søylene (A og E) er i stedet overført til stagen DE og D6. DE-staget har mest fått strekkspenninger, mens D6-staget har fått en del bøyespenninger og vridspenninger som det sannsynligvis ikke ville ha fått ved normal oppankring. De nedre stagen er spesielt konstruert for å ta opp direkte strekkspenninger fra ankerwirene. Konstruktøren av plattformen har, så vidt jeg kjenner til, ikke anbefalt annet enn 10 punkts ankring.

Dersom man forutsetter at rapporten har rett i at det kan ha vært sprekk i hydrofonholderen allerede før riggen kom i operasjon, antar jeg at selv mindre bøyespenninger i dette området har hatt en negativ virkning. Sprekken har fått anledning til å vokse i størrelse fortere enn det den ville ha gjort dersom ankringen hadde vært utført i henhold til konstruktørens anbefaling.

Man skal også være klar over at ankerwirene DI og B2 har vært hovedwirene som var i bruk under forhalning inn til Edda-plattformen. Det var vanlig praksis å trekke ut «Alexander L. Kielland» fra Edda-plattformen så lenge været var dårlig, en metode som selvsagt er riktig. Jeg kjenner ikke til om kreftene på f.eks. DI har vært spesielt store, men at de har framkalt unormale bøye- og vridspenninger ser jeg som meget sannsynlig. Størrelsesorden på disse spenningene er jeg ikke kompetent til å uttale meg om.

Jeg er forberedt på at «de lærde» som har både en mengde teoretiske kunnskaper og i tillegg har datateknologien som hjelpemiddel, vil smile av teorien min og mene den er minst like vanvittig som jeg mener teorien til herr Ikdal om at det var «ankerkettingene» som dro «Alexander Kielland» ned er. Jeg ventet at svaret vil være at bøye- og vridspenningene p.g.a. usym-

metrisk oppankring var så små at de ikke er tatt med i vurderingen.

Som herr Ikdal gjorde, har også jeg tenkt meget grundig gjennom dette, og hver gang har jeg kommet fram til samme konklusjon. Men i den videre tankegang er vi uenige. Jeg mener at den egentlige ulykkesårsaken befant seg i hydrofonen, men fell oppankring kan meget godt ha framskyndet tidspunktet for ulykken.

Randaberg, 27. april 1981.

Nils Gunnar Gundersen

## Samarbeia

Herr redaktør.

Stortingsrepresentant Ole G. Ueland har i Aftenbladet 8. april noen synspunkt på mitt tidligere leserinnlegg som jeg vil gi en sluttrepplikk.

Han skriver – og mener øyensynlig – at Senterparti-ideene best kan få gjennomslag i det ønskede samarbeid med Kr.F. og Høyre. For Uelands skyld håper jeg at innflytelsen fra Kr.F. og Sp i et tenkt regjeringssamarbeid med Høyre blir så sterk som han tror. – Så sterk at Høyre dreier bort fra den kursen Arbeiderpartiet har holdt – med Høyres støtte. Dette tror jeg er urealistisk. Jeg tror heller at et uavhengig Venstre – utenfor en slik regjering – vil kunne gi direkte og indirekte støtte til sentrums ideene i et forsøk på kursendring.

Ueland snakker om realisme. Han mener følgelig at Senterparti-ideene vil komme til syne når valgkampen drives på Høyres premisser. Hvilken gjennomslagskraft disse ideene har, vil vi eventuelt få bekreftet når de tre partiene legger fram sin fellesinnstilling til langtidsprogrammet som skal behandles i Stortinget før ferien.

Ueland og jeg har sammenfallende syn i mange store politiske saker. Vi er derimot uenige om på hvilken måte vi skal fremme en framtidig sentrumpolitikk på. Senterpartiet vil gjøre dette gjennom sin tilknytning til



**RING**  
NYHETENE  
TIL  
Aftenbladet  
TELEFON (04)  
**52 15 80**

**SUBJECT: Nils Gunnar Gundersen on first encounter with the damaged leg**

Email: 08.04.2019

Hi Marie,

Regarding our phone call today.

As I mentioned on the call, I was on board the D-leg shortly after it was anchored in the port of Stavanger. I was on board along with the police. In my reflections that I sent you, I wrote the following:

“On the same day that the D column was anchored in Stavanger harbor, I was taken out to this column by boat by the police to assess some technical questions that the police were already interested in examining. I vividly remember standing on top of the control cabin and running my finger along the entire fracture surface. The fracture surface was exactly like the fracture surfaces I had analyzed in the laboratory with metallurgy professor Hardesty a few years earlier as a student in England. I therefore vividly remember shouting to police inspector Knutsen, who was the technical expert in the group: ‘This is clearly a fatigue fracture.’ Since that day, I have never doubted that it was a fatigue fracture that had developed in the D6 brace on the ‘Alexander Kielland’ platform. However, what I have always been, and today am even more certain about, is that I have a completely different theory than the official Norwegian investigation commission on WHY and HOW this fatigue fracture occurred.”

I distinctly remember climbing up to the control cabin and feeling around almost the entire surface of the fracture site. It was covered with thick rust around the entire circle (about 7.5 meters), but I don’t recall whether the lower part of the fracture had more rust than the upper part. What I do remember is that the entire circumference was well rusted.

The investigation commission believes that the final part of the fracture on the D6 brace took place on the actual day of the accident and that they have scientific evidence for this. I cannot argue for or against this particular claim. However, I support the theory of Albert Johnsen, who believes that the fracture occurred a long time before the day of the accident. He has many justifications for his claims. I have great confidence in these justifications. I suggest you reread his report as it contains a very interesting theory about why the two welders were inside the brace on the day of the accident and what type of work was being done inside the brace. His theory aligns well with the analyses that have been done on the temperature the steel inside the brace must have reached (over 700 degrees). I have no belief in any explosion inside the brace at all! The loud bangs almost certainly came from the moment the two braces D3 and D4 released from the rest of the structure. It is then entirely impossible to avoid a loud bang. (ask Torvald Sande)

I mentioned to you a French engineer named Jean Normand. He has very good knowledge of the Pentagon platform (worked aboard P 84 as assistant operations manager). I suggest you get in touch. Just give him my regards.

Best regards,  
Nils Gunnar Gundersen

REPORT ON: DIFFERENCE BETWEEN THE NORWEGIAN AND FRENCH REPORTS ON THE  
“ALEXANDER KIELLAND” ACCIDENT

By Nils Gunnar Gundersen 22.02.2021

The Norwegian investigative reports: NOU 1981: 11, NOU 1983: 53

The overarching formulations in both reports are highly ambiguous in several areas. I will try to specify this.

In NOU 1983: 53, pages 8, 9, 11, three main reasons are highlighted and describe how the loss of the D column turned into a catastrophe:

- 1) Structural failure
- 2) Stability failure
- 3) Evacuation and rescue equipment failed

Firstly, the structural failure (page 8) is described as the platform collapsing, then the stability failure (page 9) as the platform tilting to 30-35 degrees, taking in water, and eventually capsizing after 20 minutes. Lastly, the failure of evacuation and rescue is mentioned (page 11).

**Structural failure:**

The following sentences are from NOU 1981: 11, page 199: “The rupture in the D6 brace, which triggered the structural failure, was a fatigue fracture. Part of the fractures must have occurred before the platform was assembled. This is indicated by, among other things, paint residues in the base surfaces (assuming that it refers to fracture surfaces).”

**Comment:**

I agree with the commission that a fatigue fracture occurred in the D6 brace, which was the main reason the D column detached from the rest of the structure, causing the platform to immediately tilt to 30-35 degrees. However, I do not understand how a fracture could have occurred during assembly in France. For a fracture to occur, the area where the fracture occurred must have been exposed to external stressors. I doubt this was the case during assembly in France.

While there might have been surface cracks around the hydrophone holder during the welding process due to inadequate preheating and post-heating in this area around a fillet weld with an A-measure of approximately 6 cm, I am somewhat skeptical that paint had the opportunity to penetrate such a thin surface crack and deeply into a plate with a thickness of 22 millimeters.

Very little has been said about why these cracks, measuring 2x70mm, were allowed to develop further into the entire circumference with a diameter of 2.6 meters and a plate thickness of 22 mm. The commission has labeled it a “fatigue fracture,” yet they have said very little about why and how this fatigue fracture evolved into a “total failure” of the entire brace. The report clearly states that paint residues were found in this part of the weld when the entire crack was analyzed in the laboratory after the accident. The investigation commission almost considers these paint residues as “proof of the pudding.”

**Stability failure:**

In the supplementary report NOU 1983: page 9, it states that “the stability was still satisfactory,” based on Emil Aall Dahle’s stability report from 1980.

In NOU 1981: 11, page 199, it says: “After the loss of column D, ‘Alexander Kielland’ immediately tilted over to a 30-35-degree angle. The platform then assumed a stable lateral position in the sea. From this position, it slowly continued to tilt and sink until it capsized 20 minutes later.”

**Comments:**

I completely agree that the stability was satisfactory as long as all 5 columns were intact. The stability was very good with a GM around 3 meters. It was the moment when the D leg was detached from the rest of the structure that the platform lost all stability, and the catastrophe occurred. The stability report focuses on stability after the platform tilted to approximately 30-35 degrees and notes that “the open doors compromised stability” due to water ingress. The open doors had nothing “to do with the cause of the disaster” but they might have affected the time it took from tilting at a 30-35-degree angle to capsizing (estimated at about 20 minutes).

The report states that the platform settled into a “stable lateral position” (30-35 degrees). I strongly disagree with this. As far as I see it, it remained in this position until the anchor wire on the D leg was still active (described on page 320 of the French report). When the load became too high (breaking strength of about 300 tons), the wire broke, killing several people who were located on top of the B column. One of the survivors recounted this gruesome incident to me. After the wire broke, the platform quickly capsized. This situation is also described in the French report on page 316.

**Evacuation and rescue**

The following sentences are taken from NOU 1981 page 200:

“Alexander Kielland was equipped with the rescue equipment as required by regulations. Life jackets on board were mostly in line with the regulations, though it seems that there was excessive focus on lifeboat exercises. However, only a few of those on board had received the safety training required by the regulations. Regarding the permanent crew and catering staff, it is required that they undergo a 3-week introductory course with theoretical and practical training in general safety. Only 4 of those on board had completed this course.

On Alexander Kielland, there were 7 covered lifeboats, each accommodating 50 people on board. 4 of the boats were lowered without any major problems. However, there were problems with the release of the lifeboat hooks. The hooks, which have simultaneous release, cannot be released as long as they are under load, which was difficult to avoid in the high seas on the day of the accident.

According to the approved emergency plan for the Ekofisk field, there should be auxiliary vessels stationed on the field. Each auxiliary vessel should be stationed so that it can reach any of the platforms it serves within 20-35 minutes. The auxiliary vessel for Alexander Kielland did not reach the accident site until almost an hour after the sinking. No survivors were rescued by the auxiliary vessel.”

**Comment:**

The report clearly states that the rescue equipment was in line with regulations. This, in my

opinion, is of little help as long as the onboard management did not provide the lifeboat crew with necessary instructions and training on how to operate this equipment in an emergency. Only a few of the permanent crew had the 3-week course required by the authorities. To be a lifeboat leader, constant practice in using all equipment, including lifeboats, life rafts, communication equipment, reporting procedures, and especially the lowering of lifeboats where the hook release was always a major challenge, even in good weather, is required. Several survivors have told me that this was a significant deficiency among the permanent crew.

The report says, "4 of the boats were lowered without any major problems." I strongly doubt this. Many survivors have told me that releasing the lifeboats from the hooks was a major problem on the boat they were on. Several of these incidents are very illustratively described in the Minnebanken. Many people lost their lives when the lifeboats were thrown against the platform structure due to the lack of release from the two suspension hooks. Fortunately, this lifeboat release was eventually replaced with free-fall lifeboats.

What is scarcely addressed in the Norwegian report is a severe understaffing of the emergency organization and realistic exercises in the proper use of emergency equipment in the event of a major accident. Having 17 people available from the permanent crew (perhaps some from the catering staff as well) to cover crew on 7 lifeboats, 2 fire teams, first aid teams, stretcher teams, technical teams, and management in the control room is, to me, utterly incredible that this report did not evaluate. To successfully handle a major emergency, the onboard emergency organization must have conducted training and realistic exercises during every stay on board. Talking to the survivors, this was not the case on board the "Kielland."

**General comment:**

By going through both of these NOU reports that, in my opinion, largely focus on the alleged crack that occurred during construction in France, I consider this accident a "single-factor accident." The Norwegian commission has, to a limited extent, assessed the operational conditions related to the way the platform was operated and, most importantly, maintained. Additionally, relevant knowledge and competence for the onboard and onshore management are hardly touched upon in the commission's report. The lack of safety culture on board is also minimally addressed. This applies to both daily operations and, especially, training to handle emergencies of any kind.

**THE FRENCH INVESTIGATIVE REPORT**

The French investigative report covered a range of individual factors:

**Anchoring and towing**

Pages 322 to 332 of the French report assess the anchoring situation and conclude on page 331 with the following:

'The actual anchoring and winching conditions of the platform caused additional stresses, but these were far too weak to constitute the cause of the accident. However, they might have brought the date forward, mainly if maneuvers were made in the control of tensions of the anchors or during winching operations.'

**Commentary:**

This points out that the anchoring and towing of the platform caused stresses on the structure, but these stresses were not sufficient to constitute the cause of the accident.

However, it is added that such stress might have accelerated the accident.

ALK operated with only 8 anchors in use for almost 4 years at most locations on the Ekofisk field. The Norwegian Maritime Directorate had specified to Stavanger Drilling that the anchoring should be in line with the design criteria, meaning all 10 anchors should be in use. Submarine pipelines at the bottom of several Ekofisk field locations hindered the use of 10 anchors, and Stavanger Drilling sought Veritas' permission to use only 8 anchors instead of 10.

Veritas granted this permission. In my opinion, this was entirely wrong as the application should have been submitted to the Norwegian Maritime Directorate, which had set the requirements and was the supervisory authority. In this case, Veritas represented the Norwegian Oil Insurance Pool as marine surveyors and, in my view, had no authority to accept an application deviating from the requirements set by the Norwegian Maritime Directorate as the supervisory body.

Here, there's a slight difference in how the two reports assess the significance of anchoring, where the Norwegian report states that the anchoring had little significance regarding the cause of the accident, while the French report suggests that anchoring might have had a somewhat greater significance.

Pages 325-331 discuss in detail the impact of using 8 anchors instead of 10. On page 324, it is affirmed that using 8 anchors instead of 10 creates greater bending moments in the structure, but this difference has little significance on the stress and tension levels in the lower part of the structure. However, on page 330, it is also stated, 'The additional stresses due to anchoring may have contributed significantly to the growth of the crack and thus brought forward the time of the accident.' This could be understood as the stresses the platform was subjected to may have contributed to the crack's development, expediting the structural collapse. Pages 229 and 230 also mention that the in-and-out towing of the platform had very little effect on the stress levels in D6 bracing, something that is also noted in the Norwegian report.

On page 326, stress levels on the D6 bracing are calculated by applying a load of 310 tons, which is the breaking strength of the material. This corresponds to a stress level of 3.05 kg/mm<sup>2</sup>. The yield strength is 36 kg/mm<sup>2</sup>, and the breaking strength for the material in D6 is 52 kg/mm<sup>2</sup>.

If the anchor load only represents 3 kg/mm<sup>2</sup>, both wind, waves, and currents must have played a significant role for the total stress level in the bracing to be around the yield strength of 36 kg/mm<sup>2</sup>. I assume this level of stress is required to develop a fatigue fracture.

I also assume that the figures provided refer to 'tensile stresses.' What about 'shear stresses' that arise when the bending moment increases? The French report clearly states that the bending moment increased due to the lack of use of the two anchor wires on the C column.

### **Stability**

The French report discusses stability on pages 112-116 and concludes on page 115:

'Furthermore, this discussion concerning the stability calculations and experiments has no interest for the accident in question.'

They further write on page 117:

'The loss of a leg and its consequences were never envisaged by anybody before the accident.'

**Commentary:**

The French report also describes the platform with a 30-35 degree tilt as a 'steady state.' This is quite similar to what Emil Aall Dahle describes as 'stable side position' in NOU 1980.11 page 199. My viewpoints on this matter are commented on above under the chapter 'Stability.'

Regarding the 'loss of leg,' this report confirms that a Pentagon platform was never designed to lose a column. This contrasts significantly with what Emil Aall Dahle wrote in his report. His report states the following: 'The platform was built to remain afloat and upright with one leg.' This statement was also made by sea captain Ivar Garberg, who, for a period, worked for the Kielland fund.

**Explosion**

On pages 390-391, the French report considers whether there could have been a possible explosion on board on the day of the accident. It does not support this theory based on several tests conducted in France. This aligns with the conclusion in the Norwegian report.

**Maintenance**

On page 429, the French report describes a lot about the lack of maintenance on board and also the lack of safety culture among both the permanent crew and the hotel guests. Here, too, the French report describes the lack of crew for the 7 lifeboats as a significant issue. The latter is scarcely covered in the Norwegian report.

**Management, authority, supervision**

On page 430, under 'conclusions,' the French commission questions the follow-up from the Norwegian authorities. The Norwegian report says little or nothing about the lack of follow-up from the Norwegian authorities and DnV.

The French report specifically criticizes both the operator and the Norwegian authorities for not setting additional requirements for what they call 'guide of conduct' and detailed procedures to be used in a real emergency situation with so many more people on board.

**Inspection**

On page 232, the French report refers to the Norwegian report where the DnV inspection in the fall of 1979 is assessed. It is stated here that the relevant crack at that time was probably small. I question this. On what basis can they claim this when the inspections did not include checking the lower part of the structure? The relevant Veritas report confirms inspection only on the structure above the water at about 20 meters depth. See page 193 in the French report confirming this.

**Collision with supply boat or something else?**

On page 430 under section 5.4.3, the following is stated:

'The cause of the accident is the partial separation of the hydrophone support from brace D6, probably due to an incident prior to the accident, an incident which would have taken place either during building, after painting, or during ballasting, however, this incident is nowhere mentioned.'

**Commentary:**

This section in the French report stands out most distinctly, in my opinion, from what is stated in the Norwegian report as I have not found anywhere that such a possible coincidence between a boat/barge and the lower part of the hydrophone holder could have taken place. I am very doubtful that a tugboat or barge hit this stub during assembly in Dunkerque so hard that it caused a crack in the weld that propagated 70 mm on each side of the hydrophone holder.



It is also mentioned in the French report that a barge could have been moored to this stub. I doubt this even more could have been the case as such a small, short stub would provide a very poor anchor point for ropes, wires, or chains.

It is also described in the French report that such a collision could have taken place during offshore operations. This, for me, is even more unlikely since neither a tugboat nor a supply boat had the possibility to get under this horizontal D6 brace either during 'towing draft' (7.5 m) or 'operating draft' (22 m). I can never imagine that there would have been a barge under any of the horizontal braces, out in the field, in the few situations where the platform was raised to 'towing draft'.

## Conclusion

Some argue that the Norwegian and French reports are very consistent in their conclusions. Other individuals, who have also worked extensively on this catastrophe, believe exactly the opposite. I, myself, have worked quite intensively on this case for over 40 years, feeling I have a close relationship with this disaster as I worked for 9 years on a Pentagon platform (P83), which structurally was the prototype for both the 'Kielland' (P89) and 'Ibsen' (P88). Additionally, I worked as a technical advisor for the police for about 2 years in connection with the 'Kielland' case."

"With this background, I will attempt to evaluate the most significant differences in the two reports as objectively and practically as possible, based on the conclusions drawn by each report. Some of my own comments will also be included in the assessment.

Section 1.3 of the Norwegian main report (NOU 1983: 11) on page 11 briefly describes the three causes of the disaster. These are the same as described above under point 1) Structural failure: Strength failure, stability failure, and failure in terms of rescue and evacuation systems. I have commented on these three points above. However, what strikes me is the next sentence which states the following:

'The breaking of Leg D did not necessarily have to lead to a catastrophe.' I don't understand this statement because the moment the leg fell off and the platform tilted over with a tilt of 30-35 degrees almost instantly, the catastrophe was already a fact!! In the minutes that followed, everyone on board fought an intense battle for their lives by either finding a lifeboat or jumping into the icy water with high waves and darkness around them. 123 people lost their lives. Isn't this itself a catastrophe of dimensions??

The catastrophe was a fact the second Leg D was detached from the rest of the structure!!!! M'st of those on board had either boarded lifeboats or jumped into the icy water within the first 20 minutes. Only a few people were on board (most were on Column B, which was the highest point) when the platform tipped completely over. Only a handful of them survived.

The Norwegian report heavily focuses on some doors that were open on some of the columns after the platform had tilted over 30-35 degrees. This creates a significant confusing effect regarding the clarification of the causes of the catastrophe, especially after an article in Stavanger Aftenblad stated that 123 people could have been saved if the doors had been closed.

The open doors had no impact on the platform's stability as long as Leg D was part of the platform's structure. However, they might have had some impact on the time the platform remained tilted at a 30-35 degree angle before it suddenly tipped over completely.

In the French report, it states: 'The fracture of leg D would not necessarily have led to a disaster.' The way I interpret this sentence is that it supports what the Norwegian report mentions.

Page 200 of the Norwegian main report says the following: 'The main cause of the structural failure is due to an unfortunate choice regarding design, sizing, and material quality in the hydrophone holder and its attachment to the brace.'

I choose to interpret this as follows:

The main cause of the catastrophe is directly related to the fact that during the construction period in France, two cracks of 70 mm each appeared in a weld between the hydrophone holder and the horizontal brace D-6. It is clearly stated that they are confident that this welding error occurred during the construction period as paint residues were found in this part of the weld when the entire crack was analyzed in the laboratory after the accident. As mentioned earlier, I feel these paint residues are almost 'proof of the pudding.' Very little has been said about how these cracks of 2x70 mm were allowed to develop further into the entire circumference with a diameter of 2.6 meters and with a plate thickness of 22 mm.

The commission has called it a 'fatigue fracture,' but they have said very little about why and how this fatigue fracture was allowed to develop into the 'total failure' of the entire brace.

They also mentioned in the main report that the anchoring of the platform with 8 anchors instead of 10 (both anchors missing on Column C) 'was within an acceptable limit' and that this type of anchoring had a very small impact on causing the fatigue fracture and allowing it to develop into a complete break. I believe the other two causes, 'stability' and 'rescue equipment,' have been adequately commented on previously.

By reading the French report, on pages 49-52, it is evident that the French investigation commission questions the conclusions drawn in the Norwegian report. An example here is the following sentence on page 49 in the report:

'However, on the origin itself of the accident, that is to say that the cause of the fracture of brace D-6, the Norwegian Commission was unable to provide a rational and convincing explanation.'

The way I interpret these 4 pages in the report, I believe the French perceive a somewhat different picture of the composite cause of the catastrophe.

On page 431, section 5.5 clearly expresses this with the following sentence: 'It is a constant that an accident of this magnitude has not a unique cause, but is a result of an unfortunate combination of unfavorable circumstances.'

The French conclusion regarding the cause of the accident goes somewhat 'wider,' but they also strongly focus on the crack in the hydrophone holder even though the cause of this crack formation differs significantly from what the Norwegian report says about it. What is written on page 430, section 5.4.3 has been commented on previously and, in my view, excludes any relationship between the crack and poor quality work in the attachment of the hydrophone holder to the D6 brace during the work at the subcontractor or during the assembly of all prefabricated parts in Dunkirque.

The cause of the crack is described as a 'probable incident' prior to the accident. An 'incident' in this context means, as I see it, that the hydrophone holder was subjected to an external force from a boat or other floating object that was powerful enough to cause cracks around the hydrophone

holder. If this was the case, I believe the crack could have been large enough to allow paint to be injected into it as long as the crack occurred before the application of paint (at the subcontractor to CFEM, which was Richard Ducros and was located in Ales). Therefore, a possible crack formation offshore is excluded. This assessment becomes rather theoretical. From a practical standpoint, I doubt this French theory.

The French report evaluates the anchoring situation from page 322 to 332. Page 330 concludes with the following:

‘The additional stresses due to anchoring may have contributed significantly to the growth of the crack and thus brought forward the time of the accident.’

Here, as I read it, there is a difference in how the two reports assess the significance of an anchoring method that was not in accordance with either the design criteria or the requirements set by the Norwegian Maritime Directorate. The Norwegian Maritime Directorate had clearly specified that the anchoring should be entirely in accordance with the design criteria. Stavanger Drilling did not request the Norwegian Maritime Directorate to deviate from this requirement; instead, it was DnV representing the insurance companies (Norwegian Oil Insurance Pool) in this case.

Pages 325-331 discuss in detail the use of 8 anchors compared to 10 anchors. It is concluded here that this difference has little significance on the load and stress level in the lower part of the structure. There are frequent references to the weather situation on the day of the accident, but I have repeatedly said that the weather situation on the day of the accident is of little interest since the crack is a typical fatigue crack that has developed over a very long time, perhaps as long as 3-4 years. Surprisingly for me, the French report also states that the anchoring had little impact on the cause of the catastrophe. This means that the two reports are quite consistent, something I was not aware of before I delved deeper into the French report in this area. Pages 229 and 230, in addition to this, say that the lifting and lowering of the platform had very little impact on the stress level in the D6 brace, something the Norwegian report also mentions.

Pages 429: The French report describes quite a bit about the lack of maintenance on board and also about the lack of safety culture among both the permanent crew and the hotel guests. Also, the French report describes the lack of crew for the 7 lifeboats as a major problem. I have not seen this in the Norwegian report. The Norwegian report significantly focuses on the lack of training for the permanent crew on board, associated with Stavanger Drilling and the catering company.

Page 430 under the heading ‘Conclusions,’ the French commission raises a question mark about the follow-up from the Norwegian authorities. I have the impression that the Norwegian report does not do this. I also have the impression that the Norwegian report says little or nothing about the lack of follow-up from the Norwegian authorities and DnV. The French report specifically criticizes both the operator and the Norwegian authorities for not setting additional requirements for what they call ‘guide of conduct’ and requirements for detailed procedures to be used in a real emergency situation with so many more people on board.

Identifying a clear distinction between the two reports regarding the actual cause of the accident has not been easy as both reports focus on a crack formation in the hydrophone holder as the main cause of the catastrophe.

The reason for how this crack(s) occurred is quite different, as described above. The Norwegian report says little about how this small crack developed into a fatigue fracture, while the French report believes that the way the platform has been operated and maintained has had some influence on how quickly this crack was allowed to develop into the fatigue fracture of the D6 brace, which eventually resulted in the detachment of Column D from the rest of the platform.

Regardless of how this crack of 2x70 mm occurred, I do not understand how this small crack was allowed to develop without the relevant area being subjected to a stress level that must be far beyond the design criteria laid down by Forex Neptune. One thing in this case can be stated with 100% certainty, and that is that Column D was detached from the rest of the platform because the D6 brace was divided into two parts due to a fatigue fracture in the entire brace. This has not happened with any of the other 10 Pentagon platforms that have been in operation.

Therefore, I sincerely hope that the Office of the Auditor General recommends a new investigation where the operational aspects are given much more emphasis than has been the case so far.

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## A REVIEW OF THE BOOK 'CRUDE OIL I'

By Nils Gunnar Gundersen, 17.07.2017

### Introduction

Much has been said and written about what is mentioned in the book 'Crude Oil I,' published by Hertervig forlag in 2016, related to the tragic accident on the 'Alexander L Kielland' platform where 123 people lost their lives.

I, Nils Gunnar Gundersen, believe I am professionally qualified to make some observations about what is written in this book. The reason for this is my involvement in both the construction of the sister platform called 'Drill Master' (Pentagon 83) and its operation as a drilling platform for a full 3 years before 'Kielland' (Pentagon 89) was used as a residential platform at the Ekofisk center. I was present during the entire construction in Le Havre in 1973 and held responsibility for all maritime operations of the platform, both as a drilling platform and as a hotel platform, for five years. I worked as a technical consultant for BP for 2 years during the conversion from a drilling platform to the floating production platform, 'Buchan Alpha.' After 44 years in operation, this platform is now scheduled for decommissioning.

### Introduction Chapters, pages 13-23

These chapters provide a decent overview of what happened on the tragic day of March 27, 1980, as well as several attempts made in Norway and France to determine the real cause behind the capsizing of the 'Kielland' and the loss of so many lives. The Norwegian investigative commission clearly believes that the cause lies in a faulty weld that had already occurred during the construction period in Dunkirk and eventually developed into a fatigue fracture in brace D6, ultimately resulting in the platform capsizing. The French commission report has examined other causal factors, which will be commented upon later. I do not wish to draw my own conclusion here but will leave this introduction 'untouched' until the book has been systematically reviewed as practically feasible. My own conclusion will therefore come at the end of this account.

### Part 1. The Voices, pages 27-221

This part predominantly contains statements from numerous individuals directly affected by the accident and notably from many involved in discussions about why and how such a catastrophe could occur on the Norwegian continental shelf, where safety standards were considered very stringent. I refrain from commenting on most of these statements as they are opinions that individuals feel should be made public. Their statements stand on their own and

should not be commented upon. However, there are a few statements I wish to address as they

either hold significant importance in the discussion or contain statements that I believe could be misinterpreted or are outright incorrect.

Page 129 'Ibsen lists'

The fact that the platform chief himself chooses to say that 'so much nonsense was written' is his own assertion. But when it's known that he was responsible for towing the platform from Stord to Tananger with negative stability (GM at minus 13 cm) and his successor chose to open the two hatches from the pump room in column D towards the D6 brace with such a small clearance to the underside of the horizontal braces with such an unstable platform, it speaks volumes to me about the lack of maritime knowledge of the onboard management. Stability calculations hadn't even been performed before 'Ibsen' left Stord. I know this well as it was I who raised the question on behalf of the police, who had summoned me as an expert during the inquiry conducted on board the same day. One of the divers, who dived under the platform shortly after the accident, told me about a large hole in the bottom after one of the three propellers had dug into the loose bottom under the platform.

With such an unstable platform and such an enormously heavy accommodation quarter on top, catastrophe could have been a reality if the bottom under the platform had not been its 'savior' this time!! Two such serious incidents on two structurally nearly identical platforms, belonging to the same shipping company and so close to each other in time, tell me about a complete lack of operational competence in all levels of the Stavanger Drilling organization. I also refer to page 5 of my contribution to 'Crude Oil II,' dated 06.03.2017, which addresses the same issue. It also refers to a Supreme Court ruling that, in my opinion, speaks volumes about the lack of quality in the management of maritime operations on board 'Ibsen.'

On the next page, it is mentioned that one of the main safety representatives at Ekofisk referred to 'Ibsen' as 'Halte Henrik' (Lame Henrik). I can understand that, but it has nothing to do with the Pentagon-type platform, but rather a complete lack on board management's part to ensure that the platform at all times met the stability criteria set for this type of platform, both intact stability and damaged stability.

Page 130 Flotell with a short career

It states here that 'Ibsen' lost certification from the Norwegian Maritime Directorate. 'In the original design of the Pentagon rigs, the braces on the lower level were missing, between column B and C and between C and D.' I can, with great certainty, say that the Pentagon platform was never intended to have these braces installed due to the possibility for supply boats to maneuver under the large cranes (G90) when the platform operated at 'towing draught' (between 7 and 8 meters). However, these two braces were installed on most Pentagon platforms after the 'Kielland' accident, following requirements from, among others, DNV. They were not installed on Pentagon 91 (formerly Gulnare) as Loyds did not require it.

Page 158 Crime/Misdemeanor

Gunvor Molaug, likely representing the prosecution here, states that the accident was not considered a crime but rather a misdemeanor.

Throughout all my years in this industry, three different terms have been used in connection with any potential criminal cases: Has ‘the responsible party’ operated either: responsibly, negligently, or grossly negligently? I cannot see that this has been assessed by the prosecution, and therefore, I raise the following question:

Was there no one among ‘the responsible parties’ who, in connection with this tragic accident, acted either ‘negligently’ or ‘grossly negligently’? I choose not to express my views here but have addressed this in my article on pages 12, 13, and 14.

Page 178 Commentary from Gunnar Berge:

“It’s important to focus on the human aspect, but also the technical, and concerning ‘Kielland,’ the technical aspect was quite straightforward. A brace that broke.”

I believe Gunnar Berge is touching upon a very crucial point here. The fact that only one brace breaks in two shouldn’t be enough damage to the structure for a platform to lose an entire leg and shortly after capsize completely. However, the Pentagon design relies on the most central horizontal braces, D6 and B5, to be operational at all times. By losing one of these two braces, the lower horizontal structure would lack what we often call ‘residual strength’ to sustain the integrity of the remaining part of the structure. That’s why DnV required the installation of the BC and CD braces, precisely to enhance the ‘residual strength’ in case one or more of the other braces failed. Yet, it’s essential to mention that the Pentagon platform is designed for all weather conditions worldwide, with the structure that all the last 10 Pentagon platforms were equipped with. Pentagon 81 (Neptune 7) had slightly elongated pontoons and did not install the horizontal brace between columns A and E. None of these nine other Pentagon platforms experienced anything close to what ‘Kielland’ went through regarding significant structural damage in the lower structure of the platform. **Significant and particular forces in the specific fracture area of the D6 brace must have led to the gradual development of a fatigue fracture, ultimately splitting the large brace, approximately 2.2 meters in diameter, into two parts.** I’ll further elaborate on many of the reasons for this in this writing.”

“Page 178 – Comment from the Director of the Petroleum Safety Authority, Anne Myrvold

I completely agree with her statement that it wasn’t a decisive cause of the catastrophe. Those are the causes I’ve attempted to describe in my 15-page contribution to ‘Crude Oil II.’ She was present herself when this book was presented at Sola Strand Hotel. I briefly spoke with her and asked if PSA was interested in having a presentation on the causes of the accident that I personally believed were the most relevant. She asked me to write her a letter about the matter, which I promptly did. After some time, she wrote back saying that PSA couldn’t prioritize the issue.

### Page 178 – Narcotics

I was part of the police team as a guide, and we scoured the parts of the platform that we thought could have been used as hiding places for narcotics. Countless manhole covers were removed, and we searched high and low in many small and large rooms that could easily have concealed such substances. We found no signs of narcotics anywhere.

### Pages 178-183 – Explosion/Sabotage

This matter is described across many pages, but I choose not to comment on the issue in detail because, to me, it sounds entirely improbable. The idea that an explosion occurred in the D4 brace almost simultaneously as the fatigue fracture occurred in the D6 brace is statistically almost impossible to conceive. Who could have been inside the D4 brace with explosives without anyone else on board noticing such activity? Such an operation requires a lot of tools and equipment to place an explosive charge large enough to create an explosion in the brace, which then results in the entire D leg almost instantly falling off. How have unknown individuals managed to board from a boat or helicopter without the maritime crew being aware? Here, I completely agree with the conclusion of the investigation commission and do not wish to further comment on the matter. I've also conveyed this to Kian Reme.

### Page 185 – Did they know about the crack?

Control room operator Eivind Egeli clearly states that they knew about crack formations on "Kielland." He says that every time platform chief Torstein Sæd came out, he went down into the columns and checked. He kept an eye on the crack. He also says that he assumed it had been reported to Phillips and Stavanger Drilling.

Here we stand at a very central question in the whole matter. Egeli says that all braces were checked. It is indeed possible to inspect the diagonal braces by opening manholes in the respective joints 1, 2, 3, and 4, which are on top of each diagonal brace. Here, one can access joints 5 and 6, but only the part of the joint attached to the brace you are on. It's not possible to enter braces B5 and D6 from these two joints. To access braces B5 and D6, one must raise the platform to a draft where the horizontal braces come above the water surface and consider the wave height under the braces and, notably, the platform's movement. When the braces emerge above water, they naturally drain through two oblong drainage holes.

Raising the platform to a draft between approximately 7.5 meters and 9 meters was certainly possible as the variable deck load, including temporary housing modules, was reported by Stavanger Drilling to be just under 1200 tons. At this draft, the "maximum permissible variable deck load" set by the constructor, Forex Neptune, was 1400 tons. From a stability perspective, there were no hindrances, provided the sea was almost completely calm, and weather forecasts were very good.



If the platform chief decided to move from column D into brace D6, two large manhole covers containing a number of sturdy bolts would need to be opened. This would require at least one helper. If a platform chief decides to enter this brace, it is a given that it is reported via radio (VHF or UHF) to the control room, and the time and names of the persons entering the brace are logged. Entering these braces alone without having a person on watch in the pump room and without continuous contact with the control room is, to me, a completely hazardous action that falls far, far outside the safety principles I have wanted to operate from.

It should be added here that the braces are heavily fouled inside with a very smooth surface. Moreover, operations were far out at sea with almost no clearance to the horizontal braces. I allow myself to remind of the episode with "Ibsen" where the platform lay in calm waters in the port of Tananger and the exact same operation was carried out. We all know what happened.

However, the stability of "Ibsen" was highly unstable (negative), while in "Kielland's" situation, it would probably have been stable.

If, against all odds, these horizontal braces were inspected as described above, what is recorded in the logbook on the days when such an inspection took place? If the platform chief found cracks in the structure, what deviation report was submitted to Stavanger Drilling, and what does this deviation report state regarding requirements or recommendations from him regarding the need to have representatives from the class verify the cracks already discovered?

If the cracks were of such a serious nature as some on board perceived the signals from the platform chief, then he is responsible for reporting to both Stavanger Drilling and operator Phillips. He actually also has the authority to evacuate all personnel on board to land or to the nearest installation and keep only his own emergency organization until the matter is clarified with the class institution.

If the feedback to the platform chief from Stavanger Drilling's operations office, "they did not like proposals that cost money," is accurately quoted, I am not very surprised by such feedback without delving deeper into it here and now. It is further stated on the same page that the platform chief may have registered cracks somewhere, but not the crack that proved fatal. I naturally cannot disregard this, but this crack that was found must have been recorded in the logbook and reported to shore according to the on-board management system!

I completely agree with what Professor Moan says in the next paragraph about the lack of reporting from the platform chief, but how deeply did the investigation commission delve into this matter regarding how the on-board management system was practiced in cases like this? The use or lack of use of the management system has been commented on page 8 of my report.

I agree with the representative from Storebrand on page 186 who says, “if one knows about errors and damages that are not repaired and later lead to an accident, it can be considered negligence at one level. This can have consequences for insurance payouts.” I do not know if the negligence principle was evaluated or not, but the entire insurance amount was paid out, as far as I understand.

On page 187, Professor Moan and Police Officer Knutsen claim that it was impossible to enter the brace to visually inspect the crack because the brace was filled with water. That is not entirely accurate, as I have described above that it can, in practice, be done if very strict safety procedures are chosen throughout the process. However, I personally would not take the risk to do so.

However, on page 187, one of the control room operators says that they raised and lowered the platform many times. He even says that they could see the pontoons and that these floated in the water layer. He says this was done to look for cracks and when inspections were supposed to be carried out on bracing and check on braces. (Bracing is the English term for braces.)

The control room operator does not mention finding cracks during these inspections. On page 186, one of the platform chiefs on “Ibsen” says that at a management meeting in Stavanger, he cannot recall that platform chief Sæd had mentioned anything about cracks on “Kielland.” However, he says that they had received routines from the shipping company for periodic inspections of columns and braces. Such routines must still be in the archive of Stavanger Drilling, which could provide some answers to the plans the shipping company had laid out. Were the horizontal braces included in such a plan? How much was this investigated by the accident commission?

If it is true that the platform was lowered until the pontoons floated in the water layer, I am still very doubtful that any person has been inside the horizontal braces during the operation at the Ekofisk field. If I am wrong, such a critical operation should hopefully be carefully described in one of the logbooks. This should be investigated if there is a new review of the accident, as such registration of a discovered crack in the D6 brace will have significant implications regarding a possible reevaluation of whether the platform was operated “adequately” or “negligently.” I am referring here to how such a potential crack has been reported and handled by the onboard management and especially by the management at Stavanger Drilling. This need not only relate to a possible crack in the D6 brace but any crack discovered in the structure that could impact the integrity of the entire structure.

Page 186 – Expertise

Police Officer Knutsen claims that Moan and Lian had expertise. I allow myself to ask what expertise the two had about the design and operation of a movable facility, especially of the “Pentagon” type, which is the focus of this case? I have mentioned something about this in

my writing on page 12. I would like to say much more about this if the opportunity is ever given to me.

#### Pages 190-191. Ballast water in the pontoons

One of the control room operators mentions multiple times about the improper use of ballast water. He says that he found values that were sky-high compared to the tables created by the shipyard. He informed the platform chiefs about this and wrote it in the logbook, but it was not rectified.

Even distribution of ballast water is crucial when it comes to the stress levels in the entire structure. During the stay on the Edda platform, both the anchor wires and the two anchors were placed on the C column. Together, these weighed about 120 tons. This means that the 5 ballast tanks on the C column had 120 tons less ballast water than normal. There were probably other uneven distributions of ballast water described by the control room operator that I am not aware of. I have mentioned in my writing that uneven distribution of ballast water may have also impacted the stress levels in the lower part of the structure. How much of this was investigated by the accident commission?

#### Page 191 – “Balancing with ballast water”

Including a person with a shipping title from the company Gowart Olsen, who was a major shareholder in Stavanger Drilling, in this context, I do not understand. He was, as far as I know, not actively involved in the organization responsible for the daily operations of the two platforms. But his statements here are so “amateurish” to such an extent that it will likely create more confusion than clarification. I am not only referring to the first sentence but the entire chapter.

#### Page 193 – The Settlement

A lawyer from the Norwegian Oil Insurance Pool clearly states that they lost the case against CFEM and Forex Neptune, and he adds the following: “It’s not difficult to understand why.” What does he mean by this statement? I would really like to know more about this..

## Part 2 Analyzes

### Page 222 and 223 – Crack at the platform foot

Both the platform chief according to the control room operator (page 222) and the drilling deck worker (page 223) had seen a crack at the platform foot long before the accident. The drilling deck worker had even inspected it every time he was on shift.

What is meant by “platform foot”? Is it the pontoon, the structure of the column, or does it refer to a brace? Which platform foot is being referred to? There are 5 of them. If it was column D, it was in the harbor in Stavanger just a few days after the accident. I was the first person on board that column with the police. Were any cracks found on the platform foot there? If it meant the top of the pontoon, then the platform must have been raised to the “towing draft,” which is approximately 7.5 meters.

The control room operator states on page 223 the following: “The crack was not the only thing wrong on board, it turned out.” I, of course, fully agree with this, and that’s what my 15-page document attempts to describe.

While I’m writing these reflections, I receive an email from Kian Reme, which says, among other things: “Instead, temporary repairs of D6 were initiated/should have been carried out by Robbie Morrisson and Tommy Andersson, both of whom perished. Among other things, they pulled welding cables through the door to the E-shaft.”

I am completely speechless at such a statement!! If repairs were to be carried out on the D6 brace, then the crack there that needed repair must have been well-known to both the onboard leadership and planned by the onshore management. How is it possible to plan a repair of a crack in a brace that is almost impossible to access (previously described) and requires a very detailed procedure to be carried out? Additionally, this was to be done in open seas. I refer here to my detailed description (on page 10) of what is required to perform such a repair on a structure classified by DnV, which is a significant and critical part of the structure’s integrity. If these plans were initiated by Stavanger Drilling, it is absolutely a breach of all class requirements and should clearly be considered “negligent” in the event of any new investigation. How much of this was known to the accident commission?

Kian says that welding cables were pulled through the door on the E-column. In this case, they were not intended for repairing a crack in the D6 brace since there is no direct connection between D6 and the E-column unless one goes through the DE brace. That would have been both utterly hopeless and impractical.

I want to emphasize here the importance of having detailed knowledge of the structure’s construction before choosing to make a statement!!

Page 225 – 226 – The cause of the accident

These pages, in my opinion, provide a good overview of what both the Norwegian investigation commission and the French expert commission thought about the cause of the accident.

The fact that the lawsuit ended in a settlement is as incomprehensible to me as it is to most others who have tried to understand this very complex case. Therefore, I fully support the comments on these two pages.

If one day I muster the strength to review the relevant pages of the French report that deal with the maritime and operational aspects of the case, it will be interesting to see what they have based their conclusion on. The brief glimpses I have seen so far have not convinced me that they possess either the relevant technical and/or operational knowledge that inspires confidence in what has been written. “Time will show!!”

Page 227 – Four-year survey (“classification”)

The fact that Stavanger Drilling had postponed the survey by one year has raised significant question marks in my writing. What did their application to DnV contain in terms of technical details, and what measures did DnV undertake prior to granting this postponement? This is a crucial question that I’m not entirely sure the investigation commission has delved into adequately.

Nevertheless, the platform was supposed to go to Tananger to offload the housing modules and load a quantity of loose drilling equipment. This takes time, and it would have been entirely natural for a classification inspection to be carried out simultaneously. Disrupting a drilling program with Shell after only a year in operation must have had far more practical and economic consequences, as I see it.

If there’s a new investigation, DnV should undoubtedly be confronted with this issue. I consider it very serious, especially if Stavanger Drilling had received information from the onboard leadership about cracks in the structure. It’s even more serious if they had planned to repair the welding out at sea just before the accident by sending two welders to do the job. To me, it’s pure unreality!!

Page 228 – Investigation Commission’s work

This page indicates when the commission was established and who its members were. The fact that it was established the day after the accident is good in itself, but to me, it suggests a rushed job.

In the Shipping Act, it is stated in § 314: “The commission’s members must represent sufficient legal, nautical, and technical expertise. The chairman must meet the requirements to be a Supreme Court judge.

I don't wish to delve into the qualifications of each member right now, but I would strongly argue that only one of the members had relevant experience in the operation of a movable facility. This platform was of the H3 type and is vastly different from a Pentagon. That individual knew nothing about the Pentagon type of platform, something I remember vividly from the days when I taught the investigation commission.

The chairman is required to meet the requirements for a Supreme Court judge. I know the chairman was a magistrate, but had he served as a Supreme Court judge? If at a later time, I am asked to account for the lack of competence among the commission members, I am certainly willing to do so.

Page 232 – The triggering, physical cause of the capsizing

What is described on this page has been commented on in my writing on pages 1, 2, and 3, especially the last paragraph on page 2.

The commission's assertion that "part of the fractures must have occurred before the platform was assembled" is entirely incomprehensible to me. How can a fracture occur in a structure without the structure being subjected to external forces affecting the stress levels in the structure? I was present throughout the assembly of the "Drill Master" and cannot comprehend that a fracture could occur during and after the hydrophone was installed, as long as the platform was in port.

However, I fully understand that the welding method was weak compared to what it should have been, as "full penetration" was not used between the hydrophone tube and the actual structure in the brace. It is completely incomprehensible to me that a fracture could have occurred even then. However, there might have been small surface cracks around the weld, as there probably was neither preheating nor post-heating during the welding process. On the major junctions, both preheating and post-heating were a standard procedure precisely to prevent crack formation around the weld's "heat-affected zone," as it is called in technical jargon.

Page 233 even states that "the wedge weld at the hydrophone was checked with penetrating fluid by Veritas before departure" (which was quite a normal procedure for such a type of weld). It is the commission itself that says this. If DnV had discovered a crack in the weld, you can be entirely sure that the work would have been redone with the same control measures. How then can the commission say that a fracture occurred before the platform was assembled?

Page 234 – Annual Inspections

The annual inspections carried out by DnV did not use non-destructive methods," it says at the top of the page. There's a natural explanation for this, as such a method requires complete cleaning of the metal and often sandblasting as well. It's almost impossible to carry out at sea on the part of the structure that is normally submerged, unless there's a specific reason to do so. It's very time-consuming.

It's also mentioned that DnV did not inspect the braces that were underwater. Visual inspection would have been possible in very good weather, but it is, however, done at every class renewal every 4 years (with a one-year extension as was the case with the 'Kielland'). It would certainly have been conducted if 'Kielland' had not applied for a one-year extension. Then, 'non-destructive testing' (NDT) methods would most likely have been used in areas where natural crack formation could be expected.

This was done on the 'Drill Master' in Haugesund during its 4-year classification. There were indications of minor surface crack formation found on some of the longitudinal stiffeners inside some of the braces.

Penetrating liquid was used in these cases. The stiffeners were somewhat reinforced, and welding was checked by X-ray imaging. This was all we found in terms of cracks in the structure after 4 years of continuous operation as a drilling platform, which at times was exposed to extreme weather, especially west of Shetland for an entire winter season. It performed the task very satisfactorily.

It is stated in the first paragraph that inspecting the underwater braces was part of the internal control conducted by the rig company itself. If that was the case, Stavanger Drilling must have had a plan for this activity related to the lower braces. How much did Stavanger Drilling carry out of this plan, and where are the reports from the individual inspections? How much of these inspections were reviewed by the commission, and what was their conclusion?

Page 234 – Criticism of Veritas

I agree with both the industry and the commission that the hydrophone holder was not part of the construction and therefore not as important to examine as other components.

In the next paragraph, the commission concludes that it likely couldn't have been more than 12 months before the crack grew through the thickness of the brace and caused the final break. I interpret that statement to mean that the crack significantly began to grow during the period 'Kielland' was at the Edda platform, in other words, the period when it used only 8 anchors instead of 10. I'm not aware of the anchor pattern used on the other locations on the Ekofisk field where 'Kielland' was stationed as an accommodation platform, but I assume it wasn't necessary to use only 8 anchors at most other locations.

In the last paragraph, Moan says: "This was the system as practiced, also by Veritas' competitors like Lloyd's Register of Shipping." I strongly doubt what Moan knows about Lloyd's routines. 'Drill Master' was classified in Lloyd's, and we had several routine inspections of the structure, especially on the foundation of the 4 cranes but also in several of the diagonal braces, especially those leading down to junctions 5 and 6. The results of the inspections were logged in the control room, and we always received a report back from Lloyd's representative. I don't recall us

going into the horizontal braces while in operation. The reason for this is described earlier. However, a full inspection was carried out in Haugesund during the 4-year classification.

Page 235 – Norwegian Maritime Directorate

At that time, it was the Norwegian Maritime Directorate that had responsibility for the movable installations. The media believed that the Norwegian Maritime Directorate also failed in its control routines. I fully agree with that. Has the commission reviewed the inspection reports carried out by the Norwegian Maritime Directorate during the nearly 4 years that 'Kielland' operated, and what is their conclusion on this? I assume their oversight was very deficient. This is based on my own experience with the 'Drill Master.' However, Lloyd's was relatively active here, not only towards the structure but also towards all rotating equipment falling under 'class.'

Page 236-237 – The French Investigation Commission

It says here that the French shipyard was critical of the conclusion. The question the French asked was whether the commission really uncovered the main cause of the catastrophe. Or did the commission stop at the first and most tangible explanation they found, namely the welding error, crack, and fatigue fracture? I believe an unconditional YES to the latter question, something I have detailed in my writing.

The commission has requested reports from DnV's inspections. What is the conclusion on these? Has DnV operated as a class institution as the commission expected?

Page 238 – 242 – France Points to Norway

As I said, I've only read fragments of the French report, but I think these 4 pages give a very good picture of what I've heard about the report so far and what little I've read myself. At the same time, I'm not sure if the members of this commission have the operational experience to draw their somewhat firm conclusions.

One of the paragraphs I'm referring to is at the top of page 241 regarding boats approaching the brace where the hydrophone was mounted. Here, they demonstrate an incredible lack of knowledge regarding how supply boats operate between the C and D legs. It's entirely impossible for supply boats or any other type of boat to come into contact with the hydrophone, regardless of the platform's depth. The statement is too absurd in such a serious report and detracts from the quality of what's been said in it.

Page 243 – Could the rig have been righted if doors etc. had been closed?

This question has been extensively discussed between Messrs. Moncrieff and Børseth. I haven't participated in the discussion. You and Kian are copied.



Open doors on the columns only became a problem after the platform had lost the D leg. Emil Dahle can think what he wants about the open doors, which he repeatedly focuses on in the correspondence circulating between him and Frank Moncrieff, where I'm copied. The open doors have nothing to do with the cause of the accident. 'Kielland' had, as previously mentioned, very good stability as long as the D leg was part of the structure. However, after the platform tilted to 30-35 degrees, the open doors on the C and E legs might have had some significance for the time it took before it capsized completely. However, I don't think it took a very long time, which I base on what the control room operator Egeli told me. He mentioned that it took about 20 minutes from when he was in the control room until he was with the 'rig around.' He held onto handrails and descended to about 30 meters before quickly floating up to the surface, where he was later rescued by a boat in the area. He punctured both lungs during the rapid ascent. It's amazing that he's still alive and can tell his story!

Some claim that ballasting should have started after the rig had a tilt of about 30-35 degrees. Does anyone understand how much 30 degrees of tilt is? It looks fine on paper but is enormous on board a platform or ship. We tilted 'Drill Master' in Haugesund a full 16 degrees. It was almost impossible to walk on the deck.

Additionally, diesel engines don't work at such a tilt. The only thing people think about in such a situation is saving their own lives. A few managed it, a feat I highly value.

Conclusion: We must stop talking about open doors as a cause of the accident! We must also stop discussing the possibility of the platform being righted after it had a tilt of approximately 30 degrees!

Page 244 – French Experts

SINTEF writes: The French experts have misunderstood. I'm not sure who has misunderstood the most. That's why I've spent, and still spend, much of my free time trying to contribute to a closer clarification of the actual causal relationship. The information I provide here, I hope, will be a contribution to just that!

If the French turn out to be right in the end, how will SINTEF, so concerned and dependent on its good reputation in society, handle such a situation?

Pages 244-247 Testimony of Erna Sæd

On page 245, Mrs. Sæd says that her husband had found cracks on one leg. She doesn't specify which leg but mentions that he had informed Stavanger Drilling. They had responded that the platform would go to the workshop in a few weeks. Therefore, this must have happened just before the accident.

If the management of Stavanger Drilling was informed about the crack, how could they then apply for a one-year class extension? This is a very central question for me. If they had received a class extension from DnV before this information was given to them by Sæd, how could they proceed with plans to move as quickly as possible to the British sector to start drilling for Shell? It is, to me, completely incomprehensible and leans towards "negligence"! Where is the report that Sæd wrote to the management? Has the commission seen it, and what position have they taken regarding its content? She further states that the leg that broke off was the one her husband had discovered cracking in. He also says that he had a diver down to inspect the crack. Which diving company was the diver employed by, and what does the report say after the dive was conducted? A report must have been written. Why was the interview with Director Kaasen canceled even though an agreement had been reached?

If it turns out that Sæd reported as described and the management at Stavanger Drilling chose to ignore the information, it has little to do with a settlement. It has much more to do with the requirement of "prudent operation" that the authorities place on "the responsible party," in this case, Stavanger Drilling. Where were the supervisory authority (Norwegian Maritime Directorate), and where was the prosecuting authority? It shouldn't be the operator, Phillips, determining whether such testimony should be conducted or not.

At the bottom of page 246, it is stated that Sæd had found a crack and that they had tried to weld it but failed. As I mentioned, I was the very first to board the D leg when it came into the port in Stavanger. I went all the way up to the crack and felt around almost the entire circumference to study the different parts of the fatigue fracture. I saw no signs that there had been an attempt to weld this crack. It would have certainly been evident during further inspection in the different laboratories where the weld was examined.

But where on the D leg was the attempt made to weld the crack again? It would have been easy to find out while it was floating in the port for a very long time. I have not seen reports that such a welding attempt was found on the D shaft. If that were the case, much would have been clarified in this case regarding speculations about whether platform chief Sæd had discovered the fatal crack on the D6 brace. Most indications suggest that this was not the case.

#### Page 247 Observations in the Control Room

When reading what control room operator Egeli says on page 248, it contradicts what I have said earlier in this report about moving into the horizontal braces while the platform is in "towing draft" offshore. He says that Sæd always went down into the columns to check the crack when he came out on his shift. It's stated that they unscrewed the manhole in the brace so they could go in or shine light into it. It further says that they talked about the crack they had found, which was down by the hydrophone.

If it was the case that he had found the crack, it is a very serious matter that must be immediately reported to the shipping company via a deviation system that I'm not sure was in

use on board the “Kielland”. A crack, small or large, in one of the horizontal braces weakens the structural integrity of the platform and must be immediately reported to the classification society. I assume that Stavanger Drilling did not do this as it would have emerged during the investigation. The accident happened at the end of March. That Sæd always went down into the columns to check the crack when he came on board for his shift, I have some doubts about. In the months 239urnede March, the weather situation in the North Sea is very unstable, often with bad weather. I have been at Vallhall field, which is near the Ekofisk field, for more than 3 years and know the area quite well.

To enter the D6 brace, the platform must be in “towing draft.” It’s possible to do so even with a wave height of 2-3 meters, but removing the two manholes to enter one of the slippery braces must be considered almost madness!! Therefore, I still have doubts that the crack in the D6 brace was discovered by Sæd, especially because he said an attempt was made to repair the crack.

I have previously mentioned the need for careful planning when carrying out such repairs on such a vital part of the structure. Just the thought of repairing such a large crack inside a pipe of about 2.2 meters without equipment for cleaning or sandblasting around the crack and without approved welding procedures is, to me, a deviation from normal practice that is very serious

. It is stated in several places on page 249 that the platform was lowered and raised and that it was possible to enter the D6 brace. Yes, I agree that it was possible to raise the platform in very good weather and that it was also practically possible to remove the two manholes from the pump room and then enter the individual horizontal braces. However, my assessment is that it was not carried out, especially in the months before the accident, as the weather situation in winter is very unstable and often very bad with strong winds and high waves.

#### Page 250 No Signs of Welding or Repair Work

What is stated at the top of the page I have commented on before. If there had been welding on any crack in the structure while “Kielland” was offshore, it must have been possible to see it after the platform was turned. The commission found no signs of welding work on either the structure or the D column. Platform chief Hauge also did not know of any crack.

If there had been a crack found by Sæd, it must have been written into the log. Additionally, it must have been written in the “handover” report between the two platform chiefs. Such information is essential to be recorded in such a “handover” report. If, against all odds, there were no “handover” reports during shift changes between two platform chiefs, I further react to the management system used on board. I also agree with Moan that such a crack should obviously be reported in the logbook, as I have mentioned earlier in the report.

## Page 251 – The platform stayed stable on 4 legs

The fact that one of the platform chiefs might say that the platform was supposed to stay in a stable position on 4 legs says, in my opinion, something about the total lack of knowledge displayed by the onboard management. Moreover, stating that “the platform had not been in good condition” says even more about taking responsibility on their own!!! Where was the platform chief himself in that picture??? As explained on page 6 of my writing, the strict stability criterion is “two compartments flooded” and not “one column lost,” as I choose to call it.

On page 251, it further states that cracks on “Ibsen” in Tananger were inspected. Here, Sverre Bjørn Nilsen says that sandblasting was done and cracks of various categories were found. The sandblasting aligns with what I have previously said. However, the discovery of cracks in the lower braces surprises me because “Ibsen” had just come from the Stord shipyard after installing a huge residential quarter. I would assume that there was a class renewal during the same period in Stord since “Ibsen” was planned as a hotel on the Ekofisk field after “Kielland,” likely with a duration of more than a year. If there was a class renewal, it implies extensive control of critical parts of the structure. Was this done by DnV in Stord, and did “Ibsen” get a new class certificate? If not, what structural inspections were conducted by DnV in Stord, and what does the result of these inspections say, considering cracks were found in Tananger of “different categories”?

## Page 252 – Committed Errors or Negligence?

The statement from the managing director provokes me to such an extent. I cannot fathom how it’s possible to make such a statement after a movable installation, for which they held total responsibility to operate, capsized entirely, resulting in the death of 123 people. He must have had the “gift of audacity,” as my mother used to say!

The chairman of the board has toned down somewhat and is much more aligned with what I believe myself. However, I wish to take it a step further and say the following: There was a significant lack of relevant knowledge and operational experience throughout Stavanger Drilling, both among the management onshore and in leadership positions onboard. This lack was the cause of “Kielland” being operated outside the design criteria given by the designer of the Pentagon type IFP/Forex Neptune. This, in turn, led to the D6 bracing being torn off, causing the platform to capsize and resulting in the deaths of 123 people.

If, additionally, it turns out that Stavanger Drilling had received information from the platform chief about a crack in the structure and chose not to inform the classification society about it, then this is so serious that the authorities should definitely have reacted. The commission was aware of the information from the platform chief but chose not to investigate further beyond registering it. Did they check with DnV if they were aware of the alleged crack?

## Page 253 – Settlement in Paris

Lawyer Scheel says the following: “The chances of a French court overturning a French expert committee they themselves had appointed were utopian” as recently as 2016. I can’t understand how that can be said. They must have considered this when they went to court against the French and demanded around 700 million kroner. They must have known that the French themselves would set up their own investigative committee, and it would take time to arrive at their own conclusion.

What this conclusion is in detail, I haven’t read yet as I don’t have access to the report, but in “Crude Oil I,” it is clearly stated on page 241, which I have previously commented on. The fact that the lawyers themselves admitted that “we have effectively lost” seems incredibly bold considering the significant amount of money at stake and, importantly, the prestige. Essentially, they admitted that the conclusion of the Norwegian investigative commission was wrong regarding the alleged crack formation during construction in Dunkirk not being the cause of the platform capsizing. That must have been quite an admission from so many lawyers involved in the case. Hence, my question is pertinent. What assistance did the lawyers receive from personnel with relevant technical and operational experience to assess the quality of the content in the French report, especially concerning their claims of improper use of the platform compared to the criteria specified by the designer IFP/Forex Neptune? This, to me at least, would have been a crucial part of the process before they “threw in the towel!!!”

## Page 256 – Other Explanations

On this page, there are assertions and questions I want to clarify. “Was the rig misoperated by ignorant, reckless, and uninformed Norwegians who did not follow the operating manual P89 from the shipyard”?

I don’t want to be as forceful as described above, but I certainly believe that the management, both onshore and onboard, lacked essential knowledge about how a Pentagon-type platform should be operated. When they started operations in the Ekofisk field, none of the leadership had previously operated a similar movable installation. The involvement of one of the platform chiefs in some of the construction in Dunkirk doesn’t provide operational experience. The fact that they didn’t operate according to criteria given in the operating manual has been commented on previously. In my writing, I have stated that competence is one of three elements in the “barrier principle” and must be adhered to!

The use of 8 anchors instead of 10, I assume, I hav’ described well enough in my writing on pages 3 and 4. I am willing, at any time and to anyone, to explain why I have taken this somewhat firm view by demonstrating this on the model of “Drill Master” used during the hearing at Clarion a few months ago.

Regarding a possible collision with a supply boat, I almost consider it excluded. Firstly, the damage would have been seen on the leg that lay in Stavanger harbour for a long time. Secondly, the logbook would have recorded such damage. Thirdly, the ship that hit the leg would have documented and reported it as it would probably have resulted in repairs to the ship's structure and subsequent dry docking.

Was the use as a living platform contrary to the construction as a living platform? Concerning "Kielland," my answer is NO as long as the stability operationally adhered to the design requirements. "Kielland" most certainly did. But anchoring with 8 anchors instead of 10 violates the design criteria. The anchoring system is admittedly not precisely designed for so many in-and-out movements from a fixed installation, but as long as this is done in a safe manner, the design should certainly withstand it. Of course, this assumes that ballasting is also in line with design criteria.

Regarding "Ibsen," I firmly believe that the conversion to a living platform was against the criteria set for a Pentagon. The weight of the accommodation module placed in Stord was, as I see it, too heavy to meet the stability criteria, especially at the "towing draft" limited to 1400 tons variable deck load. Here, DnV should explain their approval of the conversion.

Is the accident due to an explosion? Absolutely NO, as I have commented on earlier. There is also a question about a possible collision between the rig and a vessel damaging the platform leg. On page 257, it is mentioned that the damage in the D leg was not registered as well. It is incredible that the ship that collided and how it happened is not known. This was also pointed out by the surveyor on February 21, 1980, and was reported in advance. Who was the surveyor? Was he from DnV? Had Stavanger Drilling been given orders by DNV? How could DnV postpone the 4-year class if they had given orders for repairs? This is entirely incomprehensible to me!! Which workshop in Stavanger was selected to remove the drilling modules and perform these repairs? Had the workshop received notification of damage to the structure to be repaired? Such repairs usually require some planning, especially concerning the purchase of steel that must match or be equivalent to the type on the structure.

On page 258, it is also described that there was significant damage in the C2 brace (which is a diagonal brace). This damage was more severe than in the D brace! Which D brace?? Is it D6, DE, D4, or D3 that is meant? The last two are diagonal braces. If there was damage in two of these braces, the postponement of the class is even more incomprehensible.

I don't understand much about the description of the anchor handling chain that hit "Kielland." (In the book, it says "the control room that was on one platform leg." Each column has a winch house on top of the column where the platform chief likely was). How can an anchor chain from an anchor handling vessel hit a leg of a platform? When an anchor handling vessel operates near an installation, the vessel's anchor chain is stored in the chain locker, and the

anchor itself is secured up under the bow. It must have been a serious operational problem aboard the vessel that absolutely should have been logged both on board “Tender Power” and “Kielland.”

The French commission’s statement that “a collision or other external damage must have caused fatigue fractures” is entirely incredible to me. A collision cannot lead to fatigue fractures!!! A definition of fatigue fractures is as follows: (taken from Google) A fatigue fracture, or stress fracture, occurs not due to an acute injury but as a result of overload.

That’s precisely what happened with “Kielland.” See the bottom of page 2 in my writing where I talk about structural loads beyond normal that significantly accelerated the formation of the major fatigue fracture.

#### Page 259 – User Errors Contrary to Operating Manual

What CFEM writes about personnel “without sufficient training and without precise, written instructions” is completely in line with what I have stated in my document. However, I don’t quite understand how they can say “without precise, written instructions” when they were the ones who provided the operations manual to Stavanger Drilling. Have they based this conclusion on interviews conducted among the personnel who were on board?

They also specify regarding the towing back and forth to the Edda platform, something I’ve also indicated might have had a reinforcing effect on the additional stress on the horizontal braces, especially the D6 brace, as anchor wire D1 must have been the one subjected to the most strain during such towing operations. One of the witnesses on page 260 says, “they didn’t ease off on the opposite side, but just pulled.” If that was the case, it could certainly have imposed extra significant strain on the structure.

#### Page 260 – A Single Wire Couldn’t Hold the Platform

What is stated on this page are quite important testimonies. Firstly, it talks about how long the platform remained tilted at approximately 30 degrees after the D-leg had disappeared. Going from zero degrees to about 30 degrees must have happened almost immediately. The reason it didn’t tilt further could be the anchor wire on the B-leg (or the anchor lines on both the A and B legs) preventing further tilting. At that point, when it tilted so much, everyone on board immediately realized that it was a “survival for the fittest” scenario, the only option if one wanted to save lives. This time was used to reach one of the lifeboats, jump into the sea, climb down to the A, B, or C leg, and then jump into the sea. Quite a few people were saved that way. I am very impressed by those who managed it, something I’ve expressed to the survivors I’ve spoken with.

After the platform tilted to about 30 degrees, it’s likely that some water ran down into columns C and E as long as the doors were open. This caused even greater imbalance on the starboard

side of the platform, which in turn subjected the anchor line(s) on the port side to even greater strain. It's entirely natural that the anchor wire eventually snapped (breaking strength approximately 300 tons), as the witnesses have explained.

As for these famous open doors, they have absolutely NOTHING to do with the stability of the platform. It's yet another indication of poor onboard leadership that allowed these doors to stay open, even letting welding cables pass through them.

There has been a lot of correspondence among several gentlemen about this matter, and I have chosen not to participate because the whole issue becomes speculation about how many would have been saved if these doors had been closed. None of us can provide any answer to that.

However, what is crucial in this matter is the time it took from the platform starting to tilt until the anchor line snapped and the platform rapidly overturned. The witness indicates 20 minutes, something that control room operator Egeli personally told me. His own story is quite remarkable since he was with the platform as it turned completely over and surfaced due to the life jacket. His lungs were punctured. He himself says that he was the last one to go to the lifeboat, where he was the coxswain, but he didn't make it on board before the platform rapidly overturned completely. Instead, he clung to the railing.

I assume that most people on board had left the platform after 20 minutes when the platform had a severe tilt. It's almost impossible to stay on board a platform that has tilted 30 degrees. It feels almost like a 90-degree tilt. I have experienced 16 degrees, which feels like a very significant tilt!

The calculations made regarding how long the platform could have stayed at a 30-degree tilt are not very interesting to me since most people on board most likely would have left the platform in one way or another within the first 20 minutes. I'm much more concerned about the loose drilling equipment stored on deck, which wasn't secured against a possible tilt. Who was responsible for this in Stavanger Drilling is a very important question, in my view.

On page 261, it is clear that, according to the French shipyard, incorrect use of anchor lines led to greater stress on the D6 and B5 braces when only 8 anchors were in use. They also believe that this has been downplayed in the Norwegian commission report. I absolutely agree with the French report, even though I'm not aware of the basis for their statement. Have the French made calculations supporting their conclusion? It would be helpful to know the assumptions behind such calculations and how they arrived at such a claim.

The fact that the Norwegian investigative commission concludes that the crack took up to a year to become fatal is an interesting observation. I have previously commented that "Kielland" had been near the Edda platform for about a year using only 8 anchors. I'm not familiar with the anchoring pattern it had used before.



The Norwegian Maritime Directorate says that the management and anchoring practices at the platform should have been examined more closely. They had given Stavanger Drilling permission to use the platform. One of the conditions was that the anchoring system should be used in accordance with the design criteria. When did they verify that this was being done? Were they aware that DNV had approved the use of 8 anchors instead of 10?

#### Page 262 – Built as a Drilling Rig – Used as Living Quarters

The French shipyard criticizes the Norwegian commission for not investigating the influence of wave forces on the structure. I don't see much difference myself between a living quarters platform or a drilling platform since the hull both underwater and above the waterline is the same. The wind forces on deck are, of course, slightly different because the living quarters have a larger surface area than a pure drilling platform, even with some drilling equipment on deck. However, I have previously noted the towing back and forth from Edda as an extra wear and tear on the lower structure. Some disagree with me on that. Perhaps the answer lies in conducting the calculations that I have suggested in my document.

It further states on page 263 that CFEM argues the commission didn't adequately consider the cumulative effect of a series of unfavorable operational changes and routines initiated while the platform was in use as living quarters. The anchoring with 8 anchors is a known issue, but what were the other changes CFEM believes have affected the tragic outcome? Does the French report mention anything about that?

The question posed in the next paragraph about poorly secured accommodation sections and loose containers potentially causing strain damage leading to fatigue fractures is, in my opinion, a clear "No." However, what is stated in the following paragraph about what the survivors tell about loose objects not being properly secured is indeed a very serious matter and speaks to a lack of leadership on board the platform, something I have commented on before.

"Instability due to conversion to drilling platform" (in the next paragraph) has also had no impact on the accident outcome. In any case, the platform was very stable at a depth of 22 meters. The last paragraph of this chapter on page 264, however, is serious in terms of what was not investigated by the Norwegian accident commission. Therefore, it is crucial that these investigations should take place now, following the outline I have proposed in my document regarding two independent companies each making calculations of the load in the lower part of the structure with both 8 and 10 anchors in use.

It further states that one of the control room operators was concerned about the uneven ballast distribution in the tanks. I have previously commented on this and do not understand why the accident commission didn't consider this more thoroughly as an element when additional stresses on the structure were being calculated. In this context, I'll mention the training that I and the first Norwegian platform chief received aboard "Drill Master," where the French

platform chief, Captain Daure, strongly emphasized the need to ballast the 5 pontoons (each with 4 tanks plus tank number 7) according to the following criteria: (mentioned in the “Drill Master” operations manual)

Stresses in horizontal bracings: “It is very important that the differences in stress level between the horizontal bracings are kept to a minimum. That can be achieved by trying to keep the same total amount of fluid on each side of the longitudinal centerline of the platform, i.e., between column A & E and B & D. The limitations are given in enclosure no 6 (I have this attachment available). I also have a table showing the allowed stress levels in all the braces on board, both horizontal and diagonal.

In the case of “Kielland,” there must have been an uneven distribution of ballast water between the C column and the other 4, due to storing anchor wire on the C column plus two anchors hanging on the side of the pontoon (totaling about 120 tons, as mentioned earlier). Whether it had any impact on the extra stress level in the D6 brace, I cannot comment on. It should be considered if/when new calculations are done.

The platform chief who conducted the stability calculation on April 1, 1980 (three days after the accident), did not have access to written figures on the ballast levels in the 25 tanks on board containing ballast water. I have been told that the figures he used in his calculation were based on his own memory. Personally, I question the possibility of remembering the ballast level in all 25 tanks!

The use of potentially wrong figures would not have a major impact on stability, which was very good anyway, but it might have affected the stress level in the lower part of the structure if there was an uneven distribution of ballast water in the 25 tanks outside of what was permitted.

#### Pages 265-270: Explosion Theory

I’ve commented on this theory before and conclude by saying that in this case, I completely agree with the Norwegian investigative commission, even after the hearing held this year at the Clarion Hotel where several people argued that such an explosion might have occurred.

#### Page 272: Postponement of the Four-Year Inspection

The commission claims that it’s not crucially important that Stavanger Drilling applied for and received an extension for the four-year inspection until June 1982. I’ve commented on this before. It has absolutely nothing to do with the outcome of the accident, but Stavanger Drilling’s urgency to obtain this extension was purely for economic reasons. They wanted to start drilling for Shell as soon as possible and were less concerned about verifying the structural integrity of the platform, which is crucial for the safety of those working on board. I have also previously commented on what I assume was a lack of verification by DNV before granting this extension. This should definitely be considered in any potential new investigation against DNV’s documentation.

## Page 272: Consequences

Here in the book, it is written that both the Norwegian and French commissions believe that “even when the platform leg broke, the catastrophe could have been avoided.”

I’ve commented on this several times before. Let me be clear from my side. When the D-leg was torn off, the platform almost immediately had a tilt of about 30 degrees, which lasted for about 20 minutes. I have argued that during these 20 minutes, most people on board had left the platform. Some people were found on board after the platform had flipped, but most of these had been crushed to death when the platform suddenly tilted. Some living individuals might have still been on board after 20 minutes, such as control room operator Egeli, who was a lifeboat coxswain, but I assume that most had made a desperate attempt to leave the platform as quickly as possible because, as mentioned earlier, a 30-degree tilt feels almost impossible to move on.

The Norwegian commission claims that with normal water filling in the elevator shafts in column E and C, it would have taken an hour. I won’t argue about that as the entire assessment becomes quite theoretical. The fact that the electric pumps were destroyed has nothing to do with the case because the 4 diesel engines, which generate power for these pumps, also wouldn’t work at a 30-degree tilt.

The French expert commission’s conclusion that the disaster would have occurred only two hours after the leg broke off if the operations manual had been followed is a completely incomprehensible statement from an expert commission. I have yet to figure out what they are experts in. To state it once again: when the D-leg fell off, resulting in the D6 brace breaking in two parts, the catastrophe WAS A FACT AT THAT MOMENT!! No closed doors on the two columns or any other open doors/hatches could have prevented this tragic catastrophe. Stavanger Aftenblad stating in their headline that 123 people could have been saved if the doors had been closed is therefore a catastrophe in itself, even after the journalist apologized for it. What impression do readers get after reading this headline? I am aware that the actual text in the article was much more related to reality, but such statements serve no purpose in finding the real cause.

The fact that the doors were open is a clear breach of the onboard routines and, as mentioned before, indicates poor leadership, as several survivors have also mentioned. Therefore, in my view, we must stop discussing the doors as a cause of the accident. The fact that the D6 brace was split in two was the main reason the platform overturned. However, there’s disagreement among the “learned” about why the D brace was split. That should be the main focus from now on!!!

The conclusion of the two commissions must be clarified immediately as to whether it’s right or wrong to claim that the catastrophe could have been avoided if the open doors had been closed. I firmly believe that open doors could only have had some influence on potentially saving more

people. The open doors have no connection to whether the catastrophe could have been avoided or not.

#### Page 273: Inadequate Safety Courses

“Only 76 out of a total of 212 individuals not having undergone any form of safety training speaks volumes about the focus on Health, Safety, and Environment (HSE) in both Stavanger Drilling and Phillips.

Equally serious is the fact that neither the platform manager nor the technical chief had undergone the mandated 6-month course. I fail to comprehend why the commission criticizes the ‘system’. It was Stavanger Drilling, ‘the responsible party’ for the operation of ‘Kielland’, and Phillips as the operator, who should have ensured the obligatory safety training.

#### Page 274 – Economic Disaster or Gain?

The book here sheds a clear light on the economic side of the accident and poses a very central question in the headline. The information provided in this chapter formed the basis for my considerations in the writing on page 11 with the following thoughts and questions:

‘Based on this, I am very surprised that the insurance company accepted to pay the entire insurance sum of 400 million kroner, yielding a profit of about 150 million kroner to the owners! Is one supposed to ‘profit’ from operating a movable structure with an organization lacking relevant operational and technical competence at every level and having operated the structure for several years without a qualified management system meeting the operational prerequisites embedded in the design? When one knows the outcome of such an operation, I believe it’s fair to ask this question!

#### Page 276 – 279 Summary and Conclusion

I also find this chapter providing a good and balanced presentation of what politicians, authorities, industry actors, and individuals think about the conclusion of the Norwegian commission.

I completely agree that the Norwegian actors had a far greater responsibility for the accident than what is presented in the report.

In my writing on page 14, I questioned the role of the prosecution authority in this matter. Were none of the actors considered to have acted ‘negligently’?? I personally find it almost unbelievable, given how well one knows the tragic outcome of the accident.

The fact that both the current government, the Employers’ side (Norwegian Oil & Gas), and the authorities (Petroleum Safety Authority) do not wish to reopen the case, I somewhat understand due to extensive and costly additional work, in a case most have already considered ‘closed’.

The complexity is significant, but my strong recommendation, initially, is only to find the cause of the platform's overturning. If that is clarified, I believe many of the survivors and relatives will be content with that. To find the cause, it might not be necessary to dig too deeply into old documents, but primarily to perform simple calculations as recommended in my writing on page 3. It shouldn't take too long or cost too much. When these results are available, a small group of people with relevant operational experience should evaluate the result of these calculations along with my assertions about the severe lack of relevant competence among the management in Stavanger Drilling. The quality of the management system used on board should also be evaluated by operational personnel experienced in operating movable structures.

Moan's conclusion should definitely be taken literally in this case: 'Do we learn more from our mistakes than our successes?'

My comment on this is as follows:

I absolutely agree with Mr. Moan, but once such a serious mistake is made, we must ensure that a catastrophe of a similar nature does not happen again on a movable structure. Additionally, we must ensure that the investigative commission selected by the authorities has the necessary and relevant expertise to professionally assess the accident's causes, preventing possible survivors and relatives from mistrusting the conclusions about the accident's causal factors made by the commission.

#### Page 280 – Scope and Consequences

I have also carefully gone through this chapter and found that most causes of the accident are described in the previous chapters. Therefore, I choose to briefly comment only on the statements I either support or disagree with.

#### Page 283 – Lack of Experience

I agree with the first paragraph on the page. We ourselves had no experience in operating a Pentagon but signed an operational contract with Forex Neptun for a 4-year training period. After that time, we were expected to manage ourselves almost independently. We did so in marine areas but lacked some expertise in drilling, even after four years of operation.

#### Page 287 – Secure and Stable Platforms

I completely agree that a Pentagon-type platform was a very secure and solid construction, remaining stable in the sea. I experienced this myself after 4 years of operation, spending a lot of time offshore in all kinds of weather, including hurricanes on the west side of Shetland during winter. Other platforms in the same area (H3 type, known as 'Dundee Kingsnorth') had much greater difficulties adhering to the drilling program than we did.

## Page 288 – DNV's Annual Inspections

It is stated that DNV had conducted an annual inspection in February 1980 (a few months before the accident). Was this report reviewed by the commission? Is it possible to obtain a copy of the report?

## Page 289 – Safety Drills

Regarding what is written about the lack of safety drills, it is frightening concerning how the operation was led. During the hearing at the Clarion Hotel, one of the survivors told me that during a lifeboat drill, many remained in the cabins where card games were often played. They sent only one person to the lifeboat to report how many remained in the cabins. Today, he was ashamed of how they behaved and simultaneously stated that the onboard management displayed a complete lack of control during such drills. He also mentioned that the entire platform was characterized by a lot of clutter everywhere.

## Page 295 – Investigation

What is stated in the second paragraph about stability control is by no means correct. "Kielland" had excellent stability before the accident. Whether the crew was aware of it is another matter, as I am not sure if the stability calculations that were carried out (if they were performed at all) were in line with the way such stability calculations should be conducted.

A form filled out by one of the surviving platform managers has been found. This form was completed three days after the accident and lacks, among other things, sheet number 1, which covers all the tanks in the five columns. It is said that the platform manager remembered how much water was in each tank and used this to make calculations. I have previously commented that this must be close to impossible.

It would have been very interesting to see this sheet number 1 of the form as it would provide an indication of any potential uneven distribution of ballast water. If new calculations, as I have suggested, are to be made, then the distribution of water in the tanks is an important element.

I have a copy of form number 2. I am somewhat doubtful about some of the numbers regarding weights on deck, but even a relatively large degree of underestimation would still provide very good stability on the platform in the period before the accident. (They themselves estimated a GM of over 6 meters. The minimum requirement is 30 cm at a draft of 22 meters.)

Regarding the role that the Norwegian Maritime Directorate played in its oversight duty, I have commented on it in my writing. I absolutely believe that the Norwegian Maritime Directorate failed in its oversight duty. I also believe that at that time, the Norwegian Maritime Directorate lacked personnel with relevant experience in the operation of movable structures. This is based on my own experience in connection with the operation of the "Drill Master".

Lack of follow-up on the requirement to use 10 anchors on the Edda platform is just one example of inadequate follow-up.

#### Page 297 – Total Concept

I fully support the proposal for the “necessity of evaluating the total concept.”

#### Page 297 – Investigation Report

If Ivar Garberg believed that there were errors in the stability calculations, to some extent, it may be correct, but these errors had no impact on the causal factors of the accident. I have commented on this above. Everything I have seen that Ivar Garberg has spoken about, especially regarding the topic of “stability,” has, in my own assessment, been wrong! I remember he spoke very harshly about the stability of “Kielland” in a front-page interview in VG the day after (or one of the days after) the accident. His claims were, in my opinion, totally opposite to reality. (Get hold of the newspaper, and I will explain.)

#### Page 312 – Legal Proceedings

It is said that the regulations “did not give any clear direction” for potential criminal liability. Unfortunately, I do not remember the official requirements from that period, but there is no doubt in my mind who was responsible for the tragedy. It was undoubtedly Stavanger Drilling. Phillips also had a significant shared responsibility as their task was to ensure that Stavanger Drilling operated responsibly.

Throughout the history of oil and gas extraction on the Norwegian continental shelf, the operator has had the overall responsibility to ensure that they, along with all suppliers, operate in accordance with the relevant laws and regulations. Especially Stavanger Drilling, in my opinion, operated far beyond the requirements for “responsible activity” that were applicable at the time, something I have hopefully tried to explain in my writing and in these comments on the book “Crude Oil I”.

#### Page 313 – Probable Collision

At the bottom of page 313, it is stated that the French investigation report concluded that the accident was due to a previous weakening that could be attributed to a probable collision.

I have read what Frank Moncrieff has sent me, and on page 426, there is something about a service ship possibly hitting the holder of the position indicator after the platform had been taken up to “towing draft”.

This is one of the most ASTOUNDING statements I have seen from a so-called “expert team” that I thought had some idea of how a “Pentagon platform is constructed and operated. I can say

with great certainty that it is technically impossible for a service ship to get under the D6 strut. If, against all odds, it had happened, I guarantee that far greater damage would have occurred in the area and would have been very easy to register.

On the same page, the following is stated: “or even moored on this tube which constituted an appendage tempting for this use.”

I do not understand what is actually meant by the sentence, but it is as ASTOUNDING as the claim above. Which “appendage” are they talking about? Is it additional forces as a result of a wire or strong rope being attached to the lower part of the position indicator holder, and that this rope or steel cable was pulled by a vessel or a winch placed on a barge or ship? That this could have happened in practice during operations at sea is, for me, almost inconceivable and unreal!!!

I have no opinion on what may have happened during the assembly in Dunkirk as I was not present during the construction. However, I was present every day during the assembly of the “Drill Master” in Le Havre. I saw no indication of any kind of damage during the joining of the structure in Le Havre.

On page 314, it further states that the commission believed that “under normal weather conditions, it would have been possible to ballast the rig to keep it afloat after it had tipped over 30-35 degrees if the electric valves could be operated.

There is, of course, an “if” involved in the assessment, but regardless of whether they could be operated, everyone on board was only concerned with saving their lives, which is entirely natural to me. It is clear that those who wrote the report have no knowledge whatsoever of the feeling of being on board a platform that suddenly tilts 30-35 degrees, in strong winds and raging waves around. At that moment, there is only one thing that matters, and that is to save oneself, nothing else!!!!

I do not wish to further comment on the French report here and now, but I must agree with Frank Moncrieff, who, in the accompanying letter to the pages he sent from the French report, claims that it bears the mark of a “legal process document”. How much legal content there is in the document can certainly be debated, but the pages I have read so far are so “poor” in real facts that in this context, I choose to come back to this at a possible later opportunity.

#### Page 323 – Consequences of the Accident

It is stated here that it is “striking that such a large accident did not have greater consequences for the companies and individuals involved. I completely agree with this and have said something about this in my writing. Specifically, I believe that Stavanger Drilling acted “negligently” by operating the platform outside the design criteria given by the designer. In addition, they lacked relevant operational competence at all levels, both onshore and in leadership positions on



board. Their management system I have not had the opportunity to review, but much indicates that it lacked important operational procedures. They were definitely missing them during the “Ibsen” accident.

I have commented several times on DNV in my writing. Lack of follow-up is also well described in “Crude Oil I”. I am very concerned that DNV shows the public what discrepancy handling and calculations they made before granting exceptions from the design criteria in connection with the anchoring. They should also show the public what assessments they made before granting a one-year class extension and what inspections they performed in that context.

How they assessed the stability of “Ibsen” and gave it clearance to move to Tananger is, to me, still a great mystery. I want to call it a “SCANDAL” until I potentially get an explanation that shows that they did their job in a professional manner.

**Final Comment:**

In my writing, I have clearly expressed that I do not agree with the conclusion of the Norwegian Accident Investigation Board. I have not objected to there possibly being small cracks around the position indicator holder, but I cannot in any way understand that these small cracks are the actual cause of the catastrophe. That these small cracks, eventually and over time, developed into a fatigue fracture in strut D6 due to very abnormal large loads in the horizontal struts around and behind nodes 5 and 6, I see as highly likely. The extra-large loads in this area have, in my opinion, a strong connection to the very lacking relevant knowledge and experience in how a movable structure of the Pentagon type should be operated in a responsible manner. More and more people with both versatile theoretical and operational experience support me in this theory, including from the industry at UiS. A final answer will probably not be obtained until new calculations are carried out in line with what I have proposed in my writing.

Regarding the French expert commission report, from what I have read so far, I have not seen a single “expert”. Most of the statements indicate a total lack of relevant expertise, especially in operational subjects. I cannot, with all my will, understand how the suing companies, the Oil Insurance Pool, and Phillips, could accept reducing their claims to under one percent of what they initially demanded. Who did they use as advisors with technical and operational competence in this matter is my question?

When I cannot support the conclusion of either the Norwegian or the French commission, I am left with only my own theory. “Kielland” capsized when it lost one of its 5 legs, something it was not designed to withstand. The reason it lost the leg is that it was operated far beyond the design criteria, by a management that largely lacked the necessary knowledge to operate a movable structure of the Pentagon type.

## ADDITIONAL INFORMATION FOR THE PREVIOUS INTERVIEW

Name: Nils Gunnar Gundersen

Date: Friday, January 20, 2023.

Location: Randaberg.

Purpose: To supplement with additional information for the previous interview and contribute to the digital memorial bank about the 'Kielland' accident.

Briefing: Nils Gunnar Gundersen has been informed about the project both in writing and orally.

Interview approved: February 20, 2023

How did you get involved in the 'Kielland' case again?

After I left Norske Shell in 2000, I taught regulatory competence at BI from 2000 to 2022. The regulations focused on designing, building, and, most importantly, operating in accordance with relevant laws and regulations applicable to the Norwegian continental shelf. I often referenced the ALK catastrophe in this context, using it as an example of things that can go very wrong if the facility is not operated according to both design criteria and relevant regulations (probability and consequence).

One of the regulatory courses I conducted was in Haugesund in 2014. Knudsen Shipping was to build a storage ship (FSO) in Gdansk for the Martin Linge project. I developed a special course on an FSO where I mentioned the ALK case again.

One of the participants, engineer Øystein Thorsen, attended the course as usual. He called me afterwards. We had a lot of correspondence and did a significant amount of work related to the 'Kielland' case. He wanted to make a feature film about the accident. We arranged a meeting with Kian Reme, who had a lot of knowledge about the disaster. I set the agenda for the meeting. We discussed the D-6 bracing. Kian investigated the explosion theory. This was in January 2015. Øystein tried to pitch a concept. He didn't get any interest from anyone. However, he posed many good questions and conducted numerous investigations into the cause of the disaster.

That's how I got involved in the case again. I had actually tried in every way to present my version that it was the incorrect operation of the rigging that led to the overloading of the lower part of the structure and consequently caused the platform to be torn apart.

I contacted a journalist at Stavanger Aftenblad. That was in 2016."

"What happened then – how was it received?

The journalist interviewed me several times where I attempted to focus on serious operational errors that occurred throughout the platform's lifetime, which I strongly believed had contributed

significantly to the platform losing one leg and capsizing completely. I was also strongly focused on the fact that at that time, nobody had taken responsibility for the catastrophe. The journalist published a book about the catastrophe in 2019.

How do you feel your knowledge has been utilized?

Very little. I have felt almost completely overlooked. I have given seven to eight lectures on the ALK accident, focusing on how it was operated in relation to design criteria and the lack of relevant knowledge among the entire management at Stavanger Drilling. The platform, among other issues, was operated with only 8 anchors, whereas the manual required 10.

My problem has been that none of the parties I have been contacted by or reached out to have followed up on what I've pointed out. It began with the investigative commission in 1980, where I was brought in as a Pentagon expert by the police and where, among other things, I was asked to educate the investigative commission about the design and operation of Pentagon platforms. But they were not interested in listening to what I had to say about operational matters.

The D-column arrived in Stavanger just a few days after the accident, and I myself went with the police to inspect the lead sheaves of the anchor wire on the D-column. The head of the police department, Kjell Larsen, asked me if I could get down into the pump room to find out if there were any dead people there. I initially agreed since many times, on the 'Drill Master', I had descended the ladder from the top of the column down into the pump room.

However, this time it turned out to be much more challenging due to a 30-degree tilt on the column. I suddenly almost panicked at descending so deeply into the column and not knowing what was down there. Accessing via the ladder (normally, we used the lift) was by no means easy, but it would still have been entirely possible to go all the way down if I had known that there was sufficient oxygen all the way to the bottom of the pump room. Furthermore, I was concerned about the lack of oxygen inside the column as the fire door at the top of the column was completely closed. Therefore, after struggling to descend the first 2-3 meters of the ladder, I turned back.

After the investigative commission presented its report in April 1981, without considering or addressing anything I had said to them, I submitted an article to Stavanger Aftenblad which was published on April 11, 1981. There, I wrote about the anchoring.

This continued with the Maritime Directorate in 1986, which also showed no interest in what I had to say. In the letter, I wrote that I believed the investigative commission had overlooked crucial factors that might have provided a clearer picture of what really happened. I never received a response to the letter.

Note: Gundersen presents the letter to the Maritime Directorate retrieved from the Maritime Directorate's archive. The letter was sent on December 5, 1986. In blue pen, it is written on December 11: 'In my opinion, the MD is done with the ALK accident and the follow-up in this context.' Another note, dated December 19, says: 'Agree with JAM.'

But in slightly darker blue ink, dated December 22: 'Also agree.'

At the very top, the Director of Maritime Directorate wrote: 'The case does not require a response.'

Gundersen continues:

In later years, I also approached Det Norske Veritas, responsible for the classification of the movable installation, but have rarely received answers to my technical questions. However, several years ago, I was called by senior engineers from Veritas who told me that I was wrong in my assessments of the real cause of the accident.

Why do you think they called?

They probably wished to change my mind completely. The cause of the accident had already been established by the Norwegian investigative commission and well-documented in their two official reports, was their clear message to me.

However, most hurtful was the time I spent involving the Office of the Auditor General in the matter. Initially, I was interviewed by them and additionally sent several letters with clear recommendations to re-evaluate the operational errors that, in my opinion, were far beyond the specified design criteria of the platform's designer. I also explicitly emphasized that the Norwegian investigative report did not clarify which company was responsible for the catastrophe where 123 people lost their lives.

I also questioned the roles played by both the Maritime Directorate and Det Norske Veritas in this serious matter. Lastly, I recommended carrying out new and realistic calculations of the loads in the lower part of the structure with both 8 and 10 anchors in use since the calculations performed until then were solely based on the weather conditions on the day of the accident. These calculations had absolutely no relation to the fatigue fracture that both the investigative commission and I believed had occurred in the D6 bracing. I have always been very interested in determining how much stress increased in the braces associated with the D-column by using 8 anchors instead of the 10 specified by Forex Neptune in the operations manual, and also required by the Maritime Directorate in a letter to Stavanger Drilling.

None of what I wrote to the Office of the Auditor General was taken into account. I also wrote a letter to the chairman of the Parliamentary Control Committee, asking to meet them to present my views on the matter. I never received a response to my request.

Professor Bernt Aadnøy sent a letter to the Office of the Auditor General in the winter of 2022, asking how they would follow up on their own report from 2021. The response was that the Office of the Auditor General did not intend to do so. They referred to the parliamentary debate, which ended with politicians not wanting to re-investigate this serious accident.

Based on this response, Professor Aadnøy, Arne Mikal Enoksen, former chief engineer in the OD/petroleum supervision, and I issued a warning to both the Petroleum Safety Authority and the

Maritime Directorate. The warning contained a three-page concern message describing the background.

The Maritime Directorate, which at the time was responsible for mobile installations, wrote back stating that ‘The Maritime Directorate has responded to the Office of the Auditor General’s questions, and we consider the matter closed from our side.’

We have not received feedback on our concern message to the Petroleum Safety Authority, which was sent on March 28, 2022.

I feel that my knowledge, to a large extent, has been overlooked by public authorities in the same way my experience over a total of 8 years in building and operating a Pentagon-type platform (‘Drill Master’) was completely disregarded by the investigative commission in 1980. That the platform was operated incorrectly and in stark conflict with the design criteria has truly been under-communicated in this matter.

The lack of relevant professional evaluation of the operational aspects of the case has been almost completely overlooked by all state authorities, including Veritas, responsible for the structural integrity of the installation. However, the conclusion reached by the investigative commission conveniently suits the Norwegian authorities, as I see it, indicating that the cause of the catastrophe can easily be related to a welding error that occurred during the construction of the platform in this matter. The lack of relevant professional evaluation of the operational aspects of the case has been almost completely overlooked by all state authorities, including Veritas, responsible for the structural integrity of the installation. However, the conclusion reached by the investigative commission conveniently suits the Norwegian authorities, as I see it, indicating that the cause of the catastrophe can easily be related to a welding error that occurred during the construction of the platform in France. From a political standpoint, this was a conclusion that suited all the sitting governments, from the day of the accident until today.

“But then, perhaps it’s somewhat satisfying for you that the French expert group pointed out that operational factors had a significant impact on the actual cause of the catastrophe?”

Yes, the French experts also showed significant interest in the fact that the platform, for almost its entire lifespan in the Ekofisk field, was anchored with 8 instead of 10 anchors. However, I’m extremely disappointed that the French experts didn’t conduct calculations on the stress levels in the lower part of the structure with both 8 and 10 anchors in use. This would likely have clarified the impact the anchoring system had on the overall stress levels in the specific braces over a period of almost four years. I am particularly disappointed with Forex Neptune, responsible for the design, for not demanding such calculations themselves to understand the consequences of operating far outside their own design criteria for the outcome of the catastrophe.

In recent years, Nils Gunnar Gundersen has also taken significant interest in the theory that the horizontal DE-bracing might have been torn off near the E-column ahead of the D-6 bracing. He presented this theory alongside diver Jim Rune Pettersson to a knowledgeable panel in both October

2022 and January 2023. Gundersen was encouraged by the signals from the professional community that this was one of the aspects that needed further investigation.

In brief, Gundersen explains the reasons for this as follows:

1. The DE-brace was found directly beneath the position the platform held concerning the Edda platform during regular operations. This suggests that this brace was already broken into two parts near the E-column before the D-column detached from the rest of the structure on the day of the accident.
2. Divers inspecting the DE-brace shortly after the accident reported that 'the surface of the break was very smooth and clean, but some parts were covered in rust, indicating it had been there for a very long time.'
3. A report from NSFI clearly states that the crack near the E-column was subjected to significant tensile stresses. Here, in my opinion, significant anchor forces, especially from the D1 anchor and E2 anchor, played a crucial role.
4. Images of the rupture site near the E-column indicate significant tensile stresses and not bending stresses that would have been natural if the DE-brace had been fully intact when the D-column detached from the rest of the structure.

Furthermore, Gundersen explains:

I am even more convinced today than before that the crack Sæd found those times he descended in the lift must have been in one of the pump rooms, and it's entirely natural for me to believe that the D-column, for entirely natural reasons, is the most likely.

If it turns out that no inspection was carried out in the pump room of the D-column during the time it was stored in the Stavanger harbor basin, it speaks volumes to me about the lack of focus from both the police and the Norwegian investigative commission concerning the significant focus the crack around the hydrophone holder on the D6-brace received from the Norwegian investigative commission, and which might prove to be of far less interest if the theory about the DE-brace turns out to be correct.

If inspections were carried out in the pump room of the D-column, then, for me, it would be quite natural to observe whether the bolts of the inner hatch of the two horizontal braces D6 and DE showed any signs of the paint being subjected to mechanical wear during the hatch's removal. No wear on the paint around the bolt heads would undoubtedly suggest that these two hatches have never been removed for inspection since the platform left the workshop in France. If someone in the investigative commission says they inspected the pump room in the D-column based on the information survivors reported about the 'crack,' please inquire about any interesting observations made and what's stated in the report.

I still ponder about the ALK accident at nights. What if the DE-brace went first? Then much of what's already been written about the accident can be set aside. I'm increasingly convinced that the 'Kielland' case is the country's greatest miscarriage of justice.

If the conclusion of the investigative commission turns out to be wrong, entirely different aspects of the case will naturally come into play. One of the oddities in this matter is the authorities' reluctance to employ personnel with relevant operational experience to assess both the operational and administrative barriers, which, in my opinion, have been overlooked and neglected by all the entities that have investigated and assessed the catastrophe until today.

The Oil Museum received 8 million kroner for a documentation project after the Office of the Auditor General's report but is not supposed to conduct an 'investigation.'

Why is this fear of finding answers still present when so many survivors and relatives still wonder about things? Is our democracy worthy of this, I've often wanted to ask in this still very important matter?

If one considers today how much time and resources have been used in the Baneheia case and the Birgitte case, it's entirely incomprehensible to me why Norwegian authorities have chosen to put a 'lid' on this case, which has an entirely different dimension regarding the 'pain' of so many survivors and relatives. I hope most of us agree that the two mentioned cases needed to be looked at in 'a new light.'

But the 'Kielland case' also needs to be seen in a new light and by moving entirely away from the 'tunnel vision,' which I strongly believe has been used throughout the entire initial phase of the investigation.

It's all about finding a way to convince key figures among our elected representatives that the 'Kielland case' also needs a cold case status where individuals with long and relevant experience from operations of movable installations have a central position among those who will re-examine the case."

ROLF GUTTORM ENGBRETSSEN, GMC MARITIME

By Tor Gunnar Tollaksen, February 19, 2019.

IMPLEMENTATION AND USE

Engbretsen was interviewed on February 19, 2019. He was informed about the memorial database where interviews with survivors, witnesses, relatives, and others connected to the Kielland accident are made available for further research. Engbretsen was positive about this work and wishes the interview to be accessible in the memorial database. The interview was approved with some clarifications on February 20, 2019.

BACKGROUND

Rolf Guttorm Engbretsen was one of two whistleblowers in the diver case in Norway and helped gather stories and documentation about all the injuries pioneer divers had suffered while working in the North Sea. This work was done together with Tom Engh, and they co-founded the North Sea Divers' Alliance, NSDA, in 1992.

Born: December 12, 1952.

Occupation: Diver, worked for GMC Maritime at the time of the Kielland accident. I rented myself out to them during the period when I was to establish a diving department in GMC along with my father, Rolf Egil Engbretsen.

Married: I have had three previous marriages, four children.

Residence: Tananger (lived in Bekkefareet in Stavanger when the accident happened in 1980).

Background: Civil diver since 1967. Obtained marine education as a diver at Haakonsvern in Bergen in 1972. Started as a diver in Three-X in 1970, initially without a fixed contract and eventually as a permanent employee. Worked there for a total of 12 years. Rented myself out to other companies at times, including GMC, Comex, Ocean systems, and C.G. Doris. Became the managing director at Wharton & Williams, Taylor, where I spent a couple of years; we were responsible for all Frigg diving. Established the sole proprietorship Rogaland Dykkerservice in 1984. I couldn't manage the company when I became ill from diving-related injuries. The company was bankrupted by the tax authorities. I lost the diving health certificates, had no social security rights, and didn't receive health insurance payouts because diving injuries were registered as health issues – at that time, there were no diagnoses for injured divers. This was the basis for my involvement in the diver case. Like all other injured pioneer divers, I received diver compensations that came from the state later on.

I also sat on the project council for the book about North Sea divers that the Norwegian Oil Museum published with authors Kristin Øye Gjerde and Helge Ryggvik. I also participated as an observer in the investigation of the diver case and contributed as a representative for the bereaved in the second investigation of the Deep Sea Driller in 2007.

Engbretsen has military education and is certified by the Defense Diver & Frogman School – Håkonsvern – UVBI, in Bergen. He holds the following certificates:



- a) Shallow diving certificate.
- b) Extended shallow diving certificate up to 50 meters.
- c) Hose diving certificate up to 60 meters.
- d) Helmet diving certificate up to 60 meters.
- e) Diving leader certificate – table use.
- f) Operator of decompression chambers (during diving and gas gangrene disease treatment).
- g) Smoke diving certificate.
- h) Emergency preparedness school – disaster management – fire extinguishing.
- i) First aid in diagnosis and treatment.
- j) Maintenance of diving equipment, helmet, SCUBA, hose equipment.

He has the following certificates related to civilian diving:

State Labour Inspection Authority: Helmet diving certificate. No: 0035 Norwegian Petroleum Directorate: Clock diving certificate. No: 005 + Copy: 155 Norwegian Petroleum Directorate: Hose diving certificate. No: 0048

MARCH 27, 1980

I first learned about the accident on NRK. I called colleagues to get information about what had happened. There wasn't much information available; everyone was unaware of what had happened until we received information from the media. I stayed updated throughout the night. Afterward, I visited the reception at the Soma camp where identification work for the deceased was being done. I believed I knew some people on board and was there to see if there was anyone I could help identify, but there was no one I recognized.

#### DIVING IN ÅMØYFJORDEN

We were informed by director Christensen (Gunnar Magne Christensen, owner of GMC) that they had received a mission to dive on the leg and rig. We dived on both the leg and rig simultaneously; the leg had already been inside the fjord for a few weeks. There were seven of us on board our vessel, including six divers.

-Whom were you diving for?

Initially, the client was the police and then the client was the builder (the French shipyard CFEM). Christensen informed us that it was a confidential assignment, and we had to talk to the police and intelligence that came on board our boat. Two representatives from intelligence and the police were on board, along with two representing the French shipyard. The diving took place over two days. The police had a non-disclosure agreement that all divers had to sign on board the vessel. Everything done and said in connection with the job we were doing should not be repeated, discussed, or passed on to others. We also had to surrender our diving journals.

Our tasks were to inspect the rig and film the rig underwater according to the client's wishes. Cranes, coupling systems where the housing part was placed on the rig, fragments. We checked if the modules were properly attached; it was a bit difficult because there were several wires hanging down. We filmed and took pictures of the torn leg both above and below water.

We filmed and recorded open doors and doors that were closed. That was also commented on. There was a request for filming a door that we couldn't do because it was a dangerous area. We filmed the accommodation section, but it didn't seem to be of interest. They were very interested in how the modules were welded together, in addition to the breakage surfaces.

-Was anything done with the breakage surfaces at that time?

-Not as we were informed. The rig had just been anchored when we arrived. The navy checked their own mines after the rig was pulled over, and it turned out that the rig had been pulled over a part of the minefield in Åmøyfjorden. Before we could dive, the navy had to confirm that no mines were hanging on the rig.

We reported back that the accommodation section was firmly attached. One crane was hanging straight down and was broken, and there was wire rigging hanging from the crane and under the rig. We filmed legs and breakage surfaces, doors, and observed and filmed windows that were broken and windows that were intact. What hung there seemed to be solidly welded together. I heard the French talking about it not being natural for some of the braces to be twisted in the direction they were twisted. They found the breaks strange and that pipes were bent at angles that weren't logical.

On one of the braces, we saw black soot about one and a half meters down. But I can't say which brace it was, but it was one of the inclined braces from the torn leg. There was a burn hole that was slightly larger than a fist. I could immediately see that it was a hole burned from the inside because the slag was on the outside. It had burned with high heat because the steel had swollen around the burn edge. This was done above water with quick cooling.

The slag wouldn't have stuck like that if this had been done underwater.

## THEN DEAD BODIES

We weren't supposed to swim into the rig; it wasn't our task. I dived into the rig through a broken window; it was total chaos in there, but I saw people. I remember seeing three to four people in there, as well as limbs stuck in—or protruding from—a door.

-Did you retrieve them?

-No, we weren't allowed to touch anything. That wasn't part of the task. We were also not allowed to swim into the platform. I reported that there were fatalities, but we were to stay away from the accommodation section. When we were done and back up, I said that we could clear the accommodation platform in a couple of days. I also wrote this in the diving journal and showed the police how we could do this safely. They thanked us for the offer and took note of it, but we didn't hear anything more.

After the assignment was completed, the video and image materials, as well as the diving journals, were handed over to the builder and the police. It was emphasized to us that it shouldn't be

discussed due to investigations, inquiry, and so forth. What we saw and heard was not to be discussed with others.

I've been made aware that this also applied to divers who dived on Kielland when it lay wrecked in the North Sea and later when it came to Gandsfjorden for inspection and turning. These are not surprising pieces of information and are something I myself recognize from other contexts in the diving industry at that time.

Did your company try to get work in connection with the buoyancy experiments on Alexander L. Kielland in Gandsfjorden?

-No, it was too big for GMC anyway. I was done with Kielland after our job was done in April 1980. In connection with the diver lawsuits, I asked if the confidentiality agreement for the Kielland diving could be lifted; I was informed that it couldn't. I remained loyal to that, which actually shows that the State is afraid that issues that could shed light on other aspects of the case would come to light.

#### IMPRESSION IN RETROSPECT

When such things are ongoing, there is a completely different attitude toward these matters than what you get in hindsight. The French threatened lawsuits against the state. Why against the State and not the operator? Well, that's because the French regarded the State as the oil operator who had leased concessions to the oil companies. They viewed the State as the superior responsible party for what had happened, responsible for allocation as the owner, the supervisory authority, and the beneficiary. In this case, Norway has been arrogant and didn't listen to others' competent reports and knowledge, dismissed all inputs except their own, and those they wished would verify their own statements.

The Kielland accident bears the mark of the Norwegian state essentially investigating itself and never intended to reach a different conclusion than what was concluded. If other parties came up with different explanations for the causes, they were considered conspiracy theories and improbable. In this, there's a very arrogant approach to the circumstances.

I was also never interrogated by either the police or the investigation commission, and I'm not aware that other divers were either. From the beginning, I believe we would have had something to contribute to the investigation. Both in terms of an early assessment of breakage injuries, what the French said, and the offer to retrieve the deceased when it lay in Åmøyfjorden. All of this could have put the investigation on a better and more open track during the process. But unfortunately, it didn't seem like the investigation commission was open to a broad approach in this matter. In hindsight, we see that the Kielland accident is far more complex, both regarding possible causal factors and witness observations that haven't been considered. I find that regrettable for all survivors, bereaved, and relatives

## TORLEIF JØRPELAND

### Personal Information:

Born: October 3, 1957

Residence: Vennesla, Vest-Agder, born and raised in Stavanger.

Occupation: Bus driver. Trained as a pilot between 1982-1984 (USA). From 1985 worked in commercial aviation, a job I had until 2009.

### Background:

I got into diving somewhat by chance. I took a sports diving course in Kalhammaren in Stavanger when I was 16. Through that, I got in touch with some people and got occasional diving assignments on weekends and such. After finishing military service, I applied for helmet diving at Haakonsvern in Bergen. I was trained as a helmet diver at Haakonsvern in 1978. I primarily worked as a construction and maintenance diver, doing inspections and pipe laying for many years. Mostly inshore work initially. Spent one summer season at the Frigg field as an air diver and was never in saturation. Something in my youth told me this couldn't be good for my health, so I stayed away from saturation diving. I continued diving until 1982. The last assignment I participated in as a diver was the landing of gas pipelines at Kalstø, which continued to Kårstø on Karmøy. By then, I had saved up enough money to start flight training.

Interviewed by: Tor Gunnar Tollaksen.

### IMPLEMENTATION AND USE

Torleif Jørpeland was interviewed on May 10, 2019. Jørpeland was made aware of the memorial database where interviews with survivors, witnesses, relatives, and others connected to the Kielland accident are made available for further research. Jørpeland is willing to contribute to this work and wishes for the interview to be made available in the memorial database. The interview was approved with some clarifications on May 11, 2019.

Jørpeland emphasizes that it's almost 40 years since this happened, and memories can be, and probably are, thin and partly foggy.

### MARCH 27, 1980

I recall news reports on the radio. That's the first thing I remember and all the commotion around this event. I especially remember the night and the morning after when it emerged in all its horror what had happened – what shouldn't have happened. I was home in Tasta in Stavanger at that time.

### DIVING ON KIELLAND

How the diving came about, I don't know. I was employed in the diving department of Maritime GMC. We primarily did inshore diving. Other colleagues were Rolf Guttorm Engebretsen (worked intermittently in the North Sea and at GMC) and Tor L. Michaelsen, the main diver, as the regular divers, and then there were some who occasionally acted as frogmen or helpers.

GMC had a small older passenger boat converted into a diving vessel. From the diving logbook, I see that we dived on April 21, 1980, on the wrecked platform. On April 23, we dived on the torn D-leg.

During the first dive on the platform, we left from Kalhammaren early in the morning. Apart from a diving team and the boat skipper, there were two Frenchmen representing the CFEM French shipyard. There were also two Norwegians. One introduced himself and said he was from the Rogaland Police Station. The other didn't introduce himself; I suspect he was from military intelligence. We received clear instructions from them that the mission was confidential, and we shouldn't talk about what we saw or did with others. It was clear that this was not to be discussed. When we arrived at Kielland (Kielland was at that time located near Kårstø in Tysvær), we saw Sarpen there. This was a mine vessel from the military. We were puzzled that the mine vessel was there, but we thought it was related to the minefield in the area, and it needed to be cleared before Kielland was moved. There were many loose wires and such hanging from Kielland.

#### WHAT WAS THE DIVING MISSION ABOUT?

I dived and filmed according to instructions from the shipyard representatives. I was actually terribly afraid to dive on the rig. It was upside down, and we had heard that we might encounter deceased people. I was also strictly instructed not to dive in the area around the deck. They were mainly interested in the breakage sites for me to film. I can't remember seeing anything unusual; I also didn't notice anything afterwards. I just performed the tasks I was asked to do.

#### WHAT DID THE BREAKAGE SITES LOOK LIKE?

They were jagged, as if some tremendous forces had been at play. I didn't examine the breaks closely myself but filmed as directed from the surface. I also remember they were interested in knowing if there were open hatches or doors on the legs of the platform, but I didn't notice any open doors on the platform's legs. It wasn't unusual after diving that we received a copy of the video that we stored for later use, but I'm unsure if this was done during the Kielland diving.

#### DIVING ON THE D-LEG IN ÅMØYFJORDEN

On April 23, we dived on the leg in Åmøyfjorden. I remember being quite surprised when I saw the sonar. I remember exclaiming to Guttorm (Rolf Guttorm Engebretsen), "Damn, Guttorm, there's a sonar in the break." The break seemed to be around the sonar (hydrophone). I was completely unfamiliar with their function at the time but learned later that they were also part of the listening devices used to track potential hostile submarines. I didn't dive for long on the leg, but I filmed around the underwater breakage sites.

#### DID YOU NOTICE ANY RUST OR ANYTHING UNUSUAL IN THE BREAKAGE POINTS?

A bit of rust isn't uncommon, but this wasn't something I specifically noticed. I didn't closely examine the breakage sites myself but filmed where I was directed to.

#### DIVING IN GANDSFJORDEN

I dived for Maritime GMC during the first flip attempt. I see from the logbook that I dived from September 14 to September 30, 1980. There were many divers involved from various companies.

#### WHAT DID YOU DO THEN?

It was a total circus, led by Scot Kobus during the flip operation, I remember. We drilled holes in the

legs all around and fitted flanges and mounted valves that were to be connected to hoses because they needed to pump air and water through.

I remember a general meeting where there was a discussion about going inside the rig to find deceased individuals. To do that, we would have had to drill and create holes in the residential section too. One suggestion was to tow the platform further south in Gandsfjorden to shallower waters for better working conditions. There was a flat no from the diving section representative in the Norwegian Petroleum Directorate, Per Rosengren, I think his name was. The reasoning was something like it wasn't allowed to tunnel dive on offshore missions. It was considered tunnel diving if we went into a closed area.

OD said it was offshore diving even if it was in the coastal rocks of Gandsfjorden. The whole operation in Gandsfjorden was to flip the platform so that it could be examined and then be sunk afterward. I remember we were annoyed that they didn't tow it into shallow waters. The thought among many divers was, let us examine the rig to extract anyone who might still be there so that family and friends could have certainty and peace.

I didn't latch onto anything unusual. We carried out our work, strange to work on something upside down. Among the divers, there were talks about all the deceased, theories, and such.

#### WHAT IMPRESSION DID YOU HAVE AFTER BEING INVOLVED IN THIS?

I had an impression back then that Odd Kristian Reme was very active after he lost his brother. He was a strong advocate for the flip. I remember theories coming up about smuggling, narcotics, and such. I also had some thoughts about people who lost their lives at sea over the years. Many had a watery grave, something the nation accepted. I thought there was a lot of fuss to flip the platform back then. Those who haven't been found now unfortunately won't be found; I thought that was it. I was a young man back then, emotionally I was probably not very mature.

I can't speak for anyone but myself, but we, who were divers at that time, were young, fit, and tougher than nails. Safety procedures and such were something we made up as we went along. It was evolving. I am very hurt that the divers who were injured, and there were many from the total number, the Norwegian state cannot provide proper compensation. By that, I don't mean just financially, but the State has tried to wriggle out of taking responsibility for the injuries the divers suffered. The divers got these injuries due to their profession.

#### WHAT DO YOU THINK ABOUT PEOPLE NOT FINDING PEACE ABOUT THE ACCIDENT TODAY?

I think questions must be answered. Who did what and who knew? Where was the regulatory authority in all of this? One of the conclusions in the accident was that Kielland was also improperly loaded, as far as I remember. One leg received heavy stresses. Who knew about this and gave permission for it? The platform chiefs on the old floating platforms, they knew about load calculations. How much pressure were they under to deviate from the safety frameworks they had? I remember back when I was out on the Frigg field for one summer season, we were doing air diving. The Norwegian rules for bell runs were a maximum of 8 hours. Those were the rules. But the clock ticked down, and they were down for 10 and 14 hours. There was a man from Elf, a representative

for both Elf and the Norwegian Petroleum Directorate. This was very strange. The divers didn't protest; that was how it was with diving in those days. If you protested, you were out of a job and sent ashore.

"The first ship that drilled in the North Sea: Glomma grand Isle "didn't know" Norwegian authorities drilled in the North Sea. Oil deposits in the North Sea. Gas and oil Groningen field. Set up by the American authorities on the shady side. Military/NATO/Norwegian authorities in the civilian part. Traveled around to find landing sites for oil. When a rig was to be moved from one place to another, the Americans were to be notified before the move.

LEIF TORE SKJERVEN, 3X

By Else M. Tunglund, June 16, 2014, Ølberg.

Personal Information:

Approximately 30 years old in 1980

#### USE AND IMPLEMENTATION

Skjerven consented to the publication of the conversation notes, to be included in the memorial collection about the Alexander L. Kielland accident, and handed over to the Norwegian Oil Museum, the State Archives in Stavanger, the National Library, and the Labour Movement's Archive and Library for the benefit of posterity. Approved.

#### AFFILIATION

Diving leader and one of the pioneers in Norwegian diving – one of the founders of 3X. Had divers in saturation on Wildrake (diving ship) when AH capsized. Worked throughout Easter to find divers who could assist. Also the first to inspect the wreck after the platform was turned (so-called "corpse hunt").

#### FIRST REACTION:

I had just poured myself a glass of port wine when I heard about the accident. I left the glass because I thought I might have to work – but I didn't hear anything. The phone call came later in the evening, just as I had pulled the covers over me.

We discussed whether it was ethically right for us to make money from the accident.

I was the only man (diver) left in town, the others went offshore.

The initial reports were that about 100 people were killed – it was quite macabre because they threw numbers around without control before they actually knew anything – this is something we've learned from in hindsight.

I knew one of the deceased from Sandefjord, we hung out quite a bit in our teens – tried to pick up girls together, I had a moped and so did he. I didn't talk about this to my family, but I felt like attending his funeral – but ... yes, I still had small children and was pretty broke, so I couldn't afford it.

#### ABOUT THE "CORPSE HUNT":

Thought it was best to do the dive myself because we didn't know what we might find, so I had well above my resting pulse when I was lowered.

We looked into the windows to see if we could find any deceased – but we didn't. We had the police with us.



DAG TRONDSEN, 3X

By Else M. Tunglund Tananger, June 13, 2014

#### PERSONAL INFORMATION

Born in 1955

#### USE AND IMPLEMENTATION

Trondsen agreed that the notes from the conversation could be made public and included in the memorial collection about the Alexander L. Kielland accident. They will be submitted to the Norwegian Oil Museum, the State Archives in Stavanger, the National Library, and the Labour Movement's Archive and Library for the benefit of future generations. Approved.

#### AFFILIATION

Dag Trondsen was the diver who found the last deceased person in the sea before the platform was turned. He was also involved in the turning operations. During one of these dives, he suffered serious decompression sickness (the bends), resulting in damaged knees. He was 25-26 years old, and at home, he had a wife and small children.

The actual cause of the accident never surfaced – that's my perception.

The legs didn't fit together properly. They had just placed them against each other, covered them with putty, and painted over. They weren't properly welded. Some of the holes were so big that I could stick my whole hand in them. It's exactly like if your arm had been ripped off, and the hospital just stuck it back on with a bandage. It won't work; the arm would fall off again when the glue loosens.

(This wasn't something that could have happened when the platform capsized because if the joints shifted, the putty would have been the first to crack and fall off. Besides, the same problem existed on the Henrik Ibsen.)

We divers were paid to do what they told us to do – but when I saw that the legs weren't properly welded together, it made me think. I formed my own picture of what might have happened.

There was much speculation about whether it was a construction error, which we (divers) could have confirmed, but it never emerged.

I've thought a lot about all the holes in the notes – and if the poor welding was part of the cause of the accident. I took pictures and videos of the holes, but they didn't want that. We weren't allowed to talk about what we saw. If we allowed ourselves to be interviewed by a journalist, they would ruin us so we'd never work again. We had to sign that. It was very strict.

Det norske Veritas and the government hushed this up – some at the top didn't want this to come out. Norway was a leading maritime nation. They had approved the platform without proper examination and didn't want it to come out because they would be condemned worldwide. Veritas had lost all work. This is my opinion.

After the platform was turned and the deceased were retrieved, they decided to tow it out and sink it in the fjord at a depth of 700 meters so that no one could examine it further. There was hundreds of millions in metal there. Could have melted it down, but they wanted it gone. Smells fishy to me.

This can't be true – I didn't believe that something like that could happen! – I was at the sports field and heard some friends talk about the accident. It was only when I got home and saw the news that I realized it was true!

I had been on platforms in mega-storms and seen the sea cover the platform, but I was never afraid. After the accident, I began to think a bit more...

It was at a depth of 25 meters and completely dark – I touched something and thought it felt like a human – an arm? It was an arm! The realization came gradually – this was a human – a head! I put the diver's mask right up to the nose of the deceased and said that I wouldn't do anything more until I got a light down. They brought down a small flashlight. When they confirmed the find, there was chaos on deck.

Wasn't allowed to go home after the find. Wasn't allowed to call home and inform my wife. They didn't want it to get out.

The only one found in the water, after it was towed into Gandsfjorden, about 9 months after the accident. In late 1980 or early 1981.

WORKED FOR TRE-X. LEIF SKJERVEN AS THE BOSS

At work in Gandsfjorden, he worked for Seaway Veritas, and the boss sat at the SSB base in Bergen.

We saw air seeping out from the nodes. They weren't sealed. Nodes are the junctions where the legs meet. They didn't fit together properly. There were holes as big as a fist. They had put putty in the holes and then painted over it. We were told by the Veritas boss to sandblast the area, and then we saw that they didn't fit together. It was like if you were to build a house and get a hut put up by a 10-year-old.

DIVED TOGETHER WITH:

Jim Rune Petterson

#### CRATERS AFTER IBSEN WITHSTOOD FULL WEIGHT

When they examined the platform after it was towed to Gandsfjorden, they saw air bubbles coming from the nodes. The nodes are the junctions where the legs meet. They had a camera with them and filmed everything so that those on land could follow along. The boss, someone from Veritas, ordered that one of the nodes should be sandblasted for a closer inspection.

The divers then found large holes, under the putty and paint, where the legs met. The construction wasn't properly welded together! Some holes were so big that I could fit my whole hand inside. The entire thing was put together like a hut built by 10-year-olds. The guy from Veritas said that this was of no significance, and we weren't allowed to inspect more of the nodes. We filmed everything, so this should be in the archives, but I've never heard anyone talk about this. Veritas didn't want this to come out because they were responsible for checking the quality during construction. There's something very wrong when the same people were assigned to investigate the cause of the accident.

KÅRE STORVIK, KVÆRNER

By Hans-Jørgen Wallin Weihe, October 24, 2015, 1366 Lysaker, Agreed.

#### OTHER INFORMATION

Aftenposten (2015, September 13). Kåre Storvik 85 years old. Aftenposten, p. 29.39

Smith, Peter W. & Storvik, Kåre (Undated notes). Kværner Engineering's entrance to the oil age. (21 pages) Note marked 131203 KS

Storvik, Kåre (Undated I) Images from the ship's tank in Trondheim – experiments with turning the model of Alexander Kielland (Five images)

Storvik, Kåre (Undated II) Drawings of the turning operation (illustrative) made by Storvik's son (three drawings)

Storvik, Kåre (Undated III) Organizational plan for the Alexander Kielland Turning Project (one page)

Storvik, Kåre (Undated IV) Kåre's saga. Paginated note, 10 pages.

Storvik, Kåre (Undated V) Vigor's first years – good and bad days. Paginated note, 29 pages.

#### CONVERSATION

The conversation with Kåre Storvik takes place in his home at Lysaker Brygge. His spouse is present during the conversation in an adjacent room. She serves coffee but does not participate in the conversation other than to greet at the beginning and end, showing a picture of Kåre Storvik painted by a Russian artist. I am allowed to photograph the picture.

Kåre Storvik says he considered the turning operation as a technical challenge because the platform's weight, its center of gravity, and whether the living quarters were sufficiently attached to the platform were uncertain. What was visible/inspectable of the welds was done in different ways and the work didn't seem planned by engineers. There was an offer to purchase drawings of the welds, but this was not utilized. The reason was that there was no trust that these provided documentation for the welding that had been done.

It was surprising that the capsizing happened so quickly. It went faster than calculations – a possible explanation was that hatches that should have been closed were open. This can be called operational negligence.

Storvik emphasizes that he had nothing to do with the investigations conducted after the platform was turned. His mandate was solely the turning operation. He doesn't wish to comment on the review after the turning operation other than that it was done quickly and he cannot see that anything other than what was expected beforehand was found.

The turning operation was carried out by Kværner, a model was chosen, and the company was engaged on a time and materials basis. He emphasizes that Kværner was chosen because it had skilled industrial management and the necessary technical expertise. When he was appointed as the leader of the operation, it was based on his experiences with

managing advanced technological projects. Specifically, he highlights his experience with atomic energy during Noratom. Norway was advanced in nuclear research, and there were extensive international contacts around both research and the technology developed in Norway. At Noratom, he was a project leader at the reactor in Kjeller and in relation to waste storage (OECD project storage of waste from Belgium).

After he completed his technical education, he started in Oslo with electrical welding, later at Noratom – in total, he also worked for 20-25 years on atomic safety in Kola and in Arkhangelsk. He has constantly been involved in such work. In 1970, he started at Kværner, in 1974 at Vigor in Orkanger – which was taken over by Volvo-Orkla, and in 1980, he returned to Kværner. There, he was involved in establishing a department in Trondheim, which became Kværner Engineering.

The task of turning the platform was very special. There was great attention around the assignment and a lot of intrigue. As previously mentioned, the uncertainty was linked to the unknown weight of the platform, the unknown center of gravity, and the uncertainty surrounding the attachment of the living unit to the platform. It wasn't possible to reach it with divers and therefore difficult to ensure the attachment. It seemed provisionally done. Calculations were made. An attempt at turning was made early, which was stopped. In 1982, a trial lift was carried out in the fall. The actual turning took place in 1983. The trial lift and experiments in the ship's tank formed the basis for the execution of the turning operation.

A technical group was established for the work - popularly called the "professor group." They conducted tests in the ship model tank. It went wrong in the ship model tank, but important lessons were drawn from it. The platform was turned using four large chains and winches. The experiments led us to place two large barges to prevent lateral displacements.

On September 13, 1983 – my birthday – the turning was completed. It was a great relief to have completed the task. After turning, I went straight to a new job in Egersund. There were many collaborators. The most important were the police and the labor inspectorate. I assisted in the work with the proposition. There was great pressure on us working on the turning. There were many conspiracy ideas – accusations that we were paid for the turning to fail and that we were paid to cover up. One person involved earlier had mental problems. He was among those who believed it was sabotage. There was tremendous press focus. I wasn't used to so much pressure from the press.

In collaboration around the project, Veritas and the police were the most important. Veritas approved the entire project. We had tough discussions with Veritas. Politically, it was at the ministerial level. It started with Arne Skauge, who was Minister of Trade and Shipping. He had a professional attitude. I met in the trade and shipping committee in the parliament. I had the feeling that the parties were trying to assign blame. Asbjørn Haugstvedt from the

Christian Democratic Party worked politically to get the turning done. He was later given the task – I don't think he was prepared for it. While Skauge was professional, it was a calling for Haugstvedt. He didn't want me in the parliament, but it ended up with me meeting for the committee. The department wanted me to join. He probably wanted a separation between the political and the professional.

Both ministers were concerned with the project. One can question whether many of the bereaved would have been satisfied to leave it all behind. The turning happened three years after the accident. I come from Lofoten and am used to many people having a watery grave. For me, it was an industrial job to be done, but I had great respect for the accident, those involved, and their relatives.

Today, I mostly work with marketing. I organize trade shows – most recently in Stavanger, Aberdeen, Gardemoen, and Houston.

The conversation ends. I thank for the time and hospitality. Storvik has a magnificent view. He cheerfully talks about ship traffic and what it means to have a sea view. The task was poorly specified. Those who understood the assignment didn't have problems with it. There was great uncertainty with the execution – we sent out inquiries and asked various bodies to take a stance on the method we proposed. Some were critical – skeptical – it was easy to see that we lacked important information and that some of the basis lacked vital information. Engineer Knut Børset worked out the method. My attitude was that a lot of work had been done on turning projects and we had to use what had been tested.

At the end of the conversation, we discuss today's safety work. Storvik says that unfortunately, it can happen that forms and papers become more important than practical sensible measures. If only the papers are signed, everything is OK. This can lead to the actual safety work being discredited. He is still involved in oil and gas. Now with work on base operations. Lundin will start drilling in the east. They emphasize a new hospital in Kirkenes with crisis preparedness. We must use that in marketing.

OLE ØSTLUND, ENGAGED BY STOLT NIELSEN SEAWAY CONTRACTING A/S  
By Ellen Kongsnes, 16<sup>th</sup> January 2016.

Consent given for memorial gathering on 15<sup>th</sup> January 2019. I wish for his email of approval to be attached in the Memorial Bank due to additional case information.

#### BACKGROUND

When I left Aker (submitted resignation in October 1978), I started my own company, O.C. Østlund A/S. I was employed in the company O.C. Østlund A/S when the company was engaged by Stolt Nielsen Seaway Contracting A/S, with me as the turnaround leader for Kielland in 1983. (Email 05.03.1959)

I was the project manager in the second attempt to turn Alexander Kielland upright. I was fired before the task was completed. Since the lifting in 1983, I have consistently claimed that Kielland was subjected to an explosion. Context: Moe Commission, led by Johannes Moe, investigated cost overruns in the Statfjord development.

On 27<sup>th</sup> March 1980, the Alexander Kielland accident occurred.

Østlund: As soon as I heard the news on TV and radio, I had a feeling that something was wrong. I heard descriptions from survivors about a loud bang.

Then I thought: now they overshadow the Moe Commission.

1983: It was Bjørn Nilsen who came to visit me. I was hesitant to talk to him. He was known as a member of the Workers' Communist Party. But there was no one else who wanted to listen, so I agreed to talk to him. He was the one who told me about the forces at play in this.

Statfjord:

Østlund: I was asked by Johannes Moe. 'Now you must tell me everything you know,' he said. I replied that there is corruption in Statoil. I worked at the Brevik factory at that time and worked as a consultant for the Moe Commission.

Moe was to publish the report and hand it to Bjartmar Gjerde in April 1980.

Later: I had meetings with the FBI in the USA. They said, 'Østlund, you are right. But we cannot do anything. We need an approach from the Norwegian authorities.'

Fate plays a role here too. It's fate that pulled me back into the AL [Alexander L. Kielland] accident after I was fired from the turnaround operation.

It was an old friend, neighbor, colleague, and companion from Stavanger who contacted me and wanted me to join the turnaround. I said no. I didn't want to be involved in welding again and cover up evidence that something had happened.

I had already shared my concerns with two journalists, but I had to quickly withdraw because I realized I was being made a fool of.

I closely followed the first turnaround through Stavanger Aftenblad.

- I received my education from the Royal Institute of Technology in Stockholm, I am a qualified aerospace engineer from KTH. I got a very good education there.

The break in brace 6 is a fatigue fracture.

Like tree rings, you can see gaps in the steel. There are three gaps in the steel from brace 6, visible under a microscope.

There's no dispute about this. The crucial point is what triggered the fatigue fracture. The commission says it's the wave load.

The University of Oslo says bainite might have entered the steel from an explosion or from the steel rolling process.

Moan sent brace samples to Sintef and to the ironworks in Mo I Rana. But he didn't send samples from the D4 brace where the explosion occurred.

Therefore, Sintef finds what they are supposed to find.

The commission knew that D4 would show an explosion. So, they didn't want to investigate it. Because then the investigation would turn into politics.

Again, we must ask: who was in the commission, who established it:

Andreas Cappelen, Minister of Justice, and Reulf Steen, Minister of Trade, established the commission. It happened very quickly during Easter week, just after the accident.

Many heard a bang. It wasn't the weather conditions they heard. It's just bluff.

I have challenged Moan and the entire technical community to debate with me, but they refuse. I can dismantle everything they present.

The explosive charge was against the area where bainite was found in the steel. Bainite was not found elsewhere in the same footing.

-How did they get onto the platform and place the explosives?

-No problem. They could do it at night or pretend to be inspectors during the day. The brace was 2x2 meters in diameter, and one could easily stand inside the brace.

The procedure is simple, just unscrew the water cap, enter the brace, and place the charge under the grating. The trigger mechanism of a clock or a radio signal had to be taken outside.

Most likely, they used a 24-hour clock that was activated later.

The radio signal would be received via communication with the platform.

This isn't about a Soviet submarine with frogmen. This is an 'inside operation' carried out by people who know about this and who worked aboard the platform.

Breakage in D6, which is underwater when the platform is out. Explosion in D4, which is just below the platform deck.

When we talk about politics here, we're not talking about political parties, we're talking about political forces. They are in the Labour Party, but they are also in the Conservative Party. It includes everyone who has positions to defend or who aspire to positions and have a network to protect.

Those who placed the charge left for land before the explosive went off. There was a crew change a few days before the accident.

The point wasn't for as many crew members to die as possible. There was to be an event that overshadowed the Moe Commission and the corruption allegations against Statoil.



That's why they chose to let the charge go off around 6 PM, during the crew change. But then fate intervened. Fog arrived that day. Instead of fewer people, there were now more people than usual aboard Kielland.

Those behind the sabotage had a choice: they could postpone the operation or they could proceed.

The cynicism proved to be greater than regard for human life.

The last supply boat on Alexander Kielland the evening before the accident was there for only five minutes. Why is a supply boat there for only five minutes? And what's the scar – the rift – in D4? The commission believes it comes from a container that came loose, fell off, and created a rift when it hit the brace during the fall. My theory is that the cut in the brace is made by the bow of a supply ship. The supply boat might have bumped against it when they moored, allowing someone to walk to the brace and activate the clock connected to the explosive charge.

I still remember all the details, it just shows how deeply I was involved. You remember what you engage strongly in.

The explosion happens at 6:30 PM. The steel fragments have tremendous speed and hit everything around them. They hit the platform deck and lifeboats. There's also a tremendous air pressure. The air pressure hits the water and creates a crater wave that hits in all directions, like when you throw a stone into water and it creates ripples in all directions.

The crater wave hits the weather wave, and the combined wave hits the underside of the E-column and deforms the beams in the deck.

This leads to holes in the structure from fragments and deformation of the structure due to the force of water.

The water continues and hits the D-leg, pushing it out. The lifeboats are torn off. The damages to the lifeboats and the platform align with this.

Such damages don't come from a leg just coming loose and falling off.

On page 11 of the commission's report, Moan writes that they disregard the possibility that the accident could be due to an explosion.

The inclusion of that sentence is just to cover themselves for the future. Investigating an explosion doesn't take long. It's neither expensive nor time-consuming.

Instead, they have covered themselves for the future in case different conclusions arise.

D4 is sent to France. President Mitterand plays along and gets the Troll Agreement with Norway as a reward.

If Reagan had been the president of France at that moment, maybe the outcome would have been different.

'You sacrificed your job, marriage, and your children. Was it worth it? It's a difficult question. When you stand on the edge at the top of a ski jump and throw yourself into the jump, then it's too late to turn back.

You jump and, of course, hope it'll be quick. But you have no control over the timing.

I thought someone would take action. I first thought that the commission had overlooked something. Only much later did I see that everything was a huge cover-up operation that was also meant to target me.

The real question is why did I jump into the jump in the first place. 2+2 is indeed 4. I wanted 2+2 to be 5.

If I hadn't raised corruption allegations against Statoil, 123 people wouldn't have died. I had a guilty conscience. I tried for a while to live with it, but I couldn't.

I lost my family, my children. I lost my finances. I lost a lot.

If I could choose again, would I have done something differently? I don't know if the result for me and my family would have been different. Darkness and secrets are also impossible to live with.

I spent two years considering whether I should jump. When I did, it felt like a relief.

For me, it became a question of changing a society that had some driving forces that I couldn't accept.

I did have an audience with the King later. I told King Olav everything. It was clear that he knew nothing. As I left, I thought that the truth must come out, in the interest of nations.

I wanted a new investigation and wrote a letter to Gro Harlem Brundtland and the Attorney General. Then I thought something would happen, and my effort would be over. I could concentrate on getting my shop back on track and went to Texas. But in 1987, nothing happened. And Gro also does not present the proposal for a new investigation to the King.

I have to return home from the USA to request a meeting with Gro and Minister of Justice Helen Bøsterud. They refuse. Then my credits stop. Then begins a long battle against the windmills. Phone tapping: The phone being tapped was discovered when a new line was to be installed at the house in Steinberget in Ila in Trondheim. The telecom technician said his line was connected to the telephone line of a company called Publico, located across the street. The company was run by freelancer Svein Nic. Nordberg – who also worked for Aftenposten. But there were probably several actors behind the wiretapping. I've read quite a bit about this and know how they operate. They cast false suspicions based on evidence that cannot be proven but still cast shadows and suspicions over you.

Arne Treholt was imprisoned at Fornebu in 1984, the same day I was in Zagierski's basement at the University of Oslo going through the findings he had made in the steel from Kielland. At the same time as I proved that Kielland was blown up, Treholt was arrested. And for the next two years, everything in the public eye was about the spy case against Treholt. Treholt overshadowed Kielland.

In 1985: I decided to get separated. I couldn't bring my family along in the aftermath. I had to secure the family financially. The house in Stokka in Stavanger was sold, and the assets

were divided between my wife Margunn and me. The children stayed with their mother in Stavanger. I moved to Trondheim.

2016: After many years of financial hardship, I took out a pension from the National Insurance Scheme in 2014 and finally got a financial platform to look forward and move on. I have always sought to keep myself active through outdoor activities and physical exercise, which also provide mental strength.

Anita came into my life in 2003, and we have been together since. So, my life has not been without activity and events, but there has always been a shadow there. Kielland has always been there, whether I wanted it or not. Others have not forgotten either.

My persona was unwanted in the Norwegian oil industry because of Kielland. Even though I didn't always bring up my message about what had happened on every occasion, there was always someone who asked. My answers were given in open honesty, which did not sit well with leaders who were dependent on Statoil and Norwegian authorities.

It wasn't Kielland that took Hanne's father from her. But the omission from Norwegian judicial authorities, politicians, and media. Clue: International politics: Gaddafi – Libya: Libya is a major oil producer and wanted a high oil price. He wanted to target all competitors. The producers in the North Sea were a natural target. Gaddafi has support from the mafia in Sicily. Gaddafi paid the mafia to carry out an action that targeted oil extraction in the North Sea.

Østlund asked: If you were to sink AL, where would you place explosives? At the cross brace, I said. We went there by motorboat and saw a hole that corresponds to an explosion. The investigation committee didn't want to see the hole.

The stud was burned off at the request of Børseth. Examined by the French shipyard UCM in Dunkirk. The investigation committee didn't want to examine the part.

Kian and Østlund cut a piece loose and sent it to two researchers at UiO. Zagierski. He found a twin in the steel. It occurs when the steel is quickly heated and cooled down rapidly.

Explosives: Cordite, ammunition propellant. Also used to blow loose drill bits when they got stuck. AL was supposed to drill. Therefore, it's natural to assume that cordite was on board.

Lockerbie plane crash: chemical examinations could reveal explosives. The same could have been done on AL – where the investigations were conducted, and if there had been an explosion.

I am not 100 percent sure. But the indications are too strong to ignore. Back then, they used cordite to release the drill bit. AL was supposed to drill when it was finished as a residential platform on Ekofisk.

The brace lay at the bottom towards the sea. It could only be inspected by divers. A diver is said to have inspected the brace. He was found dead outside a bar in Miami shortly afterward. ASK BJØRN NILSEN.

Arne Sinnes. Ministry of Trade. Pictures taken of the breakage site by Statoil when the parts were on their site were studied by Børseth. Børseth was shocked by what he saw.

Børseth simulated the stubs and the brace in cardboard. He managed an explosion. Bjørn Nilsen got to see the simulator (and the pictures?) meant to meet a guy in Gothenburg. He didn't show up. He was found dead in a hotel room later.

My wife was afraid for me. She is not happy that I have taken up the case again. I told her that if something happens to me, it's not due to illness.

Contact Bjørn Nilsen – Kyrksæterøra. Jon Michelet, a party comrade, might know where he is. Børseth has a cousin in the Oslo police to whom he gave the photographs. He (Frode?) took the photos to explosion experts at the police headquarters.

Later, he got the photos back, and the police who had seen them believed that this should be investigated further. Wilhelm Blystad bought Tentech. Agency Chief Stefansen. Gave the photos to them. State Secretary Arne Synnes called and said he had to hand over the pictures. It was done – dared nothing else. Approx 1983.

The Kielland Fund provided documentation with a blasting theory – see newspaper archives. Østlund and Børseth were listed as experts behind the document.

The police came to his office in Parkveien. They wanted to know who the sources were in our documentation. Børseth's cousin in the Oslo police was subject to pressure, stamped as an accomplice, had to leave the police force some time after. The cousin was told that Børseth had named him as a source, which was not true.

Willoch has not wanted to meet Børseth for a conversation. Willoch wanted to sink AL. Didn't get a majority. Pressured himself into the majority.

Many wanted to buy the steel. Worth a lot of money. Why was it so important to sink it? It was sunk in its entirety at a depth of 700 meters. AL was a pentagon platform. Five legs.

The distance between the exploration hole and the hydrophone on the bottom brace was too close. It measured 270 mm. Approved by Veritas. A similar Lloyds-classified rig, also a Pentagon Rig, classified with

4000 mm distance. That was right. So Veritas made a mistake by approving the bottom brace with those distances between exploration holes and the pentagon.

Was there a crack on the opposite side of the pentagon too? Knowledge of this could have determined if there was an explosion or not because the two braces were similar. Why did one break? Does it indicate an explosion?

It shouldn't have been discovered – hence it was better to sink it. At a depth of 700 meters. Back then, it was impossible to investigate something so deep. Today, you can investigate the platform where it lies at 700 meters with ROV, remotely operated underwater vehicle, and get answers to what wasn't investigated then.

Who would want to hide – who could gain by hiding? Follow the money. Stavanger Drilling. Another owning company? Survivors state in the report that they heard two bangs. Today it's not a problem to model weather conditions and platform. Can also find out where the break began. Shocked that no one has done this.

“AL – no maritime inquiry, just investigation. Kian has seen the witness statements. Sorted by date, it's possible to see that at some point, the witnesses stop mentioning the explosion.

AL: Was the anchor tightened or loosened too much upon detachment from Edda? Børseth dismisses the theory as nonsense. Refer to the mandate. READ IT.

The group didn't do their job. The platform leg that broke was sheltered from the wind direction and waves. Waves and wind hit the opposite side, so why did this leg break? No one has looked at the weather and wave height backward in time.

Each wave period would show in the steel like annual rings visible under a microscope. Calculated weather and material fatigue – development. Then you can find if fatigue or explosion triggered the leg to break. But these stress lines are not investigated.

Look at the picture on the phone.

Maritime inspector H. Dahle's report. 27.3.1980-2.4.1980. Telephone, police, Kripas, a man admitted to the explosion. Had access card to Edda. Explosives.

KNUT BØRSETH, TENTECH INTERNATIONAL

Ellen Kongsnes, 20.11.15

ALSO PRESENT DURING THE INTERVIEW: Henrik Fleicher, partner for 20 years Consent 20.1.19

ALEXANDER KIELLAND PLATFORM

Knut Børseth cannot guarantee that there was an explosion. His main objection is the sin of omission that occurred when the investigative commission was not on board, when the platform was sunk too early, when the leg was sold and melted down, when no one calculated or simulated afterward how material fatigue developed backward in time, depending on weather and waves, to check the metal's annual rings against the explosion theory.

And why couldn't the other legs keep the platform's foot in place if it was the bottom leg that broke and there was no explosion in the cross leg?

Østlund couldn't stop. Career ruined.

One of the mistakes he made was to ask: and try to find out; who did it and why?

Børseth believes that the most important thing is to establish the commission's deficient work. The threads they closed their eyes to. That the explosion theory was not investigated. Børseth got a hint from colleagues that Tentech would lose assignments if he didn't stop poking into the accident.

Scott Corbes was chosen to lead the first turnaround operation. I saw it would go wrong. I was called to the Ministry of Trade.

At that time employed at Tentech International. Dep. Bolle.

Børseth said the turnaround operation would never succeed.

Børseth's name and criticism were made public. He was exposed and ridiculed. The turnaround operation was still stopped.

Børseth met Kian and got in touch with the Kielland Fund. Børseth offered his services to describe a turning method that would work. The Kielland Fund had no money. Børseth was so deeply involved now that he developed the method anyway, without being commissioned by anyone.

Veritas did not support Børseth's theory. They concluded that the method would not work, that the AL platform would not withstand the strain.

However, the Parliament decided to use the Kielland Fund's method, and Ole Østlund was hired. Now Børseth's signature was removed from his turning method/work.

Ole Østlund was fired from the assignment quite quickly.

Tentech sued the Ministry of Trade for 2.1 million kroner for the turning method. He won in court. The rig was turned, and Børseth was engaged by the Kielland Fund to come on board the platform. See list from Børseth in email.

Østlund went out to the platform in a motorboat with Ole Østlund. To see under the deck, which was four meters above the waterline.

Odd Kr. Reme.

Explosion in the cross leg. Because if only material fatigue in the lower bottom leg, the other legs would have held the platform together.

Børseth sought the truth. But for career and personal reasons, he chose to stop. But one man did not stop and sacrificed his career, that was Ole Østlund.

I have said this publicly. Met with deafening silence.

Anyone who has tried to raise the question has been frozen out and ridiculed. Considered weeds by the research community in Trondheim.

NTNF's Ear Prize in 1989 for the construction of Petrojarl 1, which was built in 1986.

Aftenposten

17.11.83: Inflexible Willoch demanded sinking 40

18.11.83: Willoch secured majority 41

The explosion theory from the Kielland Fund launched parallel to the struggle over sinking.

Østlund's weakness:

He began to search for who could be behind an explosion. Then there were too many accusations and conspiracy theories.

The biggest flaw is that a timeline was not created backward and the sea conditions were not mapped.

'hindcast'.

Why the rush? The leg was sold.

Was taken to the quay at Vikaneset in Hjelmeland."

BERNHARD OMMUND RANDULFF, STAVANGER A.V. INSTITUTT AS

By Else M. Tunglund, October 19, 2017 PERSONAL INFORMATION

Born 1946

Stavanger A.V. Institutt AS

[b.randulff@gmail.com](mailto:b.randulff@gmail.com)

#### BACKGROUND

Conducted film and photo assignments for the Ministry of Trade.

#### LIMITED CONSENT

The notes from the conversation are part of the memorial collection on the Alexander L. Kielland accident and have been handed over to the State Archives in Stavanger. It is exempt from public access for the time being. Access to the notes from the conversation may be granted upon approval from Bernhard Ommund Randulff (Email dated February 22, 2019)



Photo 6. Close-up of Alexander L. Kielland: Stavanger A.V. Institutt AS





Photo 7. Alexander L. Kielland in Gannsfjorden Photo: Stavanger A. V. Institutt as.



Photo 8. accommodation block. Photo: Stavanger A. V. Institutt as.



Photo 9. Parts of the platform deck. Photo: Stavanger A. V. Institutt as.





Photo 10. Cinema. Photo: Stavanger A. V. Institutt as.



Photo 11. Area around the mess. Photo: Stavanger A. V. Institutt as.





Photo 14. Stavanger police searched the platform. Photo: Stavanger A.V.Institutt as.



Photo 15. Buoyancy tanks. PhotoStavanger A.V.Institutt as.

JIM RUNE PETTERSON, 3X

By Else M. Tunglund, June 20, 2016.

#### CONTACT INFORMATION

Email: [Jim.rune.petterson@lyse.net](mailto:Jim.rune.petterson@lyse.net)

#### CONDUCT AND USE

Several conversations have been conducted with Jim Rune Petterson and Marie Smith-Solbakken, and Else M. Tunglund.

Approved on June 20, 2016.

#### AFFILIATION

Worked at 3X (number 2) alongside Gunnar Møllegård, Harald Klinge, and Jan Egil Pettersen.

Dived on Kielland in Gandsfjorden during preparation before other salvage attempts. Was hired by Seaway, Stolt Nilsen in Haugesund. Ingve Bergfløtt was the superintendent. He works at Statoil and lives in Bergen.

We dived from the fishing boat Sirafjord and a barge in Gandsfjorden. Lived on the boat at Hetlandskaien. Worked 12 hours on and 12 hours off.

Thought about the nightmare it had been when the leg fell off. For us divers, the platform was a big metal lump and a job that had to be done.

I had 6-7 dives on node 10. A node is a cross where structures (braces) meet. Worked together with, among others, Dag Trondsen.

It was entirely coincidental that node 10 was examined more closely. One of the divers noticed that air bubbles were coming out of it. It was therefore decided that node 10 should be jet-washed clean.

Then putty and a white substance that colored the water came loose, where there should only have been metal. There was a lot of commotion when this happened. This was filmed. Where the film was stored and what happened next, I do not know.

Some divers came across the sign that said 'Alexander Kielland.' They found a screwdriver to secure this fantastic souvenir. They were a few seconds too late. When they reached the last screw, the police appeared and said, 'Thank you for loosening it. You can give us that sign!'

After the Kielland accident, it was not enjoyable to work on a Pentagon rig. Was on the 'West Venture' in the North Sea (around 1984). Those on board were very scared and nervous. A container of about 15 tons, which was in the way, had to be moved. The platform manager was furious about the move, first because it caused the rig to go out of level. It was off by one degree. The divers were blamed. In the midst of it all, there was an explosion in the generators. There was a fault in a unit. We saw fire, and the alarm went off. Then the platform manager ran so fast that we couldn't see anything but heels..

SVEIN PEDERSEN SEAWAY, - STOLT NIELSEN

By Else M. Tungland

#### PERSONAL DETAILS

Phone interview on May 25, 2016

Approved via email on June 16, 2016

Field engineer certified by ASNT, which is the American equivalent of Veritas. ASNT – (American Society for Nondestructive Testing?)

Performed 100 dives on the Kielland in Gandsfjorden between 1982-83 until it was sunk in 1984.

Was a diver with an engineering degree for Seaway – Stolt Nielsen. Magne Vågsli was the project manager initially; he was succeeded by Yngve Bergflødt.

A group of familiar divers worked together in Gandsfjorden. We dived from Sirafjord and lived on Brann 8, a very old coastal steamer. Eventually, NUTC Fjorbarge joined as an additional vessel. The work piled up, and we got more and more tasks.

#### SEARCH FOR THE DECEASED

We spent a long time searching for the deceased. This was 3-4 years after the accident, so there were only remnants left. Lots of steel scraps with mud. Sewage from Sandnes gathered in most areas.

We searched for body parts. A team with 3 divers and 2 from the police searched together. Those we found were the ones who had run to their cabin to put on their life jackets. One of the people we found was at a depth of 35 meters inside a bathroom. I took the boat saw and tried to get him out. Pulled on one leg, but then the legs detached from the rest of the body. I told those up there that it was impossible to get him out and didn't mention what I had done. We were told not to touch anything if we found anyone.

During one of the dives, a briefcase was found in the workshop area on the platform. Identification, passport, etc., belonging to a Spaniard were also in the briefcase.

#### INVESTIGATION AND CAUSE OF THE ACCIDENT

Veritas eventually got involved. I was involved in the investigation and worked together with Veritas' people.

At that time, there were no computers. Veritas' people used Texas calculators. I had bought a Casio calculator in the USA. We competed to do calculations on how to turn it. It took a long time.

As an engineer, I think the Alexander Kielland is a textbook example of what can happen. On a fastening pipe for a hydrophone, after the weld had been heated, it was forgotten. This led to cracking and a classic example of a fatigue break, where you can see the rings from a crack that grows slowly until the strength of the brace it was welded into became too weak to support the weight of the deck, and it broke off. The leg stage that went out to this point became a weight arm, and instead of supporting the platform, it broke free from the platform, which, in the short period from when the brace lost strength until it tore off, went around.

We found other cracks. These were secondary damages. When the platform went around, a lot started to break. Buoyancy in the housing quarter and the torn leg underneath caused more secondary cracks. Additionally, the platform was not designed to be upside down, so this, along with the storm and the towing to land, subjected the platform to loads it was not designed to withstand, resulting in new damages.

Welding work had been done on the platform shortly before it capsized. On one of the four pillars (stages?) that remained on the platform.

Welding cables had been drawn down into the braces so that the watertight bulkheads were filled with water. (This may have made the platform more unstable).

Towing damages? One caveat here. Towing along with poor welding may have contributed to the accident.

We investigated if there had been an explosion. Did you find anything indicating this? (D-4 wasn't possible to lead to the same fracture surfaces.)

There was a small explosion during an examination of what? A diver's mistake. Helium explosion. During the burning of the drainage hole under the housing quarter, the combination of pure oxygen and a magnesium lance formed. Hydrogen gas, this pocket grew, and when the hydrogen gas came into contact with the cutting lance, it exploded. The entire platform lifted about 30 cm in the water, and the explosion, which occurred at more than 30 meters' depth, was audible on the surface.

#### DANGEROUS DIVES

We worked 14 days on and 14 days off.

We dived on nitrox, but surface compression. It was an unfortunate combination.

The method allowed increased bottom time and diving to greater depths by setting the depth to the amount of nitrogen reduced by adding extra oxygen (e.g., US Navy dive manual has a working depth limit of 39.6 meters with air; in Norway, the depth is 50 meters. When

Eidsvik and Arntsen created the Norwegian diving table for diving with nitrox, they calculated directly and the US Navy diving table that they reduced the depth compared to table 2 with either 32% or 36% and converted the depths. What was not taken into account in the conversion was Henry's Law of equilibrium between gases, which means that the normal 79% nitrogen at 40m diving depth is absorbed slower than 68% nitrogen at 48m. Norwegian divers who dived on 32% oxygen to 48m got bottom time according to the US

Navy tables for 40m, and they compressed after this converted diving depth. In addition, there was a dive-free day in the week, followed by a dive-free day every 5<sup>th</sup> day as the number of cases of decompression sickness increased. The Norwegian diving table has been used in Norway's three largest diving operations where over 12,000 dives have been made, positioning and building the Kalstø tunnel, turning the Alexander Kielland, and repairing the Kalstø tunnels in 91 to 93, and is probably the reason why more Norwegian divers have been injured than foreign divers.

In addition, surface decompression was used, i.e., the dives have 1 minute to come from 9m to the surface, 3 minutes to get on board the vessel, and a minute to be blown back down to 9m again. Such diving is illegal in Denmark and France but still legal in Norway.

This was an unsafe method. Only in Norway are dives allowed with surface compression. NITROX – 30-70. Many got microbends in the brain. A diver from Farsund got spinal bends and lost his sight.

One who was a bodybuilder with little fat reserves fainted when he came out of the pressure chamber after work. We threw him back into the chamber and gave him some apple juice. When he came out again, the same thing happened. We got him back into the chamber, and during the second treatment, a doctor was called from Håkonsvern. The diver's doctor concluded that he had used up all his fat reserves, so his body shut down.

We dived according to a Norwegian nitrox table. They increased the oxygen mixture so that theoretically, we dived shallower than we actually did. The oxygen blend started to become dangerously close.



RELATIVES OF THOSE WHO RESCUED, SAVED AND  
INVESTIGATED

**ELIN RØKKUM**

Store assistant/manager

Resident of Sauda

Daughter of Asbjørn Røkkum (1942-2014), employed in HMV involved in the search. 1968.

**EXECUTION AND BACKGROUND**

Telephone conversation held on April 15. Additionally, Elin Røkkum has sent us notes that her father made when he participated in the rescue. Røkkum consented on June 20, 2016, for the notes from the conversation and her father's personal notes about the Alexander L. Kielland accident, including photo stories, essays, and polyphony that compile various statements from different individuals, to be used.

Furthermore, she consented to the publication of the conversation notes, included in the memorial collection about the Alexander L. Kielland accident, to be handed over to the Norwegian Petroleum Museum, the Regional State Archives in Stavanger, the National Library, and the Labour Movement Archive and Library for future generations to access. (Messenger 26.01.2019). Her brother, Bjørn Røkkum, has approved the accuracy of the representation of himself and its inclusion here. (Messenger 07.02.2019).

**BACKGROUND**

My mother passed away on June 7, 1980. She died from her fourth heart attack at the age of 38. It was said that it was predetermined that Asbjørn, my father, should not be involved in that accident. We were not meant to lose both of them. It's been ingrained in us. Father was in the safety department. They all lived from HMV on Kielland but worked elsewhere.

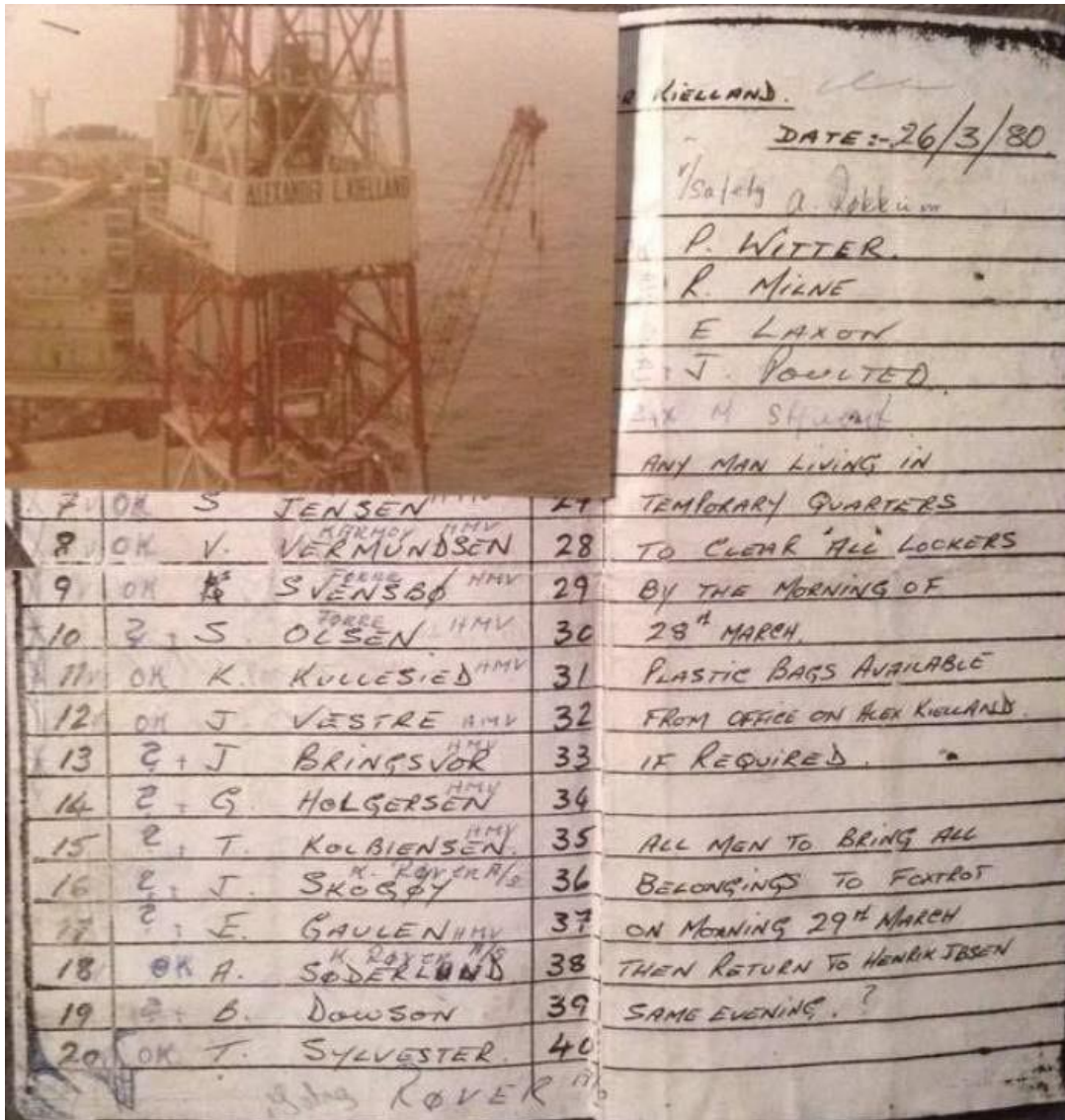
Asbjørn, our father, lost his colleagues and friends there. It made a strong impression on him. He became the partner of one of the wives of the deceased. They were partners for 10 years. Father mentioned that the former husband of the woman he became a partner with was in the shower when it happened.

**LIVED ON KIELLAND AND WORKED ON OTHER PLATFORMS**

Father lived and slept on Alexander Kielland, and he was not there when it happened. He worked in the safety department and was on inspection on another platform at Ekofisk. The weather was so bad that he couldn't get to Kielland in the evening.

**PART OF THE RESCUE MISSION**

Instead, he joined the rescue operation and went out on a supply boat to pick up those who were in the sea. His friends were on Kielland, and he helped in the search for them. It's deeply ingrained in him. He lost most of his friends. He noted down in his notebook, see notes from the book with names of the missing and found compiled with the shuttle list..



(Asbjørn Røkkum's notes) Here he noted as each person from HMV was found and marked those they hadn't been able to locate.

#### FATHER QUIT IN THE NORTH SEA

He made one or two trips afterward, then he stayed on land. Later, he worked at the safety school in Haugesund and never traveled back to the North Sea.

#### FATHER'S STRONGEST MEMORY

The sorrow of losing his mates and the hopeless search made him withdrawn and bitter. Whether it was due to losing his wife or his experiences with the Kielland accident is hard to say, but together it made him emotionally cold for many years. That's how we experienced him; everything slipped away from him. Everything fell apart. Only in the last few years before he died did he start hugging again.

Father also talked about a young lad they got on board. Quite young, one of the first trips. They fished him out of the sea. The youngster sat on the deck, knelt, and prayed to the Lord, then panic took over. He was hysterical and jumped into the sea again. They never found him again.

#### HAUGESUND AND SURROUNDINGS

Everyone lived in Haugesund or nearby. Father was in the safety department. They all lived on the drilling rig. They were close both as workmates, from the same town, and the same workplace.

Father told that some of them climbed up the drilling tower. Those on Edda watched it happen and couldn't do anything.

#### MY FAMILY FELL APART WITH THE KIELLAND ACCIDENT

I was a little girl. Father was a man who worked and worked, and after Mum died, he worked even more. He didn't know how to take care of three kids. The first years, we were a mess. When Father was home from work, he went out and worked on boats and at the car workshop.

As the youngest, I made dinner. Bjørn and Anne were at work. He couldn't take responsibility. When we moved to Father's new partner, only I went with him. I wasn't easy to deal with, and she had lost her husband. They used to argue, I remember. She didn't want to wash my clothes. That's when I moved out. Initially, I took my clothes to my sister. Father didn't address it either.

#### FATHER AND BJØRN

They managed to talk, Bjørn understood what Father had gone through. It's comforting to know they had that conversation before Father passed away.

#### THE WIDOWS

Met for some years.

#### ME AND KIELLAND

My family broke, everything fell apart. We were so close before, with aunt and grandma, siblings, Mum, and Dad. We were a family. Father patched bike tires. Then, he just worked even more after Mum died, and we were scattered all over. Nobody ever talked about it with us. We didn't talk among ourselves either. In the seventh grade, I was preoccupied with not wanting anyone to feel sorry for me. There was no one there to see me.

#### LARGE FAMILY

Father's partner was 35, Father was 38. The second Christmas after Kielland (1981), we were at her place. Dad and I moved to Kopervik on Karmøy. She and her former husband had just built a house. He was Father's friend. She had two children; one aged 6-7 and one 8 years old. It was terrible for me. I was 11. Bjørn was 18, Anne 16. My older siblings didn't join us. Anne lives in Finnmark and works with healing. Bjørn moved to an apartment and got a job in the North Sea.

My relationship with Father's new partner didn't go well. I wasn't easy, in the worst age and a girl. I moved to my future in-laws when I was 13. Otto and I were sweethearts, we were young. We were 12 when we met. Otto has six siblings. My mother-in-law used to ask, "What do you want for dinner today, Elin?" She pleased everyone, a wonderful person. She was good to me. That meant a lot.

Otto and I, we were more like siblings than lovers after a while. He's the father of Marthe and Christine, two great girls. We were together from when I was 12 until 24. I and Otto had football in the same team. Then it ended. We went separate ways. I moved out. Moved to Northern Norway when I was 28, and got married there. Two boys from the second marriage.

#### MY STRONGEST MEMORY OF KIELLAND

Waiting for the phone call in the morning – was he there or not? We received a call saying he was among the survivors. Mum spoke with him, aunt, uncle, and grandma came. We knew he was alive. He was leased to HMV (now Aibel).

#### ABOUT THE TV SERIES

There was a TV series a few years ago. He was so angry at that series; they hid so much regarding safety, he said. He was furious.

#### AFRAID OF LARGE BOATS

I have four children. I don't want them to work in the North Sea. I don't like being in large boats. Preserve what we have now. Father was a safety man. We youngsters were told never to board a boat if alcohol was involved. He was very clear that it should be safe. That's something I've carried with me.

#### WONDERING

Father always said, join a union. He didn't pay union fees in the last few years. It wasn't like him.

#### BJØRN AND THE FATAL ACCIDENT

The young boy who fell and died caused Bjørn to fall apart. My brother was his rock. Bjørn was interrogated afterward and has developed post-traumatic stress. He drinks, uses pills, and isn't doing well. (Bjørn consented in spring 2016 for the mention of him to be included in the notes from the conversation with Elin)

#### OUR FAMILY WAS TORN APART IN ALL ASPECTS AFTER KIELLAND

I have no relationship with my step-siblings, not much contact with my sister, and little with my brother. But gradually, we've had a bit more contact. I've tried to be a bridge to reunite the family. I've tried to make the older ones understand what Father went through. It wasn't easy for him either to lose Mum and his friends. Everything happened within three months.

He didn't take care of us. Bjørn has done something similar. He also mentally left his family

after the accident. And afterward, he said he understood Father. Fortunately, they managed to talk about this before Father died.

Running overview of missing and found HMM employees during the search after the Alexander L. Kielland accident, with a picture of the rig. Notebook of Asbjørn Røkkum. (Private archive of Elin Røkkum).

## FRODE FANEBUST

By Marie Smith-Solbakken, August 5, 2016.

PERSONAL DETAILS: Born in 1968

### USE AND EXECUTION

Frode Fanebust has been introduced to the project and its purpose. Conversation and photos conducted in July 2015. Tord F Paulsen participated in the trip to Bolivia in the fall of 2015 with Frode Fanebust. Follow-up conversation with Frode Fanebust carried out on August 5, 2016, over the phone. Notes from the conversation sent for review and correction on August 5, 2016. Consent requested to use the notes as a foundational document in our presentation of the Alexander L. Kielland accident, including photo storytelling, essays, and polyphony, which is a compilation of various statements from different individuals. Fanebust consented to the publication of the conversation notes and their inclusion in the memorial collection about the Alexander L. Kielland accident, to be handed over to the Norwegian Oil Museum, National Library, and the Labor Movement Archive and Library for future generations to be part of this. (Email 15.02.2019)

### BACKGROUND

Son of Baste Fanebust, who led the on-site rescue work from the Ekofisk complex in the first hours. Specifically, the task was to direct ship traffic where he believed there was the greatest possibility of finding, locating, and picking up survivors.

### STRONGEST MEMORY

When Father talks about the person who was almost saved, about the one in the sea. One of the supply boats found a survivor, when they tried hoisting him aboard, he couldn't hold onto the net. He slipped and fell into the sea. And then he disappeared, they never found him again.

He didn't tell this story immediately after the accident. It was a story he constantly returned to whenever we talked. The incident of the person falling back into the sea, he could never leave it behind. This haunted him for the rest of his life.

He never talked about those they managed to save but mostly about those they couldn't save.

### HANDLING AND CONSEQUENCES

He had alcohol problems before, and after the Kielland accident, it got worse. When he was home and had free time and access to alcohol, he didn't function well. He drank. His job served as a sanctuary. It was unthinkable for him to quit the North Sea. Work became freedom, while everyday life and off-duty periods became harder.

After Kielland, he decided to visit his godchildren. It became meaningful for him. He began searching for meaning after the Kielland disaster. He had three godchildren, and he decided

to visit them. He visited two of them. The one in Rwanda was killed, but he managed to visit the other two. One was from Austria, and Naida in Bolivia, whom he had adopted through the Nordic Children's Fund in Bolivia.

There was a lot of criticism in the newspapers about the money not reaching the Nordic Children's Fund. He undertook a project to find his godchildren and see how things were going. He found that the money had arrived until the newspapers started writing about it. Then people stopped giving. The leader of the Nordic Children's Fund was imprisoned and later acquitted, but by then, his life's work was shattered.

To compensate for the lost funds, Father started the Bolivia family, linked to a specific orphanage. That was the beginning and the justification. He convinced 40 sponsors, most of whom were connected to Phillips and Ekofisk. That was the start. Then he continued with it.

#### THE BOLIVIA FAMILIES

When the Bolivia families came in, he had something important to do during off-duty periods. He obviously found a lot of meaning in it. In 2005 when he passed away, there were 650 children out of the initial 40 from 1982. He was in Bolivia in 1991.

#### US

After Father passed away, we inherited 17 orphanages and day centers and 650 children. It's just a lot of work and organization. So we've continued to build, following in his spirit. Now we're up to 24 children's centers and day centers and have 1000 children.

#### MEANING TO ME?

The Kielland accident and the Bolivia family meant a lot in relation to Father because it affected him greatly when he was alive. It has meant a lot with the continuous red thread of the Bolivia family that I deal with daily. I don't use the grave to remember him; I live with the Bolivia family every day, that's how I remember him.



SIV NILSEN

By Marie Smith-Solbakken

#### PERSONAL DETAILS

Teacher

Born 1957

#### EXECUTION AND USAGE

Conversation conducted on May 27, 2016, and June 9, 2016. Notes from the conversation sent for review and correction on May 28, 2016. Consent requested to use the notes as a foundational document in presentations of the Alexander L. Kielland accident, including photo storytelling, essays, and polyphony, which is a compilation of various statements from different individuals. Consent given on May 28, 2016.

Siv Nilsen consented to the publication of the conversation notes and their inclusion in the memorial collection about the Alexander L. Kielland accident, to be handed over to the Norwegian Oil Museum, the State Archives in Stavanger, the National Library, and the Labor Movement Archive and Library for future generations to be part of this.

#### BACKGROUND

Daughter of Karl A. Nilsen, a mechanic/rescuer at Helicopter Service.

#### ABOUT RESCUE AND SEARCH

My father worked at HS. He's deceased now. He said it was a dreadful sight to fly over the disaster area. There were rubber boots floating everywhere in the sea.

#### DIARIES/CALENDARS

There are diaries/calendars from my father. Can't find the calendar from spring 1980..

KOLBJØRN OLAFSEN

By Marie Smith-Solbakken, March 29, 2016.

#### PERSONAL DETAILS

Born 1975

Olafsen consented to the publication of the conversation notes and their inclusion in the memorial collection about the accident, to be handed over to the Norwegian Oil Museum, the State Archives in Stavanger, the National Library, and the Labor Movement Archive and Library for future generations to be part of this. Email dated January 1, 2019.

#### BACKGROUND

Son of Asbjørn Olafsen (1933-2006) who was a radio operator/elevator operator/system operator on the first Sea King helicopter dispatched from Sola with Captain Nils Reidar Roaldsøy.

#### THE DAY AFTER KIELLAND

I remember my father was sleeping, I made quite a noise trying to wake him up. Mom had locked the door. He was awakened but couldn't get out of the bedroom. He was quite tired and didn't like being woken up. They had been in the air for quite a few hours.

#### MEMORIES OF KIELLAND

He made a scrapbook. There's a report about those he helped rescue, those he brought up. Dad gave him a cola. He remembers that. TV-Vest made a film about it.

As I grew older, he told me a bit more about what happened. The worst for him was picking up those who weren't saved, those who were lifeless.

It was a terrible experience when a platform capsizes. Many perished. Seeing and feeling the weight of those they couldn't help and couldn't save affected him and his colleagues. The worst was picking up those who didn't survive. I realized that eventually.

He started at Sola in 1973. He was there until he went on early retirement. He was put on early retirement because he couldn't handle it anymore. He was worn out.

Those who were saved are grateful, but those they couldn't save are the ones that eat away at them, both from the Alexander Kielland incident and other accidents.

#### DID WE LEARN ANYTHING FROM THE ALEXANDER KIELLAND ACCIDENT?

I hope those who create such installations had a wake-up call.

Dad has always been very meticulous about safety, from fire safety to seat belts in cars even before it became mandatory..

**MARIT HEGLE****PERSONAL DETAILS**

Born in 1944

Wife of Knut Hegle

Marit Hegle consented to the publication of the conversation notes with her during the conversation about the Alexander L. Kielland accident, alongside her husband, Captain Knut Hegle, to be included in the memorial collection about the Alexander L. Kielland accident and delivered to the Norwegian Oil Museum, the State Archives in Stavanger, the National Library, and the Labor Movement Archive and Library so that future generations can have access to this. (Email dated December 27, 2018, from Knut Hegle)

**COMMENTARY**

I got home at 4:00 AM, didn't realize he was there. People were calling. I didn't know where all the platforms were. Families and friends in Denmark were calling. I went to bed. When he came home, he went to bed with all his flight gear on, laid right down on the bed with the survival suit on, and fell asleep..

ROLF ARILD IMS

By Marie Smith-Solbakken, March 17, 2016, Sola Approved.

PERSONAL INFORMATION Born in 1967 Graphic Printer

RECOLLECTION

My uncle was picked up in a hurry in Sirdalen during the Easter vacation (Kjell Emanuel Larsen). They didn't tell us anything..

## BEATE ØSTLUND

By Ellen Kongsnes, conversation in January 2016. Consent given on January 17, 2019.

## AFFILIATION

Daughter of Ole Østlund, civil engineer, involved in the ALK turnaround and spokesperson for the sabotage theory in the ALK incident's cause. Beate is the eldest daughter.

Email: [ostlund.beate@gmail.com](mailto:ostlund.beate@gmail.com)

Moved to Helgøy on Sjernerøyane, Finnøy, four years ago in 2015.

Returned from Brighton, United Kingdom. Previously lived in Copenhagen.

## CURRENT LIFE

Her husband has the ancestral farm in Helgøy, Hauge, near Alfred Hauges' memorial at Kyrkjøy. A 200-year-old house. 20 milking cows, three cats, and some sheep. Three generations working together.

When all the kids are home, there are six children and two adults. Mine, yours, and ours, ranging from 0 to 14 years old. Previously, Beate worked on cruise ships in the Caribbean. In her hair salon, evidence hangs that she worked in the spa and lounge department on board.

Starting a hair salon in Sjernerøy made it easier to connect with people.

We called on November 8, on Ole Christian Østlund's birthday. It stirred up emotions when we made contact. On a regular day, thoughts revolve around managing logistics with children going to school, the youngest girl still at home, home, dinner, soccer practice, homework, bedtime, and an exhausted mother on the couch before another day in a young mother's life is over.

She always used to call or send a text on her father's birthday. That was a given. She thought her sister's decision to write him off as a father was a bit hasty and poorly thought out. Beate has learned that you shouldn't fight every battle and that things may look different from another's perspective. She knows her father is ready to reconnect when Hanne is ready.

Edle, the youngest girl, turned 11 months in March 2015. Just a few months before her mother died, they knew nothing about it then.

In March, both Grandma Margunn and Grandpa Ole were present at Edle's christening on Kyrkjøy. It went really well. Everyone behaved like adults, very nicely. He was good at those things. Dad lived in a rented cabin nearby due to extensive renovations and a lot of people. Mom had a country house in Myra on Finnøy, just a stone's throw below the farm where Beate now lives.

Originally, it was Beate's grandmother and grandfather's place. They began using Finnøy as their vacation spot and rented from an old bachelor before buying this cabin in Myra 10-12 years ago. That's why Beate and Hanne also have many childhood summer memories from Finnøy. Ole and his sailboat have also been here in their childhood.

Beate moved to this cabin two years ago when she returned from Brighton and her relationship with her children's father ended. Her eldest was four at the time.

Now, Hanne will move to the cabin in Myra. Eventually, it will probably be sold. It's too much for the two sisters to maintain.

On the piano in the living room on Kyrkjøy, Beate has two pictures of her father, Ole. One where he is a young man and another where he is a boy, and the resemblance to little Edle is striking. Since she was a little girl, Beate remembers her father in a large office in Steinberget in Trondheim full of papers.

#### CHILDHOOD

She doesn't remember much from her time in Stokka, Stavanger. She recalls more from the year in Trondheim before her mother took the girls and moved back to Stavanger when the divorce was final. She remembers playmates and her father taking them skiing. He loved nature. He often took the girls out.

But Dad was also distant. But never angry.

Beate remembers many phone calls between her mother and father. They were never pleasant conversations. They probably argued about them. He probably didn't have them often enough. He probably didn't pay either.

He wasn't easy to negotiate with.

ALK. His head snapped. Something had probably been latent.

For instance, he believed that her mother was part of the mafia against him. Why was she talking on the phone with this or that person?

And if that's how he was, it was probably best that it turned out that way.

When we were growing up, Dad often said we were too young to understand.

I remember that we were often at Grandpa and Grandma's. Dad worked, I guess. I don't know where he was or what he did.

In 1980, Beate was born. Bad luck. Dad was supposed to participate in the rowing Olympics that year.

But his partner he was supposed to row with backed out. Dad believed it was part of a conspiracy. Someone was trying to hinder him.

Dad was actually a mystery. He lives completely in the past. It's a bit painful.

#### FAMILY HISTORY.

Anna Mathea from Toten has become another story Ole fixates on, explaining why he constantly faces bad luck or conspiracies. The injustice goes way back.

Deprived of the rights to the Jotun riches through a false heir to Anna Mathea. I understand my mother better now that I have my own little ones.

Grandma and Grandpa helped us a lot.

I missed Dad a lot. I still miss him. It's sad to have a father who functions so poorly. He had a hard time finding a job afterward because no one wanted him.

(That's why constant poor finances. It's only now, at 68 years old and retired, that he has a stable monthly income.)

He was smart. Nothing wrong with his IQ. Mom always called him a psychopath. When I was 35, I told Mom that I didn't want her to call him that.

Both Hanne and I missed having a father figure and being a nuclear family, like everyone else around us.

Beate did everything to make a nuclear family work.

She stayed with the father of her two eldest for six years in a desperate attempt to create a nuclear family, even though it was a very unusual relationship from the start.

We always had a good time at Dad's.

No separate room, as we were at Grandma and Grandpa's, but we spent a lot of time sailing.

Went on road trips with his van.

Dad didn't have many friends. His cousin, Frode. Girlfriend Olaug. Cousin Odd Ivar.

Dad had several girlfriends. Mom also had many boyfriends.

Both were each other's great loves, but they were both looking for new partners.

There's nothing wrong with him, her father. He's a stubborn man. He fights tooth and nail for what he believes in.

ALK:

When it comes to AL, he feels that he carries the lives lost there on his conscience.

She didn't know about the AL incident until she was 8 or 9 years old. She skimmed through his book that came out in 1992. But she's not an engineer and doesn't understand—all the explanations went over her head.

The incident has ruined so much in her father's life that she didn't want it to ruin hers too. The book came out in 1992. She was 12 then. He told her during and after that he wrote about the AL incident. When we left Trondheim, he always said he 307urnedo . We always came home and cried because we missed him. Without AL: Dad would have been a lively man who enjoyed a good party. Mom told that he was a social man before AL, a man with humor, who og and cracked jokes at his own wedding. Tombstone: A different attitude towards it than her sister. She doesn't want the fight for the tombstone to ruin her relationship with her father. If I see life from his side, I see that he fought for what he believed in. So, we'll try to have a relationship at that level; it's better than nothing. I do love him. If he's a psychopath, then I'll love a psychopath. The sisters are very different. She's an artist. I've been an athlete and a visual artist.

YOUTH REBELLION Became rebellious at 15. Used her parents as an excuse. They did their own things, so I should be allowed to do mine. At 20, she was a qualified hairdresser and bought an apartment in Saxemarka. Eventually, she traveled abroad. First to Copenhagen, then to Royal Caribbean and a 307urnedo a cruise ship in Miami. She 307urnedo father of her two eldest children on board and became a mother for the first time at 26. She traveled to Trinidad, where the father was from, and later back to Norway, where she also og birth. The father didn't see the child until five months later when she went down again. It became a long-distance relationship. But there was another child. Whom he didn't see often either. Tried to make the relationship work by moving to Brighton, as a middle ground. Dad visited her there too. He thought everything

seemed fine. Mom also visited. She determined that her daughter couldn't live there. Ole is a bit self-absorbed. It's hard for him to stay interested when we talk about our things. He showed a film of an invention that turned oil and water, a technique he believed someone had stolen from him. I zone out a bit when he starts talking like that. Sometimes she tells him. Then he takes a hint and stops. Her boys have little contact with their father. But I'm sure my children have a good father figure in Edle's dad. I hadn't envisioned this ten years ago. But that's how it turned out. You gain different perspectives when you have children. Finnøy will be good for her and her family. Also because she has walked in her children's shoes. Finnøy Survivors of AL. Magne. Mallen. They also bought the cabin from a survivor of AL. Dad, Ole, gets lost when we talk about ourselves, shifts the focus to himself. Then it's Allog Anna Mathea he wants to talk about. He also established a company in the States, OCO (Ole Christian Ostlund) AL. He says that AL has ruined his life. He has told his theories about sabotage and drugs. He believes his car's brakes were tampered with. In Stokka. He believes that the phone in Steinberget in Trondheim was tapped. He thinks the water leakage in the basement in Stokka was sabotage.

It's sad that he got the life he did. I think about what he had. The great man, the great wife. Education. Salary. What if he could do it all over again? Beate asked him about it. He said he wouldn't have fought the battle for as long. But he couldn't have done nothing. He had to do something, even if he had lived his life again. I think about all the human fates out there. The refugees from Syria and many others. We all carry baggage. This is our story. Everyone has their own. Many have experienced a lot. We must carry the history we have, each one of us. I don't need to go to a psychologist; I just need to be in nature. When they lived in Trondheim before the divorce: Fridtjof Nansen's road.



HANNE VASSHUS

By Ellen Kongsnes, Autumn 2016

#### AFFILIATION

Daughter of Ole Østlund, the man behind the sabotage theory, consented on 25<sup>th</sup> January 2019.

Hanne Vasshus also lost her father in the Alexander Kielland accident, even though he was not aboard when the accident occurred and is still alive.

She was three years old when the Alexander Kielland platform overturned. Since then, her father has dedicated his life to fighting for what he believes is the truth about the accident: that there was an explosion, perhaps sabotage. Ole Østlund became so obsessed with his own theory and the fight to bring the truth to light in the public eye that he sacrificed his wife, daughters, job, and all public respect.

For daughter Hanne, it was an upbringing filled with constant longing. Longing for a father who had more important things to do than be a father. In the shadow of her father's struggle to be believed, a little girl fought to be seen by her father, to gain his favor. A little girl who never felt good enough, never worthy of her father's attention and time, never the most important. Never loved as a child by her father. In her room, there are many drawings of a sad girl. Drawn by Hanne.

Sometimes she wonders if he is actually right. If he has been right all along and no one has believed him, not even the family.

Sometimes she thinks he should have gotten help; he's obviously unwell. Maybe he has a diagnosis. Perhaps it was triggered by the resistance he faced while fighting for the cause of the accident. Why did no one see that he was unwell? Why didn't he get help? Who could he have been if he had received treatment and medication?

But what if he was right, what if he was actually right? What kind of father could he have been if he had been believed?

...

Hanne is 32 years old and works part-time as a flight attendant for SAS. She is also a revue artist, actress, and singer. Her debut album is set to release in spring (2016).

In the summer of 2015, her mother passed away. She was also a flight attendant and singer. It was Hanne who found her mother dead at home in bed. She had received a cancer diagnosis two months earlier, but it was her heart that suddenly stopped.

When her mother died, many complex emotions from her childhood also resurfaced. She finds her father to be a small man.

A few weeks ago, she wrote him an email dismissing him as a father. The triggering factor was an argument about the plot at the graveyard where her mother is now laid to rest, side by side with Märtha Elise, Hanne's older sister who was only four days old.

Hanne remembers a father who was seldom present but appeared when it suited him, not necessarily for Hanne.

For instance, on May 17<sup>th</sup> when she was ten years old. National Day was her big day. Hanne was small and vulnerable, bullied in primary school, and had to change schools. But in the Tjensvoll school band, she blossomed. Music was her ally, and with the tuba, she felt at

home. It was her big day. She was meant to shine and be in the spotlight. Then her dad arrived from Trondheim to Stavanger out of nowhere and took away her moment. Her moment. Again, it became about him. Her dad became the center instead of her. Just because he arrived. Unannounced and without anyone actually wanting him there. It was uncomfortable. Ten-year-old Hanne was left feeling that her dad had ruined her big day by coming and disrupting her world on that important day.

Ole Christian Østlund was the great love of her mother, Margunn Vasshus. But he went mad. His persecution complex overshadowed everything he did and said.

Hanne doesn't think she would have survived mentally if she had grown up with him. Before 1980, Ole Christian Østlund was a happy man. He was a natural center wherever he was. He and Margunn were a beautiful couple. He played the guitar – came from a good family. His father, Odd Østlund, was himself a trained naval engineer at NTH. A resistance fighter during World War II, chief engineer, and manager at Ørens Mechanical Workshop and Hommelvik shipyard and foundry in the Trondheim area. President of the Yacht Club and lived in a villa at Steinberget 11, overlooking Ilaparken in Trondheim.

When Margunn and Ole divorced, Ole moved back to the boy's room in Steinberget. He lived there until his parents passed away. Now, he has taken over the childhood home.

Märtha Elise was born in 1979. Beate was born in 1980. Hanne was born in 1983.

When Hanne was born in 1983, her father had to cancel an important meeting with government representatives in Oslo. The meeting was about the Alexander Kielland accident. Hannes's father has since believed that if he had been at this meeting, the outcome and conclusions about the Alexander Kielland accident could have been different. Hanne grew up with this story, told with humor but also with seriousness.

Younger sister Hanne is the one who usually argued with her father. It was always her who spoke up when he went too far, when it was enough.

At the same time, it was also Hanne who could philosophize and reflect with him. Then he was great to be with.

When Hanne was 15, she visited her father in Trondheim.

During their upbringing, the sisters were sent to their grandparents' and father's house in Trondheim on visits. These meetings happened at their mother's initiative. Hanne has bittersweet memories of these weekend trips. I always cried when I got home. Because dad cried when they left.

Later, she visited her father when she was working as a flight attendant and had layovers in Trondheim. At times, she was also with her mother when she was working as a flight attendant.

During one of these visits, when Hanne was 15 and as usual, there alone without her older sister, she and her dad had a good conversation. Or so Hanne thought. Until her father fell asleep in the middle of the conversation.

Hanne got so angry then that she smoked a pack of cigarettes right in his face while he slept.

The best meetings Hanne has with her father are out in nature, preferably sailing or skiing. Then, he becomes a completely different, warm, relaxed person.

But he's damaged.

Without AL (Alexander Kielland), Mom and Dad would still have been married, and I would have been a completely different person. It's sad.

He himself said that AL was his cross to bear. AL became more important than us, his kids.

It went so far in Hanne's relationship with her father that when her mother died this summer, she wished it had been her father.

Her father wasn't at the funeral. The daughters didn't want him there. They didn't want to expend energy on him that day.

When her mother died, Hanne held the concert with her friends as planned.

They shared a song, mother and daughter.

The mother sang at her own funeral, from a tape recording. It was a two-month illness. She died suddenly. Hanne found her.

The mother was the pillar in the girls' lives. She stood firm when the father didn't have room for a family in his crusade for the truth. She listened to the girls' despair and disappointment over a father who wasn't there when they needed him, only when it suited him. She repaired Hanne's shattered self-image in childhood. She guided the girls to look within themselves to find the strength to be themselves.

Now, only the sisters remain. It's sad.

Hanne visited her father for the last time in July, before her mother died. Father and daughter had a discussion that started with money but quickly escalated into an argument based on shattered hopes, conflicting expectations, and opposing accusations.

They argued in the car. Really about money. He had promised her a sum of money. She needed it desperately for her debut album. He began making demands. What had she done to deserve them? Everything came crashing down. Hanne realized she couldn't spend her life fighting for his favor.

Hanne returned to Hotel Britannia. Called Beate and cried to her sister on the phone. Elder sister Beate said, "You need to find your inner child and love it. I see the little girl. But I see a sad girl too."

Hanne has a picture of him on her phone from that meeting. He's smiling happily at his daughter in the Trondheim summer sun, from the benches outside Fosenkaia where he feels at home and where they've just eaten bacalao. He has his dog on his lap. Or his son, as Hanne calls it.

Ole's paranoia and persecution complex are all-encompassing when he's on the trail; the phone is tapped, friends are friends to spy and get close to the father. Hanne doesn't succeed in her artistic endeavors because she's her father's daughter, etc.

Hanne has had a poor relationship with men because of her relationship with her father. Her quest for her father's favor has made her give herself away to men too easily at times in her life. She also doesn't easily trust men. She's had few, good male role models.

The pursuit of her father's love and attention. That's why she's unsure if she wants to bring her own children into the world.

Her own father forgot birthdays and rarely bought proper gifts.

When the parents divorced, the father actually wanted to split the sisters. He wanted to take Hanne with him and leave Beate with their mother. Not because he didn't like Beate, Hanne

believes. But probably because he thought it would be easier to shape a little child of three than a slightly older one of six. Nevertheless, it's part of the story Beate has had to live with; that her father chose her away.

The sisters were often in Trondheim during their childhood, but they always cried when they came home.

Father was a difficult person to be close to. I know he loves me and is proud of me. But does he have the ability to be what a father should be?

At 19, Hanne is on a road trip with her father in his Hiace. It's one of the best memories Hanne has with her father. They're driving from Trondheim and along the entire southern coast; she remembers Kragerø and Arendal. They visited friends along the way. Her father was with other people and was sociable. Father and daughter rowed together every day while talking about religion and philosophy. They talked about everything except Alexander Kielland.

When you get Ole out in nature, he's a fine man to be with. We've had many wonderful boat trips to the monastery island Tautra in Trondheimsfjorden in my father's old wooden boat.

When my paternal grandmother died, Hanne changed her name to Vasshus. She felt more at home with the Vasshus family, her mother, and her maiden name.

She had a good relationship with her grandmother. But the Østlunds always favored boys. Beate and Hanne also drew the shortest straw there.

After the argument with her father in July 2015, Hanne's mother said to her: "You must remember that it takes a lot of energy to argue with him."

Martha Elise's grave. The mother and father found the gravestone for their little daughter in nature. Now, the daughters wanted to bury their mother beside her and create a new gravestone where the little one would be an integrated part. Father refuses. It was after this argument – repeated arguments – that Hanne wrote an email and disowned him as a father.

He sees the explanation for all past mistakes in AL – or even further back. But what about us here and now?

He left us when we were little.

Ole Østlund is 39 years old in 1986 when he divorces Margunn and moves from Stavanger back to Trondheim and the childhood room in Steinberget. That's where he set up his office.

Actually, it was grandma, grandpa, and Aunt Else-Marie the sisters visited when they were in Trondheim. Father was often immersed in his own world.

Father was often preoccupied with his projects. We sisters spent a lot of time at NTNU.

He couldn't be a father. He couldn't set himself aside.

But whether it's because of AL, I don't know.

Ole tried to work his way back into the oil industry. That's why he was in the USA a lot in the 90s. Father said, "It has to stop soon." (the curse) (AL thing)

But he was always on the offensive. Chronology.

The parents met in Stavanger, at the traditional dance venue in Stavanger, Cobra, in 1977. They married in January 1979, and Märtha Elise Østlund was born in June 1979. Beate in 1980 and Hanne in 1983.

The parents divorced in 1986. At that time, the parents lived in Stokka, Stavanger. The family also lived in Trondheim for a period. When?

Journalist and author Kjell Gjerseth confronted Hanne Vasshus, saying he knew who her father was.

Gjerseth said he was a good man, but not everything he believed in was sound. Mother said about the divorce: "It was that platform. I couldn't live with it."

Father was paranoid. He buried the phone in the garden because it was bugged. The girls couldn't bring friends home; there might have been spying.

I feel that AL robbed me of my father. I've lived with a longing for him.

He sought validation from men his whole life.

Father said: he couldn't take his wife and daughters into the war. He called the fight for the truth a war.

For me, AL has been a curse.

It's not just the bereaved who have lost something. I feel sick when AL is mentioned.

It's hard to think that he might have been right about something. Perhaps he wasn't believed by his own. Maybe he felt betrayed by us.

Maybe it made him mentally ill. What if I had known that when I was little? I thought it should be like that.

He talked a lot. Hanne was told all the theories. Perhaps there was something in the drug theory. We know there was a lot of drugs in Haugesund at that time.

The meeting in 1983:

An important high-level meeting – where much could have been said. But Hanne was born exactly when the meeting was to take place.

He had an audience with King Olav. Then he felt at least seen. Did he meet the king twice?

I was on the verge of becoming bitter. I've had people around me who have spoken up and corrected me. Not him. The parents coddled him and idolized him.

I don't know what is a lie.

In the car in July 2015. I realized I couldn't save him. I have to save myself.

He said he loved us, but he didn't show it through actions. Actions are more important than words. Dad proposed again when she was 14 – the year before Hanne's confirmation. Mom said no.

It was unrealistic of father to ask.

Hanne had many intellectual conversations with her father. Those were good moments.

I have written many letters. Tried to tell him about my feelings. That she was sad. Drew a

sad girl. Drew around the teddy bear and a sad face.

Hanne blamed mom, blamed her for the divorce, for not being close to father. But mom showed a photo of father with the daughters on his lap, and Hanne understood what the problem was; father was there but absent. His mind was on AL.

He just can't apologize. For everything he wasn't for me.

He always gave the impression to his daughters that everything would be fine once all this came to light. But it never happened.

If suddenly it did, if it turned out he was right, I would be happy. Then we weren't wrong after all.

Back then, it wasn't so normal to be a child of divorce. We felt different. Abnormal.

Now I have met a great man with whom I dare say I have a relationship.

One who says he wants children with me. If I have children, I will have two, because siblings are important. It's been important to have Beate who understands, knows the story, has experienced the same childhood.

Mom didn't want to talk about AL. Or dad. She never talked badly about him. The love for dad will always be there. But he can't be a part of my life.

Kongsnes met her after a driving lesson. She's going to get her license, at 32. She hasn't needed it when she lived in Copenhagen or Berlin or Oslo.

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*THPA*: Holsæther, T. , Opheim, J. E. (1980). "Alexander L Kielland"-ulykken 27. mars 1980. Rapport fra radiooperatør til Admin. Supt. K. Lorentzen, Edda 2/7 C 30/3-80 s. 1-2. Skannet dokument 1.

*ERPA*: Røkkum, Asbjørn (1980) Løpende oversikt over savnede og funnet av ansatte ved HMV under leteaksjonen etter ulykken med bilde av Alexander L. Kielland. Notatbok til Asbjørn Røkkum. Skannet dokument 2.

*WSPA*: Schjøll Wigulf: Record of dive 28/3-29/3-80, 30/3-80, 31/3-80, 1/4-2/4-80, 3/4-4/4-80) Skannet dokument 3. Fotosamling.

*KSPA*: Smith, Peter W. & Storvik, Kåre (Udatert notat). *Kværner Engineerings inngang til oljealderen*. (21 sider) Notat merket 131203 KS. Kåre Storvik privat arkiv. (Kåre Storvik private arkiv).

*KSPA*: Storvik, Kåre (Udatert I) *Bilder fra skipstanken i Trondheim forsøk med snuing av modell av Alexander Kielland* (Fem bilder)

*KSPA*: Storvik, Kåre (Udatert II) *Tegninger av snuoperasjonen (illustrative) laget av Storviks sønn* (tre tegninger)

*KSPA*: Storvik, Kåre (Udatert III) *Organisasjonsplan Alexander Kielland Snuprojekt* (en side)

*KSPA*: Storvik, Kåre (Udatert IV) *Kåres saga*. Paginert notat 10 sider.

*KSPA*: Storvik, Kåre (Udatert V) *Vigors første leveår – gode og onde dager*. Paginert notat 29 sider.

## ABBREVIATIONS

RA: Riksarkivet

THPA: Torleif Høysæters private arkiv

ERPA: Elin Røkkums privat arkiv

BORPA: Bernhard Ommund Randulffs private arkiv

WSPA: Wigulf Schjøll private arkiv