REPORT

Assessment of the Viking Sky Incident

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dsb Norwegian Directorate for Civil Protection

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SUMMARY

On March 23, 2019, the Viking Sky cruise ship suffered an engine shutdown and had to make an emergency stop at Hustadvika between Kristiansund and Molde. The ship nearly ran aground, which could have had catastrophic consequences. A comprehensive rescue operation was carried out, and passengers were evacuated by helicopter, which continued until the morning of the following day.

The Ministry of Justice and Public Security (MoJ) was the lead ministry during the incident, and has charged the Directorate for Civil Protection and Emergency Planning (DSB) with evaluating the management of the incident. The assessment covers all aspects of the rescue operation, including maritime intervention and rescue by helicopter, the evacuation of passengers, and their reception and handling on land.

Why the ships (Viking Sky and the freighter Hagland Captain) got into distress, and the crews' handling of the situation, is not included in the assessment. The same applies to issues related to the shipping company's safeguarding of passengers and crew members.

The work was carried out in dialogue with the Joint Rescue Coordination Center, of Southern Norway South Norway (JRCC-SN), and with the County Governor for Møre og Romsdal (FMMR), the Møre og Romsdal Police District / local rescue coordination center (RSC), and the municipalities involved. The DSB also gathered information and insights from others who took part in the rescue work, including the Møre og Romsdal Hospital Trust , the Norwegian Civil Defence, and volunteer organizations.

The assessment work is based on different methods and sources, including a review of the relevant documentation, meetings/interviews with relevant participants, and a questionnaire. The various actors' own assessments, and in some cases presentations of their experiences, are an important part of the documentation.

The assessment report places the greatest emphasis on the theme and issues related to several actors, and in particular the relationship between these and cross-sector issues.

A successful rescue operation and handling of those evacuated

There is broad consensus that the rescue operation related to the Viking Sky incident was a success, as to both the evacuation of passengers from the cruise ship, and their reception and handling on land. The evacuation took place under extremely demanding conditions, but there were no accidents or damages.

The assessment confirms the impression of a successful rescue operation, and impressive contributions and effective cooperation between the different actors. This can be attributed to Norway's integrated rescue service where coordination, management and cooperation between actors and resources is the same, no matter the type of incident (land, sea or air). This explains how, when the incident occurred, the rescue operation was set up quickly and comprehensively.

One hallmark of the way the incident was handled, was that the actors came up with good solutions to issues as they arose; for example, the establishment and management of the reception center at the Brynhallen sports complex. Not all solutions were prepared for or planned in advance. One lesson to be learned, therefore, is the need for a greater degree of systemization or planning for such solutions.

A number of important factors in successfully managing the incident can be summarized as follows:

- Most actors had carried out relevant risk and vulnerability assessments, had adequate emergency plans in place to deal with such an incident, and had carried out effective exercises over the previous few years.
- A comprehensive alert system was put in place using a variety of channels.
- Most of the actors had an established crisis response unit, and crisis management was involved and kept informed.
- Rescue management at JRCC-SN and RSC was well established.

- A successful helicopter rescue operation was carried out
  - 475 people were evacuated (466 passengers from Viking Sky and 9 crew members from Hagland Captain).
  - Led by JRCC-SN with assistance from relevant actors.
  - Effective and safe rotation patterns for public and private rescue helicopters .
  - A suitable helicopter landing place at Brynhallen with the option of refueling via tanker.
- It took very little time to set up an appropriate reception center in Brynhallen.
  - A rapid decision was made to use Brynhallen, and it was readied efficiently.
  - Reception center close to the area where the incident occurred.
  - Generous capacity both inside and outside Brynhallen for staff and equipment.
  - Good organization/logistics and good cooperation led by incident commander (Police), with fire commander and medical commander.
  - Rapid mobilization and wholehearted input from the Fræna municipality, a large number of volunteers, The Home Guard and The Civil Defence.
  - Those evacuated were very well taken care of.
  - Triage, first aid and psychosocial assistance were provided.
  - Rapid establishment and effective use of the centers for evacuees and their friends and family in Molde and Kristiansund.
- Møre og Romsdal Hospital Trust took care of those who needed to go to hospital in Molde and Kristiansund
  - A sufficient number ambulances and effective transport of evacuees.
  - Rapid mobilization and enough dedicated and qualified health personnel.
- Good coordination and joint action between the different actors
  - Good cooperation in the rescue management at JRCC-SN and good communication with the operations room.
  - Good dialogue between JRCC-SN and RSC.
  - Several actors found the DSB's joint action conferences and FMMR's joint action meetings useful.
  - Good cooperation between the municipalities and FMMR .
  - Useful situation reporting at various levels.

Lessons learned and recommendations

However, there are lessons to be learned in several areas and related recommendations of measures to strengthen preparedness for similar incidents in the future. These lessons include good examples to follow, areas that require attention, and in the majority of cases, areas for improvement.

We[1] can in no way say that the conditions we highlight in the lessons learned, negatively affected either the management of the situation or the outcome. But one cannot overlook the fact that in a serious scenario, as was nearly the case, they could have had greater consequences. The measures undertaken were for the most part adequate, given how the situation developed, but they may have been inadequate if the situation had escalated to the point where the ship had run aground, and passengers and crew had ended up in the sea. The lessons learned must be evaluated with this in mind.

Emergency planning

Lesson 1: Plan for mass evacuation

Norway does not have a national plan for Mass Rescue Operations (MRO), and JRCC, in its own assessment, recommends that JRCC take the initiative to develop such a plan. This would lay the groundwork for interaction between JRCC and other entities with regard, inter alia, to incidents such as that of Viking Sky, and as a basis for training exercises. We support this recommendation.

Exercises

Lesson 2: National exercise featuring cooperation between several actors in a large rescue operation

Exercises are an important instrument to strengthen crisis management capabilities. Managing the Viking Sky incident implied a complex and demanding interaction between a large number of actors on different levels. Seldom is such a comprehensive interaction activated.

We therefore recommend that during the course of the next few years a major exercise be carried out that involves some of the same actors as were involved in the Viking Sky incident. Based on experience from this incident, central elements in such an exercise should include, inter alia, the implementation of different coordinating functions, among rescue management at

[1] "We" refers here to DSB in its role as evaluator. When the Directorate is mentioned as an actor in the incident, we use "DSB".

JRCC, rescue management at RSC and the coordination functions at the DSB and the County Governor.

Alerting

Lesson 3: Large enough coverage area for Mayday relay[2]

Viking Sky issued a Mayday distress signal at 2 pm on March 23. JRCC-SN sent out a Mayday relay via Coastal Radio South (Kystradio Sør) directly afterwards. JRCC-SN also sent out an SAR[3] alert to the emergency services. Additionally, a complex picture of alerts and alert channels played out, both between actors and internally in the different entities.

One lesson is that a Mayday relay should have been sent out over several transmitters and should have covered a larger geographical area. Then towboats with sufficient capacity could have received the alert and potentially assisted Viking Sky with towing.

Lesson 4: Direct alert from the Police to the County Governor

FMMR was not warned by the Police in the initial phase of the incident, but contacted the Police on their own initiative. FMMR was alerted by Police about three hours after the incident, based on its role as permanent member of the rescue management team at RSC.

The Møre og Romsdal Police do not routinely alert the County Governor to maritime incidents. In our view, the Police should alert the County Governor directly when major incidents occur which could possibly require the County Governor's coordination regionally. The Police and FMMR must work together to clarify what the threshold should be for such an alert, and how it should be delivered. In the aftermath of the Viking Sky incident, the Police and FMMR discussed this matter. FMMR is considering setting up an emergency preparedness arrangement so that the Police have a 24/7 number for emergency preparedness and incident alerts.

Lesson 5: Early alerting of members of the rescue management team at RSC

In the initial phase of an incident, it is not always certain whether the rescue management team at RSC will be called in. However, we believe it would be good practice to always alert members of the rescue management team immediately in the case of a major incident such as that encountered by Viking Sky, when it might be appropriate to call in the rescue management team.

Such a practice is in line with the *"Mandate for rescue management at local rescue coordination centers"* where it is stated *"all rescue management team members shall be alerted when incidents occur that the Police Chief considers could require the involvement of the rescue management team"*[4]. This gives all members advance warning and an opportunity to evaluate for themselves whether they should request that the rescue management team be assembled.

Organization

Lesson 6: Low threshold for establishing the Police Chief's incident management (IM) staff and calling in the rescue management team at RSC

During the Viking Sky incident, the actors involved set up their crisis organizations, fully or to some extent. This was done from the municipal to the ministrial level, and with both volunteers and private actors. Rescue management at JRCC-SN and RSC was established, and meetings were held by both.

An important lesson learned from the incident is that the Police should have set up the Police Chief's IM staff and called in the rescue management team at RSC earlier than they did. This is a signal to cooperating actors of the level of gravity of an incident and the need to mobilize resources. We consider that the lack of IM staff and the delayed establishment of the rescue management team could have resulted in the Police and other cooperating actors lagging in their handling of the situation should the incident's catastrophic potential have been realized.

On this basis, we consider that the Police should have a lower threshold for setting up an IM staff and calling in the rescue management team at RSC for rescue operations with great potential for damage. Exercises should take place that include these elements.

Lesson 7: The Police Directorate (POD) should be included in JRCC rescue management

JRCC-SN rescue management was called in

[2] Mayday is an international distress signal for aircraft and ships, while Mayday relay involves forwarding a Mayday request for assistance.

[3] "Search and Rescue" alert, from JRCC to distress call centers 110, 112 and 113.

[4] Jf. pkt. 3.1 i Mandat for redningsledelsene ved lokale redningssentraler, Justis- og beredskapsdepartementet, 5. november 2015.

immediately after the Police Chief of the South-West Police District was alerted to the incident. According to the participants, rescue management were able to have a forward-thinking focus on the situation and not disturb what was going on in the operations room. A worst-case scenario was discussed, as well as a plan to provide resources quickly should this occur.

The Police Directorate is not represented in the rescue management team at JRCC, although both entities believe that this should be the case given that the Police are such an important cooperating partner in the rescue service. This would give POD and the Police greater involvement in handling incidents, and POD regards as expedient. Such participation would also contribute to good communication between JRCC and the Police.

Maritime efforts

Lesson 8: Better overview of towboats

When Viking Sky sent out the Mayday distress signal, it quickly became clear to JRCC-SN that there was a need for towboats and other vessels that could contribute to the rescue operation, and these vessels were immediately sent for.

Contact with the Vardø vessel traffic service center (VTS), the patrol vessel KV Njord, and the pilots onboard Viking Sky, gave JRCC-SN a good overview of the maritime situation. However, JRCC-SN had insufficient information on the availability of towboats and their features, and whether towing would be possible under such demanding conditions. This information would have made it easier for JRCC to plan and coordinate the towboats' intervention. The lesson here is to ensure better oversight of towboats.

A measure to strengthen JRCC's peer review of the contribution of towboats under difficult conditions, is to ensure that such information is available and updated in the shared resource information repository (SRIR). Barents Watch is responsible for the SRIR, but information can also be added on a voluntary basis.

Lesson 9 Plan for use of towboats

These measures will also strengthen JRCC's ability to plan the maritime intervention in future incidents. In its own assessment, JRCC-SN stresses that the organization did not have a professionally assessed plan for how the towboats could assist Viking Sky under the prevailing weather conditions. JRCC-SN's own assessment recognizes that they should strengthen their professional competence in towboat operations, thereby improving their ability to plan such an intervention when similar incidents occur in the future.

Helicopter rescue

Since it proved too difficult to tow Viking Sky in the powerful storm of Saturday 23 March, and the ship's captain found it too risky to set out life boats, the rescue operation used rescue helicopters to evacuate passengers from the cruise ship.

In the aftermath of the incident, there have been discussions and differing assessments whether more helicopters should have been sent for, in case the incident escalated.

JRCC-SN sent for rescue helicopters from 330 Squadron RNoAF (Royal Norwegian Air Force) and CHC Helicopter Service, and maintained overall management of the rescue situation. Six rescue helicopters in total – public and private – were involved in the action. JRCC-SN chose not to call in the Sea King helicopters in Sola and Rygge to participate in the rescue operation. Capacity was deemed to be sufficient, and consideration was given to not impair helicopter emergency preparedness for the rest of the country.

The helicopters called in were indeed adequate for the Viking Sky incident, but representatives from 330 Squadron stated that JRCC-SN should have called in the two Sea King helicopters at Sola and Rygge to participate in the rescue operation. If the situation had worsened and the ship run aground with passengers going into the sea, more helicopters than those available in the area probably would have been needed.

In addition to emergency preparedness in the rest of the country, JRCC-SN also stressed that flight safety considerations placed limits on how many helicopters could be in action at the same time over a relatively limited area. An important backdrop is that JRCC-SN, in addition to its management role in the rescue operation and its emergency preparedness responsibility, had to assess the situation and the intervention from a holistic perspective.

Lesson 10: Plan for air coordination

An important success factor in any rescue operation involving helicopters is good air coordination, i.e., coordinating helicopter traffic effectively and safely.

The air coordination function in the Viking Sky incident was performed by JRCC-SN through a rescue controller and a flight manager summoned from Avinor.

Initially, it was the rescue helicopter from Florø (from the CHC Helicopter Service) followed by the approach control service at Værnes (Møre Approach) which was the nexus between the helicopter resources and JRCC-SN. Møre Approach had common communication coverage in the area and were successful in carrying out the task even though their personnel lacked specific Aircraft Coordinator competence (ACO-course).

Based on the Viking Sky experience, JRCC, together with Avinor, need to further develop a plan for air coordination in order to have adequate coverage for the whole country.

In our opinion, the most cost-effective solution is to further develop the ACO function centrally (in JRCC). This presupposes facilitating country-wide communications coverage, primarily through the air traffic service's radios, access to Defense radio transmitters as needed, and Nødnett – the Norwegian Emergency Public Safety Network – in those cases where all air resources have access to this means of common communication.

Furthermore, the air coordination position in JRCC must be sufficiently well prepared for such coordination. In addition, there needs to be national planning for the ACO function, following international guidelines. As well, national learning and training in the ACO function for the appropriate personnel for such a task must be facilitated.

Lesson 11: Streamlined refueling
The Police initiative to set up a helicopter refueling station near Brynhallen was an important means of streamlining helicopter rescue. Fortunately, Aviation Fuelling Services Norway (AFSN) was able to supply a tanker and personnel. The tanker, which is not insured for driving off the air field and not designed to drive on country roads, drove from Molde airport to Hustad school with a Police escort.

Refueling is the responsibility of JRCC through its role as air coordinator, and is included in the planning. JRCC-SN was satisfied with the Police initiative and did not consider it necessary to take any additional steps.

Meanwhile, based on this experience, JRCC should assess whether, in addition to the general planning, it is expedient to establish a corresponding arrangement as described above, for future rescue operations. An important consideration is that airfields maintain emergency readiness for refueling outside of normal opening hours.

Reception center
Lesson 12: The reception center – a good example of best practise
Brynhallen, an older sports complex near Hustadvika, was chosen for the reception center. This decision was made by the Police incident commander, in agreement with the fire commander and JRCC-SN.

The reception center was considered by those involved a success based on the way it was organized and operated. This can serve as a positive example for Police and municipalities in similar circumstances.

Lesson 13: A robust system for registering the evacuees
The registration of evacuees was improvised, and mainly of the pencil and paper variety, which resulted in incorrect records, challenges relating to information security, and limited information-sharing possibilities. Together with the health service and other central actors involved, the Police should assess how a more robust registration system could be developed that can be used by different actors and that makes information sharing possible.

Managing health-related issues
Lesson 14: Making it possible to identify emergency staff
Both the specialist service and primary health service participated in managing the Viking Sky incident. Health personnel from the hospitals in Molde and Kristiansund participated at the Brynhallen reception center, and ambulances and ambulance helicopters and personnel also contributed. Health personnel from Fræna, Molde and Kristiansund municipalities contributed their services at the Brynhallen reception center (situated in the municipality of Fræna), and at EPS centers (centers for evacuees and their friends and family) at hotels in Molde and Kristiansund.

There were approx. 500 emergency responders, staff and volunteers from many different participating entities at the Brynhallen reception center. The majority could be identified by their clothing – uniforms, or reflective vests.

However, some, such as health personnel from the municipality, could not be identified. It is important that all actors at the reception center and the EPS center, be identifiable. This is for security reasons, and that it would facilitate different security functions.

Lesson 15: Medical registration of evacuees
It was a challenge to register the condition and medical requirements of all the evacuees, and what medical follow-up they had received. The health care service should therefore consider establishing a more robust system for such registration. This measure must be seen in relation to the measure for evacuee registration for which the Police are responsible; cf. above.

Coordination, communication and information sharing

Lesson 16: A shared understanding of the situation
With many actors working simultaneously on the Viking Sky incident, coordination, communication and information sharing were important to ensure good cooperation. There is a widespread understanding among the actors involved in handling the incident that communication was somewhat lacking and that it was challenging to establish a shared situational picture. As an example, the Police/RSC would have liked to see better communication with JRCC-SN.

A measure is that JRCC should be able to improve communication and information sharing with central cooperating actors. Therefore, dedicated resources for these purposes need to be provided at JRCC.

Lesson 17: Communication between ship, helicopter and reception center
Such a measure could also facilitate better communication between ship/helicopter and the reception center. The various actors at the reception center should have had better information on the evacuees arriving by helicopter. Only when the helicopters landed did they have any clarity over whether patients were on stretchers or relatively healthy, or a combination of the two. The various actors said that if they had had this information, they could have been better prepared.

Lesson 18: Common communication platforms
The various actors also faced a challenge communicating as they were using different communication platforms. VHR Air and Marine, the Emergency Network (Nødnett), and mobile telephones were used. Most actors did not have access to all the platforms. Therefore, it should be considered whether more actors should have access to Nødnett, primarily the private rescue helicopters and municipalities.

It is important to note that communication challenges are not only to be found in technology and the use of different communication platforms. There is also the time perspective and the actors' capacity to convey the information. Additionally, it is the experience of the emergency services after using the Emergency Network for several years, that thematic communications management requires more work.

This applies particularly to complex actions/incidents where many different actors participate, and where different communications systems are used. POD should assess during the next revision of the Joint Communication Regulation for the Emergency Network if regulation can be further developed in this area.

Lesson 19: Common understanding of cooperation and coordination
Based on the Viking Sky incident, the relationship between JRCC management of rescue operations and DSB's coordination role should be clarified, including the joint action conferences arranged by DSB. Correspondingly, there is a need to clarify the relationship between the rescue management team at RSC and the county emergency preparedness council on the regional level, although this was not as much of an issue during this incident as was the relationship between JRCC and DSB.

Given that it was JRCC-SN and the rescue management that led and coordinated the operation, joint action conferences were perceived as involving several of the same participants as those in rescue management, and addressing some of the same topics. JRCC-SN questions whether this can create confusion in crisis management. Furthermore, JRCC-SN found it disruptive to be summoned to such a forum while trying to handle the situation.

DSB's joint action conferences operationalize their work in support of MoJ's coordination role. The purpose of the conferences is to contribute to a common understanding of the situation at the state level and its potential for further development, especially with a view toward possible serious consequences for society. It is DSB's view that the first coordination conference especially, was perceived to be disruptive for JRCC-SN and the rescue management's handling of the operation.

Thus, a stronger common understanding of the roles for rescue managment and joint action conferences, and the relationship between them, should be established. When similar incidents occur in the future, the actors should be mindful when implementing (joint action) activities that they can be disruptive to the rescue operations for which JRCC and RSC have the primary managerial and coordination responsibility.

Implementing exercises where both rescue management and joint action conferences are established; cf. Lesson 2, can be a tool for creating a stronger common understanding, particularly given that there can be long intervals between incidents where the rescue management team at JRCC is called in. Such exercises should also contribute to clarifying roles and the interface between the rescue management team at RSC and the county emergency preparedness council at the regional level.

Lesson 20: Clear communication of potential for a catastrophe
In the aftermath of the Viking Sky incident, it was clear that the incident could very easily have been much more serious. If the cruise ship had run aground, which it nearly did, the consequences could have been catastrophic, with many dead and injured. The actual written situation report understates this scenario. A lesson learned for future serious incidents is that a worst-case scenario must be clearly articulated, so that all relevant levels of crisis handling understand the situation and can fine-tune their actions accordingly.

Handling friends and family, and the media
Lesson 21: Planning for a center for family/friends hotline
Planning should have been made for setting up a center for family/friends hotline. As far as can be determined, no such center was established under the direction of public authorities. According to our assessment, this would have been needed in the case of a more serious or prolonged incident. The Police should clarify how handling the inquiries of friends and family should be organized in incidents such as that of Viking Sky. The plan of dedicated premises at JRCC-SN for Police, for the inquiries of friends and family, should be further assessed and developed.

Lesson 22: Setting up a press center
Several of the actors are satisfied with their own handling of the media. At the same time, though, they noted that there was no central information center for the press. This would have avoided the situation where the press pushed their way into Brynhallen to interview evacuees. A press center would have provided more working room for the actors who were forced to handle a media storm as well as other tasks. Especially, it would have facilitated getting a correct and coordinated message out to the press.

Follow-up of the assessment
It is important to learn as much as we can from an incident such as that involving Viking Sky through an afteraction assessment. We recommend that the after-action assessment be conducted after a period of time (for example, one year), with the principal focus on how the various actors followed up on the lessons learned, and on the measures recommended. The need to follow up on findings and lessons is an area of focus in Report to the Storting (Parliament) White Paper 10 (2016–2017) Risk in a Safe and Secure Society. This document accentuates the need for an action plan and related reporting.

The assessment of the Viking Sky incident is comprehensive, culminating in over 20 lessons corresponding to recommendations on measures concerning a broad spectrum of responsible actors. Further concretization of measures is necessary, and must be undertaken by the responsible entities.

The Government has concluded that a committee should be appointed to map maritime safety and preparedness challenges related to increasing cruise ship traffic in Norwegian waters.[5] The committee will obtain a knowledge base grounded in incident assessments among other things. This assessment will then be included in the knowledge base.

[5] Ministry of Justice and Public Security press release dated December 14, 2019.

CHAPTER

01

Introduction

1.1 BACKGROUND

On March 23, 2019, the Viking Sky cruise ship suffered an engine shutdown and had to make an emergency stop at Hustadvika, between Kristiansund and Molde. The ship nearly ran aground, which could have had catastrophic consequences. A comprehensive rescue operation was carried out and passengers were evacuated by helicopter, an operation that continued until the morning of the following day.

According to Instructions for the Ministries' work with civil protection and emergency preparedness (the civil protection instruction)[6], one of the lead ministry's tasks in an incident is to take responsibility for evaluating incident handling, in cooperation with other affected actors, and ensure that the lessons identified are acted on. The Ministry of Justice and Public Security (MoJ) was the lead ministry during this incident, and has tasked the Directorate for Civil Protection and Emergency Planning (DSB) with evaluating the handling of the incident.

1.2 MANDATE

DSB was tasked with assembling and evaluating experiences of the rescue operation in connection with the incident. The assessment covers the entire rescue operation, from the intervention of towboats[7] and other vessels, the evacuation of people aboard the ship by helicopter, and their reception and handling on land until they left the reception center.

The reason why the ships (Viking Sky and the freighter Hagland Captain) got into distress, and the crews' handling of the situation, is not included in the assignment.

The same applies to issues related to the shipping company's safeguarding of passengers and crew members.

The work was carried out in dialogue with the Joint Rescue Coordination Center of Southern Norway (JRCC-SN), and with the County Governor for Møre og Romsdal (FMMR), the Møre og Romsdal Police District (MRPD)/local rescue coordination center (RSC), and the municipalities involved. The DSB also gathered information and insights from others who took part in the rescue work, including the Møre og Romsdal Hospital Trust, Norwegian Civil Defense, and volunteer organizations. DSB briefed the National Accident Investigation Commission for Transport, the Coastal Administration and the Maritime Authority on the assignment, and ensured that the assessment did not unnecessarily overlap with these authorities' investigations of the progression and management of the incident.

The report assembles information and experiences that emerge from these actors' own assessments, or are obtained from them by other means. To the extent possible and necessary to obtain a complete picture, the DSB made independent assessments of the contributions of the various participants.

According to the mandate, the report shall:

- Provide a summarized overview of the rescue operation, from the time JRCC-SN learned of the incident (reception of first message) until the end of the rescue operation. In this connection, the organization of the rescue work as well as the resources provided and steps taken by the different actors, shall be described.
- First and foremost, describe relevant legislation, legal requirements, planning, and established routines/procedures that define the roles and responsibilities of the different authorities' roles in managing such incidents.
- Provide an overview of the risk assessments carried out, exercises, measures taken and the follow-up to same.

[6] Instructions for the Ministries' work with civil protection and emergency preparedness. Laid down by the Norwegian Ministry of Justice and Public Security on 1 september 2017.

[7] During the assessment, it emerged that greater attention to the contribution and emergency preparedness of towboats was needed. Nor was the maritime rescue effort evaluated in its entirety by other actors. The timeframe for the assessment was therefore extended to February 1, 2020.

- Evaluate how the crisis was handled, and how available resources were used.
- Clarify how coordination and cooperation between the different actors functioned during the incident, particularly those actors with a special responsibility for coordination, including JRCC-SN, the local rescue coordination center (RSC), FMMR, DSB and the Ministry of Justice and Public Security's Crisis Support Unit (CSU).

The report contains recommendations on measures that can be taken to strengthen rescue preparedness related to similar incidents, especially accidents involving large passenger ships.

1.3 INTERPRETATION OF THE MANDATE

Based on the mandate, the assessment shall have have a broad approach. The rescue operation at sea and the evacuation of passengers are the focus. This was managed and coordinated by JRCC-SN; cf. Organizational plan for the rescue service[8]. On assignment for JRCC-SN, RSC (led by the Police) had the primary responsibility for the reception and handling of evacuees on land. The first step was to set up and operate the reception center.

Numerous other actors were involved in the rescue operation and in receiving and handling the evacuees on land. Additionally, the national crisis response apparatus went into action, with MoJ as the lead Ministry.

The assessment shall clarify the coordination and cooperation between the various actors who have particular responsibility for coordination, e.g., JRCC, RSC, the County Governor, DSB and CSU. These actors are relevant not only because of their role in the rescue service, but because they are responsible for handling the consequences of hazardous incidents to the public. The mandate also asks DSB to compile the data and experiences emerging from the assessments of a broad set of actors.

As a consequence, the assessment report also addresses measures that were not directly related to the rescue operation or the reception center per se. This applies to measures taken by participants such as DSB, the County Governor, and municipalities. These entities stood up their emergency preparedness and crisis organizations on their own initiative when they received the alert, or learned in other ways that Viking Sky was in distress.

Even though the incident in fact had very few serious consequences for the public, such an approach is still relevant because similar incidents in the future could have greater consequences, requiring a full range of public security entities and emergency preparedness arrangements to be involved and activated. It is therefore important to also identify lessons that do not apply exclusively to this particular rescue operation or reception center.

In addition to being represented on JRCC's rescue management team, DSB is responsible for supporting the Ministry of Justice and Public Security's role in crisis management coordination.[9] Therefore, during the Viking Sky incident, DSB set up joint action conferences and arranged for common cross-sectorial reporting. DSB's responsibility also includes facilitating crisis management cooperation between the County Governor and municipalities.

The County Governor is responsible for regional coordination during hazardous incidents.[10] Although this involves no change in responsibilities for other public security actors, but there remains a responsibility to facilitate cooperation between regional actors involved in managing incidents.

[8] FOR-2015-06-19 no. 677: Organization Plan for the Rescue Service. In the aftermath of the Viking Sky incident, a new organization plan was approved by the Cabinet on December 6, 2019.

[9] FOR-2005-06-24 no. 688: Instructions for the coordinating roles of the Directorate for Civil Protection and Emergency Planning (DSB)

[10] cf. FOR-2015-06-19 no. 703: Instructions for the work of the County Governor and the Governor of Svalbard on Social Security, Emergency Preparedness and Crisis Management

The municipalities have general responsibility for public security and safety, and a duty to manage hazardous incidents that impact the municipality. They are responsible for general coordination at the local level.[11] Municipalities shall also offer assistance in the case of accidents and other crisis situations, including the casualty clinic, 24-hour medical emergency preparedness, medical emergency communication service and follow-up.[12] FMMR and the municipalities therefore established their emergency preparedness and crisis management organizations in order to meet different scenarios, and respond to consequences for the general public resulting from the incident with Viking Sky, where the outcome was uncertain.

1.4 STRUCTURE OF THE ASSESSMENT REPORT

The next chapter deals with the methodology and process employed in the assessment report. Chapter 3 includes the legal foundation and gives a short description of the participants' involvement. Next follows a discussion of the timeline of the incident (Chapter 4). The main body of the report covers descriptions and assessments for prevention, emergency preparedness and managing the incident (Chapters 5 and 6). The report finishes with a summary of lessons learned and recommendations for follow-on measures (Chapter 7).

[11] cf. FOR-2011-08-22 no. 894: Regulation on municipal emergency preparedness

[12] LOV-2011-06-24 no. 30 concerning municipal health and care services, etc. (Health and Care Services Act).

CHAPTER

02

Method and process

The overall approach to the assessment has been to identify and assess the strengths and areas for improvement (lessons learned) related to the prevention, emergency preparedness and management of the Viking Sky incident. In accordance with the mandate, prevention includes overview of risk and vulnerability (for example by having a Risk and vulnerability assessment (RAV assessment)), while the central emergency preparedness measure includes emergency planning and exercises. Managing the incident covers different measures taken to limit its consequences. Central elements include alerts, organization, maritime intervention, helicopter rescue, and attending to the evacuees at the Brynhallen reception center. In addition, cooperation/coordination, situational awareness and information sharing are a common thread running through all phases of the incident management.

The legal basis and the allocation of responsibilities have also been an important foundation for the assessment, for example, in connection with how the different actors adhered to relevant legal requirements for prevention, emergency preparedness and management.

On the basis of assessments of prevention, emergency preparedness and managing the incident, lessons learned are identified and recommendations provided that will strengthen emergency preparedness for handling such incidents in the future. Lessons learned cover positive examples for follow-up and, in most cases, areas where there is room for improvement.

The assessment work is first and foremost based on the following methods and sources:

- Review of the relevant documentation; cf. overview of sources at the end of the report:
  - Legislation and regulations
  - Other legal documents such as reports to the Storting, etc.
  - Other documentation describing the relevant routines and procedures, roles and responsibilities
  - RAV assessments
  - Emergency planning
  - Logging the incident
  - Clips
  - Other actors' assessments
  - Presentations and reports from the debrief directed by JRCC-SN May 23 2019 and assessment day in Brynhallen, June 12, 2019 directed by the affected municipalities, FMMR and MRPD.
- Meetings and interviews, based on prepared themes/interview guides, with the relevant actors:
  - Management and coordination actors: JRCC-SN, RSC (MRPD), FMMR, DSB, CSU
  - Other directorates: Avinor, the Norwegian Directorate of Health, the Norwegian Coastal Administration (including Vardø VTS and acting director, pilot services/pilot master), the National Police Directorate (POD), and the Norwegian Maritime Authority
  - The Accident Investigation Board Norway for Transport (SHK)
  - Affected municipalities: Fræna, Molde and Kristiansund
  - Møre og Romsdal Hospital Trust (HF)
  - Defense: the Home Guard District 11 (HV-11), the Coast Guard, 330 Squadron
  - The Civil Defence
  - Volunteer organizations: the Red Cross, Norwegian People's Aid, the Bryn Sports Club (IL Bryn)
  - Private actors: CHC Helicopter Service[13], Wilhelmsen Ship Management AS
- In addition to meetings/interviews, the assessment team also employed advisors with professional rescue operation competence
- An electronic questionnaire designed to map the actors' RAV assessments, emergency preparedness plans and exercises.

It was not expedient to map all concrete relationships related to the rescue operation in an attempt to reconstruct an exact picture of what happened. The mapping and description of the actual relationships is primarily carried out with a view toward identifying and justifying lessons learned and recommendations. Where it is necessary to have the precise circumstances of, for example, points in time and actors, all information is quality assured.

[13] CHC Helicopter Service is a Norwegian helicopter company owned by the Canadian company, CHC Helicopter. The company delivers helicopter services to Norwegian il companies and owns several rescue helicopters. Additionally, CHC attends to public rescue helicopter readiness in Florø, under a contract with MoJ.

The assessment report places the greatest emphasis on themes and issues involving several actors, and in particular on the relationship between these and cross-sectoral issues. Many of the participants conducted their own assessments identifying important lessons learned, but these were primarily focused on the actors themselves, and thus play a minor role in the theme of this assessment report.

A draft of the assessment report has been sent to each of the relevant actors for their input, and their remarks assessed and included in the final report where expedient.

In the following, "we" is used when referring to the DSB in its role as evaluator, and "DSB" when we refer to the Directorate as an actor in the incident. In order to ensure impartiality, a different area of DSB conducted this assessment rather than the section responsible for crisis management. Further, DSB had a less central role in managing the crisis than did several other actors.

CHAPTER

03

Legal basis and involvement

3.1 LEGAL BASIS OF THE ASSESSMENT

A number of laws and decisions regulate responsibility and measures to be taken in managing incidents such as that of the Viking Sky. Here is a brief explanation of important laws, regulations, directives and the like, which provide the foundation for handling the incident. For further information; cf. Annex 1.

The overarching international framework for maritime and aviation rescue services is based on the international conventions on search and rescue (SAR Convention), the International Civil Aviation Organization (ICAO Convention, Annex 12) and the International Convention for Safety of Life At Sea (SOLAS). These Conventions have been ratified by Norway.

- *SAR Convention*[14]
  - The SAR Convention contains decisions on establishing and coordinating maritime search and rescue.
- *Safety of Life at Sea (SOLAS)*[15]
  - International Convention on safety of life at sea.
- *ICAO Annex-12*
  - Agreement on international civil aviation.
- *IAMSAR Manual, Vol. I, II og III*[16]
  - The three-volume IAMSAR Manual provides guidelines for a common aviation and maritime approach to organizing and providing search and rescue (SAR) services.
- *Regulation for the departments' work on public security and emergency preparedness*[17]
  - The aim is to strengthen society's ability to prevent crises and to handle serious incidents by means of comprehensive and coordinated work on public security.
  - Precise criteria for the departments' work on public security.
- *Organizational plan for the rescue service*[18]
  - Determines the organization of the rescue service and routines for cooperation, management, coordination, responsibilities and tasks.
  - The purpose is to manage an integrated rescue service on land, sea and in the air, based on cooperation between public, volunteer and private actors. The plan is determined pursuant to the Police Act (§ 27).
  - Each of the two joint rescue coordination centers consists of a rescue management team comprising the central cooperation partners and the Police chiefs responsible for Nordland and Rogaland Police District.
  - When the rescue managment team is called in, they are the senior members in leading and coordinating rescue operations. Members of the rescue management team take the lead with authorization from their respective departments or superiors.
  - The local rescue coordination center comprises local rescue controllers within the most important cooperation partners in the national rescue service, with the Chief of Police taking the lead.
  - When the local rescue management team is called in, they lead and coordinate the rescue operation at a higher level. Rescue management team members act with authorization from their respective departments, relevant local authority, and superiors.
- *Handbook for the Norwegian Rescue Service*[19]
  - The handbook provides a comprehensive description of roles, responsibilities and assignments in the rescue service. The handbook describes and clarifies the central values and principles on which the Norwegian rescue service was founded.
- *Regulation for the coordination role of the Directorate for public security and emergency preparedness*[20]
  - The regulation stipulates the guidelines to be followed by the Directorate in this work. These guidelines are concerned, inter alia, with tasks carried out to support MoJ in its role in coordinating the work on public security and emergency preparedness.

[14] International Convention on Maritime Search and Rescue (SAR), 1979.
[15] International Convention for the Safety of Life at Sea (SOLAS), 1974.
[16] International Aeronautical and Maritime Search and Rescue Manual.
[17] FOR-2017-09-01 no. 1349: Regulations for the work of ministries on public security and preparedness.
[18] FOR-2015-16-19 no. 677: Organization Plan for the Rescue Service.
[19] Handbook for the Norwegian Rescue Service, 2018.
[20] FOR-2005-06-24 no. 688: Regulations concerning DSB's coordination role.

- *The Maritime Code*[21]
  - The Shipping Act is one of the most central acts in maritime law, i.e., the legal regulations concerning shipping and maritime transport. The Act first and foremost regulates private maritime issues regarding shipping and the transport of goods and people by ship. In addition to decisions on freight agreements, the Act includes legal regulations for all businesses connected to maritime transport, from ship building to establishing responsibility following accidents, damage to goods, shipwrecks, salvaging, protests (after an accident at sea), and disputes. The Shipping Act also addresses questions of a more general security character and contains rules on limiting responsibility for damage occurring during the operation of the ship.
- *National guide for planning and cooperation in the rescue service*[22]
  - Provides guidelines for carry out planning and for the best possible interaction between cooperating actors in the rescue service. It applies to all cooperating actors represented in rescue management at the local rescue coordination center (RSC) and joint rescue coordination centers (JRCC). The guide provides instruction for the preparation and revision of each actor's own rescue planning.
- *Directive on public security for the County Governor*[23]
  - Sets out guidelines for the County Governor's work on public security and emergency preparedness, and for the County Governor's coordination of crisis management involving hazardous incidents.
- *Guidelines for alerts and reporting using a shared frequency channel*[24]
  - Situation reporting to the higher authority is implemented as part of Norway's crisis management. The purpose is to keep higher authority updated and to raise relevant issues.
- *The Civil Protection Act*[25]
  - The objective is to protect lives, health, the environment, material assets and critical infrastructure.
  - Stipulates that a municipality has an obligation to prepare a comprehensive risk and vulnerability assessment and based on this, establish an emergency preparedness plan.
  - Also stipulates The Civil Defense's obligations, which are to plan and implement measures for the protection of the civilian population, the environment, and material assets.
- *Regulation on municipal emergency preparedness*[26]
  - Shall ensure that the municipality protects public safety and security. The municipality shall work systematically and comprehensively on cross-sectoral public security, with a view to reducing the risk of loss of life or damage to health, the environment, and material assets.
- *The Health Preparedness Act*[27]
  - The aim of this Act is to protect the lives and health of the public, and help ensure that the population can be offered necessary medical treatment and social services in wartime, and in crises and disasters during peacetime.
  - Stipulates that municipalities, county authorities, regional health authorities and the Norwegian state are required to draw up preparedness plans for the health and social care services they must provide or are responsible for.
- *The Health and Care Services Act*[28]
  - Stipulates that municipalities shall, inter alia, assist in case of accidents and other crisis situation, including the casualty clinic, 24-hour medical emergency preparedness, medical emergency services, and psychosocial preparedness and follow-up.
- *The Specialist Health Services Act*[29]
  - Stipulates the regional health authorities' responsibility for specialist health services. The regional Health Authority shall ensure that persons with permanent residence or residing in the health region must be provided specialist

[21] LOV-1994-06-24 no. 39 concerning the Maritime Code.
[22] National guide for planning and cooperation in the rescue service, 2018.
[23] FOR-2015-06-19 no. 703: Directive for the County Governor and the Governor of Svalbard's work on public security, emergency preparedness and crisis management (Directive on public security for the County Governor).
[24] DSB's guidelines for notifying and reporting on shared frequency channels, published September 2019.
[25] LOV 2010-06-25 no. 45 concerning municipal emergency preparedness, civil protection and civil defense (the Civil Preparedness Act).
[26] FOR-2011-08-22 no. 894: Regulation on municipal emergency preparedness.
[27] LOV 2000-06-23 no. 56 concerning health and social preparedness (the Health Preparedness Act).
[28] LOV 2011-06-24 no. 30 concerning municipal health and care services, etc (the Health and Care Services Act).
[29] LOV 1999-07-02 no. 61 concerning specialist health services (the Specialist Health Services Act).

health services for in-patient and out-patient care including crisis medical preparedness, emergency medical services, air ambulance services and ambulance services by car, and when necessary by boat.

- *The National Health Preparedness Plan*[30]
  - Provides a comprehensive overview of the health and care sector's preparedness, including preparedness for different social services. The Plan is the foundation for the health sector's handling of all types of crises and disasters.
- *The Coast Guard Act*[31]
  - Stipulates that the Coast Guard shall participate in implementing search and rescue operations in hazardous situations and accidents at sea, and shall, where possible, offer assistance to people who are seriously ill or injured, or who for any other reason are clearly in need.
- *The Police Act*[32]
  - Stipulates that it is incumbent upon the Police to implement and organize rescue efforts when people's lives or health are in danger, if no other authority has been assigned that responsibility.
- *The Police Preparedness System, Part I (PBS I)*[33]
  - The Police preparedness system is the foundation for the comprehensive and effective handling of both ordinary and extraordinary incidents and crises.
  - Provides guidelines for Police preparedness and shall contribute to coordinated planning and efforts.
- *The Fire and Explosions Act*[34]
  - The aim of this Act is to protect lives, health, the environment and material assets from fire and explosions, from accidents involving dangerous substances and goods and other serious accidents, and deliberate hazardous incidents. The Act further stipulates that upon request the fire service shall provide assistance with fires and accidents in the maritime environment within or beyond Norwegian territorial borders.

[30] National health preparedness plan, Ministry of Health and Care Services 2014.
[31] LOV 1997-06-13 no. 42 concerning the Coast Guard (the Coast Guard Act).
[32] LOV 1995-08-04 no. 53 concerning the Police (the Police Act).
[33] The Police Preparedness System, Part I (PBS I), Guidelines for Police Preparedness, July 1, 2011.
[34] LOV 2002-06-14 no. 20 on protection against fire, explosion and accidents involving dangerous substances and on the fire service's rescue duties (the Fire and Explosion Act).

3.2 THE ACTORS AND THEIR INVOLVEMENT

The following is an overview of the actors involved in the Viking Sky incident and describes their participation. The allocation of responsibility is described in Annex 1, while a more detailed description of the actors' involvement is elaborated where relevant, in the timeline of the incident (Chapter 4), and in the assessment of prevention, emergency preparedness and handling (Chapters 5 and 6).

At the national level

- *The Office of the Prime Minister (OPM)*
  - Was kept informed throughout the incident by the Ministry of Justice and Public Security (MoJ).
- *The Ministry of Justice and Public Security (MoJ)*
  - Was the lead Ministry and coordinated the civil authorities involved in the incident.
- *The Ministry of Transport (MoT)*
  - Was kept informed throughout the incident by the Ministry of Justice and Public Security and by The Norwegian Coastal Administration.
- *The Ministry of Health and Care Services (MoHCS)*
  - Was kept informed throughout the incident by the Ministry of Justice and Public Security and by the Directorate for Health.
- *The Ministry of Defense (MoD)*
  - Was kept informed throughout the incident by the Ministry of Justice and Public Security.
- *The Ministry of Foreign Affairs (MoF)*
  - Was kept informed throughout the incident by the Ministry of Justice and Public Security.
- *Crisis Support Unit (CSU)*
  - Assisted the MoJ which was the lead Ministry during the incident.
  - Remained in contact with JRCC-SN and POD.
  - Assembled reports from JRCC-SN and DSB (shared frequency channel) among others, and relayed these to the Ministry's leadership, OPM and other ministries.
- *Joint Rescue Coordination Center – South Norway (JRCC-SN)*
  - Led and coordinated the rescue operation in the Viking Sky incident.

- *Directorate for Health*
  - Represented on the JRCC-SN rescue management team.
  - Was kept informed throughout the incident by Møre og Romsdal Hospital Trust Health Authority HF.
- *Norwegian Maritime Authority (NMA)*
  - Represented on the JRCC-SN rescue management team, established own crisis response unit, had continual contact with the shipping company that owned the cruise ship.

- *Ministry of Defense operational headquarters*
  - Represented on the JRCC-SN rescue management team.
- *Norwegian Coastal Administration (NCA)*
  - Had a pilot on board Viking Sky.
  - Vardø vessel traffic service center (VTS), one of the Norwegian Coastal Administration's five traffic centers, had an important role to play, providing an overview of towing resources.
  - Represented on the JRCC-SN rescue management team.
- *Coast Guard*
  - The Coast Guard ship, KV Njord, was On-Scene Coordinator, and controlled and coordinated ships in the area around Viking Sky, on behalf of JRCC-SN.
- *Avinor*
  - Avinor Air Navigation Services was represented on the JRCC-SN and RSC rescue management team, along with air traffic control, in the JRCC-SN operations room. Assisted JRCC air traffic control in disseminating information and flight safety associated with helicopter traffic between the cruise ship and the reception center in Brynhallen.
  - Møre Approach (flight control service at Værnes) was the nexus between the helicopter resources and JRCC-SN.
- *The Police Directorate*
  - Followed the incident from the Police situation center, was in dialogue with Møre og Romsdal Police District and reported to MoJ/CSU.
- *330 Squadron*
  - Participated in the rescue operation with two Sea King helicopters.
- *Coastal Radio South*
  - Represented on the JRCC-SN rescue management team.
  - Passed the Mayday signal from Viking Sky to JRCC-SN, issued Mayday relay.
  - Maintained communication with the ship on maritime VHF, Channel 16.
- *Directorate for Civil Protection and Emergency Planning*
  - Arranged two coordination conferences at the directorate level.
  - Reported to MoJ/ CSU on the shared frequency channel.
  - Participated in the JRCC rescue management by telephone.
- *Accident Investigation Board Norway (SHK)*
  - Initiated the work of discovering why the Viking Sky got into distress.

Regional and local level

- *The County Governor in Møre og Romsdal (FMMR)*
  - Established crisis response unit and arranged joint action meetings in which municipalities, the Police, The Civil Defense and HV11 participated.
  - Participated in RSC rescue management by telephone and reported to DSB on the shared frequency channel.
- *Møre og Romsdal Police District (MRPD) and local rescue coordination center (RSC)*
  - Led the land operation during the Viking Sky incident.
  - Established rescue management team at RSC.
  - Maintained close dialogue with JRCC-SN during the incident.
- *Møre og Romsdal Hospital Trust (HF)*
  - Established local crisis response units in hospitals and a central crisis response unit in the Health Authority.
  - Reported directly to the Directorate for Health and Central Norway Regional Health Authority (RHF).
  - Represented on the Local Rescue Coordination Center (RSC) Rescue Management Team.
  - Molde Hospital and Kristiansund Hospital admitted injured passengers and were prepared for a possible worsening of the situation.
- *Møre og Romsdal Civil Defense District*
  - Represented on the RSC Rescue Management Team and contributed personnel and resources to the reception center in Brynhallen. Accompanied the evacuees on buses to Molde and Kristiansund.
- *Møre og Fjordane Home Guard District 11*
  - Participated in the RSC Rescue Management Team and contributed personnel and resources to the reception center in Brynhallen. Accompanied the evacuees being bused to Molde and Kristiansund.

- *The municipalities of Fræna, Molde and Kristiansund*
  - Established responsibility for safeguarding local inhabitants' security and safety.
  - Fræna, Kristiansund and Molde established crisis response units.
  - Fræna was the reception municipality for helicopter evacuation and further contributed by establishing the reception center at Brynhallen. The municipality also established a center for evacuees and their friends and family (EPS center) in the municipality and requisitioned overnight options.
  - Molde and Kristiansund requisitioned hotel rooms and established an EPS center.

Volunteers

- *The Volunteer Organizations Rescue Professionals Forum (FORF)*
  - Represented on the rescue management teams at JRCC and RSC.
- *The Norwegian Sea Rescue Society (RS)*
  - The rescue boats Erik Bye and Mærsk were sent to assist Viking Sky but were forced by bad weather to return to the pier.
  - Represented the rescue management team at JRCC.
- *The Red Cross*
  - The Møre og Romsdal Red Cross assisted at the reception center in Brynhallen with first aid, psychosocial first aid, and the logistics involved in handling passengers and equipment.
  - Contributed two emergency ambulances that were used to transport passengers with minor injuries to hospital, and provided bus transport to Molde and Kristiansund.
  - Assisted at the EPS centers in Molde and Kristiansund.
- *Norwegian People's Aid*
  - Norwegian People's Aid (Nesset) assisted at the Brynhallen reception center with first aid, psychosocial first aid, and the logistics involved in handling passengers and equipment.
  - Also assisted passengers with bus transport to Molde and Kristiansund.
- *Local branch of the Norwegian Women's Public Health Association*
  - Assisted matching baggage with passengers on Viking Sky.
- *Bryn Sports Association*
  - Assisted at the Brynhallen reception center with clearing up, catering and organizing other volunteers from the neighboring area, etc.

Private actors

- *Wilhelmsen Ship Management AS*
  - Had ongoing contact with shipping company management, JRCC-SN, the Norwegian Maritime Authority, and the Police.
  - Handled inquiries from friends and family.
- *CHC Helicopter Service*
  - Four CHC helicopters participated in the rescue, one of which is stationed in Florø and is part of the official rescue helicopter service.
- *Aviation Fuelling Services Norway (AFSN)*
  - Moved fuel tankers from Molde airport to Hustad School which is alongside Brynhallen, so helicopters airlifting passengers could refuel there.

CHAPTER

04

Timeline of the incident

Viking Sky in distress not far from land at Hustadvika. Photo credit: Scanpix NTB

The MS Viking Sky is a Norwegian cruise ship that was launched on March 23, 2016 in Ancona, Italy, the third of six sister ships. She is 228 meters long, 29 meters wide, her gross tonnage is 47,000, and she has a maximum capacity of 944 passengers. The ship's owner, Viking Ocean Cruises, is headquartered in Bern (Switzerland), while Wilhelmsen Ship Management AS, responsible for operation of the ship and for its crew, is headquartered in Lysaker (Norway). The ship set out on her maiden voyage on February 25, 2017, and has previously sailed in Scandinavia, the Baltic Sea, the Mediterranean, and the Caribbean. In the winter and spring of 2019, she carried a total of 1,373 people on board, of which 915 were passengers and 458 crew members.

The following is a summary of the timeline of the Viking Sky incident on March 23, 2019, and the days that followed. The purpose is to provide an overview of the most important episodes and activities in the course of the incident, as well as a picture of the many actors and their contributions. The discussion in this chapter is descriptive, while the assessment of the actors' actions, and the elaboration of the course of the incident is covered in Chapters 5 and 6. The points in time referred to are estimates, as the logs from different actors differ somewhat. Figure 1 in Chapter 4.3 shows a timeline of the most important situations and activities.

4.1
SATURDAY MARCH 23

4.1.1 1400–1600 H.

Engine shutdown and Mayday distress signal from Viking Sky
With south-west winds of severe gale to storm strength, around 22-25 meters/second (around 50 knots), and with waves at about 15 meters in the area around Hustadvika in the Fræna municipality on the Romsdal coast. Owing to the bad weather, Hurtigruten (the Norwegian coastal service), and numerous local ferries have put into harbor at several places in Møre og Romsdal and been cancelled. Alerts about the bad weather had been issued several days earlier by the Meteorological Institute.

1400 h. Saturday March 23: The cruise ship Viking Sky sends a Mayday distress signal[35] in the maritime area off Hustadvika, a large area between Molde and Kristiansund that is known for its hazardous weather conditions. The ship reports that all four engines stopped approx. 5-6 minutes earlier, and that the ship has experienced a blackout[36] which has caused the loss of all engine power and with it, propulsion. Viking Sky is now drifting toward Hustadvika itself, an area known for numerous dangerous shoals and reefs. Because of the wind trap created by the ship, and tides with upward of nine knots, the ship is is drifting rapidly toward land.

JRCC-SN issues SAR alert[37]
JRCC-SN responds immediately to Viking Sky's distress signal by calling in several rescue helicopters and boats, including towboats, to assist the cruise ship. On behalf of JRCC-SN, Coastal Radio South also sends out a Mayday relay[38] to call in towboats that can assist. To begin with, the RS Erik Bye, the chemical tanker Bergen Viking and the Coast Guard ship KV Njord and others, set course for Hustadvika. The two nearest are in port at Kristiansund, about 40 minutes away.

1405 h.: JRCC-SN issues SAR alert to 110-, 112-, and 113-centers. Such an alert is implemented immediately when incidents or situations are conducted as a rescue operation. In practice, this means that the centers link up in a joint telephone conference so that everyone gets the same information, and individuals are able to clarify further efforts they have made.

Police and municipalities respond
The MRPD operating center sends alerts both internally within the Police and externally to other relevant actors. The Police incident commander is alerted and immediately drives to Hustadvika to inspect the situation, and if necessary, set up a command post (CP) and reception center. Several Police patrols rush out at the same time.

Fræna fire brigade is alerted about 15 minutes after the SAR alert, and the fire chief, who is fortuitously at work that day, hurries out together with his staff. The fire chief in Fræna municipality gradually assumes the role as fire commander.

Setting up the crisis center in Brynhallen
According to the Fræna municipal crisis plan, Brynhallen is to function as command post and reception center in the case of major incidents in the area. In the meantime, the incident commander (Police) and the fire commander meet first at Hustadvika Gjestegård for a briefing. They quickly discover that due to insufficient capacity the Hustadvika Gjestegård is not suitable in the event a mass evacuation of the ship becomes necessary. Consequently it is decided that, according to the plan, Brynhallen, which lies a little over four kilometers further south, will be used.

Fræna municipality quickly contacts the Bryn sports team (IL Bryn) and requests that they open the hall and prepare for the emergency management team that is on the way. This slightly older sports complex and surrounding areas are operated by IL Bryn and has good facilities for receiving both helicopters and many

[35] Mayday is the international distress signal for planes and ships.
[36] According to the Accident Investigation Board Norway: Interim report November 12, 2019, on the investigation into the loss of propulsion and the near ground of Viking Sky, 23 March 2019), the blackout lasted 30 seconds before the emergency generator was connected.
[37] Search and Rescue alert.
[38] Mayday relay is the relaying of a Mayday distress signal.

evacuees should that prove necessary. Additionally, Brynhallen is situated very close to the maritime area where Viking Sky is in distress, just two kilometers away as the crow flies.

The Møre og Romsdal Emergency Medical Communications Center (AMK), which is situated in Ålesund, also sends an alert through the Search and Rescue emergency alert line. The assistant department chief of prehospital services at Møre og Romsdal Hospital Trust Regional Health Authority in Ålesund arrives at Brynhallen to serve as medical commander shortly after the incident commander and fire commander a little after **1430 h.** In parallel, the health service in Fræna municipality sends out an SMS alert to all health personnel, from both home services and hospital services. In a short time 60 health personnel arrive, and teams, watch lists and shift lists are immediately established.

Viking Sky avoids running aground
Meanwhile, Viking Sky is attempting to anchor with two anchors out, but is unable and the ship drifts further toward land at Male near Hustadvika. The deployed anchors slow the drift toward shoals closer to land. **At 1440 h.** one of the ship's engines is restarted, and the combination of engine power and the weight of the anchor chains stops the drift that could quickly have resulted in the ship running aground. The cruise ship holds her position, but the situation is still uncertain and critical. The ship, carrying 1,373 people, is now only 100 meters from land and probably just a few meters from the nearest shoal as it now moves up and down in the large swells.

With the ship lacking forward motion and heeling strongly from side to side, several of the passengers are injured. Some have been hit by tables, chairs, ceiling tiles, and other articles that have become loose and are now sliding back and forth. The sea washes over the lowest open deck and streams into the ship. Some of the passengers fall, hurting themselves and getting wet. Many are frightened, and panic is beginning to set in. Most passengers are relatively aged, many are retirees and relatively vulnerable.

Given the critical situation in which the ship now finds itself, the Viking Sky's captain and JRCC-SN decide that passenger evacuation should begin.

JRCC-SN sends out an alert to the public rescue helicopters on Ørlandet and in Florø. CHC Helicopter Service also has an SAR rescue helicopter at Kristiansund airport, and this quickly sets course toward Hustadvika.

Local crisis organization
As is their routine, the Police at the operation center in Møre og Romsdal now alert several actors and both Civil Defence and the Volunteer Organizations' Rescue Professionals Forum (FORF) with representatives from the Red Cross, are also alerted. Fræna municipal management are alerted to the incident by the municipal fire chief **at 1427 h., and by the Police at 1435 h**. In time, Fræna, Molde and Kristiansund municipalities establish crisis management teams and/or crisis response units, in which the Police also participate. The municipalities notify each other when the crisis organization has been established. FMMR, situated in Molde, also establishes a crisis response unit and crisis management team, in order to be prepared for harmonization and coordination.

The alerts come from several quarters and from different actors, and many follow events through news broadcasts and social media. Several actors evaluate the possibility of a worst-case scenario with the ship running aground, passengers and crew in the sea, and possibly catastrophic consequences.

Preparation for receiving passengers in Brynhallen
In accordance with Fræna's plan, it is decided that Brynhallen will be the reception center for those airlifted by helicopter from the cruise ship. It is also decided that passengers will be sent on from Brynhallen to either Molde or Kristiansund. Both Molde and Kristiansund begin establishing so-called EPS centers (for evacuees and their friends and family) to receive passengers from Viking Sky.

A command post is quickly set up on the second floor in Brynhallen. Frequent meetings are held, followed by updates throughout the afternoon and evening. Participants include representatives from all those with a role and function at the reception center, including incident, fire and medical commanders, staff and volunteers. The incident commander (Police) leads the meetings, updated information is exchanged constantly, and different tasks allocated

Actors at the reception center in Brynhallen. Photo credit: Scanpix NTB

and coordinated as the situation progresses. The majority at the reception center also communicate via the Emergency Network so everyone can be updated on the situation and on the status of the passengers as they gradually arrive at Brynhallen.

At the same time, AMK in Ålesund sends several ambulances and a number of staff to Brynhallen. Over the course of the afternoon and evening a total of 17 ambulances are made available to transport evacuees to the hospitals in Molde and Kristiansund. In addition, the Norwegian air ambulance service (LA 41) sends one of their own ambulances to Brynhallen. Gradually buses start turning up at the reception center to take passengers from Brynhallen on to the EPS centers. Later in the evening an air ambulance is sent from Vigra (Ålesund) to Årø (Molde) to transport passengers to Haukeland University hospital in Bergen.

The work of volunteers at Brynhallen
Several volunteers arrive at the reception center in Brynhallen. The news of what is happening at Hustadvika quickly spreads in the small local population. Among others, between 60 and 70 members from IL Bryn arrive on Saturday afternoon and are assigned logistics tasks such as organizing chairs and tables, food and drink. The influx of volunteers from IL Bryn becomes so great that several are put on a rotation list and sent home.

IL Bryn also arranges for several stores and catering companies to open and assist by providing warm food and drink, with a thought to both those evacuated from Viking Sky and the many volunteers and incident, fire and medical commanders arriving at Brynhallen. Also, some volunteers from IL Bryn are given the job of registering the passengers who will be transported by bus to Molde and Kristiansund. Thanks to good local knowledge, the buses are quickly sent on their way.

The Civil Defence and the Home Guard
The Civil Defence arrives with personnel from Møre og Romsdal Civil Defense (Molde department), as well as several peacetime service groups (FIG) from the region. Close to 60 service members arrive at Brynhallen over the first few hours. The Civil Defence is given a number of tasks by incident commander (Police), including equipment and manpower. The Civil Defence have brought 1,350 wool blankets, 300 stretchers, first aid equipment, lighting, heaters and minibuses.

The Civil Defence is given responsibility for security and road traffic control, some registration, accompanying evacuees being transported by bus to Molde and Kristiansund, clearing the helicopter site, and logistics and operational support. Additionally, manpower was called in for guard duty at EPS centers which were being established in Molde and Kristiansund. In all, 105 mandatory service members from the Civil Defence are assisting at Brynhallen, Molde and Kristiansund. Additionally, the Civil Defence participates in RSC rescue management.

The Home Guard District 11 (HV11) covers all of Møre og Romsdal as well as part of Sogn og Fjordane down to Sognefjorden. HV11 immediately makes informal contact with rescue management in Fræna municipality and requests that the District assist by providing staffing. As it turns out, HV11 has called in a number of its members for a large exercise this weekend and can therefore quickly redirect them to Brynhallen. Shortly thereafter, HV11 is formally called in by the Police and quickly arrives on scene with approx. 40 people from the area surrounding Fræna. HV11 is made responsible for securing the helicopter site, directing traffic and setting up access control, as well as a number of tasks in the Brynhallen reception center itself.

The Red Cross and Norwegian People's Aid turn out
Volunteers from the Red Cross are in Hustadvika when Viking Sky experiences problems and meet the incident commander shortly thereafter at Brynhallen The Red Cross is therefore involved at the reception center from the beginning and assists in planning for use of the hall and in setting up evacuee registration. Volunteer rescue personnel from the Red Cross and Norwegian People's Aid stream in, and the nearest local resources arrive within a short time and assist at the reception center upon arrival of the first helicopter.

The incident command leader group from Møre og Romsdal Red Cross Action, situated in Ålesund and environs, arrives at Brynhallen at approx. 1700 h. On the ferry to Molde, they designed a registration form which is now used at the reception center. In time, the Red Cross is given primary responsibility for all traffic in and out of the reception center and further movement on to the EPS centers (check-in and check-out). Several of the volunteers step in to act as stretcher bearers and to provide minor first aid. They are also made responsible for psychosocial first aid for the arriving evacuees and for follow-up assistance to those being sent on by bus. In addition, they assign one person to handle the media, a job that, as time goes by, becomes fairly complicated.

During the afternoon the Red Cross contributes a total of 163 volunteers from 21 rescue corps in the region. The majority come to the reception center, but several volunteer crews are also sent to the EPS centers in Molde and Kristiansund. In preparation for a potential worst-case scenario, Møre og Romsdal Red Cross alert staff in Sogn og Fjordane, Trøndelag, Hordaland and Oppland.

Norwegian People's Aid (NFH) in Nesset, east of Molde, learn of the dramatic incident via the news.

They are also alerted by the Red Cross. NFH quickly organizes and arrives with just over 30 volunteers. On the way to Fræna they make plans for what might await them and the sort of tasks they can expect to be given. They share areas of responsibility and tasks with several of the others, and are given responsibility for some triage and first aid, as well as some of the reception apparatus in Brynhallen. Sharing the task with the Civil Defense and the Red Cross, they also accompany the evacuated passengers being taken by bus to the EPS centers in Molde and Kristiansund.

Eventually there are more volunteers than needed at Brynhallen. In case the situation should worsen, with the cruise ship running aground and more staffing required, Command post (CP) decides that the "surplus" will remain in the hall as backup.

Vessels and helicopters reach Viking Sky
Just after **1500 h.** the first vessels, MS Holmfoss, Bergen Viking and Fiskenes, arrive in the area near Hustadvika, as do the first SAR helicopters from the rescue helicopter base in Florø. Several helicopters from both 330 Squadron and CHC Helicopter Service arrive shortly thereafter, and are ready to begin evacuating passengers from Viking Sky.

JRCC-SN leads the rescue operation, and as a first step uses the rescue helicopter from Florø to relay information to the air resources. Helicopter traffic between the cruise ship and the reception center in Brynhallen is coordinated internally as the various helicopters arrive in the area. Later, the Møre Approach control service at Trondheim Airport (Værnes) assumes responsibility for relaying information and for flight safety in the command area.

Avinor (Avinor Flysikring – Avinor Air Traffic Control) is represented on JRCC-SN, and this is important for communication between JRCC-SN and Møre Approach regarding helicopter intervention. Møre Approach adds extra staff and an extra radio frequency specifically to disseminate information and provide flight safety for the helicopter traffic around Viking Sky. Møre Approach has good radar coverage in the area and control over all helicopters around the cruise ship.

About half an hour after the first vessels reach Viking Sky, MS Holmfoss and Fiskenes are dismissed by JRCCSN because the rough weather makes it impossible to tie up to the ship, or to evacuate the passengers with the help of the vessels in the immediate area. Therefore, the helicopters are brought into action and begin the task of evacuating injured and uninjured passengers from the cruise ship.

The first passengers are evacuated
At about **1530 h.**, the reception center is ready to receive the first evacuees from Viking Sky. About 500 staff and volunteers have arrived or will shortly be arriving, ready for duty. They can now see and hear several of the helicopters in the air as they fly out toward Hustadvika and Viking Sky to hoist the very first passengers from the cruise ship. The parking place in front of the reception center will be used as a landing site for the helicopters, and it is both quick and easy to transport the evacuees into the now heated Brynhallen where the whole receiving apparatus stands ready.

At about **1540 h.**, the first evacuated passengers arrive at the Brynhallen reception center. The most seriously injured are the first to arrive, and volunteers are ready with stretchers and blankets. Every passenger is accompanied from the landing site into the hall by at least one volunteer to be registered and sent on for further services. Some passengers are taken directly to the emergency room where medical personnel are ready to provide critical care, while others receive simple first aid from volunteers. Others are led right into the hall. Every single passenger is checked in, followed up, wrapped in a blanket and offered food and drink.

The helicopter evacuation continues
1551 h.: A message is received from Viking Sky that the ship now has three of the four engines up and running, but that they can use only one of them for forward propulsion for fear of another full engine blackout. There are still large waves, breakers and strong winds. JRCC-SN describes the situation as still critical, and more passengers need to be evacuated by helicopter.

1600 h.: Three rescue helicopters are busy evacuating passengers from the cruise ship and transporting them to the reception center in Brynhallen. Initially, CHC Helicopter Service and 330 Squadron try to use two hoisting points simultaneously, but for flight safety reasons, and given the wind conditions that are creating turbulence between the helicopters, it is not possible to hoist passengers from more than one position on the cruise ship. This limits how quickly passengers can be evacuated. A rotation pattern is established to ensure that the evacuation operation is as safe and efficient as possible. The rotation pattern includes Viking Sky, Brynhallen, and a holding area.

Meanwhile an assessment of where the evacuees will be sent is made. Those with cuts and broken bones are sent to the hospitals in Molde and Kristiansund, while those with serious physical trauma will be sent to the hospital in Molde where professional care awaits them. Those who are not injured and for the most part are able to manage on their own, are sent to the EPS centers now set up in hotels in Molde and Kristiansund. Also, evacuees being sent on from the reception center by bus will be accompanied by volunteers providing support and care along the way. There is a total of 179 health personnel on duty over and above normal emergency preparedness at AMK, hospitals in Molde and Kristiansund, including emergency and ambulance personnel and crisis response units. Additionally, the municipalities provide health personnel, both at Brynhallen and at the EPS centers.

4.1.2 1600–1900 H.

Fuel for the helicopters
The Police incident commander ensures that helicopters are able to refuel at Hustad Elementary and Junior High School (Hustad School) located alongside Brynhallen. This is much less time-consuming than flying to the nearest airport (Molde Airport) to refuel. A tanker that is normally only used at the airport, is driven from Molde Airport to Hustad School with Police escort.

Aviation Fuelling Services Norway (AFSN) contributes the tanker and staff, and everything is ready for servicing and refueling the rescue helicopters at Hustad School so that turnaround is as quick and efficient as possible. Thanks to the Fræna fire brigade providing an additional two workers from Molde Airport, they have the necessary competence to refuel the helicopters at Hustad School. Additionally, the helicopter crews are given food and drink while the helicopters are being serviced and refueled.

KV Njord as On-Scene Coordinator
As more vessels arrive in the area, the Coast Guard vessel KV Njord, commissioned by JRCC-SN, arrives at **1640 h.** and is assigned as On-Scene Coordinator (OSC), assuming the role of coordinating the vessels around the cruise ship. The Coast Guard vessel communicates with other vessels in the area via VHF and remains in constant contact with the pilot and the Viking Sky captain. Initially, it is a case of waiting and observing what happens, and informing and communicating with JRCC-SN.

Reception in Molde and Kristiansund
1640 h.: The municipalities of Molde and Kristiansund are alerted by the Police and the casualty clinic, that the first evacuated passengers are on their way. Molde and Kristiansund hospitals are prepared for a yellow level emergency with injured passengers, and ready themselves accordingly. The crisis management/response units in the municipalities have already been in contact with several hotels in Molde and Kristiansund, and these have been set up to welcome, care for and lodge the evacuees steadily arriving by bus in Molde and Kristiansund.

Health personnel from both municipalities and hospitals are called in to receive those requiring treatment in one form or another. It eventually becomes clear that medications are needed for some of the passengers, so the pharmacies open to meet this need. Also, everything is ready to register passengers at the EPS centers. Staff from the Civil Defence and the Red Cross stand ready to begin registration.

Multiple helicopters in action
1720 h.: Forty-seven of the cruise ship's passengers have been evacuated. Barely half an hour later the number has climbed to approximately 70. The evacuation continues full tilt, with rescue helicopters from both 330 Squadron and CHC Helicopter Service in action. Most of the time six helicopters are

working simultaneously to evacuate Viking Sky: four Super Puma and Sikorsky S-92 rescue helicopters from CHC, as well as the Sea King helicopters from 330 Squadron, both from Ørland. In addition, Norwegian Air Ambulance has an air ambulance helicopter on standby for eventual transport of the seriously injured.

The combination of bad weather conditions, high seas, and many older passengers with limited physical capabilities, makes evacuation using lifting slings and stretchers extremely demanding. In particular, the first lifts involving several physically injured passengers, take some time. The crew on board the helicopters take between 25 and 40 minutes to complete each hoisting operation depending on the number of passengers, their condition and the bad weather that make the lifting very challenging. For the overall rescue operation, the average time to evacuate each passenger is 2 minutes 20 seconds.

4.1.3 1900 H. TO MIDNIGHT

The freighter MS Hagland Captain in distress
1856 h.: A new Mayday is received from Hustadvika, this time from the freighter MS Hagland Captain that has lost all engine power and is adrift close to Viking Sky. A huge breaker has cascaded between the machinery air vents and electrical components and the ship's systems are down. The MS Hagland Captain was on its way north to Norwegian Forest Industries in Skogn with 3,350 tons of timber on board.

In the strong seas some of the timber cargo has shifted and the freighter is listing. It drops anchor to avoid ending up on the rocks in the shallow sea, but the the anchors do not hold at first try. The freighter is rapidly drifting in violent seas toward a large shoal, and the crew of nine prepare to abandon ship quickly. Luckily, only 40-50 meters from the shoal the anchor holds.

Even so, the situation is still dramatic in the strong storm so the captain and JRCC-SN decide to evacuate the ship. Following instructions from the rescue helicopter, the crew of the MS Hagland Captain put on survival suits and jump into the sea because it is safer to hoist them up from the sea in this situation. Because of the ongoing Viking Sky rescue operation, it takes only a few minutes for the freighter crew to be hoisted and transported to the reception apparatus at Brynhallen after jumping into the sea.

The MS Hagland Captain remains at anchor until towing gear is attached to the ship. The Coast Guard and Fræna municipality continue to stand at the ready until the weather has died down two days later and the ship is towed away to Averøy with the help of the towboat Boa Balder and with some assistance from KV Njord.

Viking Sky in deeper waters and more vessels in the area
1937 h.: Viking Sky announces that the ship is now in somewhat deeper water. The cruise ship still has both anchors out and is using one of the engines for forward propulsion. At **2029 h.** the ship announces that there are no more stretcher passengers on board, all of those having been evacuated. Although all the injured have now been transported to the reception center or to hospital for treatment, the evacuation of passengers from the cruise ship continues. Since it is still unclear whether another engine blackout might occur on Viking Sky, the captain, in consultation with JRCC-SN, decides that the evacuation operation should continue throughout the evening and night.

There are now more ships in the area of the disabled cruise ship that are ready to assist: KV Njord (as On-Scene Coordinator), Vivax (towboat), Edda Fauna (inspection and maintenance vessel), Siem Symphony, Troms Arcturus, and Ocean Art, the three last-named vessels being platform supply vessels (PSV). A further three ships, Boa Heimdal, Ocean Response, and Normand Ranger, having been called out by JRCC-SN and the shipowner's insurance company, are on their way toward Viking Sky. All the ships have sufficient towing capacity to handle a cruise ship of this size.

Ca. **2050 h.:** Viking Sky announces that the crew on board are struggling to weigh both anchors, so the ship can continue further out to sea. After a while the crew manage to weigh one of the anchors. However, the chain of the other anchor is cut loose on the orders of the captain. Now safe and sound, despite greatly reduced engine power, the ship is able to set

course toward open seas and away from the shallow waters and shoals.

By around midnight the helicopters have been shuttling between Viking Sky and Brynhallen for about nine hours, and 180 passengers have now been evacuated from the cruise ship. JRCC-SN announces that at this point 15 injured passengers have been registered and sent on to hospital.

Shipowner to Molde
During the evening the head of Viking Ocean Cruises, the shipping line that owns Viking Sky, travels by private plane from Lucerne, Switzerland, to Molde airport. The cruise company has been in continuous contact with JRCC-SN since the outset and has been on the alert. At Oslo's Gardermoen Airport, the shipowner picks up two representatives from the operating company, Wilhelmsen Ship Management AS, before continuing on to Molde. In a statement to the press later in the evening of Saturday 23, the shipowners reveal that work organizing home travel for the passengers as quickly as possible has begun.

Intervention coordination
Throughout the evening and night, the different actors remain in close contact with each other to coordinate and manage the situation in the best way possible. In addition to internal status meetings at JRCC-SN, there is continuous contact with the Police operations center, AMK, and 110 Center. The Nødnett emergency network and VHF are used in addition to ordinary cell phones, email exchanges and logging. Additionally, JRCC-SN remains in frequent contact with the pilot and the captain on board Viking Sky, KV Njord, lying alongside, other vessels in the waters around Viking Sky, as well as Møre Approach via Avinor's liaison in JRCC-SN.

Furthermore, JRCC-SN has contact with several other central actors during the course of the incident, including CSU, the Police situation center in POD, FOH, the Norwegian Coastal Administration (NCA), Wilhelmsen Ship Management AS, other Nordic countries re possible assistance, the ambassadors of several different countries, as well as a number of media and the press.

DSB organizes a coordination conference in which JRCC-SN, POD, FOH, the Directorate for Health, the Norwegian Coastal Administration, the the Civil Defence (DSB) and FMMR participate. FMMR also organizes its own cooperation meetings regionally, in which the affected municipalities, the Police, Civil Defense (local) and the volunteer organizations take part. Several meetings are also held by different entities at the local, regional and national levels.

4.2 SUNDAY MARCH 24

Towing to Molde
The bad weather around Hustadvika continues throughout the night but the wind drops somewhat from gusts of up toward 25 meters/second (50 knots) to 15 meters/second (30 knots). Three of the four engines on the cruise ship are stable and Viking Sky now has slow forward propulsion. In consultation with the pilot on board, the captain decides that the ship shall enter Molde harbor as soon as towing can be arranged. At **0818 hours**, roughly 18 hours since the Viking Sky Mayday was sent out, MS Ocean Response takes the bow of the ship under tow, while the T/B Vivax takes the stern under tow. Barely an hour later, with the ship at her western-most position, i.e., furthest from land, the towing begins in a south-easterly direction toward Molde. Shortly before that, in consultation with JRCC-SN the captain decides to stop evacuating passengers by helicopter.

In total, 475 people have been evacuated from the cruise ship and MS Hagland Captain (with a crew of nine). Twenty-seven of the evacuees are sent on from the reception center to hospitals in Molde, Kristiansund and Bergen for treatment. One elderly woman is considered to be in a critical condition, but she survives.

Reception of Viking Sky in Molde
A few hours before arriving in Molde, it is determined that passengers still on board the cruise ship will be disembarked onto land upon arrival. This decision is made in agreement between the Police, Molde municipality and the shipping company, Viking Ocean Cruises. At about **1300 h.**, personnel at

the reception center in Brynhallen are regrouped and sent to receive the ship and passengers in Molde. A large number of resources are mobilized in the form of personnel and equipment to prepare a larger reception apparatus when Viking Sky arrives in port at Molde.

1511 h.: The Mayday for Viking Sky is cancelled in agreement between the captain and JRCC-SN. Emergency personnel, staff and volunteers breathe a sigh of relief after a period of more than 24 hours of a high level of activity and coordination, and many resources provided in the form of personnel and equipment.

1625 h.: Viking Sky docks in Molde. The decision to bring the remaining passengers on land is overturned by the captain on board and the shipping company, so the passengers can remain on board if they wish. Most of the passengers do so in the expectation of being sent home by plane from Molde Airport.

A shopping center in the town is opened so that passengers can buy clothes and other necessities, and a reception center is set up at the Seilet Hotel in Molde for those who want to make use of it. The reception apparatus that is established at the harbor where Viking Sky lies, is scaled down following the captain's decision concerning disembarking passengers, but the health apparatus stands ready to take care of passengers requiring healthrelated assistance, in particular psychosocial assistance.

The Minister for Public Security comes to Molde
During the afternoon, Ingvil Smines Tybring-Gjedde, the Minister for Public Security, comes to Molde to meet FMMR, the incident commander, volunteers and the municipalities involved. There is large contingent of media and members of the press in Molde that afternoon, interviewing the Minister, rescue management, emergency responders, volunteers and passengers. Despite the dramatic events many passengers experienced, several express their enthusiasm for the staff and volunteers, as well as the warmth and care extended to them over the past 24 hours. Cf. Annex 2 which includes a thank-you letter written by one of the passengers. Sunday evening the first passengers have already been flown home, and most of them left Norway during the following day, Monday.

4.3 THE FOLLOWING DAYS

Monday March 25, the Accident Investigation Board Norway, the Norwegian Maritime Authority and the Police board the Viking Sky cruise ship. Collectively, they will to try discover what happened. The Accident Investigation Board has decided to investigate the incident. Additionally, the Police have set up a fact-finding review of the engine accident. There is no suspicion of criminality, but because of the large potential for damage claims, the Police wish to take a closer look at the case.

Tuesday March 26, Fræna municipality arranges a debrief for all involved actors in Brynhallen. The shipping company Viking Ocean Cruises also attends. The health personnel who took part are informed afterwards by separate debrief.

Wednesday March 27, 0620 h. Viking Sky, using her own engine power again, sails over Hustadvika to the Vestbase supply base in Kristiansund for necessary minor repairs. Viking Sky is instructed to have a pilot on board, and a towboat for added insurance, because the ship has no anchor. Of the total of 27 passengers admitted to hospital during the incident, eight still remain for further treatment.

The same day, the Norwegian Maritime Authority ascertains that the probable reason for the engine failure and blackout on board Viking Sky was low oil pressure. The high waves caused such large movements in the lubricating oil tanks that the engine's pump sucked in air instead of oil. Without lubricating oil, it would take only a couple of minutes for the engines to seize.

Additionally, Viking Sky is built with two separate engine rooms, each with two engines, to provide a backup in case of possible engine problems. However, since the lubrication oil tanks were not filled up to the required level, the engines did not receive the necessary oil and all four shut down. Subsequently, Viking Sky lost engine power and forward propulsion.

TIMELINE OF THE INCIDENT

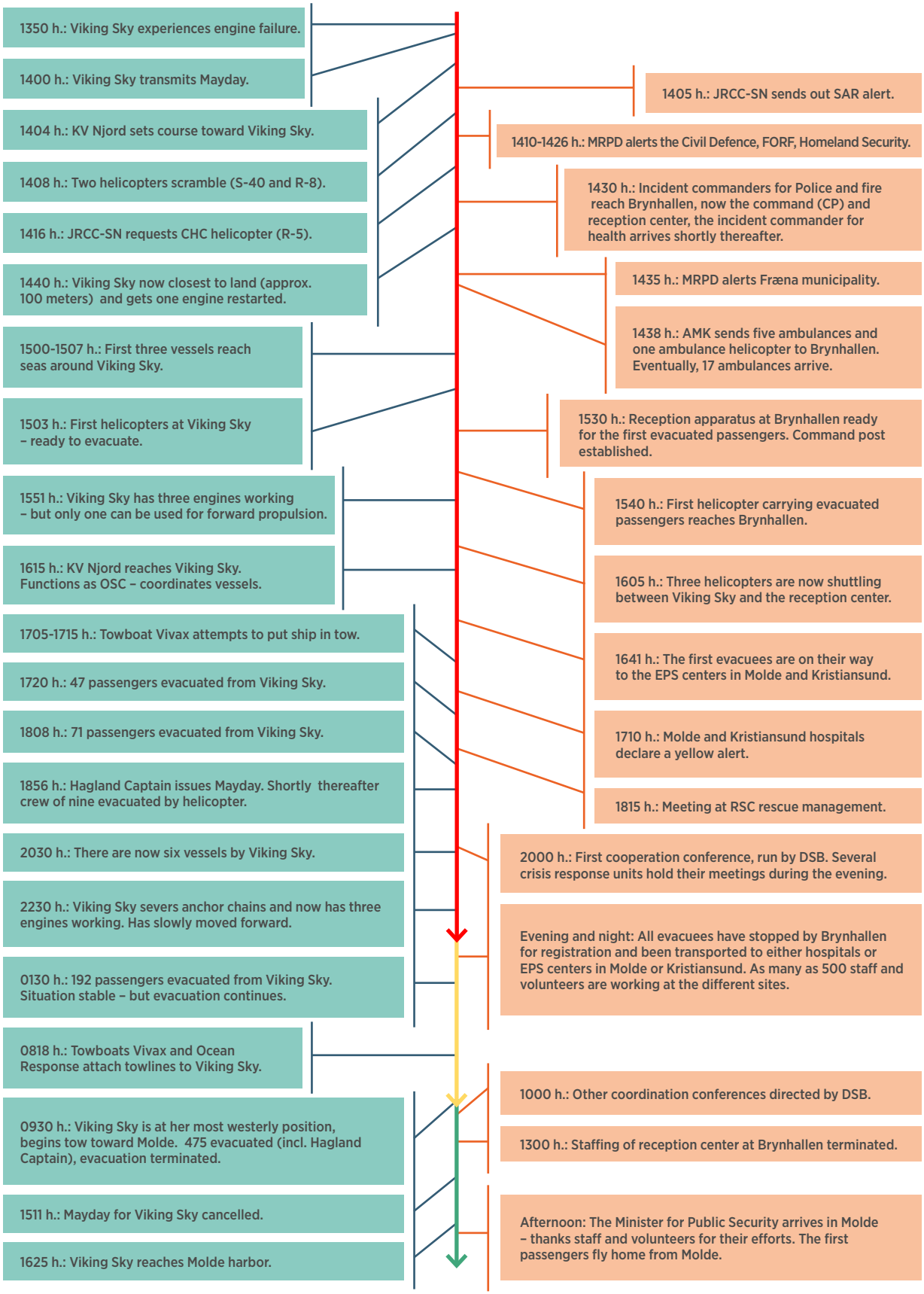


FIGURE 1. Timeline for the important stages of the Viking Sky incident, March 23 and 24. Sources: Logs from CSU, JRCC-SN, the Norwegian Coastal Administration, DSB, AMK Møre og Romsdal, and Møre og Romsdal Police District.

CHAPTER

05

Prevention and emergency preparedness

5.1 OVERVIEW OF RISK AND VULNERABILITY

An overview of risk and vulnerability is an important basis for preparing relevant emergency plans and scenarios for training exercises, in order to be better prepared to handle hazardous incidents. At the central level, according to the public safety instruction ministries are expected to prepare and maintain systematic risk and vulnerability assessments; cf. Chapter 3.

At the central level, DSB prepares Analyses of Crisis Scenarios (AKS).[39] at regular intervals. The analyses deal with the risks associated with catastrophic incidents that can have an impact on Norwegian society and which we should be prepared to meet. The most recent version[40] contains, inter alia, a scenario involving a collision in Vestlandet between a cruise ship and a tanker. Here, it is noted: "An accident involving a large cruise ship or tanker will greatly challenge civil emergency resources. A cruise ship can have several thousand passengers, and in the event of a serious accident the rescue effort could be extremely demanding." The analysis also refers to the Maritime Safety Analysis, delivered by the Norwegian Coastal Administration to the Ministry of Transport in 2014, where one of the recommendations is to pay closer attention to cruise traffic, which has experienced a sharp increase over the last few years.

At the regional level, in accordance with the Instructions for the County Governor and the Governor of Svalbard's work with social security emergency preparedness and crisis management, among others, counties must have an overview of risk and vulnerability by preparing a risk and vulnerability assessment for the county (county RAV), in close cooperation with regional actors.

At the local level, in accordance with the Civil Protection Act, municipalities are required to map out hazardous incidents which might occur in the municipality, assess the likelihood that these incidents could occur and to what extent they might impact the municipality. The result of this work will be evaluated and collected into a comprehensive RAV assessment. Using this assessment as a starting point, the municipality will develop an emergency plan.

All actors that were central to management of the Viking Sky incident, confirm in the survey conducted in connection with the assessment that they have a RAV assessment. They further specify the degree to which the RAV assessment, was relevant to the incident. On a scale of 1 to 5, where 5 represents a high degree of relevance, the average for the actors is 3.8.

JRCC-SN elaborates in the survey that their assessment is general, but still based on the extent to which they are capable of managing dimensioned incidents in this category, and is therefore also relevant for the Viking Sky incident. The Møre og Romsdal Hospital trust has its own RAV assessment, as well as a joint assessment with the regional Health Authority (the Central Norway Regional Health Authority – RHA), and has emergency plans that are consistent with the assessments. This applies to plans for mass casualties and a mass influx to hospitals, which were put into effect during the incident to mobilize nearby hospitals and pre-hospitals.

FMMR has a county RAV-sea, addressing various maritime incidents. Kristiansund municipality has a RAV assessment covering mass casualties, that the municipality was able to draw upon during the Viking Sky incident. Fræna municipality has an updated RAV assessment that covers a broad spectrum of different incidents. Molde municipality expresses in the survey that it has a RAV assessment which is broadly relevant to the Viking Sky incident.

[39] DSB's scenario analyses, up to and including 2016, are called "the National Risk Picture". DSB has published risk analyses of scenarios since 2011.
[40] Analysis of crisis scenarios 2019, Directorate for Civil Protection and Emergency Planning.

5.2 EMERGENCY PLANNING

The actors must be prepared to handle crises and have an emergency plan in place for this purpose. This requirement is, inter alia, rooted in the civil protection instruction, the Police Act, the Handbook for the Norwegian Rescue Service, national leaders for planning and cooperation in the rescue service, the Health Preparedness Act, the County Governor's civil protection instruction and the Civil Protection Act; cf. discussion in Chapter 3 and 5.1.

JRCC-SN has an incident plan for all types of rescue operations. The types of operations are based on experience since the joint rescue coordination centers were established in 1970. The Viking Sky incident was handled in accordance with the plan for this type of incident (Maritime Plan: vessels that are adrift – larger object).

The survey reveals that all the actors have an emergency plan. In the opinion of most of the actors, the plan was to a great extent relevant in handling the Viking Sky incident. On a scale of 1 to 5, where 5 represents a high degree of relevance, the average for the actors is 4.6.

The Police emergency preparedness system plays a central role in their handling of the incident. The Police's use of this plan is discussed in more detail in Chapter 6.2.

However, it emerges from the interviews and the actors' own assessments that several of the actors see a need to update their emergency plan following the incident, for example, with respect to the alert system (cf. discussion in Chapter 6.1) and obtaining greater clarity of roles, responsibilities and authorizations, as well as cooperation setting up the reception center.

5.2.1 MASS EVACUATION PLAN

Norway does not have a national plan for Mass Rescue Operations (MRO), and JRCC-SN's assessment recommends that JRCC should take the initiative to prepare such a plan. This will be the foundation for interaction between JRCC and other entities, as in the case of Viking Sky and related incidents, and as a foundation for exercises. We support this recommendation.

5.3 EMERGENCY PREPAREDNESS FOR TOWING

In 2003, a state emergency preparedness plan for towing whose primary purpose is to prevent or reduce the danger of acute pollution, was established. This plan is directed by the Norwegian Coastal Administration (NCA) vessel traffic service center in Vardø (Vardø VTS[41]). This vessel traffic center has a specific responsibility for monitoring the outer shipping lanes along the Norwegian coast where vessels with the greatest potential for pollution sail.

The State emergency preparedness for towing was established in areas with limited access to commercial actors. The towing will not compete with private actors, but will provide additional security to help avoid shipping accidents. In principle, the state towing preparedness will not be utilized when commercial actors can perform the work satisfactorily. The Norwegian Coastal Administration is responsible for making this judgment.

The Coast Guard took over the operational responsibility for emergency towing preparedness on January 1, 2020. The NCA is the responsible authority for the system, which will continue to be directed by Vardø VTS. An agreement to clarify expectations, demands and the assignment of responsibility has been written.[42] Among other things, the Coast Guard will execute operational State emergency towing preparedness to the extent possible without affecting military or Police tasks included in the Coast Guard Act or the Police Act

[41] Vardø Vessel Traffic Service.
[42] Agreement on operational management of State emergency towing preparedness, Norwegian Coastal Administration, November 21, 2018.

(Section 27a). The new arrangement involves hiring two additional vessels manned by Coast Guard personnel. From 2020, the State emergency towing preparedness comprises six vessels, compared to the four they had before.

Deployment of the vessels within the emergency towing preparedness will be based on daily risk assessments carried out by Vardø VTS. When assessing the level of risk, special focus will be on weather conditions, vessels over 5,000 gross tons (GT) and/or vessels carrying dangerous or contaminated cargo (risk-rated vessels). Additionally, Vardø VTS is particularly on the lookout for so-called vessels of interest. These are vessels and shipowners with a negative history (engine failure, accidents, etc.). On average, 160-250 vessels are adrift every year, one of the reasons being engine failure.

Based on the risk assessments, the disposition of towboats will vary depending on the daily risk picture. Still, the Coast Guard will at all times have suitable vessels available both south and north of 65 degrees north. State emergency towing preparedness is thus not determined on the basis of cruise traffic, but on the danger of pollution. In the meantime, most cruise ships are over 5,000 GT, and are thus included in the risk assessments that will be carried out by Vardø VTS.

From a rescue perspective, as JRCC-SN and NCA know, no review/assessment of emergency towing preparedness along different stretches of the Norwegian coast has been undertaken.[43] For coastal traffic, no plan has established other than that cruise ships and other vessels can use commercial resources. There are numerous private towboats.

When a Mayday is sent, as was the case with the Viking Sky incident, all vessels, State or commercial, are dutybound to respond. The vessels in the State emergency towing preparedness will also be central resources in the case of a Mayday in coastal waters, even if it is not what the preparedness plan is designed for.

One challenge of having a towboat emergency preparedness for coastal traffic is the short amount of time before the vessel eventually runs aground, depending on wind and current conditions. Viking Sky would have run aground approx. 40 minutes after the Mayday if not one of the engines had restarted. In addition, JRCC-SN discovered during this incident that under the prevailing weather conditions there was too wide a geographical dispersion along the Norwegian coast of boats with the towing capacity needed for a vessel the size of Viking Sky.

5.4 EMERGENCY PREPAREDNESS FOR RESCUE HELICOPTERS

The rescue helicopter service is part of the Norwegian State Rescue Service, under the responsibility of the Ministry of Justice and Public Security which owns the helicopters. Since 1973, however, 330 Squadron has operated the rescue helicopters. Today a total of 12 Sea King helicopters are seconded to the five selected air bases/airports selected, namely Banak, Bodø, Ørland, Sola and Rygge.

In addition, CHC Helicopter Service has one Super Puma helicopter included in the State Rescue Service. This helicopter is based in Florø. There are also two Super Puma helicopters at Longyearbyen on Svalbard. These helicopters are owned by the State via the District Governor on Svalbard, with Lufttransport AS as the operator. In total, there are currently 15 helicopters in the State Rescue Helicopter Service, of which eight are in continuous preparedness, six on the mainland and two on Svalbard.

As part of the State rescue helicopter service, the helicopters' primary assignment is their search and rescue function (SAR helicopters). They can also be used for other tasks such as an ambulance. 330 Squadron forms part of Air Defense, but the rescue helicopters in preparedness are at the disposal of

[43] The Government will appoint a committee to review the emergency preparedness situation with respect to the increase in cruise traffic in Norwegian waters. As of now, the committee's mandate has not been completed. MoJ will prepare the mandate in consultation with the Ministry of Trade, Industry and Fisheries, the Ministry of Transport and the Ministry of Finance.

JRCC for incidents when needed. The SAR helicopters have a standard crew comprising two pilots, one technician, one paramedic and one anesthesiologist.

According to plan, the 12 Sea King helicopters will be replaced by 16 Augusta Westland (AW 101) helicopters by the end of 2020. The new helicopters have longer range and greater lifting capacity, and in addition they are better equipped, technically. Thus, they will strengthen rescue helicopter emergency preparedness in Norway.

When necessary, JRCC can request assistance from helicopter services. These can be public helicopters, such as the Air Force Bell helicopters, or the air ambulances service's aircraft and helicopter. Additionally, there are numerous other helicopter rescue services, such as oil companies with their own resources which JRCC can make use of when needed, and which can be available to assist in a short period of time.

As part of their own emergency preparedness, several oil companies have SAR helicopters at their disposal. Oil companies purchase this helicopter service through a company, for example CHC Helicopter Service which has five SAR helicopters, and Bristow Norway, with its three SAR helicopters. Several of these SAR helicopters are seconded to oil installations and can assist if needed when accidents occur.

5.5 EXERCISES

Exercises are an important way to strengthen our ability to handle crises. It is important to train one's own management and organization in order to clarify tasks, roles and responsibilities internally and externally, and to obtain knowledge about others' resources and competencies. Exercises with other central actors is necessary to strengthen our ability to share information, to coordinate, and to cooperate. The individual actor with responsibility for prevention and preparedness is obliged to participate in the exercises. This requirement is rooted in, for example, the civil protection instructions for the ministries and the County Governor and the Civil Protection Act; cf. discussion in Chapter 3.

All actors who completed the survey state that they have implemented at least one exercise over the preceding three years. All confirm, too, that they have participated in one or more exercises together with other actors during the same time period. Over half the actors say that the exercises were highly relevant to the handling of the Viking Sky incident, while the others found the exercises were relevant to some degree or to a certain extent. On a scale of 1 to 5, where 5 represents a high degree of relevance, the average for the actors is 4.3.

From 2015 to 2019, several national, regional and local exercises were implemented in which several of the actors in the Viking Sky incident participated. Examples of such exercises are:

- Exercise *SkagEx11 (2011)* was a full-scale rescue and emergency preparedness exercise in which about 3,000 people from approx. 55 Norwegian, Swedish, Danish and Finnish companies were involved. The scenario was a fire on a passenger ferry and collision with an oil tanker, with the potential for extensive loss of life and serious environmental consequences in a vulnerable nature area.
- In the *HarbourEx (2015)* exercise, the scenario included an explosion and fire with dangerous materials in a container area and a ship running aground, resulting in an oil spill inside Oslo fjord. Among the participants at the national level were POD, the Directorate for Health, JRCC, DSB, Defense, the Norwegian Coastal Administration, The Civil Defense, MoJMoJ including CSU, and the Ministry of Foreign Affairs (UD), as well as several countries and ambassadors.
- In 2016, Fræna municipality's crisis management together with local emergency services and the Red Cross, carried out a full-scale exercise focused on ongoing life-threatening violence and evacuation.
- A Rescue Efforts at Sea (RITS) exercise was conducted in Ålesund in 2018 with different RITS actors and central emergency services in which the scenario was fire on board a ship.

- Exercise *Trident Juncture (2018)* was a major NATO exercise involving approx. 50,000 soldiers from 31 countries, plus a large number of civilian participants at the national, regional and local levels. In Møre og Romsdal, emergency services and several municipalities, including Molde and Kristiansund, were among those who participated, in addition to the County Governor and other regional actors.
- The national health emergency services exercise held in 2018 was coordinated with Trident Juncture and carried out at various locations in the country, including Kristiansund. There were exercises handling mass casualties and in creating EPS centers for evacuees. Several regional and local actors participated, including Defense, emergency services (including hospitals), municipal health services, rescue services, volunteer organizations, and Kristiansund and Molde municipalities.

5.5.1 NATIONAL EXERCISE INVOLVING MULTIPLE ACTORS COOPERATING IN A MAJOR RESCUE OPERATION

Interviews and the actors' own assessments indicated that most expressed that the exercises, especially the joint action exercises, are an important factor in strengthening the ability to handle crises and to coordinate and cooperate among multiple actors. Many actors highlight the need to carry out major joint action exercises with regard to rescue operations. Still, some participants stressed that such exercises are very resource-demanding, and can thus take funding away from other central activities dealing with emergency preparedness.

Handling the Viking Sky incident involved complex and demanding interaction between a large number of actors; cf. Chapter 4 for the timeline of the incident, and Chapters 5 and 6 for the assessments. Although the handling of the incident was to a large extent successful, there are also important lessons to be learned, not least with regard to coordination, communication, information sharing and clarifying roles. It is our assessment that carrying out joint action exercises would be an appropriate instrument for following up on these lessons.

We recommend therefore that within the next few years a major national exercise involving a somewhat similar set of actors as the Viking Sky incident be carried out. Based on experiences from the Viking Sky incident, the central elements of such an exercise should include that different coordination functions be implemented, such as JRCC rescue management, rescue management at the local rescue coordination center, including the coordination functions at the DSB and the County Governor; cf., inter alia, recommendations in Chapters 6.2 and 6.7.6. Leading up to such a national exercise, more limited exercises should be carried out at the local, regional and national levels, possibly including working meetings and seminars on the same theme.

CHAPTER

06

Managing the incident

6.1 ALERTS

Viking Sky issued a Mayday at Hustadvika between Kristiansund and Molde at 1400 h. on Saturday March 23, 2019. The ship reported engine failure and blackout, and that it was drifting toward land in bad weather. Based on the distress signal from Viking Sky, JRCC-SN rescue management recognized that towboats and SAR helicopters would be needed. Contact was established with Vardø VTS to locate towboats, and several rescue helicopters were called in. A Mayday relay was issued via Coastal Radio South. At 1405 h., a SAR emergency alert went out from JRCC-SN to 110, 112 and 113 centers. The SAR alert took the form of a teleconference between JRCC-SN and the emergency services.[44]

Over 30 actors were involved in the incident, and a complex picture of alerts between actors and internally within the different entities, played out (see additionally a description of the timeline of the incident in Chapter 4).

One feature of the Viking Sky incident was that many actors were "alerted" via media, as the case quickly received coverage in online newspapers, and on radio and tv. Additionally, there were many people on the Hustadvika beaches who witnessed what happened, and the incident was discussed extensively on social media. The principle that one is alerted when one learns about the incident, is something many of the involved emphasize. It was also obvious to the actors from the outset that this was a rescue operation and that JRCC-SN had primary responsibility for the operation.

With respect to alerts, the central course of events during the incident were:

- Coastal Radio South intercepted the Mayday from the ship and relayed the information to JRCC-SN.
- JRCC-SN assigned Coastal Radio South to send out a Mayday relay, that is, to relay the emergency alert from the ship, and referring the need for towboats.
- The alert was broadcast internally at JRCC-SN, and several rescue managers were summoned.
- JRCC-SN immediately called in the rescue management.
- The alert went out internally within the Police, and the incident commander (Police) rushed immediately to Hustadvika.
- The control room in Møre og Romsdal Police District sent alerts externally to other relevant actors. Among these was Fræna municipality[45], albeit somewhat later than to the other cooperating actors such as Møre og Romsdal Civil Defense District and volunteer organizations. According to the Police District, alerts to external actors took some time.
- At 1720 h. the alarm went out from the MRPD control room to members of the rescue management team at RSC.

Several lessons learned were identified at different entities with respect to the alerts, some internally and some across entities. We have chosen to highlight the following lessons learned:

- A large enough coverage area for the Mayday relay
- Direct alerts from the Police to the County Governor
- Early alerts to members of the rescue management team at RSC

6.1.1 A LARGE ENOUGH COVERAGE AREA FOR MAYDAY RELAY

On receiving a Mayday distress signal, and when it is necessary to call in special resources such as towboats, Coastal Radio South's routine is to send a Mayday relay over local transmitters that cover the applicable geographical area for the incident. This is what occurred for the Viking Sky incident.

In the aftermath of the incident, JRCC-SN identified a lesson learned related to transmitting the Mayday relay. The Mayday was sent out on many transmitters (VHF, CHF DSC[46] and MF DSC[47]), and thus had a broad coverage area. It is not unusual for a Mayday relay to cover a smaller geographical area than a Mayday.

[44] In line with the descriptions in the Handbook for the Norwegian Rescue Service, 2018.

[45] According to Fræna municipality, municipal management and crisis management were not warned by the Police, but by the Fire Chief. At 1427 h. MRPD's log shows that Fræna municipality, including the mayor and the councillor, were warned. At 1435 h., according to the log, no-one answered but one of them returned the call (no note of who it was).

[46] DSC = Digital Selective Calling.

[47] MF DSC = Medium-Frequency Digital Selective Calling.

However, in this case it had been appropriate to issue the Mayday relay over several transmitters, thus covering a broader geographical area.

Towboats with sufficient capacity to attach towing gear to a ship the size of Viking Sky are spread along the entire Norwegian coast. In this case all of these could not pick up the Mayday relay. An extended Mayday relay would have allowed more towboats of sufficient capacity to pick up the alert and thus potentially have assisted Viking Sky with towing. JRCC and Coastal Radio should therefore extend the geographical area for Mayday relays in the case of incidents requiring the intervention of towboats in order to assist a cruise ship or other similarly-sized vessels.

6.1.2 DIRECT ALERTS FROM THE POLICE TO THE COUNTY GOVERNOR

The County Governor of Møre og Romsdal was not alerted by the Police in the initial phase of the incident but contacted the Police personally during the event. The County Governor was alerted by the Police at 1720 h. because of their role as permanent member of rescue management team at RSC.

The Møre og Romsdal Police District's "maritime incidents" plan did not have a routine for alerting the County Governor. The Police District have stressed that the relevant municipalities should be alerted, and they in turn should report to their superiors, including the County Governor. The Police also refer to the fact that the County Governor did not have a 24/7 emergency telephone to the office, and thus is not incorporated into the emergency and incident alert system. The County Governor notes that the office has a system for receiving emergency announcements (email), but this does not include a 24/7 number. This is consistent with the requirement that the County Governor should have systems capable of receiving emergency announcements on short warning.[48] There is no requirement for specific solutions. Rather, it is up to each office to assess which solution is the most appropriate.

Earlier incidents bearing consequences for the public have taught the Police District that good dialogue with the County Governor contributes positively to the handling of an incident. The Police District affirms that close dialogue with the County Governor in the early stages of an incident facilitates good coordination, and that the principle of cooperation will be reinforced.

Based on its responsibility to coordinate regionally, the office should be notified of hazardous incidents. In addition, as a member of rescue management team at RSC the County Governor should be alerted; cf. Chapter 6.1.3. Coordination will be at a strategic level and will support the municipalities or other affected actors in protecting the population and maintaining critical societal functions.[49]

The Møre og Romsdal Police District has a routine for alerting the County Governor via the municipalities. Given the County Governor's coordinating role, we believe that the Police should alert the office directly when events with potentially major societal consequences occur, and when there is need for the County Governor's regional coordination.

The Police and the County Governor, working together, must clarify what the threshold is for alerting, and how it is to be implemented. In the aftermath of the Viking Sky incident, the Møre og Romsdal Police District and the County Governor have discussed this matter.. The County Governor is assessing whether to establish an emergency preparedness arrangement which provides the Police a 24/7 number for emergency and incident warning, making it easier to alert the office by telephone.

6.1.3 EARLY ALERT TO THE MEMBERS OF THE RESCUE MANAGEMENT TEAM AT RSC

The late alerting of the County Governor of Møre and Romsdal is associated with the timing for calling in the rescue management team at RSC. Indeed, the county Governor contacted the Police District on its own

[48] FOR-2015-06-19 no. 703: Directive for the Svalbard County Governor's and District Governor's work on public security, preparedness and crisis management (Directive on public security for the County Governor), Chapter VII, point 4.

[49] FOR-2015-06-19 no. 703: Directive for the Svalbard County Governor's and District Governor's work on public security, preparedness and crisis management (Directive on public security for the County Governor), commentary on Chapter III Work area.

initiative early in the incident. The point of time for calling in the rescue management team at RSC is given in more detail in Chapter 6.2. In an initial phase it might not be clear if the rescue management team at RSC will be called in, but we still believe it would be good practice to always alert the members of the rescue management team at RSC when a major incident such as the Viking Sky incident occurs, and it can be appropriate to call in the rescue management team.

Such practice is consistent with the mandate for rescue management at local rescue managements centers, which states that "all rescue management team members shall be alerted when incidents occur which, in the view of the Police Chief, will require the involvement of the rescue management team at RSC"[50]. This provides all members a forewarning and the possibility to assess for themselves whether they should request that rescue management be called together.

The rescue management team will be summoned if at least two members request it. During the Viking Sky incident, none of the members made this request. A lesson learned from the incident is that the memebers of the rescue management team at RSC should be alerted early on when it may be appropriate to summon rescue management.

6.2 ORGANIZATION

During the Viking Sky incident, the actors involved established their crisis organizations to one degree or another, from the municipal level to the departmental level, including volunteer organizations and private actors. The majority of actors established crisis response units, and crisis management was involved and/or informed, but not established by all actors. Rescue management was established at both JRCC-SN and RSC, and meetings were held by both.

Additional central organizing course of events during the incident were:

- JRCC-SN's organization was strengthened by calling in rescue management and extra personnel. A total of 15 rescue controllers were employed during the operation.
- RSC was fortified by calling in the rescue management team and strengthening the control room.
- MoJ was the lead Ministry, and partially established the ministry's crisis organization.
- POD management was kept in the loop, and the directorate manned the Police situation center (PSS).
- The County Governor of Møre and Romsdal opted not to establish the county emergency preparedness council on Saturday since it was clear that in this phase, the rescue operation was coordinated by JRCC-SN and RSC. The County Governor informed the county emergency preparedness council of the incident so members were kept up to date. The office set up coordination meetings[51] with the affected communities, the Police District and the Civil Defense District; cf. Chapter 6.6.
- Crisis response units were established at the County Governor of Møre and Romsdal and the municipalities of Fræna, Molde and Kristiansund.
- The Møre og Romsdal Hospital Trust called in central crisis response unit and declared a yellow alert.

See Chapter 4 for a more detailed description of the incident timeline.

There is broad agreement that RSC did a particularly good job in several areas by managing the operations on land. The efforts by the Police to establish and to coordinate the efforts at the reception center Brynhallen, stand out as an example of best practice; cf. more detailed discussion in Chapter 6.4. However, we have identified a central lessons learned regarding organization. In addition a lesson concerning participants in the JRCC rescue management was identified:

- Low threshold for establishing the Police Chief's incident management (IM) staff and RSC rescue management in rescue operations having a large potential for casualties.
- The Police Directorate should be included in JRCC rescue management.

[50] Cf. point 3.1 Mandate for rescue management at local rescue coordination centers, Ministry of Justice and Public Security, November 5, 2015.

[51] Coordination conferences have a more informal status than those held by the County Emergency Preparedness Council.

6.2.1 LOW THRESHOLD FOR ESTABLISHING POLICE CHIEF'S INCIDENT MANAGEMENT (IM) STAFF AND CALLING IN HE MEMEBERS OF THE RESCUE MANAGEMENT TEAM AT RSC

An important lesson from the Viking Sky incident is that the Police should have established the Police Chief's incident management (IM) staff and should have called in the rescue management team at RSC earlier than was the case. A widely-held impression is that it was somewhat unclear both to the Police themselves, and to other actors, how the Police organized themselves during this incident. Before we begin this lesson learned, it is appropriate to give a short description of the rescue management team and the Police Chief's IM staff.

RSC and the Police Chief's incident management (IM) staff

Norwegian rescue services are carried out through cooperation between government agencies, non-governmental organizations (NGO's) and private companies. It is managed and coordinated by Joint Rescue Coordination Centers (JRCC) and by the local rescue coordination centers (RSC).[52] Usually RSC manage and coordinate land-based rescue operations.

The District Police Chief oversees RSC and the rescue management team. Members of the rescue management team are important cooperating partners in land rescue:

- Avinor
- The fire and rescue service
- Defense, normally represented by The Home Guard (HV)
- The Volunteer Organizations' Rescue Professionals Forum (FORF)
- The County Governor's emergency preparedness organization
- A representative selected by the Directorate for Health
- The Norwegian Coastal Administration (when relevant)
- The Civil Defense

Local customizations can be made, and professional counsellors can also be employed. The Police Chief, or a minimum of two of the rescue management team members, determine whether the rescue management team shall be called in.[53]

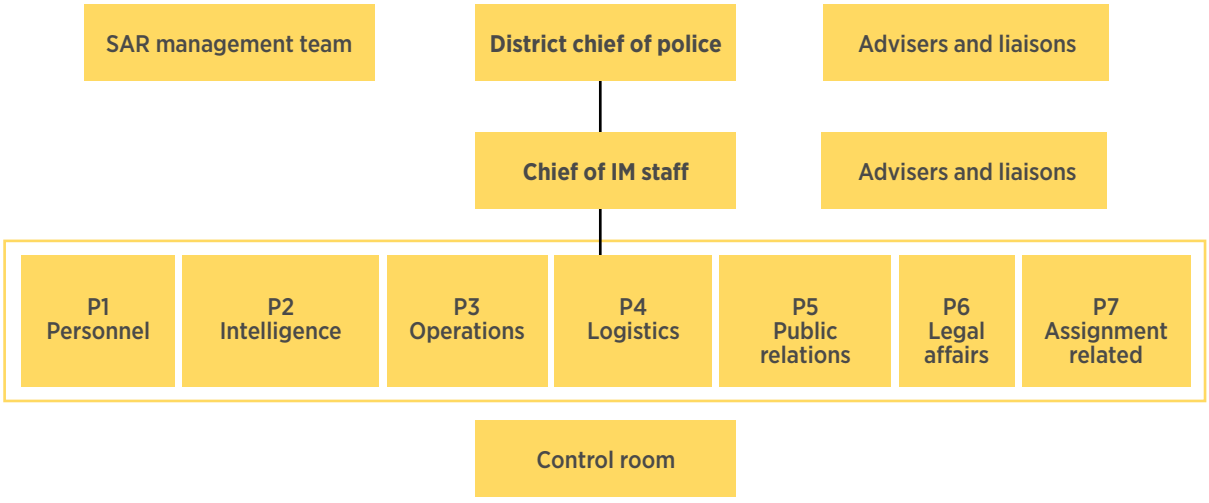


FIGURE 2. Police Chief's IM staff. Source: The Police Emergency Preparedness System, Part 1, p.126.

[52] Handbook for the Norwegian Rescue Service, 2018, p. 27; cf. Point 3.2 in Mandate for rescue management at local rescue coordination centers, Ministry of Justice and Public Security, November 5, 2015.

[53] The Police Emergency Preparedness System, Part I (PBS I), Guidelines for Police emergency preparedness, dated July 1, 2011; Handbook for the Norwegian Rescue Service, 2018.

The purpose of establishing the IM staff is to efficiently manage and coordinate the Police District's resources. The team's main tasks are decision-making support to the Police Chief, and the rescue management team at RSC when this has been established, and support to the incident commander. The team must be forward-thinking and be at the forefront of the development of the incident. Figure 2 provides an illustration of the Police Chief's IM staff divided into the different staff functions.

The Police Chief's IM staff consists of a chief of IM staff and head of functions P1-P7. The chief of staff manages and coordinated the work of the team, and is the go-between for the Police Chief and the staff. Staff functions P1-P5 are standard, while P6 and P7 are optional. Advisers and liaisons may be employed as needed.

Police organization in the case of the Viking Sky incident

At the beginning of the incident, the Police District decided to reinforce the control room. Extra operations managers were added, and the staffing of the room was doubled in conjunction with the staff at 1500 h. As time went by the Chief of Staff became involved, but no special crisis team was established.

According to the Police District's incident commanders they missed having a IM staff in order to, among other things, provide the incident commander with information and a plan for rotating personnel; cf. more detail in the following. It was noted that there were discussions in the District about establishing the IM staff and calling in the rescue management team at RSC.

The Police Situation Center (PSS) in POD became aware of the incident via media. PSS has access to the Police operative log in the District, and was thus able to follow how MRPD organized themselves. There was also dialogue between the Police District and PSS. The feedback from the Police District at 1530 h. was that the District did not see the need to establish the IM staff. They were sufficiently equipped to handle the incident and had enough resources.

PSS does not have the authority to instruct a District to establish the IM staff, although it can provide advice. When the District stated that it had control, the Situation Center accepted that. PSS points out that during the incident, the Center questioned the reasoning behind the decision not to establish the IM staff. The decision was questioned because of the potential of the incident to escalate.

In the aftermath of the Viking Sky incident, several in the Police and some other participants noted that it was unfortunate that the P5 function (Public Relations) was not established. This staff function has primary responsibility for (i) handling the media, (ii) internal information, and (iii) media monitoring. These are central tasks for which no function manager was identified during the incident. This staff element could also have been responsible for establishing a press center during the incident. As it turned out, there was need for such a center but it was not created; cf. further discussion in Chapter 6.7. The Police District indicates that one resource was called in to reinforce Police in this area.

One of the incident commanders also comments that he had needed P1 (Personnel) in planning personnel resources. No continuity plan was prepared for Police resources during the incident. The on-scene commander also indicates that he needed the P2 function (Intelligence) to have more information. P2 also has evacuees and their friends and family as one of its primary areas of responsibility.[54] Attention was also directed to the fact that a P7 element, with responsibility for sharing information from JRCC-SN, should have been established.

Others in the Police District argue that establishing the IM staff would not have had much impact. It was unnatural to set up the staff in the early stages of the incident, and the control room should be capable of handling some of the tasks of such a unit.

This incident could have called for "neighbor help", i.e., mutual assistance between Police Districts that do not include the national assistance resources of the Oslo Police District or special organs. Neighbor help can be called upon when resources or special competencies are needed.[55] In these cases, POD can step in, or MRPD can make direct contact with other Districts. The same applies to Defense. The Police Districts themselves can make direct contact to

[54] The Police Emergency Preparedness System, Part I (PBS I), Guidelines for Police emergency preparedness, dated July 1, 2011.
[55] The Police Emergency Preparedness System, Part I (PBS I), Guidelines for Police emergency preparedness, dated July 1, 2011, Part I, p. 40.

request resources, or the request can be made via PSS. In the case of the Viking Sky incident, PSS contacted the Norwegian Joint Headquarters (FOH) on its own initiative, to inform them that Defense resources might be needed.

Calling in RSC rescue management team
Members of RSC rescue management team were called in at 1720 h., and the meeting was held at the Police station in Ålesund at 1815 h. This was four hours after Viking Sky sent out its Mayday signal. The Police Chief and Vice Police Chief met. The County Governor of Møre and Romsdal, the Home Guard District and the Civil Defense District have stated that they were unable to get there on such short notice, so participated by telephone from the County Governor's offices. Also participating were a FORF representative from the Red Cross, Avinor, the Norwegian Coastal

Administration, the Church of Norway, fire and rescue services, a representative nominated by the Health Directorate, and the MRPD Chief of Staff. JRCC-SN is critical to the County Governor's priority not to attend with a representative in Ålesund, while the office arranged its own cooperation meetings.

The RSC rescue management team meeting focused on the possible further development of the incident, and worstcase scenarios. According to the participants, management were able to make strategic assessments and created a joint risk understanding of the situation. One question posed in the aftermath is whether these assessments should have been discussed in RSC rescue management team at an earlier point in the incident. Nevertheless, the assessments were made at an earlier point by JRCC-SN rescue management and then relayed to RSC.

It is MRPDs opinion that the rescue management team should have been called in earlier. Furthermore, the Police District states that the time for calling in and participation in RSC rescue management team should be studied in more detail. In the Viking Sky incident, the summons was received a short time before the meeting. Whoever participates in the rescue management should also be assessed on the basis of geographical distance from Ålesund. It is important that the rescue management team can be established quickly. Furthermore, it was the experience of the Police District that during rescue management team meetings there must be a dedicated person to prepare the log to ensure trustworthy and precise rendering of decisions.

This was the first time the rescue management team at RSC was established in the new Police District during an incident. Several rescue management team members mentioned the exercise JRCC-SN arranged for RSC in Møre og Romsdal in 2018, and noted that it was extremely useful. Some believe this demonstrated a need for more exercises with RSC where the rescue management team comes together.

Even though the Police District recognizes that it could have called in the rescue management team earlier, it is also the case that members can, on their own initiative, request that the rescue management team come together. The demand must be met if at least two members request it; cf. above description. So, the Police is not solely responsible for this decision.

In October 2018, JRCC-SN carried out an inspection of Møre og Romsdal RSC. One of the major findings of the report was that the rescue management team had not held meetings since the kick-off meeting in November, 2017. JRCC-SN point to the fact that the Organizational plan for the rescue service demands "a minimum of two meetings per annum in addition to exercises and incidents". Furthermore, "this frequency is based on the rescue management team being updated and exercised to a satisfactory level". The inspection therefore recommended frequent meetings in the beginning. It was also noted that no rescue exercises were carried out under the direction of Møre og Romsdal RSC since it was established in November 2017.

Alerts to the Police Directorate
The Police District did not alert the Police situation center that the rescue management team at RSC had been set up. PSS points out the importance of the situation center being warned about this because it is a signal that a large, serious incident is happening in its own District, in which the Police use most of their resources. This is information of importance to PSS who monitor Police resources and incidents all over the country, and therefore have an important function if it becomes necessary to prioritize resources across the Police District; cf. discussion above. POD points to the fact that in a worst-case scenario, which was natural to plan for, there would be a need for significant greater Police input and supplying personnel and resources from other Police Districts. In such a situation, POD are responsible for several central decisions. Even if PSS were well-informed about the ongoing incident, it would be necessary for the center to be informed as to how a District chooses to organize itself, and how the District assesses the need for resources.

Assessment and recommendation
Establishing the Police Chief's IM staff and the rescue management team at RSC is a signal to the cooperating actors of the seriousness of an incident and that resources need to be mobilized. Our assessment is that the lack of an IM staff and the late establishment of the rescue management team could have resulted in the Police District and other cooperating actors arriving too late to the action if the incident had become catastrophic. Mobilizing and coordinating the different actors' resources could have been delayed compared to a situation where an IM staff was created and rescue management was established sooner.

Against this background, we find that the Police must ensure that the mandates for RSC according to Royal decree of June 19, 2015, "Organizational Plan for the Rescue Service" are followed, and that the rescue management team is brought together and participates in the serious work that must take place between incidents.

In general, the Police should have a low threshold for establishing their own IM staff, and calling in the rescue management team at the RSC in the case of operations with the potential for serious casualties. If a Police District does not have the personell for the IM staff, neighbor help can be considered. Meetings and exercises must be held, and include elements of cooperation in rescue operations.

6.2.2 THE POLICE DIRECTORATE SHOULD BE PART OF JRCC RESCUE MANAGEMENT

JRCC-SN rescue management was called in immediately after the Police Chief of South-West Police District was made aware of the incident. Because of the large number of people on board the cruise ship, and the potential for running aground with catastrophic consequences, JRCC-SN immediately grasped the gravity of the situation. The county physician, FOH, FORF, the Norwegian Coastal Administration, the Norwegian Maritime Authority, Coastal Radio[56], the Norwegian Sea Rescue Society and Avinor met at rescue management. DSB participated by telephone.

According to the participants, rescue leadership was able to keep focus on the situation and look ahead, and did not disturb activity in the operations room. Attention was given to a worst-case scenario and to a plan for a rapid realignment of resources if needed. Even after Viking Sky restarted one of her engines, JRCC-SN rescue management maintained this focus.

The value of the rescue management was farsighted planning at a strategic level, and that the different participants contributed in their specialty areas, from their perspectives. Issues discussed included, among other things, search along the coast line, access to resources at Brynhallen, the potential for pollution, and priority on Telenet. JRCC-SN rescue management also put forth orders to rescue management.

The Directorate is not represented in JRCC rescue management. Both JRCC-SN and POD believe that the Police, which is such an important cooperation partner in the rescue services, should be represented by the Directorate. In the Viking Sky incident there were some communication challenges between the Police and JRCC-SN; cf. discussion in Chapter 6.7.1.

Participation in JRCC rescue management will give POD and the Police a stronger involvement in

[56] At first with a representative from Coastal Radio South, until the representative from Coastal Radio's management arrived.

managing incidents, something the Directorate considers appropriate. It would also lay the groundwork for good communication between JRCC and the Police. In a hearing statement from POD, the Directorate highlights the fact that participation in JRCC rescue management has been discussed for several years. We believe this is a lesson from the Viking Sky incident, that POD should be part of this rescue management.

6.3 MARITIME EFFORTS

After Viking Sky broadcast a Mayday, it became clear quickly at JRCC-SN that towboats would be needed. Coastal Radio South therefore sent a Mayday relay, emphasizing this requirement. In addition, JRCC-SN called in rescue helicopters and vessels directly to assist the cruise ship. The contribution of the rescue helicopters is described in more detail in Chapter 6.4.

Right after 1500 h. the first vessels arrived in Hustadvika: MS Holmfoss (combined reefer and container ship), Bergen Viking (oil and chemicals tanker) and Fiskenes (a medium-sized fishing boat).

Approx. half an hour later, JRCC-SN dismissed MS Holmfoss and Fiskenes because it was impossible for these ships to attach towlines to Viking Sky given the bad weather. Nor was it possible to evacuate passengers using the vessels in the area due to wind, waves and shallow waters.

The Coast Guard vessel, KV Njord, which arrived shortly before 1700 h., was directed by JRCC-SN to coordinate the vessels around the cruise ship, and thus became the On-Scene Coordinator. KV Njord communicated with the other vessels in the area via VHF, and held continuous contact with the pilots on board Viking Sky. Since initially it was not possible to attach towlines or evacuate the passengers using the ships, the largest task for the Coast Guard ship on was to observe and communicate with JRCC-SN and the pilots on board Viking Sky.

After KV Njord was summoned by JRCC-SN, the Coast Guard contacted JRCC-SN to determine if there was need for more resources. There was agreement that the Coast Guard should send several vessels toward the area, although these were far away.

Over the next few hours, several vessels reached the area:

- Towboat T/B Vivax, owned by the Østensjø shipping company, and working out of Nyhamna Terminal, Aukra.
- Inspection and maintenance vessel, Edda Fauna, owned by the Østensjø shipping company (including a sick bay and with a cabin capacity of 90 and a life-boat capacity of 180).
- PSV vessel[57] Siem Symphony, by Siem Offshore Shipping AS.
- PSV vessel Troms Arcturus, owned by Troms Offshore Management AS.
- PSV vessel Ocean Art, owned by Atlantic Offshore Epsilon AS.

On Saturday evening, three more ships were en route toward the area, the towboats Boa Heimdal and Ocean Response[58], and the Normand Ranger (a combined anchor handling and supply ship).

Meanwhile, during this time Viking Sky was able to move into somewhat deeper waters under her own steam; cf. more detailed discussion in Chapter 4.

During the evening, in consultation with the pilots on board, the captain of Viking Sky decided that the cruise ship should move into Molde as soon as she was able to be towed. At approx. 0800 h. Sunday morning towlines were attached to Viking Sky with the help of MS Ocean Response forward, and T/B Vivax, aft. Less than an hour later, Viking Sky reached her most westerly point, and was thus the furthest away from land since the incident began. Then course was set in a south-westerly direction toward Molde. Just after 1500 h. the Mayday was cancelled. The cruise ship reached Molde harbor at about 1630 h.

[57] PSV = Platform Supply Vessel (catering ship particularly intended for platforms).
[58] Described as the next generation's emergency response and rescue vessel, with an evacuation capacity of 370.

Viking Sky being towed toward Molde harbor. Photo credit: Scanpix NTB

Although the primary strategy to tow Viking Sky away from dangerous waters was not able to be followed during the most critical phase, the maritime effort is considered to be largely successful under the conditions. However, some important lessons learned were identified, in connection with:

- Better overview of towboat resources.
- A plan for using towboats.

6.3.1 BETTER OVERVIEW OF TOWBOAT RESOURCES

Contact with Vardø VTS, KV Njord, and the pilots on board Viking Sky gave JRCC-SN a good overview of the maritime situation. JRCC-SN had contact with the pilots both directly and via KV Njord.

However, JRCC-SN was lacking a sufficient knowledge of towboats and their equipment, and if they were able to set tow lines. JRCC-SN would have been in a better position to plan and coordinate the work of the towboats if they had this knowledge. A lesson learned, therefore, is that better overview of towboats is required.

The owners/shipping company Atlantic Offshore also questioned whether JRCC-SN had a sufficient overview of the towboat resources. The shipping company's towboat, Ocean Response, was not far from Hustadvika when the Mayday was sent out. The towboat didn't pick up the Mayday and was outside the coverage area for the Mayday relay. Accordingly, it continued south after the distress signals were sent out. The boat may have been in a blind zone for the Mayday at that actual time. JRCC-SN had no knowledge of Ocean Response's towing capabilities,

so the boat was not called out in the initial stage of the incident.

A measure to strengthen JRCC's professional assessment of the capabilities of towboats under demanding conditions is to recruit a liaison from a towboat company when incidents requiring towing occur. A measure to strengthen JRCC's overview of available towboat resources is to ensure that such information is available and updated in the shared resource information repository (SRIR). As well as towing capacity, this information should also include equipment, and competence (e.g., training in securing towlines) of both ship and crew. Barents Watch is responsible for SRIR, but adding resource data is voluntary.

During this incident, the AIS (Automatic Identification System) was used to find such information, but an updated SRIR could have provided relevant and useful additional information. JRCC with its responsibility for rescue operations and Vardø VTS with its coastal monitoring responsibility, have an interest in a more updated SRIR.

Vardø VTS indicates that in the case of incidents at sea, AIS will still be the most useful tool, since it provides the most timely picture of available resources. It will still be necessary to discover whether the identified resources can be used and are not engaged in another operation (for example, towing, transporting containers, etc.).

6.3.2 PLAN FOR THE USE OF TOWBOATS

In its own assessment, JRCC-SN stresses that the organization did not have a professionally evaluated plan for how the towboats could assist Viking Sky under the prevailing weather conditions. When the towboats reached the cruise ship, judgments were left to the pilots and crew of the two vessels. By that time, the situation was less dramatic than it had been at the onset.

Saving a ship is part of a rescue operation to rescue those on board. JRCC-SN decided early in the incident that towing was the most effective way to save both the ship and the people on board. It recognizes in its own assessment that JRCC-SN should strengthen its professional competency in towboat operations, and thus its ability to plan such input for future similar incidents. This is an important lesson arising from the Viking Sky incident.

As mentioned above, in order to strengthen JRCC-SN's ability to carry out such planning when similar rescue operations occur in the future, a liaison from a towboat company should be called in for counsel and guidance. This should therefore be facilitated. The Norwegian Coastal Administration also support this initiative.

6.3.3 TOWING ASSESSMENT

In its internal assessment, JRCC-SN is concerned that some of the first towboats to reach Hustadvika did not have the capacity to tow Viking Sky. One reason for this was the difficult weather conditions, while another was that some of the vessels were not configured to put the ship in tow. The Coast Guard and the Coastal Administration confirm JRCC-SN's understanding of the situation.

T/B Vivax, the first towboat to reach the cruise ship, reported that it was too dangerous to have crew on deck, which in turn made it too dangerous to put the ship in tow. At this point, too, Viking Sky had propulsion out and away from dangerous seas, and an effort to put her in tow was considered a risk which forward propulsion of Viking Sky could resolve.

The Atlantic Offshore shipping company believes it would have been possible for Ocean Response to put Viking Sky in tow if the towboat had arrived in Hustadvika earlier. This would not have changed the outcome in that case, but Viking Sky would have been in a less exposed position more quickly, and the helicopter rescue mission could also have ended earlier. Of course, this form of rescue also involves a certain risk.

JRCC-SN remains doubtful that it would have been any better for the Ocean Response to put the ship in tow than it was for Vivax, given the prevailing conditions. It is also important to be clear that no towboat, including Ocean Response, was able to

reach the cruise ship during the first, critical period. Had Viking Sky not got one of her four engines started, she would probably have run aground during the first hour after engine failure, i.e., before 1500 h. The first towboats reached the ship a good hour after that.

6.4 HELICOPTER RESCUE

Since it proved difficult to put Viking Sky in tow during the powerful storm, Saturday March 23, and the ship's captain considered it too risky to launch life boats, the principal approach to evacuate passengers from the cruise ship in this operation was via rescue helicopter. It was not possible to use boats in the evacuation because of the high waves in the foul seas; cf. a more detailed description of the unfolding incident in Chapters 4 and 6.3. Since the helicopters were unable to land on the ship, the passengers had to be evacuated by means of a rescue hoist. There were a total of six rescue helicopters in action, and 475 people were evacuated that way, including the crew of the freighter Hagland Captain.

The helicopter rescue operation was extremely demanding under the difficult conditions but is considered to have been successful, and there were no accidents or casualties. Important conditions and prerequisites for this success are:

- JRCC-SN summoned the public rescue helicopters from 330 Squadron and CHC Helicopter Service, and took the lead in the rescue operation.
- JRCC-SN coordinated helicopter traffic via the approach control service at Værnes, Møre Approach. A rotation pattern was established with three to four helicopters in order to achieve the most effective and safe evacuation. Before the Møre Approach became involved in the rescue operation, one of the CHC helicopters (Rescue 8) assisted JRCC-SN with this coordination.
- There was good communication between Møre Approach and the helicopters. At the same time, Avinor's representative in JRCC-SN on Sola was an important link between JRCC-SN and Møre Approach.
- Early on, a rescuer from one of the CHC helicopters was hoisted onto the cruise ship to assist with the evacuation, thus making the operation more effective and reducing the risk associated with hoisting passengers into the helicopters.
- Some of the helicopters had extra crew who could assist in packing in the evacuees. This resulted in a faster evacuation, as there was space for more passengers in each helicopter.
- To ensure a good rotation of helicopter crews and necessary down time, extra crew were flown in from Gardermoen and Flesland.
- Lighting the sports track beside Brynhallen was helpful for helicopter traffic arriving at the hall after dark.[59]
- At Hustad School, near Brynhallen, a place for refueling the helicopters was established, and this was a timesaver since helicopters would have had to fly to the nearest airport to refuel. This was made possible by a tanker driving from Molde airport to Hustad School.
- The helicopter capacity in the rescue operation meant that the crew on Hagland Captain could be evacuated while the evacuation from Viking Sky was going on.
- All in all, the impression is that participants in the helicopter rescue appeared to be extremely competent, and the evacuated passengers found the operation to be professional, despite its being a frightening situation to many.

Essentially, this was a successful helicopter rescue operation. However, we have identified lessons learned linked to:

- The plan for aircraft coordination.
- Streamlined refueling.

After the incident, there was a discussion on the use of helicopter resources; cf. Chapter 6.4.3.

6.4.1 THE PLAN FOR AIRCRAFT COORDINATION

As indicated above, an important factor in the success of a rescue operation involving several helicopters working together is sound aircraft coordination, i.e., coordination of helicopter traffic

[59] The helicopters landed in the parking lot in front of Brynhallen sports complex.

Evacuation of passengers from Viking Sky by helicopter. Photo credit: Scanpix NTB

with a view to efficiency and safety. JRCC has procedures for establishing an ACO (Aircraft Coordinator) function.[60]

In the case of the Viking Sky incident, the aircraft coordination function was performed by JRCC-SN through the rescue controller and an air traffic controller from Avinor. Initially, it was the rescue helicopter in Florø (CHC), and later Møre Approach, that were the link between helicopter resources and JRCC-SN. Owing to the limitations in common communication coverage (VHF Air 123.1 MHz) it was not possible for JRCC-SN to communicate directly with all helicopters.

JRCC-SN also asked Defense to supply an Orion aircraft to handle ACO functions, but Defense did not manage to get a crew together on such short notice.

The role of the ACO comprises a number of tasks, including:

- Assisting with flight safety in an air space with several SAR aircraft involved.
- Prioritizing and allocating aircraft resources.
- Coordinating resources and a search pattern in order to have the search area covered in the most effective way possible.
- Coordinating refueling.
- Relaying radio messages.
- Convey situation reports.
- Coordinating the use of resources and following through with the On-Scene Coordinator and the rescue manager.

In order to strengthen competencies in this area with regard to rescue operations, JRCC invited personnel from the Defense and other organizations to participate in an ACO course in Denmark. Air traffic controllers at Møre Approach who were part of the operation, were unfamiliar with the ACO function, and had to limit themselves to announcements and information from JRCC-SN. Avinor stated that Møre Approach lacked a clear assignment description from JRCC-SN in connection with the rescue operation. JRCC-SN recognizes that Møre Approach should have been given a more detailed description of the assignment and what was expected of them.

[60] This air coordination function is based on the IAMSAR manual and the International Manual for Aircraft Coordinator (also known as the Baltic ACO manual).

According to JRCC planning, the ACO function is to be carried out either by JRCC or other qualified platforms such as the Orion aircraft or Coast Guard vessels, which have personnel with ACO competencies. In this incident, JRCC-SN planned that they would be responsible for the ACO function since there were insufficient resources with ACO competencies in the area where the rescue operation took place. Meanwhile, limitations in common communications coverage meant that a link was needed to relay information and support to flight safety. Accordingly, on the advice of the air traffic controller from Avinor, the air traffic controller at Møre Approach, who had the necessary common communication coverage in the area, was used for that purpose.

The JRCC-SN's operations room has its own aircraft coordination position that can be staffed by an air traffic controller if needed. According to JRCC-SN, Avinor, as a member of rescue management, is responsible for staffing the ACO function with personnel. Avinor has already implemented a measure to take on this role. The Avinor air traffic controller will work closely with the rescue manager who has ACO competency and who will be responsible for rescue-related coordination. Meanwhile, Avinor questions the degree to which this position is well enough qualified for controlling air traffic.

Limitations on communications can be resolved either through technical measures or by developing better operational plans for locally coordinating or controlling aircraft resources when an incident occurs, with an air traffic controller at JRCC serving as a link between these. The disadvantage of such a plan is that ACO competency must be dispersed across the entire country, rather than being centralized at JRCC.

In our opinion, the most cost-effective solution is to further develop the ACO functions centrally (in JRCC) is close cooperation between JRCC and Avinor. This assumes that country-wide communications resources are established in order to perform this function, primarily through the air traffic service frequency (VHF Air 123.1 MHz), but also through access to Defense transmitters when needed, and the Emergency Network in those cases where all aircraft resources have access to this

communication network. Today JRCC-SN has access to the air traffic service radios, but this is limited to the area of responsibility for Stavanger Control Center (Avinor).

Furthermore, we must ensure that the position in JRCC is well suited to aircraft coordination; cf. Avinor's note above. In addition, a national plan for the ACO function must be developed based on the international guidelines embodied in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manuals. Also, national training in the ACO functions must be established for relevant staff.

Even if a central exercise of the ACO function is the primary strategy, at the same time one must also take into account that it can be appropriate or necessary for the function to be performed by other actors closer to the incidents. Such actors include, inter alia, the Coast Guard, surveillance aircraft, or helicopters.

6.4.2 EFFICIENT REFUELING

The Police initiative to establish refueling for the helicopters alongside Brynhallen was an important measure in making the helicopter rescue more effective. It was a fortunate coincidence that Aviation Fuelling Services Norway (AFSN) could provide a tanker and staff. The tanker, which is not insured for driving outside the airport, nor very well suited to driving on country roads, drove from Molde Airport to Hustad School with a Police escort. Since this was an emergency situation involving life and health, normal rules did not apply.

JRCC is responsible for making refueling possible through exercising its role as aircraft coordinator. This task is also included as part of JRCC's planning, and is described in the international planning.[61] In the case of the Viking Sky incident, it was not necessary for JRCC-SN to implement measures for refueling, since the Police did this on their own initiative, and JRCC-SN considered this a good solution.

Based on this experience, however, JRCC should assess whether, in addition to the general planning, it would be appropriate to establish a corresponding solution as described above, for future rescue missions. An important prerequisite is that airfields maintain a necessary emergency preparedness for refueling outside of normal operating hours.

6.4.3 ADEQUATE HELICOPTER CAPACITY

JRCC-SN chose not to call in the Sea King helicopters on Sola and Rygge to participate in the rescue mission. It was determined that existing Sea King and CHC helicopter capacity was adequate. Moreover, JRCC-SN did not wish to weaken the helicopter capacity in the rest of the country in case another rescue situation arose simultaneously, requiring the use of the Sea King helicopters on Sola and Rygge. However, JRCC-SN determined to call in these helicopters if the situation escalated. It is also emphasized that consideration for aircraft safety would mean limiting the number of helicopters in action simultaneously over a relatively limited area.

Representatives from 330 Squadron noted that JRCC-SN should have called in the two Sea King helicopters on Sola and Rygge to participate in the rescue operation. This is because if the situation had escalated to the point that the ship ran aground and passengers were in the sea, more helicopters would probably be needed than those available in the area.

330 Squadron also considers that helicopter emergency preparedness in the rest of the country could have been assumed by other helicopters, including those from Denmark and Sweden, air ambulance helicopters, military helicopters on Rygge and rescue helicopters in the North Sea that were not involved in the operation. A rescue helicopter from Denmark was flown to Kjevik, and Sweden offered to assist with helicopters. Furthermore, the assessment is that the most possible resources should be brought where the crisis is located.

JRCC-SN's assessment is that emergency preparedness in Norway would be weakened until helicopters from Denmark and Sweden were in place. Furthermore, the other alternatives are not as well suited as the Sea King helicopters to the rescue operation. For example, Danish or Swedish rescue helicopters would not have been able to assist with rescue operations over land and mountain areas in

[61] International Aeronautical and Maritime Search and Rescue (IAMSAR) (2019) Volume II

South Norway. There was danger of avalanches in the mountains in South Norway at that time. Correspondingly, the air ambulance helicopters could not have assisted in incidents over the sea or in incidents over land terrain in the dark or with poor visibility, nor in incidents where it was necessary to hoist distressed people. There are also limits to what the military helicopters on Rygge could have done to assist without the necessary competency, equipment and training.

Communication between the Sea King helicopters and CHC helicopters during the rescue operation was considered good. However, it cannot be overlooked that communication could have been even better between rescue helicopters within the same "family", i.e., 330 Squadron. Furthermore, while all the Sea King helicopters are equipped with the Emergency Network, this was the case for only one of the CHC helicopters involved in the operation. This was not a problem for communication between the helicopters and with those coordinating helicopter traffic, which took place on VHF. Generally, though, access to the Emergency Network is still important for communication between the different actors in a rescue operation like this; cf. more detailed discussion in Chapter 6.7.

As it turned out, the helicopters called in during the Viking Sky incident were sufficient. As can be seen above, assessments differ as to whether it would have been necessary and appropriate to have more helicopters in case the incident escalated. Thus, assessments differ as to whether extra resources – namely the two Sea King helicopters on Rygge and Sola – should have been called in under the current situation. An important backdrop to this is that JRCC-SN, based on its leadership role in the rescue operation and its emergency preparedness responsibility, had to evaluate the situation and the various inputs from a holistic perspective. Regardless, when future rescue operations with a large potential for injury occur, decisions will have to be made based on the capacity needed vs. maintaining necessary preparedness in the rest of the country.

6.5 ESTABLISHMENT AND OPERATION OF THE RECEPTION CENTER

A reception center is where one receives a large number of evacuees. The Police have the primary responsibility for establishing and operating the reception center. The municipality assists by finding a suitable location. The Police provide supervision and identify and register those involved, in addition to carrying out other Police duties.[62]

The Police first identified Hustadvika Gjestegård in the municipality of Fræna as the location for the reception center, but it was not suitable due to size and because it would be difficult for helicopters to land. The choice fell on Brynhallen, which turned out to be a very good choice. The hall is currently described in Fræna's municipal plan as a center for evacuees and their friends and family. The incident commander (Police) made the decision in consultation with the fire commander and JRCC-SN. The medical commander arrived shortly after.

The commanders and Fræna municipality worked on getting staff and materials in place to welcome the evacuees from the cruise ship. About one and a half hours after the Mayday signal (approx. 1530 h.) the reception center was up and running. Nearly 500 staff and volunteers turned up to help, as well as local inhabitants. At 1540 h. the first helicopter carrying evacuated passengers set down. It was decided to forward the evacuees from Brynhallen on to Molde and Kristiansund. Molde and Kristiansund therefore set up evacuee (EPS) centers at hotels in the two towns. Also, ambulances stood ready at Brynhallen to transport passengers to hospital. At its height, 17 ambulances were available, as well as an ambulance helicopter.

[62] National guide for planning and collaboration in the rescue service, p. 35.

The reception center was considered to be a success by those involved because of the way it was set up and operated. This can be an example of best practice for other Police Districts and municipalities that might experience incidents in the future. For this reason, we have formulated the following lessons learned:

- The reception center – a good example of best practice.

However, there were also aspects that could be improved. The most important lesson learned is:

- A robust system for registration of the evacuees.

6.5.1 THE RECEPTION CENTER – A GOOD EXAMPLE OF BEST PRACTICE

The reception center at Brynhallen was set up based on normal procedures but tailored to the situation. The following central functions were established:

- **Command post (CP):** Set up on the 2nd floor of the hall, the CC was led by the incident commander (Police) and was comprised commanders from fire and health, as well as most of the other actors at the reception center. All the functions at the center were represented.
- **Triage:** This was carried out by ambulance staff just inside the main entrance.
- **The emergency room, workroom and warming room:** Injured passengers were directed to one of these depending on the extent of their injuries. Health personnel from Møre og Romsdal Hospital Trust and Fræna municipality were responsible for these different rooms. Uninjured passengers were directed to registration.
- **Registration:** An area was set up for evacuee check-in. The Police delegated this task to the Red Cross and the Norwegian People's Aid. Other actors helped periodically.
- **Rest zone:** A rest zone with mattresses was also set up for the passengers.
- **Lounge areas and catering:** There was a lounge area in the hall for passengers and one for relief staff, where food and drink were served. IL Bryn had the primary responsibility for catering at the center and for staff lodged at Hustad School alongside the reception center.

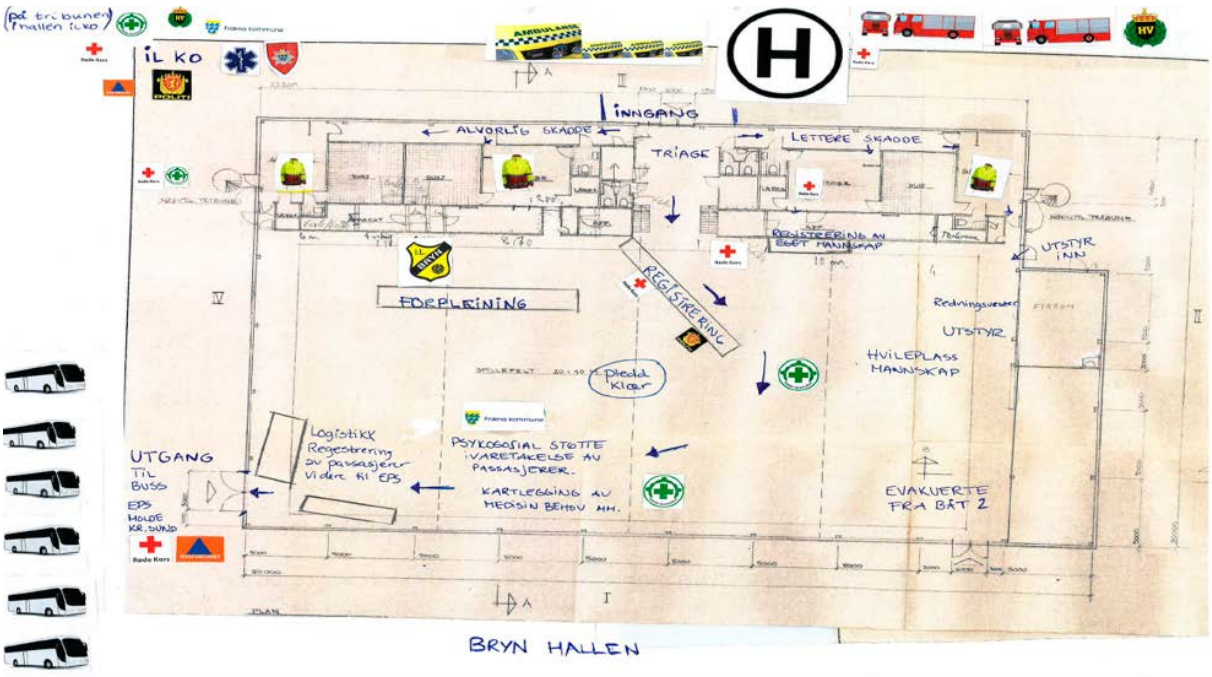


FIGURE 3. Sketch of the layout in Brynhallen. Source: FORF

- **Check-out:** This was set up near the exit to where buses stood waiting. The buses transported the passengers on to EPS centers in Molde and Kristiansund. Several actors assisted with the work of checking passengers out of the hall.
- **Holding area for resources not in use:** Periodically, there was an over-capacity of resources. To avoid having too many people down in the hall where passengers were being brought in, non-active personnel were moved to the bleachers.

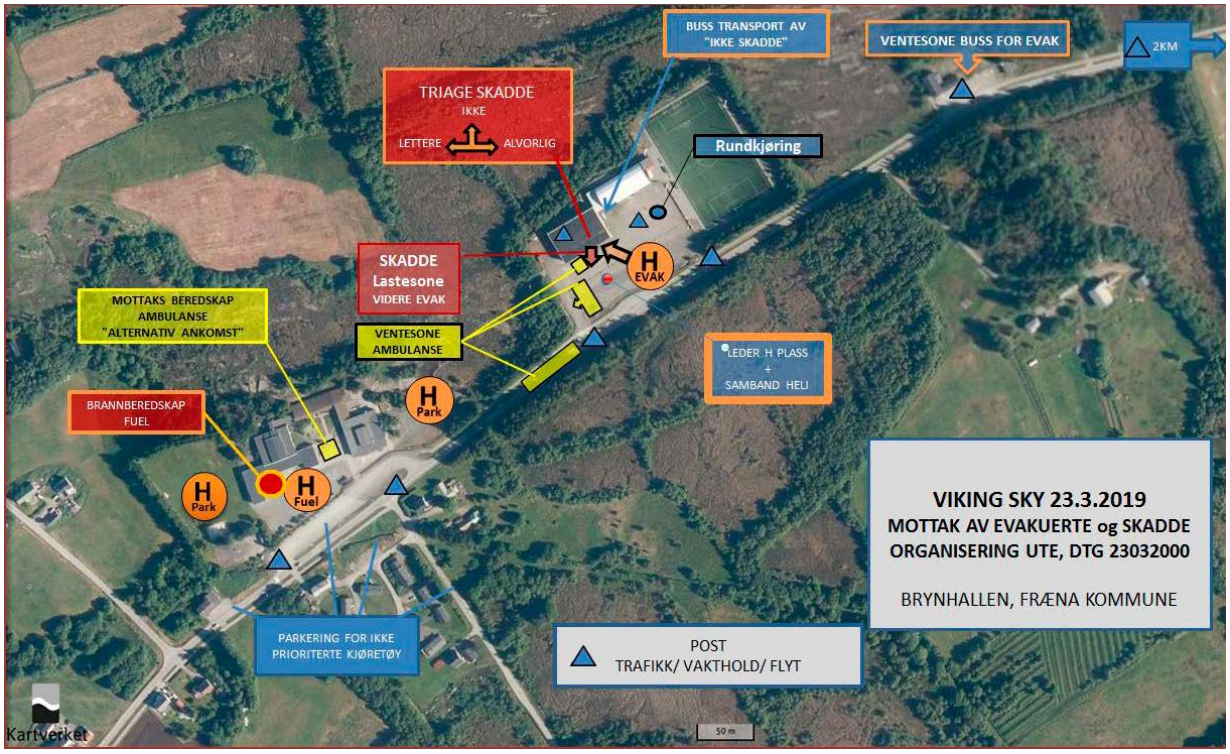
The area around the reception center was set up with the following central functions/areas:

- **Landing site for helicopters:** Different landing sites were established for the helicopters. One such, for helicopters arriving with evacuees, was set up in the parking lot outside the reception center. Another was set up at Hustad School for helicopters needing to refuel.
- **Fuel for the helicopters:** A fuel tanker was moved from Molde Airport to Hustad School to ensure streamlined refueling of the helicopters.
- **Waiting area for ambulances:** There were two waiting areas for ambulances in the immediate vicinity of the reception center.
- **Bus transport:** An area outside the reception center was set aside for the buses that were brought in to transport passengers on to an EPS center. A second area, a little further away, was used as a waiting area for additional buses.

The layout of the reception center and surrounding areas is shown on the previous satellite picture.

Factors in the success of the reception center

There is broad agreement that Brynhallen was suitable and functioned well as a reception center. Those involved stressed that there were several reasons for this reception center being an example of best practice in the case of similar incidents. Due to the large number evacuated, this incident required a reception center with large-capacity inside and outside. Brynhallen and its surroundings had this,



Satellite picture of the area around Brynhallen with the various management functions drawn in.
Source: Cartography, edited by JRCC-SN.

which was suitable for organizing the reception center.

The organization of the hall was highlighted as another success factor, as it contributed to good logistics and thus an efficient passenger/patient flow. Health personnel from the municipality and the Hospital Trust consider the organization of the triage and treatment rooms as being effective for sorting and treatment and a good patient flow; cf. discussion in Chapter 6.5. Organizing by different functions and areas of responsibility made the allocation of tasks very clear. Also, suitable zones were set up for the different functions, so personnel were able to go about their work without tripping over each other.

Another success factor was that the evacuees remained in the hall the shortest possible time. A goal was set that the evacuees should be sent on further after one hour. After they received what they needed, in the line of treatment, care, food and, not the least, body warmth, they were sent on by bus to the EPS centers in Molde and Kristiansund.

Yet another success factor was the Police management of the reception center which was perceived by the other participants as serving the purpose. At the same time, there was an appropriate grasp of the situation that the incident commander (Police)[63] delegated a number of tasks to those actors who were well staffed. The tasks were assigned without instructions in detail. This was seen as a reasonable and effective way to manage the work.

Although the situation was somewhat confusing to begin with, and during certain periods there were a few too many who wanted to help, the impression is that collaboration, coordination, and information sharing at the reception center functioned well. One important reason for this was the command post set up in the hall. This was an important meeting point, ensuring coordination of all the different actors and functions. It was at the command post that decisions were made and passed on to the other staff in the hall who were to handle the evacuated passengers. Regular briefings were held in the CP. The Red Cross also held regular briefings down in the hall. These meetings were primarily for their own personnel, but other actors also took part since it was was a strong need for a similar situation report.

Even though information coordination between the actors operating at Brynhallen was good, it is clear there was some lack of communication with several actors outside the hall. There was frustration at the reception center because of the lack of information on the situation on the ship and on evacuated passengers who would be arriving at the reception center. There was no response to several questions: What is the situation for the passengers on the ship? How many passengers have the helicopters brought in? How badly injured are they? Must we prepare ourselves to receive dead passengers? This issue is also discussed and evaluated in Chapter 6.7.

It is also our impression that the actors at the reception center were able to envision worst-case scenarios and plan accordingly. For example, extra personnel were on hand in case the incident should escalate. The size of the hall made it possible to hold these people in readiness on the bleachers, without disturbing the ongoing handling of evacuees. At the same time, there was a difficult balance to be made between keeping extra staff on site in case the incident should escalate, and the need to rotate personnel and not overstretch their endurance.

Eventually, some of the resources were sent home and a list of names was drawn up who could be called upon if and when needed. It was, however, not so easy to dismiss the “troops” as all wanted to stay and help out.

The Police also began to prepare for a possible search along the coast line in case passengers should end up in the sea. They looked for available personnel who could help with this, including, among others, the Red Cross who provided an overview of available water rescue equipment and water rescue competence on site. Fræna municipality also prepared a hall in the center of the municipality (Frænahallen) in case of a need to separate the living from the dead. Frænahallen is close to Brynhallen, and is defined in the municipality’s planning as an EPS center. There was also discussion to make use of a hall next to Brynhallen should dead passengers be brought in.

[63] There were two different on-scene commanders during the operation, with one taking over from the other.

Moving fuel to the reception center area and the resulting time savings was a success factor. It spared the helicopters a flight of approx. 30 km as the crow flies to the nearest air field, i.e., Molde Airport. However, this solution was improvised during the incident, and an assessment should be made as to whether scaling up this arrangement could be included in a plan for the future; cf. discussion in Chapter 6.4.2. Also, it should be evaluated if such tankers are resources to be registered in the Shared Resource Information Repository (SRIR); cf. a more detailed discussion in Chapter 6.3.

The reception center was a success because those who worked there managed to take good care of the evacuated passengers. Available to the passengers were health services, psychosocial first aid and catering, as well as coverage of basic needs such as dry clothes and warmth. The psychosocial first aid was highlighted by many after the incident as an extremely important element. This was something in which all staff in the hall participated but was especially a common thread in the work of the NGO's. The experience of those working at the reception center was that evacuees only felt they had survived when they arrived in the safety of the hall. Some werequite worn-out, and support and care by staff was therefore significant.

In the eyes of those involved, other success factors include:

- Lighting the sports track beside Brynhallen was helpful to helicopter traffic after dark.
- To maintain a good overview, life jackets worn by the passengers coming in from Viking Sky should only be removed after they were registrated in the hall entrance.
- The contribution made by IL Bryn in providing food and drinks to evacuees and staff. This freed up capacity for the NGO's that would otherwise have been assigned this task. In this incident, they could assist with other tasks for which they are trained. The staff from IL Bryn were well known on the premises.
- Rescue staff were quartered at Hustad School when they needed rest and food/drinks.

- Good infrastructure and many useful materials at Brynhallen: several separate rooms, showers, toilets, chairs, tables, cafeteria facilities, etc.

6.5.2 A ROBUST SYSTEM FOR REGISTERING EVACUEES

An important lesson in the aftermath of the Viking Sky incident is that the method for registering evacuees must be improved. The system created to register evacuees was improvised then and there. The template for registering evacuees was prepared by the Red Cross on their way to Brynhallen; cf. picture 6. The template was used at the reception center for a better tracking of passengers than noting names and numbers only, which was earlier used upon arrival.

Registration was of the pencil and paper variety. A weakness was that, not being digital, there was no possibility for joint storage and sharing across actors. According to the Police, they do not have their own digital platform and could therefore not do a sufficiently efficient job of registering.

The actors at Brynhallen, including the Police, say they did not have full control of the evacuees. The system that was established was also problematic from the perspective of data security. In addition to the name of each evacuee, information was also noted on the state of their health, their medication requirements, etc. To relay this information to the EPS centers and doctors there, as well as to the pharmacies in Molde and Kristiansund, the forms were photographed and sent using private cell phones.

There is agreement among the actors that the registration must be able to be done digitally. The data collected must be safely shared between the actors. This is important if the passengers are to be followed after leaving the reception center, for example when they are sent on to hospital or an EPS center. Wilhelmsen Ship Management also highlights this, saying that it was unfortunate that information was lacking on who was sent to hospital. They were obliged to call around to different hospitals to track down the passengers.

The Police have a system for registering evacuees, the Disaster Involved Register (DIR). This is a data tool that is supposed to help the Police have an overview of all the people involved in major

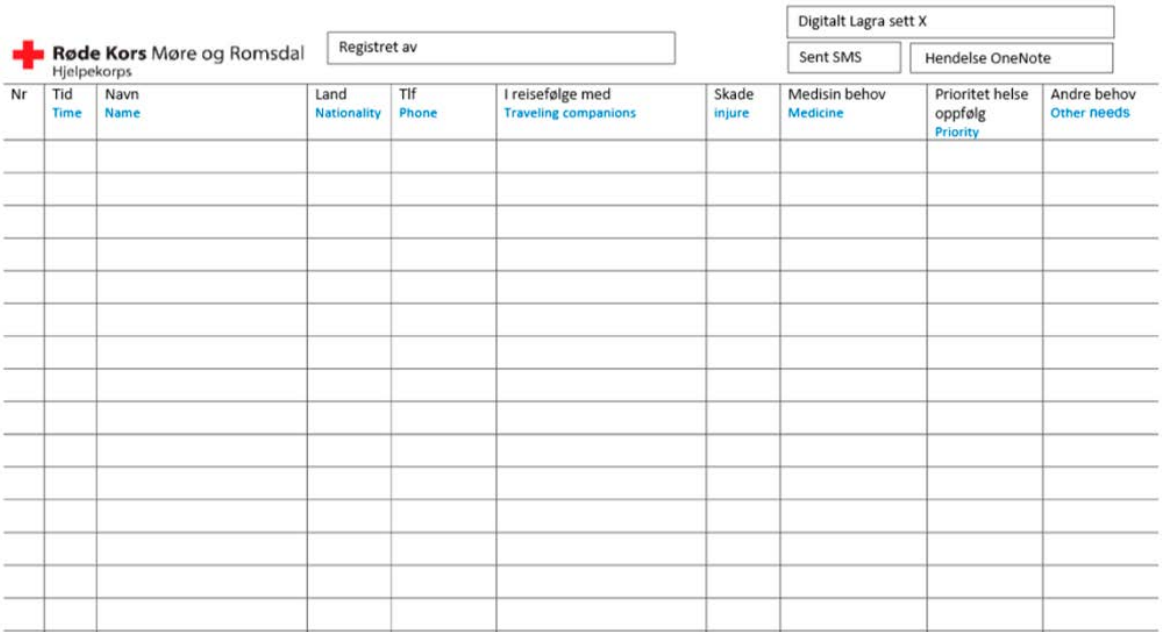
accidents, disasters or incidents.[64] The system is homogeneous and common to the Police and is therefor accessible to all Police Districts. This makes it possible to safeguard the need for neighbor help.

A guide for the Police handling of evacuees and their friends and family in the case of major incidents[65] states that the system is to be used in the case of (i) major disasters, or (ii) incidents involving large numbers of people. The Viking Sky incident can be said to meet both these criteria.

The DIR was not used during this incident. Nor has MRPD implemented it in the District. MRPD was unwilling to do so because they believe it to be a cumbersome system, and because new systems are in the pipeline. POD refers to the fact that the Police Districts are obliged to use the system, however, they also say it has almost never been used. It is also uncertain if the Police can give others access to the DIR.

The Viking Sky incident uncovered the need for a registration system that is digital and can be used by actors other than the Police. In future similar incidents it could once again be necessary to delegate the task of registering those involved. It should therefore be possible to share registered information with other actors.

We understand that DIR is a system established within the Police force to assure their need for oversight of those involved in incidents such as that of Viking Sky. However, we believe that it is uncertain if this system meets the requirement identified during the Viking Sky incident. This is because access seems to be limited to the Police, and because few Police Districts have ever made use of the system.



Røde Kors Møre og Romsdal
Hjelpekorps

Registret av

Digitalt Lagra sett X

Sent SMS

Hendelse OneNote

Nr	Tid Time	Navn Name	Land Nationality	Tlf Phone	I reisefølge med Traveling companions	Skade injure	Medisin behov Medicine	Prioritet helse oppfølg Priority	Andre behov Other needs

Registration form for evacuees from Viking Sky. Source: Møre og Romsdal Red Cross

[64] Guide – Police handling of evacuees and their friends and family, National Police Directorate, August 2014.
[65] Guide – Police handling of evacuees and their friends and family, National Police Directorate, August 2014.

Given these conditions, the Police, together with the health service and other central cooperating actors, should establish how they can develop a more robust registration system. Since the system should be available across different actors, it is important that the actual users are involved in this discussion. A review of the use and functionality of different actors' current systems should be included in such an assessment.

6.6 MANAGING HEALTH-RELATED ISSUES

Both the specialist and primary health care services participated in managing the Viking Sky incident. Health personnel from the hospitals in Molde and Kristiansund worked at the Brynhallen reception center, and ambulances and ambulance helicopters, including personnel, also assisted. Health personnel from Fræna, Molde and Kristiansund municipalities worked at the Brynhallen reception center and at EPS centers at hotels in Molde and Kristiansund.

6.6.1 THE SPECIALIST HEALTH CARE SERVICE

At 1430 h. (March 23), AMK (Emergency Medical Communications Center) in Ålesund, which coordinated the specialist health care service's handling of the Viking Sky incident, ceased calling in additional personnel from the central crisis response unit to staff the center.

The assistant ambulance chief, who lives in Hustad, drove to Brynhallen to serve as on-scene commander (health). At approximately 1440 h., five ambulances were dispatched to Brynhallen, and eventually 17 ambulances were available at the reception center. An air ambulance helicopter was also sent to Brynhallen.

At approximately 1600 h., a local crisis unit was set up at the hospital in Molde, and half an hour later, at the hospital in Kristiansund. At 1720 h., a yellow alert was declared at both hospitals and maintained through the evening, night, and greater part of Sunday (March 24). Briefing meetings were held in the crisis response units Saturday afternoon, evening and night, as well as Sunday morning and afternoon. At 0800 h. Sunday, the alert level went from yellow to green.

In addition to serving as on-scene commander (health) at Brynhallen, the specialist health care services performed the following tasks during the incident:

- Reception and triage (including identification tagging "predoc") at the Brynhallen reception center.
- Setting up an emergency ward to provide first aid and treat injured passengers (done in coordination with municipal doctors and nurses).
- Setting up a workroom for minor injuries.
- Preparing for the intake of more patients (capacity: up to 100 stretchers/beds).
- Ambulance service to Molde and Kristiansund hospitals.
- Transport and logistics of personnel and health supplies.

A total of about 180 health personnel from the specialist health care service contributed during the Viking Sky incident, including just under 50 health personnel at Brynhallen, more than 50 people called in to active service over and above the normal number at Molde Hospital, and correspondingly nearly 70 at Kristiansund Hospital.

6.6.2 THE PRIMARY HEALTH CARE SERVICE

The municipal health service in Fræna municipality was alerted via the municipal emergency preparedness coordinator. The head of Fræna nursing home and care center notified 60 health care personnel by telephone and SMS to meet in Brynhallen within 30 minutes. There were employees from the casualty clinic and the municipality, including doctors, nurses and auxiliary nurses. About half of those who turned up were sent home immediately, but alerted that they should be available in case of increased need. A rotation list was set up for health personnel at the reception center. There were

enough personnel for several 24-hour periods if necessary. The municipal health personnel worked at the reception center together with health and ambulance personnel from the specialist health care service, and with volunteers from the Red Cross, Norwegian People's Aid, and The Civil Defence.

The casualty clinic in Molde called the municipal Health Chief. Two municipal doctors from Molde municipality drove to the reception center in Brynhallen to assist. The Health Chief and the emergency preparedness managers met at a hotel in Molde establish an EPS center, and health equipment and medications were transported from Molde Hospital to use at the EPS center. Municipal health personnel and volunteers from the Red Cross and the Civil Defence set up at the EPS center.

Evacuated passengers with acute injuries were sent by ambulance to either Molde or Kristiansund Hospital. Those who did not need for hospital treatment were sent by bus to the EPS center in either Molde or Kristiansund. Several of the passengers were unable to bring their medications with them when they were evacuated. A pharmacy was opened to provide the needed medications. Passengers who arrived at the EPS center in Molde had, for the most part, minor injuries, and much of the treatment consisted of psychosocial support and medication.

The emergency preparedness manager in Kristiansund municipality was alerted by the Red Cross which is a permanent member of the crisis management team in the municipality. A crisis response unit was quickly established. After a discussion with Fræna municipality, an EPS center at a dedicated emergency hotel was set up in Kristiansund municipality. The EPS center was staffed by personnel from the municipality and volunteers from the Red Cross and the Civil Defence. A provisional municipal casualty clinic was also set up here. Medications were needed, and a local pharmacy was opened for this purpose. The EPS center in Kristiansund welcomed several buses of evacuees needing health care, particularly psychosocial treatment.

6.6.3 ASSESSMENT OF HEALTH-RELATED MANAGEMENT OF EVACUEES – CHARACTERISTICS AND LESSONS LEARNED

The principal impression is that the health-related management of the Viking Sky incident was successful. Some of the important conditions underpinning this impression are as follows:

- Early crisis organizing and raising of health emergency preparedness.
- Early identification and availability of the on-scene commander for health, together with the on-scene commanders for Police and fire, for quick analysis, planning and management of the situation
- Rapid mobilization and access to a sufficient number of dedicated and qualified health personnel
- Rapid and easy access to sufficient health supplies, medical equipment, and medications
- Rapid and easy access to the necessary materials such as stretchers, blankets, lighting, heat, etc.
- Good cooperation between different staff at different locations, for example, between municipal health personnel, hospital staff and volunteer crews (the Civil Defence, the Red Cross, and Norwegian People's Aid)
- Implementation of a good, systematic triage at the incident site/reception center with respect to sorting and identification tagging (predoc) of the evacuees for either hospital or an EPS center
- Sufficient number of ambulances and efficient ambulance operation
- Good cooperation between the specialist health care service and the primary health care service in establishing and operating EPS centers to receive evacuated passengers who did not require medical treatment, but who nevertheless needed to be seen by health personnel for, inter alia, lighter medical treatment and follow-up, and psychosocial treatment.

However, we have identified a number of lessons in relation to the health-related handling of evacuees:

- Identification tagging of emergency personnel
- Registration of evacuee medication needs

There were about 500 emergency personnel, staff and volunteers from many different groups at the Brynhallen reception center. Most were identifiable

either by a uniform or a reflective safety vest. However, some were not, for example municipal health personnel. It is important that all staff be identified and tagged in order to have a complete picture and knowledge of all participants at the reception center and/or EPS center. This has a security component, and will make the work of different security functions easier.

Throughout the effort, with nearly 500 passengers evacuated from Viking Sky, there was a challenge registering individual passengers and obtaining a picture of the condition of some. Different forms of registration were used, including pen and paper, PC, private mobile telephones, SMS, and MMS.

With an easily accessible registration system that also assesses passengers' health (preferably by triage), individual health needs could be taken care of in a simple and sure manner. Including this health mapping during the regular registration would produce a system that is easily used by a number of carers, for example health staff at the reception center, EPS centers or hospital. Such a system will facilitate registration, provide a good overview, and provide for the medical needs of the individual evacuee. This measure must be seen relative to the measure for evacuee registration for which the Police are responsible; cf. Chapter 6.5.2.

6.7 COORDINATION, COMMUNICATION AND INFORMATION SHARING

As the Viking Sky incident unfolded, with many participants in action simultaneously, coordination, communication and information sharing played an important role in achieving good cooperation. A number of participants have special responsibility in

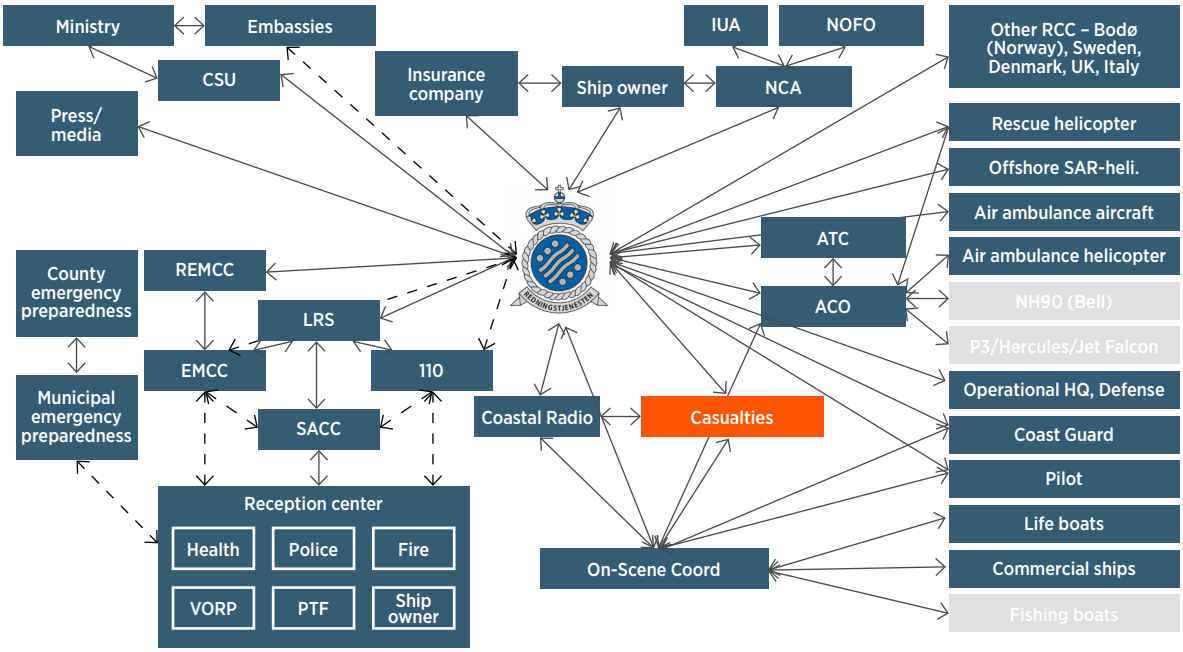


FIGURE 4. Communication lines and information sharing with JRCC-SN as the start-off point. Source: JRCC-SN.

this area, first and foremost JRCC, the Police (RSC), the County Governor, DSB and CSU; cf. Chapter 3 for a more detailed description. Figure 4 illustrates the lines of communication and complex flow of information, with JRCC-SN as the starting point. In addition, there was a considerable amount of communication and information sharing between many of the other actors.

With so many participants busy in different arenas, it was extremely demanding to coordinate, communicate and share information. Still, the main impression it that all-in-all there was good cooperation, as evidenced by the following:

- There was good cooperation among the rescue management at JRCC, who also communicated well with the operations room.
- There was good dialogue between JRCC-SN and RSC.
- There was good cooperation led by the Police at Brynhallen, c.f., Chapter 6.4 for a more detailed discussion.
- The Police were in (close) dialogue with the Fræna, Kristiansund municipalities and FMMR, and this was seen as useful by all parties.
- During the incident, FMMR set up several joint action meetings with the municipalities, HV11, the Police and Civil Defense. These meetings provided an opportunity update each status and to evaluate the situation.
- The municipalities were to a great extent satisfied with the teamwork between themselves and with FMMR and the Møre og Romsdal Hospital Trust.
- DSB organized two joint action conferences at the directorate level, in which FMMR and Civil Defense participated. DSB also carried out common cross-setorial reporting.
- Based on the situation reporting from DSB, POD, and JRCC-SN, CSU reported to political and administrative management in MoJ, and to other individual Ministries and the Prime Minister's office.
- The Health Directorate and Central Norway Regional Health Authority (RHF) found the situation reporting from the Møre og Romsdal Hospital Trust satisfactory.
- The Norwegian Coastal Administration had good dialogue with the pilots on board Viking Sky, and noted that communication between the cruise ship and JRCC-SN was also good.
- Wilhelmsen Ship Management AS stated that communication with the ship, JRCC-SN, and the Norwegian Maritime Authority was good. They also had good dialogue with the Police in Molde.

Although there was good cooperation during the incident, we have identified a number of lessons related to coordination, communication, and information sharing. The most important of these are:

- A common picture of the overall situation.
- Communication between ship, helicopters, and reception center.
- Common communication platforms.
- Establishing the Police Chief's leadership team and the rescue management team at RSC.
- A common understanding on coordination and joint action.
- Clear communication of the incident's potential to become catastrophic.

6.7.1 A COMMON PICTURE OF THE OVERALL SITUATION

There is broad consensus among the actors involved in managing the Viking Sky incident that communication was not entirely satisfactory, and that it was a challenge to establish a common understanding of the situation. According to the Handbook for the Norwegian Rescue Service, a common understanding of what has occurred, the extent of the incident, and the need for resources, are decisive in assessing the situation and the correct response. The group review on June 12 at Brynhallen was clear that there was room for improvement in the areas of communication and information sharing.

For example, there were limitations to the common picture of the situation between JRCC-SN on the one side and the Police/RSC and the Møre og Romsdal Hospital Trust on the other. This applies first and foremost to information on the status of passengers evacuated by helicopter and brought to the reception center; cf. Chapter 6.7.2 for a more detailed discussion. This information was sought, in particular, from the incident commander (Police) and medical commander at the reception center. Additionally, the Health Authority and the Police in general, desired more information on the status of different elements of the maritime rescue operation

and the situation on the cruise ship. However, this was not viewed as having serious consequences for the management and outcome of the incident.

JRCC-SN also recognize they did not completely reach out with information to the Police and health service at the reception center. Also, it took quite a long time for JRCC-SN to distribute their first situation report. JRCCSN's own assessment recommends that they evaluate measures to improve situation reporting to more actors, including the Police/RSC, the Health Authority, the fire and rescue services, to the County Governor, DSB, POD, CSU and FOH.

Another example of inadequate communication is that Molde municipality had prepared for a large-scale disembarkation from Viking Sky when the ship was tied up at the town pier. This had been decided earlier in consultation between the municipality, the Police, and the shipping company. The municipality was not informed prior the arrival of the cruise ship that this decision had been changed, and that passengers could stay onboard if they wished.

There are several reasons for the above-mentioned situations. The staffing at JRCC-SN required that they prioritize rescue management over less time-critical information sharing. Different actors had different communications platforms, and only a few had access to all relevant communications platforms; cf. a more detailed discussion under points 6.7.2 and 6.7.3.

To improve communication between JRCC and the Police/RSC, the Police recommend having a liaison in JRCC, in addition to the Police representative in the rescue management at JRCC; cf., Chapter 6.2. However, JRCC-SN is skeptical of such an arrangement because in any event such a liaison must obtain information from a rescue controller. This means an extra link in the communication chain. Given that JRCC has sufficient capacity, in their view it would be easier to communicate directly with the Police/RSC.

In our view JRCC should be able to improve communication and information sharing with central cooperating actors. Potentially, this can be achieved by re-prioritizing tasks and resources in JRCC, but could come at the expense of other important tasks. Therefore, dedicated communication and information sharing resources need to be provided at JRCC. These resources can also be used for other tasks that JRCC does not presently have the capacity to prioritize in the case of a rescue operation, for example, different staff and support functions, as well as representing an important complement to JRCC rescue work.

Fortunately, circumstances meant that JRCC-SN was not late at the beginning of the incident: an extra rescue controller arrived at 1345 h., so by chance there were three rescue controllers and not two in the operations room when the Mayday came at 1400 h. It was also possible to reach more rescue controllers who were not on emergency preparedness watch. In addition, JRCC-SN's local management team were home and available. With all this, management of the situation got under way with all responsibilities covered. However, JRCC is vulnerable if obliged to rely on off-duty staff availability. Several people in JRCC-SN, including management, note the need to strengthen the operational level, in particular by establishing staff and support functions.

In this connection, it is relevant to refer to the Instructions to the Chief of Police for JRCC-SN[66] which states that two joint rescue coordination centers will, when necessary, assist each other's rescue operations. In particular, the Chief of Police shall ensure that they are prepared and ready for this. It must be added that Joint Rescue Coordination Center in North Norway assisted by relieving JRCC-SN of dealing with other rescue incidents going on at the same time as the Viking Sky incident. Therefore, the centers' capacity to assist each other in a major rescue operation can be limited. This factor must also be considered in light of the new Organizational Plan for the Rescue Service laid down in December 2019.[67]

[66] Rescue Service – Instructions to the Chief of Police for the Joint Rescue Coordination Center, South Norway. Ministry of Justice and Public Security 2015.
[67] FOR-2019-12-06 no. 1740: Organizational plan for the rescue service.

Reception at Brynhallen of passengers evacuated by helicopter. Photo: Scanpix NTB

6.7.2 COMMUNICATION BETWEEN SHIP, HELICOPTER, AND RECEPTION CENTER

As mentioned above, the actors at the Brynhallen reception center wanted better information concerning the evacuees arriving by helicopter. At the beginning, the helicopters from 330 Squadron sent a message via the Emergency Network to Brynhallen concerning the status of the evacuees, number, and where relevant, casualties. After Møre Approach became involved in the air coordination, the information went there but was not forwarded to the actors at Brynhallen. Only when evacuees landed did the reception center have this information. Participants noted that they would have liked this information earlier in order to enable them to better prepare themselves for reception and treatment of arriving passengers; cf. discussion in Chapter 6.5.

Information sharing between ship/helicopters and the reception center was therefore inadequate or non-existent. This exchange of information could also have been routed through JRCC-SN, but for a variety of reasons this was not done; cf. discussion in Chapters 6.7.1 and 6.7.3. It was suggested to place a person from RSC on the ship to improve the information sharing, but this was declined by JRCC-SN of safety reasons.

It was also thought that helicopters could provide relevant information to the reception center on their way inbound with evacuees. One limitation is that the emergency services do not have the VHF communication network, and only half of the helicopters had access to the Emergency Network. In any event, the flight time was short so it would have been difficult to find the time to send sufficient information when the helicopter crew had other important duties dealing with the evacuees on board. Representatives from 330 Squadron state that they informed Møre Approach of their status, but that they did not see it as their responsibility to inform the reception center directly. They saw this as JRCC-SN's responsibility. JRCC-SN admits that it was unfortunate that they did not have satisfactory communication with the incident commander at Brynhallen.

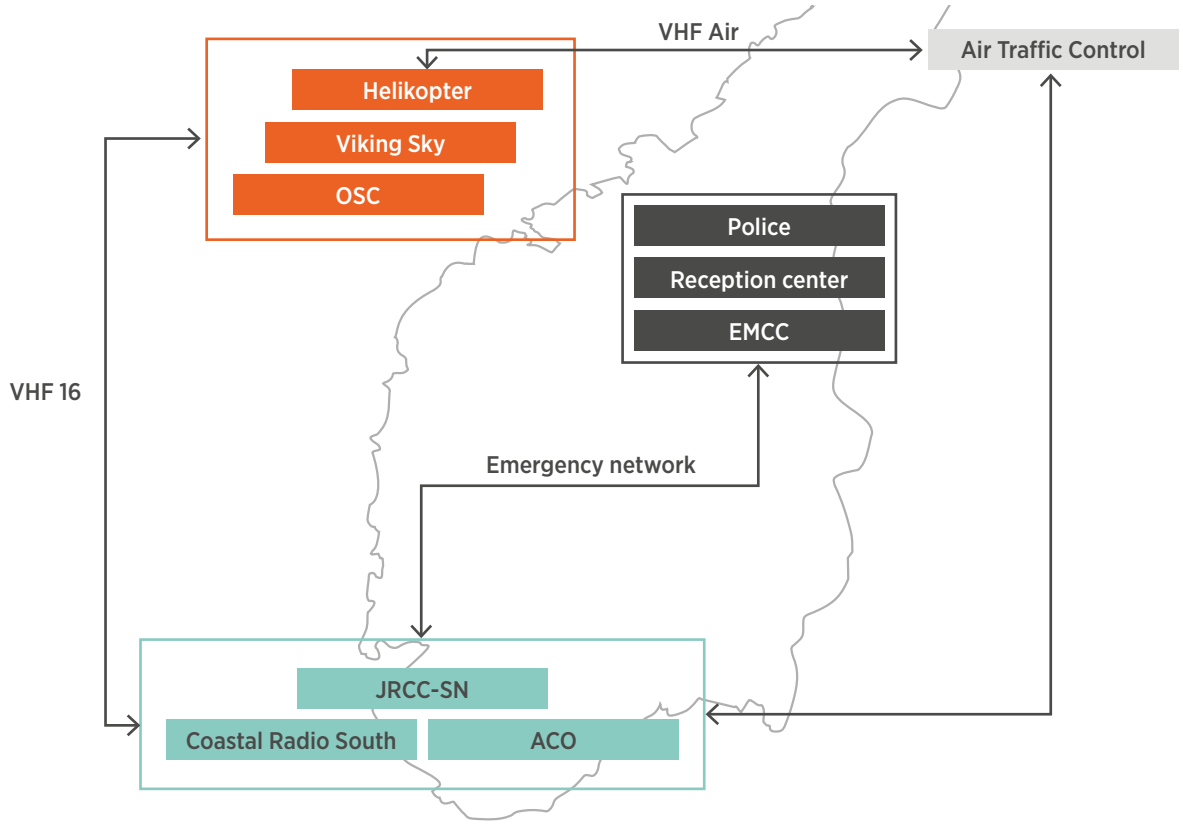


FIGURE 5. The actors' use of communication platforms. Source: JRCC-SN, presentation at debrief following the Viking Sky incident, May 23,2019.

There are several measures that can improve communication between ship, helicopters and reception center during any future similar incident. It is important that the different actors are able to communicate on the same platform; cf. discussion in chapter 6.7.3. It is also important that JRCC-SN, which has the most comprehensive picture of the situation, have the capacity to forward information to the reception center; cf. discussion of JRCC's capacity above (Chapter 6.7.1).

6.7.3 JOINT COMMUNICATION PLATFORMS

During the Viking Sky incident, the actors communicated on several different platforms. This presented a challenge, particularly with respect to communication between sea, air and land; cf. Chapter 6.7.2. This is a known issue, and the Handbook for the Rescue Service notes that "incidents occurring in transition between land and sea can be particularly demanding, both due to communication requirements and the coordination responsibility[68]. Figure 5 sketches in broad strokes the actors' use of communication platforms.

The type of common communication platform the different actors shall have is regulated internationally and nationally. The common communication platform for management and coordination of sea rescues is primarily maritime VHF, while satellite and other types of communication are also used. Common communication to and between aircraft is conducted via VHF Air, controlled by Avinor on dedicated frequencies on a day-to-day basis. In the case of rescue operations, JRCC coordinates communication with aircraft. At the onset of the Viking Sky incident, JRCC-SN announced which frequencies should be used, and the helicopters were notified that they should use 123.1 MHz. Møre Approach had the best coverage in the area and was assigned the task of relaying information to and from

[68] Handbook for the Rescue Service. System description – principles – values, 2018, p. 82.

helicopter traffic, as well as contributing to flight safety; cf. Chapter 6.4. An additional frequency was dedicated to this. Møre Approach had good radar coverage low in Hustadvika and good control over the location of all the helicopters.

During the incident, Emergency Network was used in addition to VHF. The Emergency Network is the national radio common communication frequency for the emergency services, JRCC, and other actors involved in emergency preparedness and coordination. The network is designed for use in mainland Norway, and has good coverage and capacity in the area of the incident. Many talk groups were used, both internal and between actors. At its height, there were approximately 200 Emergency Network terminals in use on the same base station, and many others base stations were used in the area.

JRCC possesses all of the common communication platforms and acted as the "hub" for the Viking Sky incident. JRCC is responsible for ensuring good interaction across the two common communication networks, VHF and the Emergency Network.[69] However, many of the participants in the rescue operation did not have access to the Emergency Network, and JRCC-SN confirms that this normally is the case of maritime incidents.

Following the Viking Sky incident, many of the actors involved recommend assessing whether additional actors with tasks related to rescue and emergency preparedness should have access to the Emergency Network, so there can be a better flow of information between sea, air, and land, in future incidents of this type. The participants could then use shared talk groups on the Emergency Network to convey information. The Emergency Network is primarily designed for land-based operations, but has some maritime coverage in coastal areas (approximately 50 kilometers from each base station).

JRCC-SN notes that VHF is the primary common communication frequency for maritime incidents, as is established through international conventions. The same applies to VHF Air. However, in view of JRCC-SN, Norway does not have a sufficiently developed infrastructure in order to satisfactorily coordinate air resources; cf. discussion and recommendation in Chapter 6.4.2. This was also a finding after the 1990 Scandinavian Star accident.

In the cold light of day following the incident, a question of whether more private helicopters should have access to the Emergency Network has arisen. During the rescue operation, three of the six helicopters, i.e., the two Sea King helicopters from 330 Squadron and the one CHC helicopter that is part of the official rescue service, were equipped with the Emergency Network. They use the Emergency Network to ensure the necessary communication and coordination with emergency responders on the ground.[70]

The private offshore SAR helicopters[71] from CHC Helicopter Service that participated in the rescue operation, did not have access to the Emergency Network. CHC notes that this was unfortunate since it meant that their helicopters were not able to communicate with the actors on the ground. Even if their helicopters are not included in the official rescue service, they are a resource that can be and is used in maritime rescue operations; cf. discussion in Chapter 6.4. With this in mind, it indeed does seem to be an issue for discussion.

The Emergency Network enables private helicopters to exchange valuable and time-critical information with the other participants in the rescue operation. This applies particularly to dialogue with the Police and the health service. An additional benefit would be that the Emergency Network would complement the SAR frequency on aeronaut VHF Air (123.1 frequency) in coastal areas.

JRCC-SN notes there is very seldom a need for private rescue helicopters to have direct dialogue with Police and the health service. Moreover, other channels are primarily complement the SAR frequency on VHF Air. However, JRCC-SN also noted that it would be beneficial for private rescue helicopters to have access to the Emergency Network.

The issue was raised of whether other actors, not just helicopters, should have the Emergency Network. Avinor Flysikring asked if their company should have

[69] Ibid.

[70] Handbook for the Rescue Service. System description – principles – values, 2018, p. 82.

[71] The helicopters are for day-to-day use at offshore installations.

access to the Emergency Network. Additionally, not all municipalities have the Emergency Network, far from it. As of today, 118 municipalities have access to the Emergency Network for other purposes than the fire service.

None of the municipalities involved in the Viking Sky incident had the Emergency Network as part of their emergency preparedness. Kristiansund municipality found this unsatisfactory. All the municipalities were dependent on the fire service to obtain information via the Emergency Network. Two of them believe the municipality should have the Emergency Network as part of their emergency preparedness.

More should consider procuring the Emergency Network

The Viking Sky incident brought to light challenges in communication resulting from the many different communication platforms being used. An important experience is also that several central actors in a central role managing the incident did not have the Emergency Network. A general recommendation is that actors likely to participate in rescue operations should consider procuring the Emergency Network, e.g. private offshore SAR helicopters and municipalities, who encountered the need for the Emergency Network during this incident. If more actors have access to the Emergency Network, specific talk groups should be used during this type of rescue operation to ensure good communication and coordination between the emergency services, JRCC and the other emergency preparedness and cooperating participants.

In this connection, financing Emergency Network access and its operation must be evaluated and made transparent. For the helicopters, this integrated solution represents a major investment, while hand-held Emergency Network terminals are less expensive. The aforementioned are used in fire helicopters. The best solution must be evaluated. JRCC-SN notes that the Emergency Network must be integrated into private rescue helicopters if it is to function satisfactorily. Experience with hand-held terminals is that they do not function well enough for use in rescue helicopters, due to the high level of noise, among other reasons.

Another issue to be assessed is if private rescue helicopters working in the offshore industry should be required to be equipped with fixed Emergency Network terminals. These helicopters are an important commercial resource for the public rescue service, just as the public rescue service and rescue helicopters serve as part of the offshore industry's emergency preparedness.

In our view, the municipalities must have plans for a communication solution so they are able to communicate with other involved actors who are dependent on information during incidents such as that of Viking Sky. In light of this, the Emergency Network is an appropriate tool. Hand-held terminals will be suitable for municipalities. The municipalities require information in order to establish and operate the reception center, and to assume responsibility for the further handling of the evacuees and their basic needs.[72] When the evacuees are no longer in danger, their care will no longer be the responsibility of the rescue service (JRCC/RSC).[73] At that time, the municipality will play a central role and have a specific responsibility.

Development of common communication regulations for the Emergency Network

It is important to note that communication challenges are not only a question of technology and participants using different communications platforms. It is also a matter of the element of time and the actors' capacity to convey information; cf. discussion in 6.7.1 and 6.7.2. Additionally, after several years using the Emergency Network, it is the general experience of the emergency services that there remains a need to continue working with the theme, "critical communication management". This is particularly the case with complex operations/ incidents involving the participation of many different actors, where different communications systems are in use. On the occasion of the next revision of the regulations for common communication, which is managed by the POD, an assessment should be made as to whether the regulation can be further developed in this area.

[72] FOR-2011-08-22 no. 894: Regulation on municipal emergency preparedness obligation, §4 d.
[73] National guidelines for planning and cooperation in the rescue service (level 2), 2018.

6.7.4 ESTABLISHMENT OF THE POLICE CHIEF'S INCIDENT MANAGEMENT (IM) STAFF AND THE RESCUE MANAGEMENT TEAM AT RSC

As noted in Chapter 6.2, the Police chief's IM staff was not established during this incident, and establishment of the rescue management team at RSC was delayed. The latter is important for coordination and communication between the actors in a crisis response situation, just as establishing the Police chief's IM staff provides important support for the coordination of the Police's own resources. Also, establishing these elements will be an important signal to the outside world of the gravity of the situation and for relevant actors to mobilize their own resources.

In view of this, we agree with other actors that the Police chief's IM staff should have been established, and the rescue management team at RSC should have been established earlier. Both these measures are important for coordinating the intervention of the different actors and for communication between them. In future similar incidents, the threshold for quickly establishing such units should be lower. This is further discussed in Chapter 6.2.

6.7.5 A COMMON UNDERSTANDING ON COOPERATION AND COORDINATION

Based on the way the Viking Sky incident was handled, the need to clarify the relationship between JRCC's management of the rescue operation and DSB's coordination role, has emerged, for example in in connection with arranging joint action conferences. Correspondingly, there is also a need to clarify the relationship between the rescue management team at RSC and the County Emergency Preparedness Council (directed by County Governor) at the regional level, although this was not as evident during the incident as the relationship between JRCC and DSB.

According to the Organizational Plan for the Rescue Service[74], the Joint Rescue Coordination Centers manage and coordinate all types of rescue operations (land, sea and air). This can also occur through assignment to reporting Local Rescue Coordination Centers, as in the Viking Sky incident where the Police District/RSC were delegated the primary responsibility for receiving and handling the evacuees on land.

The rescue service is defined as:

> *"publicly organized immediate intervention by several cooperating partners to rescue persons from death or injury caused by acute accidents or dangerous situations, and which is not performed by specially set up bodies or by special measures. The rescue service operates as a link between public bodies, volunteer organizations and private companies or persons, under the management and coordination of two Joint Rescue Coordination Centers and the Local Rescue Coordination Centers reporting to them."*[75]

The Organizational Plan for the Rescue Service sets out the organization and routines for teamwork, management, responsibilities and assignments for the rescue service. The purpose of the plan is to manage an integrated rescue service on land, sea and air, based on cooperation between public bodies, volunteer organizations and private companies under the leadership and coordination of the joint rescue coordination center and its reporting local rescue coordination centers.

In accordance with the organizational plan, rescue management team members shall be notified of rescue incidents that could possibly require their involvement. On receiving the alert, rescue management is called in if the Chief of Police or a minimum of two other rescue management team members request it. Rescue management comprises JRCC's national cooperating partners[76] as well as other permanent members[77], and manages and coordinates rescue operations at a senior level. As discussed above, the rescue management team was activated for the Viking Sky incident.

[74] FOR-2015-06-19 no. 677: Organizational plan for the rescue service.

[75] FOR-2015-06-19 no. 677: Organizational plan for the rescue service, Chapter 1-3 Definitions.

[76] In accordance with the Handbook for the rescue service: Norwegian Armed Forces, the Civil Aviation Authority, the Norwegian Coastal Administration, the Norwegian Maritime Authority, the National Communications Authority, the Directorate for Health, and the Directorate for Civil Protection (DSB).

[77] Telenor Kystradio, Volunteer Organizations Rescue Professionals Forum (FORF) and The Norwegian Sea Rescue Society.

As discussed in connection with the interpretation of the mandate; cf. Chapter 1.3, during the Viking Sky incident, measures and mechanisms were implemented at the central, regional and local levels that were not directly related to the rescue operation itself. These include, for example, DSB's joint action conferences and the County Governor's joint action meetings. The meetings were held to prepare the actors as well as possible in case the incident became a major catastrophe with serious societal consequences.

DSB's joint action conferences are an operationalization of their work supporting MoJ's coordination role, as stated in different documents. The Instruction for DSB's coordinating role states that DSB shall assist MoJ and other ministries with coordinating management of large-scale civil crises and disasters.

The civil protection instruction details DSB's support to MoJ's coordination role. MoJ's allocation letter to DSB for 2019[78] generally states that DSB shall ensure coordinated and comprehensive cross sectors efforts, continue to contribute to improved cooperation between emergency services and emergency preparedness actors, and strengthen the cooperating rescue service. The latter is achieved by, for example, representation in the rescue management team at JRCC.

The joint action conferences have been an established practice for information sharing and assessing development and societal consequences at the Directorate level. The conferences are primarily used in connection with crisis management, but have also been used as an arena for coordinating preventive and preparatory activities between incidents. DSB held two joint action conferences during the Viking Sky incident.

JRCC-SN participated with its leader and acting department director in the first joint action conference, held on Saturday evening, but did not participate in the second, held on the Sunday. JRCC-SN has raised questions relating to the joint action conferences held during the incident. Given that it was JRCC-SN and rescue management who led and coordinated the rescue operation, the joint action conference was seen as a forum that involved several of the same participants as those in the rescue management team, and addressed some of the same topics. JRCC-SN questions if this might create some confusion in crisis management. Furthermore, given the urgent task at hand, JRCC found it disruptive to be summoned to such a forum, a view that may be related to their capacity; cf. discussion in Chapter 6.7.1. JRCC also notes that FMMR who participated in the conferences, is a regional actor below the Directorate level.

DSB notes that there are participants in the joint action conferences that are not part of the rescue management team at JRCC and that these conferences do not have an operational approach. Their purpose is to contribute to a common understanding of the gravity of the situation and its potential to deteriorate further, especially with respect to possible serious societal consequences. If, for instance, the incident had led to serious pollution, this would have involved many actors and implied need for crisis management in addition to the rescue operation.

Cross-sectoral issues are also addressed. The purpose is not to become unnecessarily involved in an ongoing rescue operation led and coordinated by JRCC and/or RSC. There is unanimous understanding that JRCC and RSC have this responsibility. Simultaneously, the conferences provide a larger basis for DSB's common cross-sectoral reporting (to MoJ).[79] POD and other participants found the joint action conferences useful, especially the status updates from all parties.

DSB understands that the first joint action conference in particular, was seen as disruptive to JRCC-SN's and the rescue management team's handling of the rescue operation, and realizes that it was perhaps held too early. On the other hand, there was an effort to be proactive with respect to possible escalation, which argues in favor of holding a joint action conference earlier rather than later. DSB was also prepared for JRCC-SN to not prioritize

[78] Allocation letter 2019. The Norwegian Directorate for Civil Protection. Ministry of Justice and Public Security, December 12, 2018.

[79] Reporting on the common communication channel is DSB's situation reporting to the Ministry of Justice and Public Security during incidents, which is to a large degree based on the County Governors' reporting to DSB.

participation in the first joint action conference, because of the ongoing rescue operation.

In the future, if DSB finds it necessary to hold such a conference while a rescue operation is in progress, an alternative could be that the DSB representative on the rescue management team participate in the coordination conferences on behalf of JRCC. Then the work of JRCC would not be disrupted, and its representative would provide a useful link between DSB's coordination role and and the role of the rescue management at JRCC in leading and coordinating the rescue operation. In its own assessment, JRCC-SN supports this approach.

JRCC-SN also questions if DSB common cross-sectoral reporting to MoJ during the rescue operation represents a form of double reporting, given JRCC's own reporting to MoJ. With respect to the instruction the Chief of Police for JRCC shall report to MoJ if rescue management is called in.[80] DSB points to the legal foundation in Instructions for DSB's Coordination Roles and the County Governor's Public Safety Instructions.

Furthermore, other sources provide information for the common cross-sectoral reporting, including reporting from the County Governor, which is based on information from municipalities and regional actors, and is quite a different approach from JRCC's reporting on the rescue operation and its possible deterioration. DSB's reporting shall have a broader approach and emphasize possible societal consequences of the incident related to the different critical societal functions. The common cross-sectoral reporting will thus complement JRCC reporting on the rescue operation.

MoJ notes that DSB's situation reporting provided the Ministry with good information and highlighted the County Governor's perspective. The Ministry also found it useful to receive reporting from the situation center in POD on the Police management of the situation.

JRCC-SN indicates that in general many participants felt they had a major responsibility during the incident and therefore took different initiatives and implemented different measures. In itself this is commendable, but can lead to disorder in crisis management without consultation with JRCC-SN or RSC. Such measures can create confusion concerning areas of responsibility and exchanges of information which can weaken execution of the rescue operation.

Therefore, in future similar incidents the actors should be careful when implementing (coordination) activities that might be disruptive to JRCC and RSC when conducting rescue operations for which they bear the principle management and coordination responsibility. This applies, for example, to DSB joint action conferences. While such activities can be justified legally and by the incident's potential to escalate, they must not interfere with the ongoing rescue operation, which is the immediate priority. In this connection, the actors must carefully assess the appropriate timing of various activities, and if needed clear their implementation with JRCC and RSC.

Regardless, a more robust common understanding of the responsibility for JRCC rescue management and DSB coordination role is needed, which is expressed through implementing joint action conferences, and what the interface between them is. Exercises involving both establishing rescue management and holding joint action conferences could be a useful tool, particularly given that there can be long periods between rescue management call-ups; cf. recommendation in Chapter 5.5. These exercises should also help clarify roles and interfaces at the regional level, between rescue management at RSC, and the county emergency preparedness council.

Furthermore, the DSB representative on the rescue management team can play an important role in contributing to a more robust common understanding. For practical reasons, travel time, and flight departure possibilities, the DSB rescue management representative did not travel to Stavanger but chose to be available by telephone from Tønsberg. Experience from the Viking Sky incident indicates that DSB should strive to be physically present in rescue management during future major rescue operations. If it takes too long to travel from the main office in Tønsberg, JRCC and DSB can assess whether it is appropriate for DSB to choose a deputy until their permanent representative arrives. The deputy should be a DSB staff member who can get to JRCC in Bodø or Stavanger quickly.

[80] The Rescue Service - Instructions to the Chief of Police for the Joint Rescue Coordination Center – South Norway, May 11, 2015.

6.7.6 CLEAR COMMUNICATION OF THE POTENTIAL FOR A CATASTROPHE

In the aftermath of the Viking Sky incident, much attention was given to the fact that it was very close to becoming a considerably more serious incident. Had the cruise ship run aground, which was almost the case, the consequences could have been catastrophic, with many dead and injured. Rescue by helicopter would probably still have been the only alternative as long as the weather remained bad, and regardless, this would have taken a long time. Such a scenario was likely an issue well into the rescue operation, as illustrated by the duration of the helicopter rescue.

The degree to which such a worst-case scenario was assessed and communicated in the early hours is somewhat unclear. The interviews reveal that several actors, for example, JRCC-SN, RSC and the command post at the reception center, considered a worst-case scenario and the measures that would be required in that event. The rescue management at JRCC and the operations room focused on the potential for and consequences of a worst-case scenario right from the start.

How such a scenario was communicated between the actors is not as clear. For example, Møre og Romsdal Hospital Trust Health Authority felt that the SAR alert did not communicate the gravity of the situation clearly enough, so there was no clear signal to mobilize the resources needed in a worst-case scenario.

In future incidents, JRCC-SN should more clearly communicate the potential for a catastrophe, as they note in their own assessment. JRCC-SN states that the classification level in the rescue handbook should be used. Had this been done, JRCC would have announced that this was a level 3 – catastrophic event.

Some of the actual situation reports also seem to under-communicate this scenario. DSB's first situation report, issued at approx. 2100 h., explained that rescue management at JRCC-SN and the Police were working to develop a plan for handling a possible worst-case scenario. Further, this this would be a considerably more demanding rescue operation if the ship lost all engine power and foundered. It also stated that FMMR were concerned that the ship might run aground and the situation worsen which would have demanded increased support from the health service to provide emergency assistance, etc. There was no additional information concerning what a worst-case scenario might involve, such as numbers of dead and injured.

CSU's logging of the incident shows communication with actors such as JRCC-SN, POD, DSB and other directorates, as well as reporting to the Police and administrative leadership in MoJ and other ministries. A search of the log for Saturday March 23 did not show any description of what a worst-case scenario might involve beyond what was was included in DSB's situation report. Our assessment is that the written reporting alone did not give the Ministry's leadership adequate basis to form a picture of the potential for catastrophe. However, JRCC-SN states that they communicated this potential to CSU orally.

A lesson learned here is that, regardless, when serious incidents occur in the future, clear, written communication of a worst-case scenario should be emphasized, in order to ensure all relevant levels of crisis management understand, and can organize and mobilize accordingly.

6.8 HANDLING FRIENDS AND FAMILY, AND THE MEDIA

There were 1,373 people on board Viking Sky when the incident occurred, of which 915 were passengers and 458 crew. The majority of the passengers were from the USA, Great Britain and Australia.[81] Pictures of the ship and the large-scale rescue operation were published worldwide.

There were many friends and family who followed the incident via the media. Coverage by Norwegian

[81] Interim report 12. november 2019 on the investigation into the loss off propulsion and the near grounding of Viking Sky, 23 march 2019, Accident Investigation Board Norway.

and foreign media was comprehensive. Many of the involved actors experienced a large media storm.

The most central lessons learned we have identified related to the handling of friends and family, and the media, are:

- Planning a center for family/friends hotline
- Setting up a media center.

6.8.1 PLANNING A CENTER FOR FAMILY/FRIENDS HOTLINE

Many friends and family reached out, especially to the shipping company, ambassadors, the Police District and JRCC-SN. Information on the location of their loved ones was critical for them. The response was that the passengers were either on board the ship, at the Brynhallen reception center, at one of the EPS centers, or in one of the hospitals. However, it was often difficult to obtain a definitive response. The assessment shows that there were inadequacies in organizing and handling inquiries from friends and family.

MRPD notes that the system for registering evacuees could have been better. As it was, the Police did not have an adequate overview, and could not always provide the required information to friends and family.

JRCC-SN received many inquiries from friends and family. Embassies made contact, and JRCC-SN referred them to MRPD whose responsibility it is to handle such inquiries.[82] Unfortunately, the embassies often received no response. However, the American Embassy praises the shipping company's handling of friends and family.

The American Embassy coordinated requests from other embassies. The shipping company has its own independent responsibility to keep friends and family informed, and played a primary role in handling them. The operating company, Wilhelmsen Ship Management AS, with support from the shipping company, Viking Cruises, set up a contact number for friends and family. Wilhelmsen Ship Management AS, which is responsible for some of the staff on the ship, state that they were obliged to call around to the hospitals in order to find out where evacuees were located; cf. Chapter 6.5.

It is also noted that there was too little communication in English. Most of the passengers were Englishspeaking. JRCC-SN sent out a tweet in English that was read by many. This is something JRCC-SN should have done more.

JRCC-SN notes that the rescue center has a dedicated room set up with telephones for operating a family/friends hotline. This room is set aside for the Police who can, if necessary, staff it to manage their responsibility for handling friends and family. The concept has not been in use since the Åsta accident in January 2000. JRCC-SN and the Police are considering whether this concept should be dropped or further developed. Today the Police often have such centers themselves, unlike the time when the center for family/friends hotline at JRCC-SN was established.

If the Police had activated the IM staff; cf. discussion in Chapter 6.2., the head of P2 would have been responsible for dealing with friends and family. "When the Police are informed of an incident affecting a substantial number of people or if, for other reasons, there may be many inquiries, tasks involving evacuees and their friends and family shall be organized in P2 in the Chief of Police's IM staff".[83]

A consideration in this incident was the connection between registering evacuees and handling friends and family. Deficiencies in the registration system made it difficult to provide accurate and comprehensive information to friends and family. This is described in more detail and is assessed in Chapter 6.5.

An important lesson from the incident is that establishing a center for friends and family, including a family/friends hotline, during the incident should be planned in advance. As far as we are aware, nothing similar was established under the direction of official authorities. In our view, such a hotline would have been necessary if the incident had grown

[82] Cf. The Police Emergency Preparedness System, Part I (PBS I), Guidelines for Police emergency preparedness I – Guidelines – Police handling of friends, family and evacuees in the case of major incidents, National Police Directorate, August 2014.

[83] Cf. The Police Emergency Preparedness System, Part I (PBS I), Guidelines for Police Emergency Preparedness, p. 166.

more serious and/or lasted longer. A situation involving many deaths and serious injuries, plus a time-consuming search for passengers, was a possible scenario. A change in the development of the incident could have happened quickly, and official authorities dealing with friends and family would have rapidly fallen in arrears if the effort had not already begun.

In future emergency planning, the Police should clarify how managing inquiries from friends and family should be organized in incidents similar to the Viking Sky. In this regard, further development of the concept of dedicated premises at JRCC-SN in order for the Police to handle inquiries from friends and family should be assessed.

6.8.2 ESTABLISHMENT OF A PRESS CENTER

Several of the actors are satisfied with their own handling of the media. At the same time Fræna and Molde municipalities and the Police District experienced that the media wanted a place where they could obtain updated information on the incident.

JRCC-SN summoned their press staff that deals with media during incidents (not permanent staff, but on JRCC's call-up list) in order to relieve staff handling the rescue operation. JRCC-SN believes that the system is vulnerable and there is room for improving media handling, planning and training. JRCC-SN held a press conference at 1330 h., Sunday March 24.

Møre og Romsdal Hospital Trust were also contacted by many members of the media seeking information on the passengers. They referred all inquiries to their website which they updated continually.

To our knowledge, the Police District did not hold their own press conferences during the incident. Not only was the IM staff not established; neither was the P5 function (public relations,; cf. Chapter 6.2). Following the incident, Police incident commanders and other actors involved, state that they missed this function. Dedicated staff in the Police District should have been identified to handle the media.

The municipalities experienced an intense media storm. Both Fræna and Molde municipalities held press conferences during the course of the incident. Fræna held the first press conference after members of the media managed to gain access to the reception center at Brynhallen. Their aim was to draw media away from those personnel handling evacuees.

Several of those involved think it was unfortunate that no dedicated press center was set up during the Viking Sky incident. This could have prevented the press being as invasive as they were at the reception center, where they managed to enter and tried to interview evacuees. A press center would also have provided more elbow room for participants to handle the media storm while also performing other tasks. Not the least, such a press center would have contributed to an accurate and coordinated message to the media. This is an important lesson for future incidents of this type, where we believe a reasonable measure would be to set up a press center early in the course of the incident.

CHAPTER

07

Conclusions and recommendations

7.1 CONCLUSIONS

There is broad understanding that the Viking Sky rescue operation was successful with regard to the evacuation of passengers from the cruise ship, and their reception and management on land. Although the evacuation took place under very demanding conditions, there were no accidents or injuries.

The assessment confirms the view that the rescue operation was successful, with impressive interventions by the different participants, and good cooperation between them. There are, however, lessons to be learned in several areas, and corresponding recommendations to strengthen emergency preparedness for managing similar incidents. The lessons learned comprise good examples to emulate, and in most cases, areas for improvement.

One characteristic of how the incident was managed was that the participants identified working solutions to issues as they occurred, for example in establishing and operating the reception center in Brynhallen. Not all solutions were anticipated beforehand. Part of the lesson therefore includes greater systemization or planning for such solutions.

We have no reason to believe that the conditions we note in the lessons learned, had negative consequences, either for management of the situation or for the outcome. However, it is impossible to ignore the fact that if the scenario had been more serious, as was nearly the case, there could have been more serious consequences. The measures implemented were for the most part sufficient for the situation as it developed but could have been inadequate if the situation had escalated, with the cruise ship running aground and passengers and crew ending up in the sea. The lessons learned must be viewed in this perspective.

7.2 RECOMMENDATIONS

What succeeded in managing the situation is described in more detail in the main text and outlined in the summary. The following is a tabular overview of the lessons learned within various areas, with short backgrounds and corresponding recommendations of follow-up measures, as well as suggestions as to which entity(ies) should be responsible for follow-up.

LESSON LEARNED	BACKGROUND	MEASURES TO BE TAKEN	RESPONSIBILITY
Prevention and Emergency Preparedness			
1. Plan for mass evacuation (Mass Rescue Operations)	Norway has no national plan for Mass Rescue Operations Such a plan will be the foundation for interaction between JRCC and other actors	Prepare a plan for mass evacuation	JRCC
2. National exercise featuring cooperation between several actors in a major rescue operation	Seldom has such a comprehensive joint action been activated Need to strengthen coordination, understanding of a situation, and information sharing	Implement major rescue exercise with some of the same actors as in the Viking Sky incident	MoJ, DSB, JRCC

LESSON LEARNED	BACKGROUND	MEASURES TO BE TAKEN	RESPONSIBILITY
Alert system			
3. Large enough coverage area for Mayday relay	Mayday relay covered a smaller area than Mayday With a larger coverage area, more towboats could have been alerted	In future incidents, ensure that Mayday relay covers a large enough geographical area	JRCC, Coastal Radio
4. Direct alert from the Police to the County Governor	The County Governor was not alerted by the Police early on, but was alerted somewhat later as a member of the rescue management team at RSC Dialogue about this between the Police and the County Governor after the incident	In major incidents, establish routines for alerting the County Governor directly	The Police, the County Governor
5. Earlier alerting of the members of the rescue management team at RSC	Relatively late alerting of the members of the rescue management team at RSC Knowledge of the event and possibility to request that rescue management be called in	Establish routines for early alerting of the members of the rescue management team	The Police
Organizing			
6. Low threshold for establishing the Police Chief's IM staff and calling in the rescue management team at RSC	Full IM staff not established, although this was called for by other actors and within the Police The rescue management team at RSC was established, but somewhat late Signals regarding the degree of gravity and mobilizing resources for additional actors	Lower threshold for establishing the Police Chief's IM staff and the rescue management team at RSC Exercise in these elements	The Police The Police
7. The Police Directorate should be included in JRCC rescue management	Police not included in JRCC rescue management Police important cooperating partner Communication between JRCC and Police	Ensure that POD participate in JRCC rescue management	JRCC, POD
Maritime intervention			
8. Better overview of towboats	JRCC-SN had insufficient information on availability of towboats and their features A better foundation for planning towboat intervention	Upgrade Shared Resource Information Repository (SRIR) Strengthen professional competency in JRCC of towboat operations Liaison in JRCC with towboat company	JRCC, Norwegian Coastal Administration, Coast Guard JRCC JRCC

LESSON LEARNED	BACKGROUND	MEASURES TO BE TAKEN	RESPONSIBILITY
9. Plan for use of towboats	JRCC-SN left such planning to the pilots and crew on the vessels Should have been more involved in planning this part of the rescue operation	Upgrade Shared Resource Information Repository (SRIR) Liaison in JRCC with towboat company	Norwegian Coastal Administration JRCC
Helicopter rescue			
10. Plan for air coordination	Møre Approach assisted with air coordination of the rescue helicopters without have specific ACO competency[86] Such competence is a limited resource Air coordination can be carried out from different locations	Further develop a plan for air coordination Ensure the necessary common communication coverage for the whole country-wide Acquire competence in ACO function	JRCC, Avinor Ministry of Local Government and Modernisation, Ministry of Transport, MoJ JRCC, Avinor
11. Streamlined refueling	Tanker at Brynhallen streamlines helicopter rescue This solution was improvised	Consider establishing an order for such a measure Maintain necessary emergency preparedness for refueling at air fields	JRCC Ministry of Transport, MoJ
Reception center			
12. Reception center – a good example of best practise	Reception center at Brynhallen functioned well as regards setting up, organization, and operation	Consider whether to systematize experiences from the reception center for use in future incidents	The Police, municipalities
LESSON LEARNED	**BACKGROUND**	**MEASURES TO BE TAKEN**	**RESPONSIBILITY**
13. Robust system for registering evacuees	Registration was improvised Insufficient IT tools Source of error and limited possibility to share	Consider whether a more robust registration can be established that can be used by several actors and that makes it possible to share information	The Police, the health service, central coordinating actors
Handling health issues			
14. Making it possible to identify emergency staff	Municipal health personnel were not sufficiently identifiable to show their status Necessary for oversight and security	Improve identifiability of emergency staff during such incidents	Municipalities
15. Medical registration of evacuees	A challenge registering medical condition, medications required and followup of evacuees	Consider establishing a system for registering health status for the affected during such incidents, see Lesson 13	Health service

[84] This competency is obtained by taking an Aircraft Coordinator course.

LESSON LEARNED	BACKGROUND	MEASURES TO BE TAKEN	RESPONSIBILITY
Coordination, communication and information sharing			
16. A shared understanding of the situation	Several experienced a lack of communication and information sharing Difficult to establish a shared understanding of the situations Different communications platforms, see Lesson 18	Strengthen communication and information sharing capacity in JRCC	MoJ, JRCC
17. Communication between ship, helicopter and reception center	The reception center lacked information on the status of evacuees arriving by helicopter	Strengthen communication and information sharing capacity in JRCC	MoJ, JRCC
18. Common communications platforms	VHF Air, maritime VHF, Emergency Network and cell phones were used Different platforms made communication between some of the actors difficult	Assess whether more actors should procure the Emergency Network, primarily private rescue helicopters and municipalities Development of a Regulation for Common Connection for the Emergency Network	MoJ, DSB, JRCC, CHC, municipalities POD, Directorate for Health, DSB, Defense, JRCC
19. Common understanding for cooperation and coordination	Limitations in common understanding of cooperation in rescue operations and broader coordination Different opinions on DSB's coordination role and joint action conferences relative to JRCC rescue management	Clarify and create stronger common understanding of roles, responsibilities and interface Avoid implementing cooperation activities that disturb the rescue operation Implement exercises that cover these elements; cf. Lesson 2.	DSB, JRCC Several DSB, JRCC
20. Clear communication of potential for catastrophe	Potential for catastrophe in worst-case scenario undercommunicated in written situation reporting	Emphasize the need to clearly communicate the potential for catastrophe	MoJ, DSB, JRCC, POD, County Governor
Handling friends and family, and the media			
21. Planning for a center for family/friends hotline	No center for family/friends hotline was established Great need for such a center should the incident escalate	Clarify organizing and handling of queries from friends and family	Police
22. Setting up a press center	No press center was set up A press center would have provided more "elbow room" for other work being carried out	Establish a press center when major incidents occur in the future	Police

7.3 FOLLOW-UP

After an incident such as this, it is important to ensure the greatest possible exchange of lessons learned by following up on the assessment. We recommend that this be done after a given period of time (one year, for example) and that the primary focus be on how the participants followed through on the lessons learned and recommended measures.

The requirement to follow up on findings and lessons learned is a focus area in "Report to the Storting (Parliament) White Paper 10 (2016-2017) Risk in a Safe and Secure Society". The report highlights the need for an action plan and accounting. The assessment of the Viking Sky incident is comprehensive. It concludes with over 20 lessons learned and associated recommendations aimed at a broad spectrum of responsible actors. Measures must be further actualized, and undertaken by the responsible entities.

The Government has concluded that a committee is to be appointed to map challenges in maritime security and emergency preparedness related to the increasing cruise traffic in Norwegian waters.[85] According to MoJ: "The Viking Sky incident reminded us about the potentially vast scope of a serious incident involving a cruise ship". The committee shall assemble comprehensive information based, inter alia, on assessments from incidents. The present assessment will then be entered into this knowledge base.

The committee is to place particular emphasis on identifying risk-reducing measures, i.e., both probability- and consequence-reducing measures. Our assessment will in particular be able to provide input to consequence-reducing, when dealing with managing an incident (at sea or on land). Several of the actors we met during the assessment process highlighted the necessity to look more closely at probability-reducing measures. However, such measures do not fall within our mandate.

[85] Norwegian Ministry of Justice and Public Security press release, December 14, 2019.

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Annex

1. Legal basis and allocation of responsibility
2. Thank you letter

ANNEX 1: LEGAL BASIS AND ALLOCATION OF RESPONSIBILITY

LEGAL BASIS

INSTRUCTIONS FOR THE MINISTRIES' WORK ON PUBLIC SECURITY (PUBLIC SECURITY INSTRUCTIONS)

The goal of the instructions is to strengthen society's ability to prevent crises and to manage serious incidents by means of holistic and coordinated work on public security. The instructions[86] define the requirements of the ministries' work on public security. The Ministry of Defense and the defense sector are covered only in parts of the instructions.[87] Each ministry is required to assume responsibility for crisis management within its own sector, possibly as lead ministry, and to be in a position to support other ministries.

MoJ is the permanent lead Ministry in national public crises unless otherwise specified. The lead ministry is responsible for coordinating crisis management at the ministerial level.

ORGANIZATIONAL PLAN FOR THE RESCUE SERVICE[88], AND HANDBOOK FOR THE RESCUE SERVICE

The organizational plan for the rescue service determines the organization and routines for cooperation, management, coordination, responsibilities and tasks. The purpose is to oversee an integrated rescue service on land, sea and air, based on joint interaction between public, volunteer and private actors. The plan is determined pursuant to the Police Act (§ 27).

The rescue service is defined as follows:

> *"Officially organized instant input from various cooperation partners to rescue people from death or damage occurring as a result of critical incidents or dangerous situations, when this is not performed by especially established bodies or by special measures. The rescue service is carried out as a joint action between official bodies, volunteer organizations and private concerns and persons, under the leadership and coordination of two joint rescue coordination center centers and local rescue centers that report to them".*[89]

This has two conditions:

- The incident must be of a character that requires input from cooperating actors beyond that supplied by "specially established bodies" or using "special measures".
- The rescue operation shall be managed and coordinated by the joint rescue coordination centers (JRCC) or local rescue center (RSC).

MoJ has provided more detailed instructions and mandates for implementation of the rescue service in:

- Instructions to the Chief of Police for the Joint Rescue Coordination Center, Southern Norway.

[86] FOR-2017-09-01 no. 1349: Instructions for the ministries' work on public security and emergency preparedness (public security instructions).
[87] FOR-2017-09-01 no. 1349: Instructions for the ministries' work on public security and emergency preparedness (public security instructions), Points III, V and VII. Point IV applies only if appropriate and if nothing else has been decided.
[88] FOR-2015-06-19 no. 677: Organizational plan for the rescue service.
[89] FOR-2015-06-19 no. 677: Organizational plan for the rescue service.

- Mandate for rescue management by the Joint Rescue Coordination Center, Southern Norway and the Joint Rescue Coordination Center, Northern Norway.
- Instructions to the Chief of Police for RSC.
- Mandate for rescue management by local rescue management centers.

Norway has an international obligation for sea and air rescue service regulated by international agreements to which it is party. These include the International Convention on Maritime Search and Rescue, 1979, and the agreement on International Civil Aviation, 1944.

There is also a Handbook for the Rescue Service[90]. This builds on the organizational plan and on best practices from the different fields of rescue service. The Handbook provides an overall description of the roles, responsibilities and tasks of the rescue service.

JOINT RESCUE COORDINATION CENTER (JRCC) AND THE LOCAL RESCUE CENTERS (RSC) RESCUE MANAGEMENT[91]

JRCC

Each of the two joint rescue coordination centers comprises a rescue management team, assembling the central cooperating partners, with the Chiefs of Police responsible for Bodø and Stavanger as managers. The state central cooperating partners in rescue management shall comprise representatives from Defense, the Civil Aviation Authority, Communications Authority, the Directorate for Health and DSB. The following may be asked to participate in the rescue management in a more defined way at MoJ: representatives for Avinor, Telenor Maritime Radio, Volunteer Organizations Rescue Professionals Forum (FORF) and the Sea Rescue Society.

When called upon, the rescue management team oversees and coordinates rescue operations at a senior level. Members of the rescue management team are empowered by their respective ministries or superiors. The responsibility and tasks of rescue management are regulated in a separate mandate by MoJ.

Additionally, rescue management shall assist in developing the coordinating rescue service. They shall meet regularly to implement the business of the joint rescue coordination center, and to plan and submit recommendations to MoJ on possible measures for the rescue service.

RSC

The local rescue coordination center has a local rescue management team comprising the most important cooperation partners in land rescue, and is managed by the Chief of Police. The state cooperation partners shall comprise representatives for the Directorate of Health, Coastal Administration (where relevant), the Armed Forces, The Civil Defense, and the County Governor's emergency preparedness organization. The following are offered participation in the rescue management team in a specified manner at MoJ: Avinor (possibly another local aviation authority), the fire and rescue services, and the Volunteer Organizations Rescue Professionals Forum (FORF). In addition to this and provided there is sufficient contractual basis and approval from the main rescue centers, local adjustments can be made in the composition of the local rescue management team.

When called upon, the rescue management team oversees and coordinates rescue operations at a senior level. Members of the rescue management team are empowered by their respective ministries, relevant local authority and parent organizations. The responsibility and tasks of rescue management are regulated in a separate mandate.

[90] Handbook for the Rescue Service: System description – principles – values, the Joint Rescue Coordination Center (JRCC), 2018.
[91] FOR-2015-06-19 no. 677: Organizational Plan for the Rescue Service.

THE COUNTY GOVERNOR'S PUBLIC SECURITY INSTRUCTIONS

The FMMR has overall responsibility for the comprehensive work of public security and emergency preparedness in the county. The County Governor's public security directive[92] provides guidelines for their work on public security and emergency preparedness, and for coordination of crisis management in the event of hazardous incidents.

The County Governor is directed to:

- Coordinate, monitor and provide information on work on public security and emergency preparedness in Møre og Romsdal (county RAV).
- Guide and motivate targeted and systematic work on public security and emergency preparedness in Møre og Romsdal.
- Nominate and manage a county emergency preparedness council.
- Assume responsibility for own readiness by having a prepared and practiced crisis organization.
- Assume responsibility for regional coordination in managing hazardous incidents.

The purpose of the directive is to facilitate coordination and cooperation in order to strengthen the work of public security. Coordination applies to all areas of the public security chain: knowledge, prevention, emergency preparedness, management, recovery and learning. In this work, cooperation with regional actors is vital.

This means that the office of the County Governor in Møre og Romsdal shall have an overview of risk and vulnerability by preparing a risk and vulnerability analysis (county RAV) in close cooperation with regional county actors.

On the basis of this analysis, a four-year follow-up plan is to be prepared. This plan shall describe the County Governor's responsibility for following up on the findings of the RAV analysis, and their motivational role in following up with other actors working in public security.

The emergency preparedness council in Møre og Romsdal comprises the following entities: Avinor, Bane NOR Railway Company, the Directorate of Fisheries - Møre og Romsdal Region, Møre og Romsdal Health Authority, Molde Mapping Authority, Power Supplies (KBO) emergency preparedness organization, KS Møre og Romsdal, Women's volunteer emergency preparedness, Møre Diocese, Central Norway Coastal Administration, Norwegian Food Safety Authority, Møre og Fjordane HG-District 11, Møre og Romsdal 110-center, Møre og Romsdal county municipality, Møre og Romsdal Red Cross, Møre og Romsdal Civil Defense District, Norwegian Welfare and Labor Administration (NAV) Møre og Romsdal, Confederation of Norwegian Enterprise (NHO) Møre og Romsdal, Norwegian Broadcasting Corporation (NRK) Møre og Romsdal, Norwegian Water Resources and Energy Directorate (NVE) – Central Norway, Norwegian Water Resources and Energy Directorate (NVE) – Western Norway, Møre og Romsdal Police District, the Sea Rescue Society, Møre og Romsdal, the Norwegian Public Road Administration - Møre og Romsdal, Telenor.

The County Governor manages the emergency preparedness council, and is responsible for ensuring own readiness by having updated and functional emergency preparedness plans and a crisis organization that is exercised regularly. In the case of hazardous incidents, the County Governor shall "at the regional level coordinate civil crisis management, and between civil and military authorities, to ensure optimal solutions in cooperation with the actors involved, and in compliance with given instructions, guidelines and laws. When disaster warnings are issued or when disasters have occurred, the County Governor and impacted Police Chiefs immediately establish mutual contact in order to assess the situation."[93]

[92] FOR-2015-06-19 no. 703: Directive for the Svalbard County Governor's and District Governor's work on public security, preparedness, and crisis management (Directive on public security for the County Governor).
[93] FOR-2015-06-19 no. 703: Directive for the Svalbard County Governor's and District Governor's work on public security, preparedness, and crisis management (Directive on public security for the County Governor), Chapter IX.

Guidelines for alerts and reporting on the common communication channel
Norway's crisis management includes situation reporting to the senior authority. The purpose of situation reporting is to keep the senior authority current on how the situation is developing and to raise relevant issues. The County Governor's public security instructions describe a reporting line from municipality to County Governor and further on to DSB and finally to MoJ. The reporting line is called the coordination pipeline and provides a comprehensive picture of the situation focusing on consequences for the public. The line is in addition to sector-specific channel reporting, i.e., from the subordinate to the senior body within each sector. [94]

PUBLIC SECURITY ACT

The purpose of the Act is to protect lives, health, the environment, material assets and critical infrastructure by using non-military power when the country is at war, when there is a threat of war, when the country's independence or security is in danger, and in case of future hazardous incidents.

The Public Security Act[95] provides that a municipality is obligated to prepare a comprehensive RAV assessment, which serves as the basis for their work on public safety and emergency preparedness, including through the preparation of plans in line with the Planning and Building Act. The assessment is to be updated in line with revisions to municipal sub-plans; cf. Planning and Building Act § 11-14 first paragraph, and additionally when the risk and vulnerability picture changes. The municipality shall prepare an emergency preparedness plan based on this analysis.

The emergency preparedness plan shall contain an overview of measures prepared by the municipality to manage hazardous incidents. At a minimum, the emergency preparedness plan shall include preparations for the municipality's crisis management, alert lists, an overview of resources, evacuation, and a plan for providing information to the public and the media. The emergency preparedness plan is to be updated and revised at least once a year. The municipality shall ensure that the plan is practiced regularly.

The Public Security Act also determines The Civil Defense tasks such as planning and implementing measures for protecting the public, the environment, and material assets. The Civil Defense shall consist of emergency and preparedness services with personnel and equipment together with measures for damage prevention and damage limiting. Furthermore, they shall lead rescue operations at the accident location and have senior authority when the responsible emergency services are absent. Accordingly, whenever possible, their authority shall be exercised in consultation with the Police.

REGULATION ON MUNICIPAL EMERGENCY PREPAREDNESS OBLIGATIONS

The purpose of the Regulation on municipal emergency preparedness obligations[96] is to ensure that the municipality assumes responsibility for public safety and security. The municipality shall work systematically and comprehensively on public safety efforts across sectors in the municipality, with a view to reducing the risk of loss of life, or damage to health, the environment and material assets.

Obligations include the municipality as authority within its geographical area, as an enterprise, and as motivator of other actors.

[94] DSB's guidelines for alerting and reporting on the common communication channel, published September 2018.
[95] LOV 2010-06-25 no. 45 concerning municipal emergency preparedness obligations, public security measures, and civil defense (Public Security Act).
[96] FOR-2011-08022 no. 894: Regulation on municipal emergency preparedness obligations.

HEALTH PREPAREDNESS ACT

The aim of the Health Preparedness Act[97] is to protect public health and safety and help ensure that necessary medical treatment and social services are available during wartime, and during peacetime crises and disasters.

The Health Preparedness Act stipulates that municipalities, county authorities, regional health authorities and the Norwegian state are required to develop an emergency preparedness plan for the health and care services, or social services they intend to offer, or those for which they are responsible. The municipalities shall also draw up an emergency preparedness plan for their tasks in accordance with Chapter 3 of the Public Health Work Act. The preparedness plan shall also cover services which, through law or agreement, are offered by private companies as part of the respective services. When necessary, sub-plans shall be prepared for relevant institutions and service areas.

HEALTH AND CARE SERVICES ACT

The Specialist Health Services Act[98] determines the regional health authorities' responsibility for specialist health services. The regional health authority shall ensure that persons with permanent residence or located within the health region must be provided specialist health services for in-patient and out-patient care including acute medical care preparedness, emergency medical services, and air, land and, when necessary, sea ambulance services.

SPECIALIST HEALTH SERVICES ACT

The Specialist Health Services Act[99] determines the regional health authorities' responsibility for specialist health services. The regional health authority shall ensure that persons with permanent residence or located within the health region must be provided specialist health services for in-patient and out-patient care including acute medical care preparedness, emergency medical services, and air, land and, when necessary, sea ambulance services.

NATIONAL HEALTH PREPAREDNESS PLAN

The purpose of the National Health Preparedness Plan[100] is to provide a comprehensive overview of the health and care sector's preparedness, including preparedness for different social services. The Plan is the foundation for handling of all types of crises and disasters within the health sector.

The National Health Preparedness Plan is a national framework for health sector preparedness. The Plan describes the legal and planning basis, the actors involved in health preparedness, their role, responsibility, duties and resources in prevention, preparedness planning, and crises and disasters.

COAST GUARD ACT

The Coast Guard Act[101] Act stipulates that the Coast Guard shall participate in carrying out search and rescue operations in dangerous situations and accidents at sea, and shall, to the extent possible, assist people who are seriously ill or injured, or otherwise in obvious need.

[97] LOV 2000-06-23 no. 56 concerning health and social preparedness (the Health Preparedness Act).
[98] FOR-2011-08022 no. 894: Regulation on municipal emergency preparedness obligations.
[99] LOV 1999-07-02 no. 61 concerning specialist health service etc. (Specialist Health Services Act).
[100] National Health Preparedness Plan, Ministry of Health and Care Services 2014.
[101] LOV 1977-06-13 no. 42 concerning the Coast Guard (Coast Guard Act).

THE POLICE ACT

The Police Act[102] stipulates that it is the responsibility of the Police to implement and organize rescue measures when lives or health are at risk if no other authority has been assigned that responsibility. In the case of accidents and catastrophic situations, it is the responsibility of the Police to implement the measures required to avert the danger and limit casualties. The Police shall organize and coordinate relief efforts until the responsibility is assumed by another authority.

Assistance from Armed Forces

When requested, the Armed Forces can assist the Police with accidents, natural disasters and similar incidents to protect lives, health, and property, and to uphold law and order.

THE POLICE EMERGENCY PREPAREDNESS SYSTEM PART 1 (PBS I)

The Police Emergency Preparedness System (PBS) is the foundation for the consistent and effective management of both ordinary and extraordinary incidents and crises. Among other things, the system shall contribute to coordinated planning and efforts. The most important prerequisite for success in joint problemsolving is that the actors are clear with respect to each other's roles and responsibilities. The Police must be familiar with the other actors' responsibilities and undertakings. For their part, the other actors must be familiar with the responsibilities and undertakings of the Police. An important goal of PBS I, in addition to providing guidelines for the Police's emergency preparedness work, is to describe the roles and responsibilities of the different preparedness actors[103].

The system is divided into three parts:

- PBS I: Guidelines for Police emergency preparedness. PBS 1 provides guidelines for Police work on emergency preparedness.
- PBS II: The Directorate of Police steering documents: The Directorate of Police issues steering documents on emergency preparedness. These form the foundation for the plans of Police Districts.
- PBS III: The Police District's Planning: The Police District planning shall be based on guidance provided in PBS I and PBS II and adapted to local conditions.

THE ACTORS – ALLOCATION OF RESPONSIBILITY

NATIONAL LEVEL

Office of the Prime Minister

The Office of the Prime Minister is a joint office of the Secretary of State and the Government. The Office assists the Prime Minister in managing and coordinating the work of the Government.

Ministry of Justice and Public Security (MoJ)

MoJ is responsible for coordinating public security and for supervision through DSB, the Norwegian National Security Authority (NSM) and the joint rescue coordination centers.

[102] LOV 1995-08-04 no. 53 concerning the Police (the Police Act).
[103] The Police Emergency Preparedness System Part I (PBS): Guidelines for Police emergency preparedness, dated July 1 2011.

Crisis Support Unit (CSU)
CSU is the permanent secretary for the Crisis Council and shall support the lead Ministries. In a crisis, CSU assists by providing competence in the form of counseling and professional assistance to the lead Ministry's work with coordination and comprehensive central crisis management. CSU staffs public situation centers that underpin the coordination of MoJ with 24-hour emergency preparedness, and is the fixed contact point for information to and from the Ministry during extraordinary incidents and crises.

Ministry of Transport (MoT)
The Ministry of Transport has overall responsibility for coastal waterways and for the most important harbors, public fishing ports, coastal culture, preventive maritime security, state preparedness against acute pollution and sectoral responsibility for the marine and coastal environment.

Ministry of Health and Care Services (MoH)
The Ministry of Health and Care Services (HOD) is the responsible health authority, and has primary responsibility for critical health preparedness, directing the health enterprises, the Health and Social Preparedness Act, as well as psychosocial followup in crises. The purpose of health preparedness is to protect the lives and health of the population, and to ensure medical treatment and care for affected people in a crisis or war. The Health Directorate is the subordinate entity.

Ministry of Trade, Industry, and Fisheries (MoTIF)
The Ministry of Trade, Industry and Fisheries shall promote Norwegian industry and trade, and contribute to the sustainable management of the fisheries and aquaculture industries. The Ministry is also responsible for maritime policy, including maritime preparedness. The Norwegian Maritime Authority is the subordinate entity.

Ministry of Defense (MoD)
The Ministry of Defense is the government office responsible for designing and implementing Norwegian security and defense policy.

Ministry of Foreign Affairs (MoFA)
The task of the Ministry of Foreign Affairs is to secure and promote Norway's interests internationally. Norway's interests are determined by such factors as our geographical location in a strategically important area, our open economy, our position as a coastal state and steward of substantial marine resources, and our extensive exports of oil and gas.

Joint Rescue Coordination Center – Southern Norway (JRCC-SN)
Norway has two joint rescue coordination centers, each with its own area of responsibility. The centers have the primary coordination responsibility for all sea, air and land rescue services.

Sea and air rescue services are always managed and coordinated directly from one of the joint rescue coordination centers. In the vast majority of cases, coordination of incidents on land is delegated to one of the Local Rescue Centers (RSC), at the direction of the Joint Rescue Coordination Center.

JRCC-SN is situated near Stavanger Airport, Sola. JRCC-SN's area of responsibility runs from Skagerrak up to 65 degrees north. The southern limit is towards Sweden and Denmark and its western limit toward Great Britain. The Center also has primary responsibility for all land rescue services from and including North Trøndelag and southwards.

Coastal Radio South
Coastal Radio South, formerly Rogaland Radio, is a coastal radio station co-located with JRCC-SN at Sola, which transmits on medium wave and VHF.

Norwegian Maritime Authority (NMA)
The Norwegian Maritime Authority is the administrative and supervisory authority and is responsible for life, health, working conditions, the environment and material assets on Norwegian flagged ships, and foreign vessels in Norwegian waters. The Authority is subordinate to the Ministry of Trade, Industry and Fisheries and the Ministry of Climate and the Environment. Its overarching goal is to ensure that Norway is an attractive flag state with a high level of safety with respect to life, health, the environment and material assets.

Norwegian Coastal Administration (NCA)
The Norwegian Coastal Administration is a national service for coastal administration, maritime safety, and preparedness for acute pollution. The Administration works actively to achieve effective and safe maritime transport by safeguarding the transport industry's need for accessible and efficient harbors. The Coastal Administration takes preventive measures to reduce the harmful effects of acute pollution, and participates in the sustainable development of the coastal zone. The Administration is subordinate to the Ministry of Transport.

Norwegian Coast Guard
The Norwegian Coast Guard is part of the Royal Norwegian Navy. In peacetime, the Coast Guard preferably carries out the tasks covered in the Coast Guard Act[104], including participating in and implementing search and rescue operations in dangerous situations and accidents at sea.

Avinor
Avinor's responsibilities consist of owning, operating and developing a country-wide network of airports for the public sector, and operating a combined flight safety service for the public and military sectors.

National Police Directorate
The Police Directorate is a government agency subordinate to the Ministry of Justice and Public Security (MoJ). The Directorate is responsible for professional management, steering, follow-up, and development of the Police Districts and special units within the Police.

330 Squadron
330 Squadron is a helicopter unit of the Royal Norwegian Air Force, subordinate to the Rescue Helicopter Service. 330 Squadron operates Norway's rescue helicopters and has primary responsibility for carrying out search and rescue missions, with air ambulance, disaster assistance and special operations as secondary responsibilities. The Squadron has five divisions, situated in Banak, Bodø, Ørland, Sola and on Rygge.

Norwegian Directorate for Civil Protection and Emergency Planning (DSB)
DSB's tasks include supporting MoJ in its general coordination role for civil protection.[105] The Directorate is also the professional authority with respect to fire, where the fire service is a central actor in the rescue service.

During incidents, the County Governor's office obtains reports from all affected municipalities and shared information from relevant regional actors. The office compiles the information and prepares a comprehensive regional situation report that is sent to DSB. DSB compiles the situation reports from the involved County Governors and sends this, together with their own assessments, to the Ministry of Justice and Public Security's Crisis Support Unit (CSU).[106]

[104] LOV 1997-06-13 no. 42 concerning the Coast Guard (The Coast Guard Act).
[105] FOR-2017-09-01 no.1349: Instructions for the ministries' work with public security (Public Security Instructions).
[106] DSB's guidelines for alerting and reporting on common communication channel, published September 2018.

The Norwegian Civil Defense
The Norwegian Civil Defense is there to protect the population. In peacetime, The Civil Defense contributes supplemental manpower and equipment when the emergency and preparedness services require support during major accidents and natural disasters. Civil Defense is organized as part of DSB.

Accident Investigation Board
The Accident Investigation Board is an administrative body with responsibility for investigating accidents and incidents in aviation, road traffic, maritime traffic and the railways (including tramways and the metro). The purpose of the investigations is to improve safety and prevent accidents within the transport sector. The Board takes no position on guilt or responsibility under civil or criminal law.

REGIONAL AND LOCAL LEVEL

County Governor for Møre og Romsdal (FMMR)
FMMR represents the national government at the county level and is an important link between the municipalities and central authorities.

In a number of cases the County Governor can assume coordination responsibility for crisis management at the regional level in order to ensure sound and coordinated solutions between actors. The County Emergency Preparedness Council is an important forum for fulfilling the coordination responsibility. Leaders of public emergency preparedness services, municipalities, industry, and volunteer organizations participate in the Council.

Møre og Romsdal Police District (MRPD) and local rescue center
The MRPD Chief of Police manages RSC consistent with the Organizational plan for the rescue service.[107] The purpose of the Plan is to ensure an integrated rescue service based on national volunteer work and cooperation between public, private and volunteer actors.

The Police and Sheriff's Department consists of the National Police Directorate and is divided into 12 Police Districts. Among other things, the Police shall employ citizen assistance and services in dangerous situations, in statutory cases, and otherwise when conditions dictate that assistance is natural and necessary.[108] The Police Districts also represent RSC within the rescue service's organization.

Møre og Romsdal Hospital Trust Health Authority
The Møre og Romsdal Hospital Trust Health Authority is a health enterprise responsible for public specialist health service in Møre og Romsdal.

Under normal preparedness conditions the health authority has the capacity to handle various incidents such as traffic accidents. When the incident exceeds normal hospital and ambulance service capacity, extra resources are mobilized in accordance with procedures and, if necessary, emergency preparedness plans.

Møre og Romsdal Civil Defense District
The Civil Defense in Møre og Romsdal is an important actor in keeping the population safe on a daily basis and when hazardous events occur. The Civil Defense is trained and equipped to support the Police, the fire service and medical personnel in case of serious accidents and natural disasters.

Møre og Fjordane Home Guard, District 11 (HG 11)
The District includes Møre og Romsdal counties and to the north, parts of Sogn og Fjordane.

[107] FOR-2015-06-19 no. 677: Organizational Plan for the Rescue Service.
[108] LOV 1995-08-04 no. 53 concerning the Police (The Police Act).

The HG 11 Commander has local territorial responsibility including military defense preparedness, assistance to civil society, and leadership of military operations on behalf of the Defense operational headquarters (FOH).

The municipalities (Fræna, Molde, and Kristiansund)
The municipalities have a fundamental responsibility for ensuring public security and safety. This includes important tasks related to prevention and emergency preparedness.

VOLUNTEER GROUPS

Møre og Romsdal Red Cross
The Red Cross is the world's largest humanitarian network. The organization's purpose is to discover, stop and relieve human need and suffering.

Volunteer Organizations Rescue Professionals Forum (FORF)
FORF is a collaborative body for volunteer rescue organizations in Norway. Its main purpose is to improve the quality of the Norwegian rescue service and to cooperate with the Ministry of Justice and Public Security.

Norwegian People's Aid
Norwegian People's Aid is the labor movement's humanitarian solidarity organization. The organization's aim is human dignity and equal rights for all, irrespective of gender, disability, ethnicity, religion, age, sexual orientation or social status.

The Norwegian Sea Rescue Society
The Norwegian Sea Rescue Society is a nation-wide humanitarian association whose purpose it to save lives, salvage assets and protect the coastal environment of Norwegian waters, as well as undertaking outreach and accident prevention initiatives to improve the safety of those at sea in Norway and abroad.

Norwegian Women's Public Health Association
The Norwegian Women's Public Health Association (NKS) is Norway's largest women's organization, with 41,000 members. Since its establishment in 1896, the organization has worked for the needy in society, directing its volunteer services where the need is greatest.

Bryn Sports Association [IL Bryn]
The Bryn Sports Association (established July 24, 1949) is from Fræna municipality in Møre og Romsdal, and offers soccer, handball, and track and field. The Association owns Brynhallen.

PRIVATE ACTORS

Wilhelmsen Ship Management AS
Wilhelmsen Ship Management is responsible for technical operations on Viking Sky.

CHC Helicopter Service AS
CHC Helicopter Service is one of the world's leading helicopter companies, and the largest helicopter operator on the Norwegian continental shelf. The company has operated for the Norwegian offshore industry since 1966, and flies about 700,000 passengers annually, to, from and between oil installations on the shelf.

Equinor
Equinor is the largest operation on the Norwegian shelf, one of the world's largest offshore operators, and an increasingly important actor in renewable energy.

Aviation Fuelling Services Norway (AFSN)
Aviation Fuelling Services Norway AS delivers and resupplies aviation fuel at 14 airports in Norway.

ANNEX 2: THANK YOU LETTER

Debate post in Bergens Tidende
Published March 27, 2019
Author: Chris Rickard, Rayleigh, Great Britain

The post was first published on Reddit, and was reproduced with the author's permission. Translated into Norwegian by Bergens Tidende.

TO THE PEOPLE OF NORWAY – FROM A PASSENGER OF THE VIKING SKY

There's only so much that words can express here but I'm going to do my best. We're just waiting for our flights back to the UK but I couldn't leave without these final words.

First, your country amazed us with it's [sic] beauty as we toured your cities, coastlines, and mountains and we were spoiled through enjoying your food, culture, and hospitality. Only though, during the worst experience of our lives, do we truly understand and appreciate how amazing the Norwegian people are.

We were fortunate enough to be some of the first 100 people airlifted off the boat, and from the first contact with the emergency services we just knew everything would be ok. The crew of the rescue helicopter were so impressive with their professionalism and grit in the face of a seemingly neverending rescue operation. They made sure we were safe and unhurt and gave clear instructions on what they needed us to do, although we were crammed in that chopper like sardines we were just happy to be off the ship, so my first thank you goes to those helicopter crews. Thank You!

Next, we landed at the Red Cross reception center and we were absolutely astounded at what had been assembled in such a short period of time. Dozens of ambulances and busses (sic), hundreds of people all waiting for us to arrive and make sure we were ok. As we entered the kindest Red Cross personnel were there to comfort us, ensure we were uninjured and guide us to the check-in point manned by the amazing Police force. After checking in, again the Red Cross were there to provide comfort, blankets, clean dry clothes, and hot drinks to us all while we waited for the rest of our party or for some of us to get checked out by the medics. The focus on our wellbeing, not just physical but also mental was so amazing and really made use (sic) feel cared for and safe. So my second thank you goes out to all the people at the reception center: Red Cross, Police, paramedics, volunteers, and anyone else I've forgotten; you were all amazing! Thank You!

Once we were dry, warm, and patched up, we were transported to Molde and all I can say is Wow. It seems like every single citizen of your beautiful city came together to help us. Again, the outstanding Red Cross were at our hotel waiting for us, making sure we were mentally and physically well, and got a room for the night. The staff at the Hotel Alexander, were awesome, making sure we had a hot meal and everything we might need. After what we had been through a hot shower and warm bed were most welcome. The taxi drivers in the city were also incredible, shuttling us around even though many of us had no way to pay them directly.

The following day, again the people of Molde came together to support us by opening up the local shopping center which was normally closed on Sunday, so those of us who came off the boat with only what we were wearing (which was drenched in sea water) could get some clean clothes and essentials for the next couple of days. All the shop assistants seemed genuinely happy to be there and help out on their day off and it really was an amazing display of humanity that we were all for greatful (sic) for. So to all the people of Molde – Thank You!

My wife was minorly hurt during all the rocking and rolling the ship did so we were sent to the hospital to get her checked over. Our experience with the Norwegian healthcare system was exemplary and I truly believe it is the standard that the rest of the world should be held to. All of the doctors and nurses were so kind, attentive, and truly caring, again there was a huge focus on our mental health as well as injuries which is so refreshing to see and made us feel really looked after. All the personnel were so friendly and made us laugh even after all we had been through and we were on our way after a couple of hours with minimal waiting around, honestly it was such a bright moment after all we had been through and we are so thankful. To everyone at Molde Hospital – Thank You!

I'm sure there's something or someone I'm forgetting but hopefully you can forgive me that as we're running on about 6 hours sleep total over these past few days. Thank you so much Norway, we hope to see you again soon on better circumstances.

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