

OPERATING PROCEDURES FOR SEAWALK-GEIRANGER CRUISE SHIP BERTH

Version 5.0 - 21.03 2024

1. Authorities

The SeaWalk installation in Geiranger is a part of the general port administration regime in Geiranger, based on the Norwegian Harbour Act, 2009-04-17-19, prevailing regulations and other guidelines applying to Stranda Port Authority KF and the seafront area of Stranda Municipality. Allocation of berth is governed by Stranda Port Authorities in cooperation with the Pilot Authorities and the ships agents with reference to the Regulation dated 2004-12-07, nr 1634 § 3. The Norwegian Coastal Administration has established guidelines for assigning anchor positions in the Geirangerfjord.

2. SeaWalk main specifications

The SeaWalk is a **236 m** long and **4,5 m** wide steel, ADA compliant construction, floating on 10 wave damping pontoons with a capacity of more than **6000** passengers and can carry a passenger load of more than **300** tons. SeaWalk consists of 3 bridges, two link pontoons and the hinged landing point. The two inner bridges, 1 and 2, are 72 meters long, bridge 3 - "Shipside -bridge" is **84 m long**. The walkway is approx. **210 cm** above sea level and the railings are 110 cm high.

Shipside-bridge, meant to cover two of the ship doors, is moored to ship's side by ropes with six 10t mooring bollards and manual operated winches. When moored the distance between the ship side and walkway is approx. **3,3** meters. Rails on the SeaWalk are removable to allow the ships own gangways to be lowered onto the SeaWalk.

SeaWalk is folded in a stored position when not in operation. SeaWalk is operated by two hydraulic thrusters, located on the ship side bridge, and powered by a diesel engine, controlled from a remote unit.

The SeaWalk is constructed to move with the ship in the moorings, in various weather conditions. This patented system is referred as "**Soft edge**" technology.

3. Communication

In the call planning phase normal communication with the port authorities is via the ships' agent.

Before/during the call VHF channels **16** and **13** are mandatory for ships and boats to guard.

Port control C/S: "Geiranger Harbour" and "SeaWalk"

Tlf + 47 99 10 20 79.

4. Pre call procedures:

In due time, and latest the day before a call the vessel/ship agent must report the following:

- a) Length, strength and number of mooring lines
 - b) What ship doors to be used, and their distance from stern/bow
 - c) Info about ship side fastening points in relation to the SeaWalk
 - d) Ship gangway length
 - e) Pilot Card including thruster capacities and response time for the ship's thrusters
- All information to be communicated via the ship's agent or directly to the port minimum 24 hours prior to arrival.

5. Port safety brief

Immediately after the mooring operation is completed and the landing of passengers commence, a representative from the Captain and the port director/port captain shall meet for a safety brief regarding the current weather and the ships limitations etc.

The decision should be taken on the following topics:

- Communication
- Responsibilities
- Daily weather and forecast
- Mooring line strengths and limitations
- "Pendling effect"
- Use of thrusters
- Decision of the limits for "Safety Readiness Levels", and when to abort the passenger operation, all in accordance with good seamanship.

6. Safety Readiness Levels

- Green safety level: Normal procedures - SeaWalk is ready to operate within minutes.
- Yellow safety level: Ready to operate SeaWalk and ship include ships thrusters.
- Red safety level: SeaWalk and ship ready to abort operation and unmoor.

The ship must have a pilot and necessary staff on the bridge during the entire stay and must have the machinery ready for maneuver at a short notice if the conditions dictate it.

NB: For wind speeds above 7 m/s, it is recommended having thrusters on standby.

7. The local weather

The normal weather in Geiranger is calm condition but can change rapidly, so the weather conditions must constantly be evaluated by ship captain, pilots, port and SeaWalk crew.

<https://www.stranda-hamnevesen.no/weather-station/>

8. The ships moorings

With reference to figure 1: the ship is moored between three main buoys (two north buoys – A&D and one south buoy - B) and a south sidebuoy – C.

- Buoy A & B has two anchor chains with approx. 40 deg. spread
- Buoy C & D has one anchor chain

The distance between buoys A & B and D & B are both approx. 445m

Once the ship is moored between all buoys, the heading will be approx. 319/139

All anchor & buoy systems are dimensioned for a 300T brake load.

Ships bow and stern **mooring lines must be equally tightened**, and we recommend lead through the centralized fairlead (halegatt) if possible, to multiply brake load (figure 5).

We recommend pre-tension on the mooring lines, with e.g. 4 lines - set to more than 20 tons, to be decided ref para 4. Port safety brief.

NB: max load on un-even tightened moorings is equivalent to brake load on a single line.

- A mooring support **buoy C** is installed east of south buoy, to stabilize and secure the SeaWalk reach and to avoid the ship “pendling” in the moorings.
- **NB:** buoy C is **not** a primary mooring, and the pre-tension must not alter the ships heading of approx. 319/139 too much (300ton break load, in direction as indicated figure 1).

9. Vital limitations for mooring of SeaWalk, NOT to be exceeded:

- a) Distance from the south buoy to ships’ bow/stern shall normally not exceed 40 m for ships longer than 250m.
- b) Preferable distance between south buoy and SeaWalk link 2 when moored to the ship shall be between 85 m and 105 m. Distance from the south buoy to SeaWalk link 2 shall not exceed 110 m, when moored to ship.
- c) For ships between 180-250 meters, distance between south buoy and stern may exceed 40m, but distance from south buoy to SeaWalk link 2 shall not exceed 110 m.
- d) The anchor/buoy systems can only allow pull loads from the ship within the mooring area (see figure 1 – mooring area limited between the buoys). Pull

forces from the ship on the buoys outside of the mooring area will cause damage on the construction.

NB: Notice that exceeding the above-mentioned limits can endanger the operation or may cause mechanical damage on the infrastructure.

10. Mooring of the ship

Ships can be moored with the bow on a northerly or southerly course, starboard or port side to the SeaWalk at the captain's discretion, but shall be positioned in a direct straight line between the main buoys before the SeaWalk mooring operation commences.

The mooring lines to the buoys shall be confirmed tightened prior to the mooring of the SeaWalk.

The port control will lead the mooring operation in cooperation with the pilots. The line boat is available to receive mooring lines. Estimated time for the mooring operation is estimated to be a little more than for a normal anchor operation. Also see paragraph 3 and the remark regarding buoy C.

11. Mooring of the SeaWalk

During the buoy operation the SeaWalk will be fully manned but in folded mode away from the ships manoeuvring area. SeaWalk will wait for captains' permission to go alongside the ship after the captain has verified and confirmed the distance from the ships stern to the inner buoy which also is verified by the mooring boat. To reach the ship side bollards, the crew uses "line sticks" to reach and return the lines to be tightened and fastened to the manually operated winches on the SeaWalk. Once the SeaWalk is correctly moored to the ship, the gangways will be lowered and secured accordingly and SeaWalk is ready to receive passengers. Anticipated time to secure the SeaWalk is normally between 5 to 10 minutes.

12. Post call routines, to gain experience.

This is a document to be constantly updated by Stranda Port Authority in cooperation with SeaWalk Geiranger AS and involved parties. Please help us improve the total service by sharing your experiences with us.

Figures - SeaWalk Geiranger operating procedures:

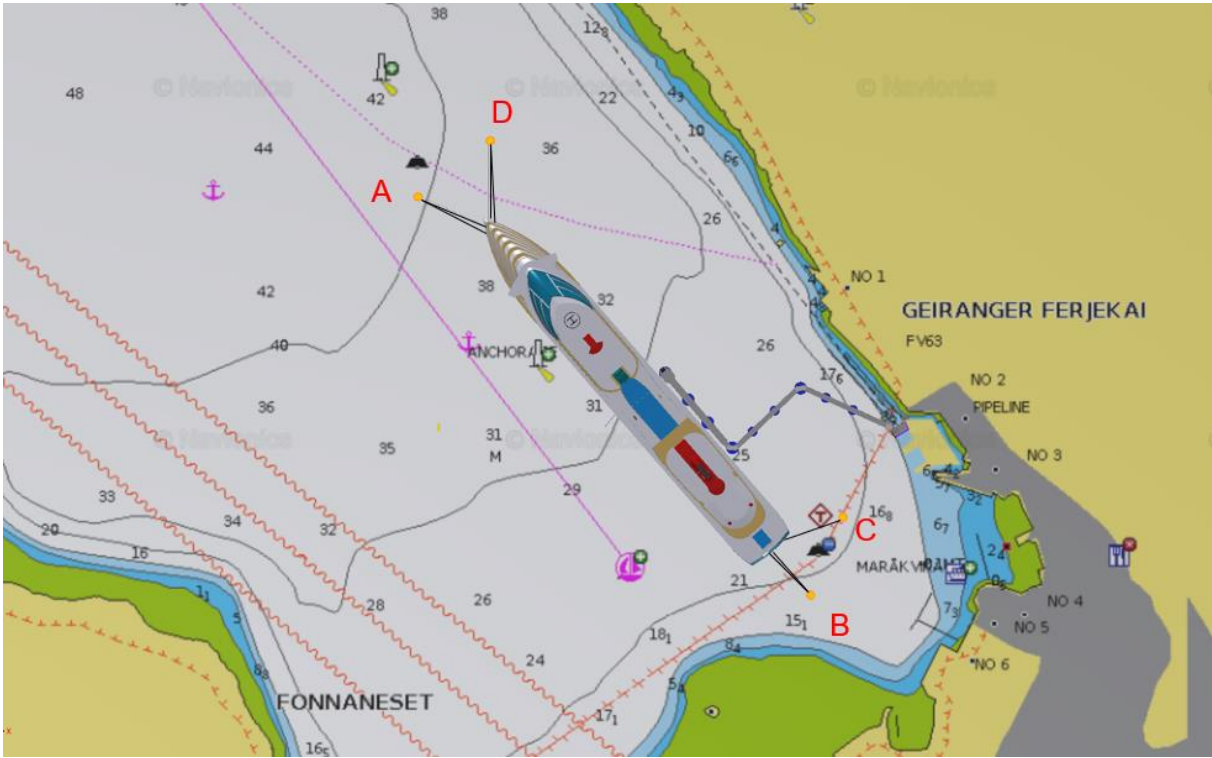


Figure 1 – Illustrated LOA=350m



Figure 2 – Illustrated LOA=300m

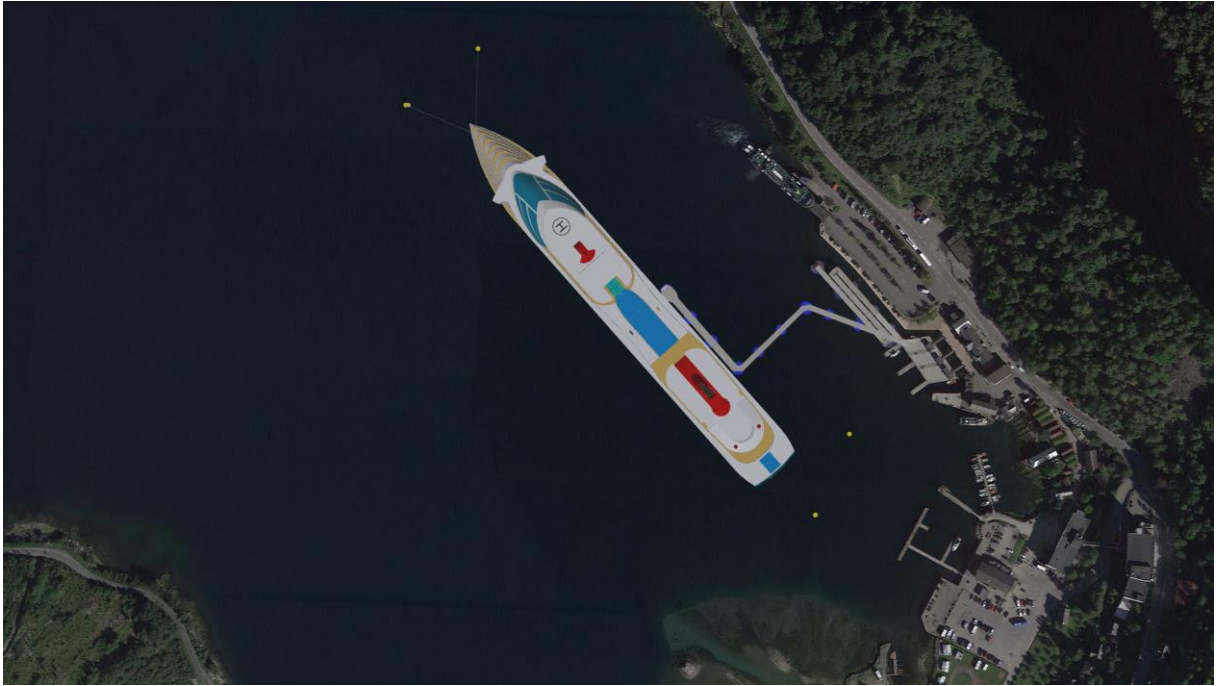


Figure 3 – Illustrated LOA=350m

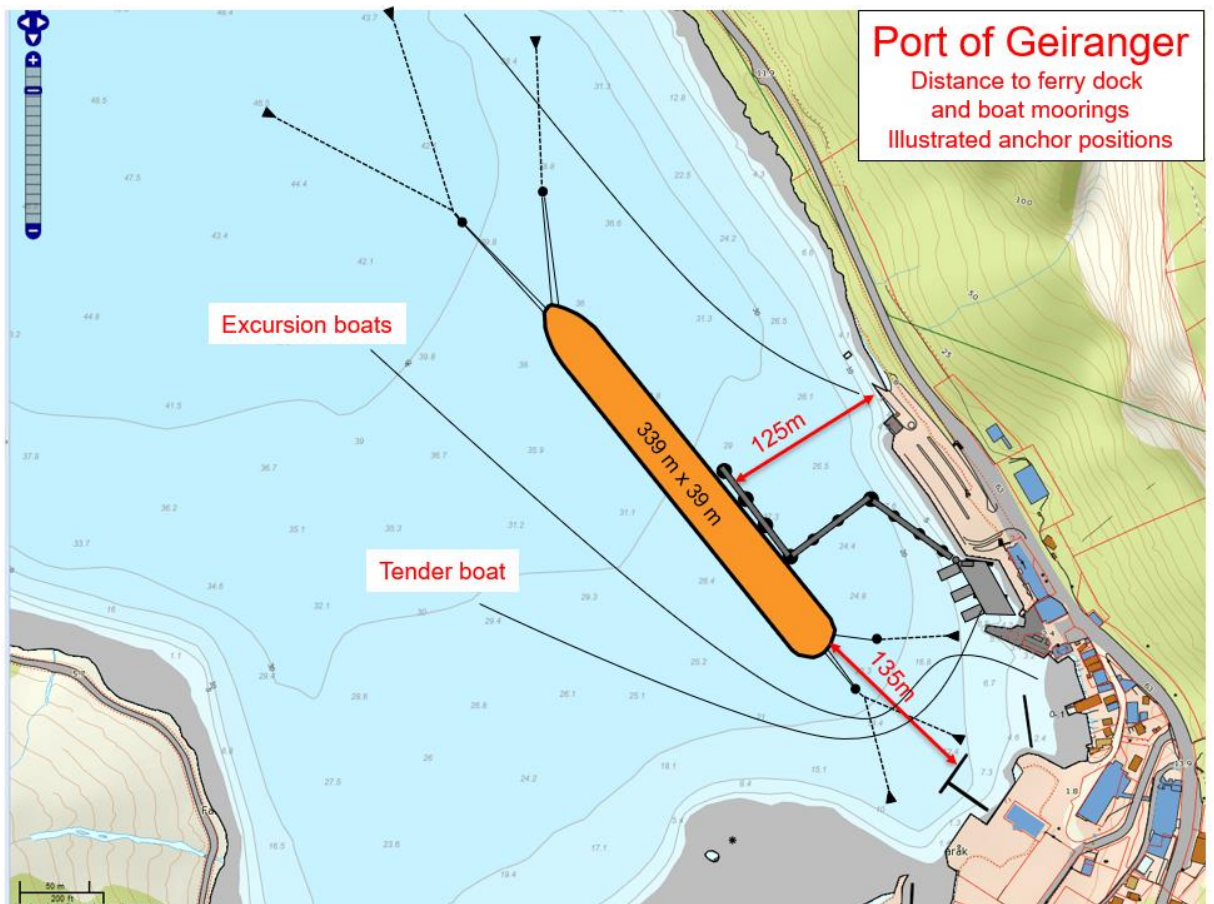


Figure 4 – Illustrated LOA=339m



Figure 5

Geiranger, 21.03.2024