OPERATING PROCEDURES FOR SEAWALK-GEIRANGER CRUISE SHIP BERTH TO CRUISE SHIP CAPTAINS

Version 4.0 - 27.03 2023

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 and prevailing regulations and other information that applies 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. Communication
   In the planning phase normal communication with the port authorities is via the ships' agent.
   VHF channels **16** and **13** is mandatory for ships and boats to guard.
   Port control C/S: "Geiranger Harbour" and "SeaWalk"
   Tlf + 47 99 10 20 79.

3. Pre call procedures:
   In due time and not later than the day before the ship's agent together with the port and the ship shall developed a MOORINGPLAN for the ships call which shall define the following:
   a) Length and strength of mooring lines,
   b) What ship doors to be used, and their distance from stern/bow
   c) Info about ship side fastening points.
   d) Ship gangway length
   e) Pilot card, e.g. thruster capacities and response time for the ship's thrusters
   All information to be communicated via the ship's agent or directly minimum 24 hours prior to arrival.

4. Port safety brief
   Immediately after the mooring operation is finished and the landing of passenger commences, a representative from the Captain and the Harbourmaster shall meet for a safety brief regarding the current weather and the ships limitations.
   The following topics shall be discussed: Communication, Responsibilities, Daily weather and forecast, mooring strengths and limitations, "Pendeling effect", Use of thrusters, Decision of the limits for Safety Readiness Levels, when to abort the passenger operation, all iaw. good seamanship.

5. 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.
   NB: For wind speeds above 7 m/s, having thrusters on standby is recommended.
   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.

6. The local weather

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

7. The ships moorings

The ship is moored between two buoys (north and south buoy); each buoy has two anchor chains with approx. 40 deg. spread. The normal course between the buoys is approx.315/135 deg. The distance between the buoys is approx. 450m. Each anchor is 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 multiple brake load (figure 4)

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 brake load on a single line.

A mooring support **buoy no 3** is installed east of south buoy, to stabilize, secure the SeaWalk reach and to avoid the ship "pendeling" in the moorings.

NB: buoy 3 is **not** a primary mooring, and the pre-tension must not alter severely the normal mooring course 315/135 in the "neutral" line between the primary buoys.

Buoy 3 is dimensioned for 300tonn brake load, but only in the direction as indicated (figure 1)

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

Notice that exceeding the limits can endanger the operation or may cause mechanical damage on the infrastructure.

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 installation 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.

9. Mooring of the ship

Ships can be moored with the bow on 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 two buoys before the SeaWalk mooring operation commences.

The mooring lines to be 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 will be a little more than for a normal anchor operation.

Also see para 3 and the remark about buoy no 3.

10. 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 mooring boat. To reach the ship side bollards, the crew uses "line sticks" to reach and return the lines to be tightened and fastened on the manually operated winches on the SeaWalk. Gangways will be lowered and secured accordingly and SeaWalk is ready to receive passengers. Anticipated time to secure the SeaWalk is normally between 5 and 10 minutes.

11. The SeaWalk specs

    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 per hour 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 **3,3** meters. Rails are removable to allow ships gangways. Ship will use own gangways.

    SeaWalk can be folded in for storage 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.

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 with us your experiences.

Figures - SeaWalk Geiranger operating procedures:

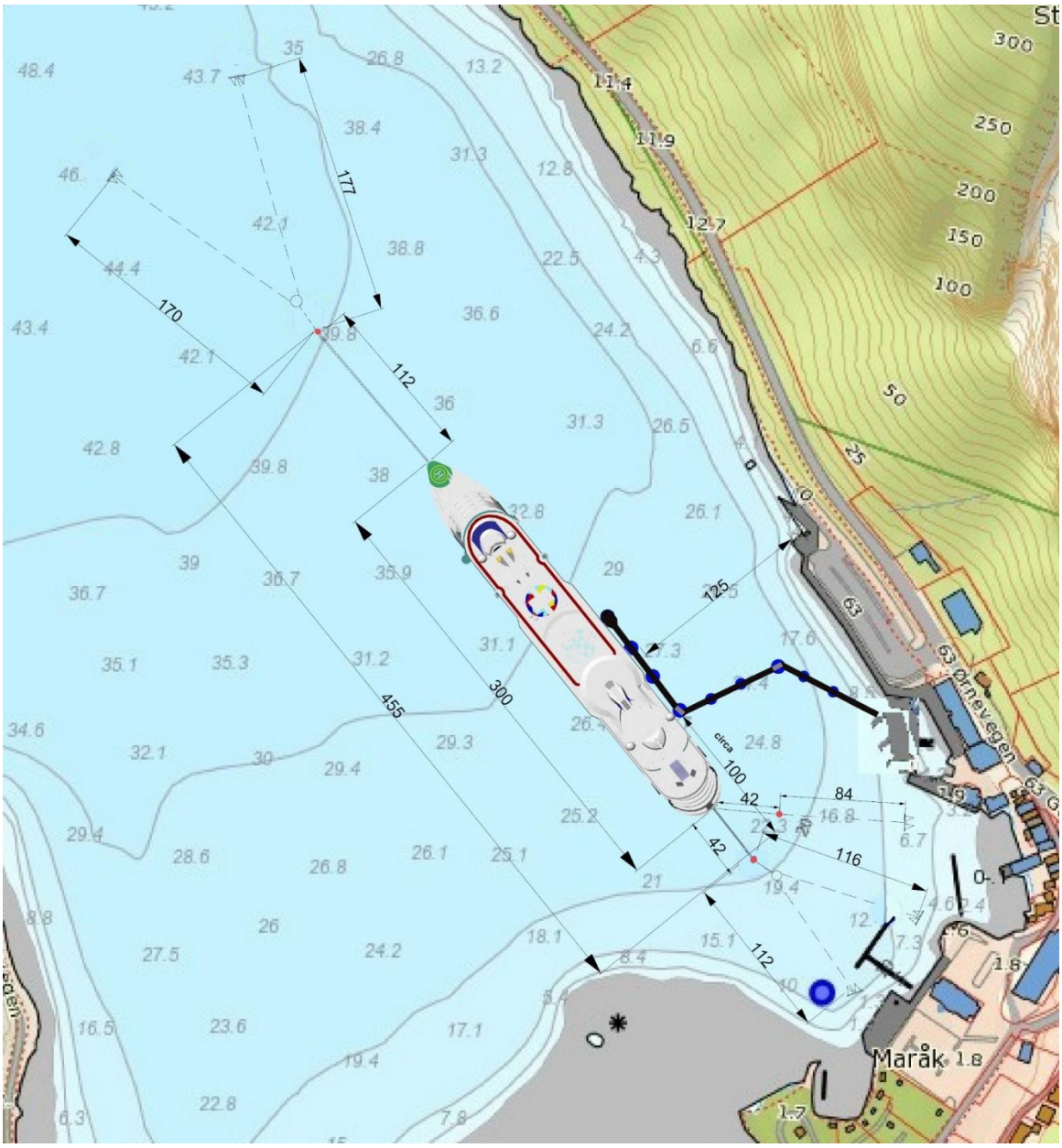

Figure 1

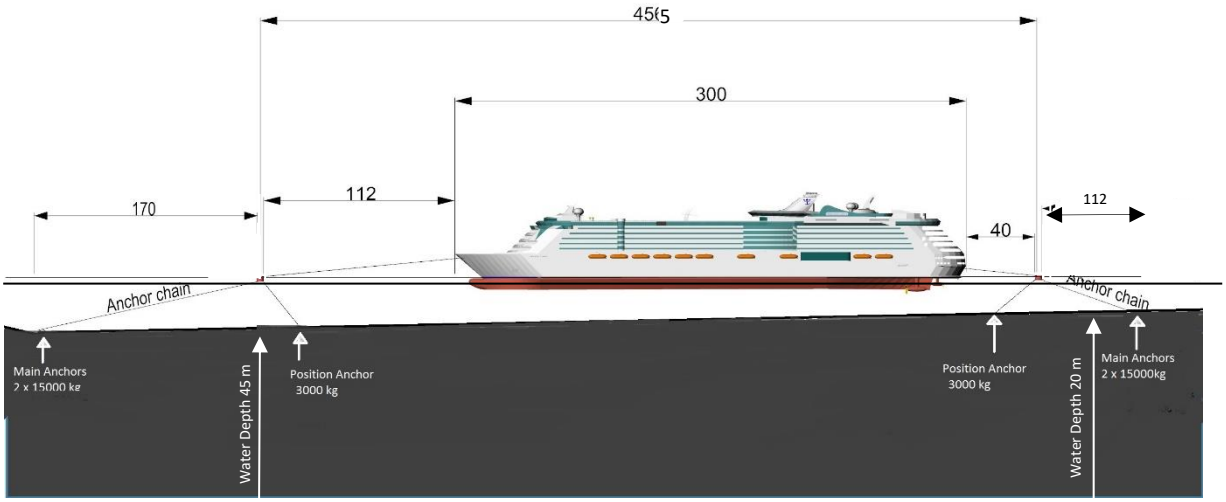

Figure 2

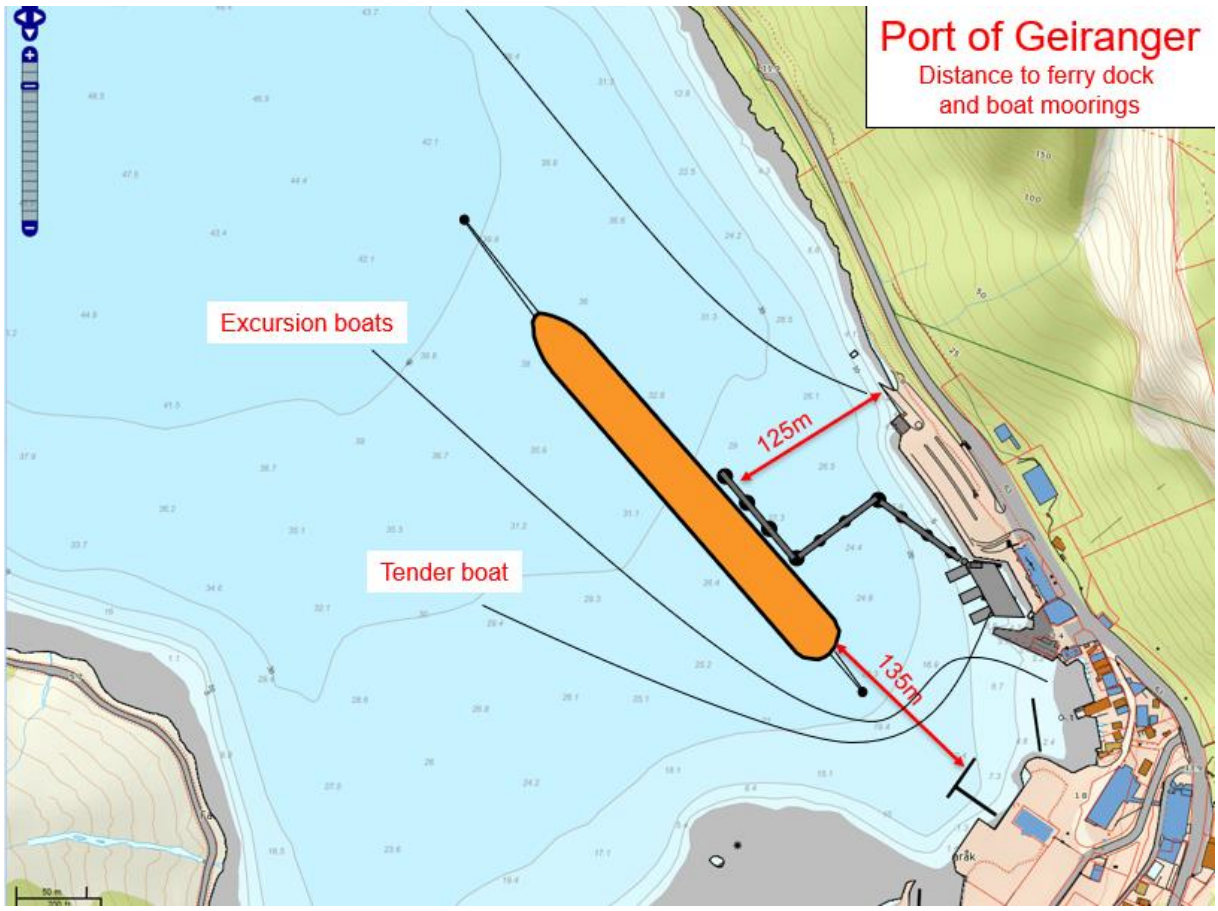

Figure 3

Figure 4

Geiranger, 27.03.2023

Rita Berstad Maraak
Director
Stranda Port Authority

Robert Monsen/Ørjan Johansen
SeaWalk Geiranger AS