ANNEX 2

THE QUESTIONNAIRE ON THE USE OF BNWAS AND THE SUMMARIZING OF THE ANSWERS

The questionnaire contained the following statements:

The purpose with a bridge navigational watch alarm system is to monitor activities on the bridge and to ascertain if the OOW's ability to perform his duties is reduced, which then could lead to marine accidents, e.g. during the daytime, when the OOW is alone on the bridge. At the same time, the BNWAS is also a tool which can be used to immediately call for assistance, if necessary.

1. *Do you regard the BNWAS to be part of the safety equipment on the bridge protecting the ship and its crew?*

   Yes ___
   No ___

2. *Has watch routines and watch procedures (Bridge Resource Management) been adjusted or modified after the installation of the bridge navigational watch alarm system?*

   Yes ___
   No ___

The purpose with the BNWAS is achieved by a number of indications and alarms. There are three steps in the process.

- Step 1: The BNWAS alerts the OOW.
- Step 2: If there is no reaction, the BNWAS alerts the master or another qualified OOW.
- Step 3: If there is still no reaction, the BNWAS alerts the rest of the crew.

3. *In your experience, how often has the BNWAS been activated?*

   Step 1 ___ times within the past _____ year(s)?
   Step 2 ___ times within the past _____ year(s)?
   Step 3 ___ times within the past _____ year(s)?

The BNWAS can be activated in several ways. Some are activated automatically and others require certain actions performed by the OOW.

4. *Which reset function does the BNWAS have on the ship that you are working or worked on last?*

   - Automatic sensor (movement, infrared etc.) ____
   - Manually by pushing a button ____
   - Automatically by using other instrument on the bridge ____
   - Otherwise. Please state how: ____

5. This question is to be answered in consideration of the answers given in no. 4. Does or did the BNWAS have a negative effect on your work as OOW?

Yes ___
No ___

If yes, please state how and why.

6. Further information, if any ____

Summary of answers

237 respondents (working navigators) answered the questionnaire.

It has not been possible to categorize the answers according to ship type, ship size, type of operation and area of operation or nationality of the OOW.

Add 1) ***Do you regard the BNWAS to be part of the safety equipment on the bridge protecting the ship and its crew?***

221 of the respondents replied affirmatively to this question, which corresponds to approximately 93%. An overwhelming majority thus regards the BNWAS as being part of the ship's safety equipment and that it protects the ship and its crew.

Add 2) ***Has watch routines and watch procedures (Bridge Resource Management) been adjusted or modified after the installation of the bridge navigational watch alarm system?***

Only 24 respondents answered yes to this question which corresponds to approximately 10%. Primarily, procedures and routines had been modified to ensure that the BNWAS was engaged especially at departure from port. The reason for the relatively small number of navigators, who experienced changes in the ships' Bridge Resource Management, could be due to the fact that modifications in routines and procedures had already been made at the time the questionnaire was being answered.

Add 3) ***In your experience, how often has the BNWAS been activated?***

In total, the 237 navigators had experienced 265,000 step 1 alarms. This very significant number of alarms may seem difficult to relate to since some navigators only had experience with the BNWAS for a couple of months while others had up to 7 years of experience. Some had never experienced alarms and others had experienced 5 alarms going off every hour. Statistically, this means that a navigator currently on average will witness approximately 800 alarms a year. However, this greatly depends on the way the alarms are reset, cf. No.4.

However, the BNWAS' efficiency can be seen by the fact that of all of these alarms, only 1 out of 100 went to step 2 and none to step 3.

Add 4) ***Which reset function does the BNWAS have on the ship that you are working or worked on last?***

13% of the respondents had worked on ships that were equipped with systems that had an activity sensor detecting movements as the only reset function. During navigation with an activity sensor detecting movements there were almost no alarms.

28% of the respondents had worked on ships that were equipped with systems where a push button was the only reset function. These navigators experienced a great number of alarms. Many stated that they did not activate the reset function until after the alarm went off. In many of these cases, this gave rise to stress, cf. No.5.

7% of the respondents had worked on ships that were equipped with systems where activating navigational instruments was the only reset function. This caused surprisingly many alarms, probably due to the fact that instruments are not activated often during oceanic voyages or other long passages.

The remainder covers systems with 2 or more reset functions. It was clear from the answers that the more reset functions a system have, the less alarms go off.

Add 5) ***This question is to be answered in consideration of the answers given in No.4. Does or did the BNWAS have a negative effect on your work as OOW?***

20% answered the question affirmatively. The respondents mainly stated that it was a stress factor to experience the alarm going off and that it was stressful and distracting - especially in cases where the reset function was manual push button - to have to remember to reset the alarm at such short intervals or as an alternative let the alarm go off.

Add 6) ***Further information, if any***

There were many recommendations to change the design of the BNWAS to make activity sensor detecting movements and possibly combined with other sensors mandatory to reduce the number of distracting alarms. Especially systems which can only be reset manually by a push button were advised against.

Many took the opportunity to express that they found BNWAS to be a good measure which genuinely increased the navigators' the sense of safety.

Some believed that it could be difficult to distinguish between the different alarms on the bridge.