



VBB VIAK

APPENDIX 5

EEP19/85

**ICE FORCE STUDIES
IN THE BOTHNIAN BAY
Phase 2**

WORK PLANS PREPARED DURING PHASE 2

March 25, 1991
 R4816-000
 R4819-000
 Project ICE FORCES AGAINST
 OFFSHORE STRUCTURES,
 PHASE 2

Preliminary work plan

Task A: GLOBAL ICE FORCE STUDY

- A3.1 Inspection and repair of existing accelerometer, inclinometer and video systems onboard Norströmsgrund Lighthouse (NASAN).
- A3.2 Installation of equipment from Farstugrund onboard Norströmsgrund (for supplementary measurements and redundancy). (NASAN)
- A3.3 Periodic checking of the operation. (NASAN)
- A3.4 Instrumental data acquisition during the winter 91-92.
- A3.5 Data analysis and reporting. (VBB)

Task B: ICE FORCE DISTRIBUTION STUDY

- B2.1 Reinstallation of Ice Force Sensing Panels.
 - 2.1.1 **Inspection** of Norströmsgrund lighthouse. Investigation of the conditions of panels, dummy panels, attachments, instrumentation etc. (NASAN)
 - 2.1.2 **Fabrication** of equipment for replacement of damaged parts. (HSVA)
 - 2.1.3 **Reinstallation** of the panels, electrical cable system etc. (NASAN, HSVA)
 - 2.1.4 **Testing** of the operation of the entire panel system (HSVA, NASAN)
 - 2.1.5 Supplementary installation work, if necessary. (HSVA, NASAN)

- 2.1.6 **Retesting** of the panel system periodically. (NASAN)
- B2.2 Ice force measurements during the winter 91-92 incl. sampling of ice strength data etc. (HSVA).
- B2.3 Data analysis and reporting. (HSVA)

Task C. GENERAL PROJECT WORK

- C2.1 Project coordination, general activities (meetings, general arrangements for transportation etc.) (VBB)
- C2.2 Maintenance and operation of the diesel power supply system (NASAN).
- C2.3 Summary report including coordination of analysis results. (VBB)

April 27, 1992
R4816, R4819

Appendix to letter
April 27, 1992

**Project ICE FORCES AGAINST OFFSHORE STRUCTURES
- PHASE 2**

WORK PLAN

- (1) Preparatory work**
 - (1.1) Dismounting of accelerometers, computers, cameras and other sensitive equipment (Spring -92).
 - (1.2) Inspection and testing of the ice force sensing panels. (Late summer -92)
 - (1.3) Reinstallation of measurement and observation systems (after service and repair) and overhaul and refueling of the diesel generators and heating system. (Late fall -92)
 - (1.4) Starting up expedition including checking of the operation of involved systems. (Dec. 92 to early Jan. -93.)
- 2. Field activities, viz manning of the lighthouse for surveillance of the measurements and for sampling of ice data (during one or more periods of ice drift in January to early April -93)**
- 3. Data analysis, reporting and coordination work (Mid -93)**

4. Unprogrammed repair work

Most likely the need of repair and replacement of equipment will be moderate and the expenses will not exceed the budget. However, in the worst case malfunctions of the ice force sensing panels may call for unprogrammed work which could range from repair on site to removal, workshop repair and reinstallation of one or more panels.

(Late fall -92)