



PROJECT MEMORANDUM #2

Alaska Region Research Vessel

Phase 01/Preliminary Design

From: DHK
Date: 1 February 2002
File No.: 01084.01
To: Committee

Recommendation for Model Test Program:

The Glosten Associates and AKAC INC have evaluated model test proposals from six facilities. The proposals were graded on the basis of cost, schedule, proposed technical approach, and the extent of prior relevant experience.

The ranking of the proposals by the individual reviewers from The Glosten Associates and AKAC was unanimous as follows:

1. **VTT Manuf. Tech./Kvaerner Masa Yards Arctic Research Center (MARC)**
2. Kvaerner Masa Yards Arctic Research Center (MARC)/SSPA
3. HSVA
4. OCC/IMD
5. KRYLOV
6. CRREL/DTMB

The Request For Proposal (RFP) contained, in addition to the basic test program, several options. The “basic program” costs ranged from \$160,200 to \$814,300. Excepting the bid at \$814,300, the mean of the remaining five bids was \$209,082 and the standard deviation was \$32,622.

The basic program cost from VTT/MARC is \$160,200, which is in line with our original estimate of \$160,000.

The RFP requested costs on some optional test items. These were quoted as follows in the VTT/MARC proposal:

◆ Bubble Sweeplown Evaluation	no proposal
◆ Oblique Heading Irregular Seas at Speed	\$9,700
◆ Alternative Hull Form Testing (no reamers)	<u>\$19,700</u>
Total for options	\$29,400

All proposals, with the exception of CRREL/DTMB (only a price indication was forwarded), were of a high quality. The top two proposals, VTT and MARC, both proposed the same ice tests at the same facility (MARC).

It was felt by AKAC and Glosten that the relevant experience with azimuthing propulsors (Azipods and Z-drives in ice and open water), both model and full scale; the experience of the personnel; and proposed costs give a clear edge to VTT.

IPM #1
11 October 2001

All proposers estimated a schedule on the order of 15-20 weeks would be needed from the start of model construction to delivery of the final report. For VTT, assuming that we can provide them with a Notice-To-Proceed by 15 February, their schedule would look roughly like this:

Model construction	
ice/seakeeping	2/15-4/5
resistance/propulsion	4/15-4/29
Tests in Ice	4/8-4/19
Open Water Resistance	4/29-5/3
Open Water Propulsor and Self Propulsion	5/6-5/10
Detailed Wake Survey and Flow Visualization	5/13-5/17
Seakeeping Tests	5/27-7/5

Arno Keinonen's schedule is such that the ice model tests need to be completed no later than the dates shown due to his commitment to be in Sakhalin, Russia. Otherwise, his earliest availability for the ice tests is mid June. This would delay the completion of the tests by 9 or 10 weeks! As it is, the model test schedules will delay completion of our preliminary design by approximately one or two months.

We will be in contact with UAF to ensure that we can start this program expeditiously.