Senate Standing Committee on Economics
ANSWERS TO QUESTIONS ON NOTICE
Innovation, Industry, Science and Research Portfolio
Budget Estimates Hearing 2011-12
30 May 2011

AGENCY/DEPARTMENT: COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

TOPIC: Marine National Facility Future Research Vessel (MNFFRV)

REFERENCE: Question on Notice (Hansard, 30 May 2011, E31-32)

QUESTION No.: BI-15

Senator COLBECK: Okay. We will move on to the Marine National Facility Future Research Vessel project. Minister, can you tell us what your involvement in that project has been to this stage?.....
Dr Johnson: My understanding is that the facilities here in Australia do not have the necessary technical specifications to adequately test the sort of model that we built for this vessel. We have consulted with folks here in Australia around that but, unfortunately, the testing could not be done here.
Senator COLBECK: So what are the characteristics that make this fall outside the range of capacity we have here in Australia?
Dr Johnson: I would have to take that on notice. I do not have that specific detail in front of me. I do know that the facilities that we have employed in Europe are the best in the world and will give us the greatest confidence that the design of the vessel will meet our specs.

ANSWER

CSIRO's primary contractor, Teekay Marine, through their design team sub-contractor, RALion, had contractual responsibility for arranging the testing of the hull and propellers for acceptability for the RV – Investigator. Model testing with a 1/15 scale model in a towing tank is standard marine engineering practice when designing a prototype ship.

The towing tank at the Australian Maritime College (AMC) is the largest and only commercially operating facility of its type within Australasia required for the new vessel.

- With a 1/15 scale model (5,900mm long) a long towing tank is required to allow the acceleration of the model up to the equivalent speed of 16knots. The facility at AMC is too short to accommodate the tests.
- To measure shaft delivered power, remotely controlled actual variable speed drive motors are required and the facility at AMC does not have appropriate equipment for this.
- 'Bubble-sweep down' determination is required for the RV – Investigator. This test requires specialised equipment that is not available at the AMC.
- To carry out cavitation testing of the model's propellers, a cavitation tank is required. The cavitation tank at AMC is currently under construction and, when finished, would not be large enough to accommodate the RV- Investigator model.