

List of Survey Equipment (Enclosure to AAGL/PP&C/SV/2293 dated January 17, 2008)

<u>Sl.</u>	<u>Equipment</u>	<u>Quantity</u>	<u>Make</u>
1.	<u>Multibeam Swath Surveying System with :</u> (i) POS/MV (ii) Sound Velocity Meter (one deep and two shallow) (iii) Processing system.	01 set, complete with all accessories	(a) M/s Kongsberg, Norway
2.	<u>Hydrographic Research Digital Survey Echo Sounder :-</u> (a) Ship fitted (Dual Frequency) (i) Medium depth (3000 mtrs) (ii) Heave Compensator (b) Boat Fitted (Dual Frequency) (i) Shallow Depth (800 m) with Heave Compensator (c) Portable Echo Sounder (Dual Frequency) Splash proof, mounted on water scooters for inter tidal soundings (i) Shallow depth (100 m)	01 set 01 set 02 sets 02 sets	M/s Atlas Hydrographics, Germany
3.	<u>Acoustic Doppler Current Profiler / Doppler Velocity Log Integrated with INS</u> (a) Ship fitted with processor (depth 200 m),	01 set	M/s RD Instruments,

	<p>(b) Portable version for Boat operation (depth 50 m), including portable side mounts.</p> <p>(c) Post processing and rendering / visualisation software for various applications.</p>	01 set	USA
4.	<p><u>GPS Navigator</u> To be integrated with the navigation and hydrographic systems</p>	01 Set	M/s Leica GmbH, Switzerland
5.	<p>Combined short / long range DGPS based position fixing to be integrated with hydrographic and navigation systems of the SMBs and the ship</p> <p>(a) Reference Station -HF/MF/ UHF</p> <p>(b) Mobile Station</p> <p>(c) Software with life time licences, free upgradation and maintenance support for 10 years</p>	<p>01 set completed</p> <p>02 sets</p> <p>04 sets</p> <p>03 sets</p>	M/s Thales, France
6.	<p><u>Automated Data Logging System</u> with complete Data management functionality for handling large volumes of digital data from Multibeam Echo Sounder and side scan sonars</p> <p>(a) Ship system</p> <p>(b) Boat system</p> <p>(c) Post Processing</p> <p>(d) Spare Boat system</p> <p>(e) Software with life time licences free up gradation and maintenance support for 10 years.</p>	<p>01 set</p> <p>02 sets</p> <p>01 set</p> <p>01 set</p>	M/s Quester Tangent Corporation, Canada
7.	Electronic Theodolite	01 set	M/s Leica GmbH, Switzerland

8	Digital Level	02 sets	M/s Leica GmbH, Switzerland
9.	<u>Infra Red Distance Measuring Units</u> (Range minimum 12 Km)	02 sets	M/s Leica GmbH, Switzerland
10.	<u>GPS Land Survey System</u> With RTKF and post processing software and GSM based data + voice communicability	04 sets	M/s Leica GmbH, Switzerland
11.	Portable Current Velocity Meter	02 sets	M/s FSI, USA
12.	<u>Portable Digital Side Scan Sonar</u> (a) 150 m armoured tow cable with depressor. (b) 50 m tow cable (c) Portable winch (d) 600 m tow cable with depressor (one cable between two ships)	02 sets 02 02 01 01	M/s Edge Tech, USA
13.	Portable CTD System (1500 m) with winch	01 set	M/s General Oceanics, USA
14.	Complete digital Image processing and Photogrammetry software with workstation and accessories	01 set	M/s Leica Geosystems Singapore Ltd, Singapore
15.	Water Level Meters with telemetry	02 sets	M/s WS Oceans System Ltd, UK
16.	Underwater Camera with colour TV and Underwater Light System with detection accessories for marine archaeology etc.	01 set	M/s Simard
17.	Portable Magnetometer (a) Towed sensor with light cable 150 m and 600 m (b) Observations ashore station with logging and post processing software	02 sets 01 set	M/s Little More scientific Corpn. Ltd.,UK
18.	Bottom Sampler (Grab) and corers with penetration of 2 m	04 sets	M/s PC Engineering, Behrampur, Orrisa
19.	Portable observation class ROV with accessories and spares for operations upto 200 m	01 set	M/s Kongsberg Simrad
20.	Diver's communications sets (Two way)	02 sets	

