

**IWAI REPLY FOR THE QUERIES RAISED DURING PRE-BID MEETING HELD  
ON 24.05.2013 - Expression Of Interest (EOI) for short listing of Indian firms for Shoal  
Analysis Solution**

Sl. No	EOI Reference (Page No / Clause No)	Tender Clause	Queries	IWAI Response to Queries
1.	Page No. 1/ Section 2	IWAI wants to avail the services of a firm for development of GIS based information & decision support system to analyse river depth data for identification & prediction of Shoal formation in particular month / year at a place, permanent shoal or temporary shoal, migration of shoal, river behaviour, effect of water level on depths etc.	a) Does IWAI have any existing GIS system (Desktop / Web based) already in place?	IWAI is presently undertaking Hydrographic Surveys based on GPS based maps. Besides, IWAI has published RNC's / ENC's (Haldia - Farakka stretch) based on GIS technology.
			b) Is there some business process involved under WEB GIS based decision support system?	No. However, Customized Software application will be the proprietary item of IWAI and therefore IWAI is free to take any future decisions on its usage.
2.	Page No. 1/ Section 2	River Behaviour	Please elaborate on the desired output.	Change in course of navigational channel, as per thalweg / detailed surveys.
3.	Page No. 1/ Section 2	Migration of Shoal	Please elaborate on the manual process of identifying migration of shoal.	Shifting of shoals as per thalweg data / LAD Reports.
4.	Page No. 1/ Section 3	Fortnightly / Monthly thalweg (longitudinal) surveys are being carried out ... IWAI is preparing base maps in DXF format with the help of Satellite Imageries and SOI Toposheets, for carrying out thalweg surveys. IWAI is also measuring daily	a) Please provide details of the database in term of type, size, scale, numbers and data formats that are presently available with IWAI.	Thalweg & detailed surveys in xyz format. Base map in dxf format. Water level data in excel format. Satellite imageries from NRSC. Toposheets from SOI. Manual LAD analysis in excel sheets.
			b) We understand that all the spatial and non-spatial data will be provided by IWAI; hence data creation is not included in vendor's scope. Please	Data as mentioned at Sl#3 above will be provided by IWAI.

		Water Level data at existing IWAI's gauge stations.	confirm. c) Please clarify whether the existing data available with the IWAI in spatial and non-spatial format is geo-referenced or it needs to be geo-referenced by the vendor? If it needs to be geo-referenced by the vendor, please mention the source of ground control point (GCP). d) We understand that all the survey activity will be performed by the IWAI to collect the required data; hence field survey is not included in vendor's scope. Please confirm.	XYZ, dxf and satellite imageries are geo referenced.  IWAI will provide all field survey data.
5.		Data formats for inter compatibility	What are the different formats of input data provided by you? ( eg., Bathymetric data, DXF, Shapefiles, Topsheets, Coverages etc)	Already clarified at SI#4.
6.	Page No. 1/ Section 4/ a	To automate the manual process to analyse the shoal	What is the current manual process to analyse the Shoal formation? Please provide detailed information on current manual processes / workflow, formulae which needs to be automated to analyse the shoal.	Refer IWAI website, IWAI is generating Least Available Depth (LAD) from fortnightly / monthly thalweg surveys and analyzing it manually for Depth, length of shoal & period of shoal in excel format.
7.	Page No. 1/ Section 4/ a	Manual Process	a) Please elaborate on what are the criteria for manual identification of shoal? b) A workflow from xyz data to identification of shoal is extremely helpful in automating the process.	Available depth in particular location which is less than targeted depth. To be done by the vendor, if required.
8.	Page No. 1/ Section 4/ b	Use of Hydrographic Survey digital data in xyz format	IWAI will provide 3D (z-value) data of the shoal means required 3D GIS Database for data migration. OR bidder will create 2D GIS Database and z-value will be populated as an attribute. Please Confirm.	xyz are Easting (x), Northing (y) & Depth (z) values. As analysis is to be done for depth on positions, analysis can be done on plotting xyz and not by creating DTM / DEM.
9.	Page No. 1/ Section 4/ c	Designing & creating a systematic multi-layered and multi-scale GIS database	a) Please explain in detail "Designing & creating a systematic multi-layered and multi-scale GIS database having both spatial & non-spatial components".	The software solution created by the bidder should be able to give solutions based on

		having both spatial & non-spatial components		queries in a GIS platform.
			b) Provide the list of spatial and non-spatial components with appropriate geometry for GIS database preparation. Request to provide a sample DXF file as reference of land base data.	Already explained. DXF file can be collected after giving necessary undertaking.
			c) What are the Non-Spatial components?	E.g. Water Level, LAD Report, River Notice.
			d) What is the preferred RDBMS? What is the size of spatial and non spatial data?	The vendor has to assess based on the quantity of data available with IWAI.
10	Page No. 1/ Section 4/ d	Thematic display of Shoals	We understand that IWAI will provide the color code definition for preparation or classes & thematic maps. Please confirm.	Yes, as per standards established.
11	Page No. 1/ Section 4/ e	Identify Temporary Shoal locations in a particular Month & Year	Does it involves visual interpretation only or includes field verification also?	Visual interpretation at remote location.
12	Page No. 1/ Section 4/ f	Identify Permanent Shoal locations for a given duration of month / Year	What would be the criteria to identify permanent shoal locations?	Repetition of shoal at the same location in last three years / LAD less than 1.5m in two years / length of shoal more than 500m / period of shoal more than 300 days (total) in last three years.
13	Page No. 1/ Section 4/ g	Future predictions of Shoal, based on historic data	IWAI should provide historic data and criteria for future prediction. What kind of Model? Are algorithms for generating models based on already pre-defined parameters?	Bidder may collect historic data for presentation, as already mentioned in EOI. Future prediction should be based on analysis of permanent shoal, ideal water level for maintaining target LAD.
14	Clause 4 (g)	Prediction of Shoal and Shoal analysis	What are the different kinds of technical data provided by you? ( Such as Flow velocity, River Morphogeology, River Hydrology, Sedimentation rates etc)	Already clarified. (River Hydrology & Sedimentation rates are not available).
15	Page No. 1/ Section 4/ h	Profile view of sounding data	a) Please explain what is "Profile view of sounding data"? What is the expected behavior when viewing Profile	Profile view is graphical representation of

			view of sounding data? How should the Profile view of sounding data appear to the user?	bed from the water surface keeping Chainage (river kms) (on y-axis) vs Depth (on x-axis).
			b) Does IWAI mean profile viewing after creation of surface / raster from sounding data? Please provide more details.	Yes.
16	Page No. 1/ Section 4/ i	Software should give approximate dredging quantity at each temporary & permanent shoal to achieve various depths viz. 2.0m, 2.5m & 3.0m	a) Does IWAI mean that software should have capability to perform Cut n Fill Volumetric Analysis? What kind of other methods used by IWAI to quantify dredging at temporary & permanent shoal locations? b) Is the vendor allowed to choose GIS program/ Software for the proposed solution or IWAI has specific software preference?	GIS program should calculate the dredging quantity at a particular shoal. Volume of dredging = length of shoal x 45m width of channel x average depth of cut (targeted LAD-actual depth).
17	Clause 4 (k,3)	Dredging and Bandalling	What is the criteria for amount of dredging and bandalling based on shoal volume?	Already clarified at SI#16..
18	Page No. 1/ Section 4/ j	Design & develop an error free, customized, secure web based GIS application suite that allows easy access to the IWAI officials. Different category of security & access of website for IWAI officials & Mariner is to be made.	a) What are the preferred application development platforms? b) Please elaborate on the criterions for creation of error free and dynamic web site. c) What are the required category of security and level of access? d) Please provide details of modules and functionalities that need to be develop for web based GIS application suite. e) What type of customization is required by IWAI for web based GIS application suite? f) Please specify whether architecture of customized software will be centralized or distributed. g) Would the application be hosted over the internet or intranet or both? Please confirm the number of concurrent web users or/and the number	Will be provided in the RFP. Will be provided in the RFP. Application should be audited for security by authorised CERT-IN agency. As per requirement of Scope of work of EOI. For presentation, as per scope of work at SI#47. As per requirement of Scope of work of EOI. For presentation, as per scope of work at SI#47. Distributed. Client Server based. Both. Approx. 15 nos.

			of Desktop users of the proposed application.	
			h) Does the application require Multi-lingual support?	No
			i) What is the expected performance/response time of the system?	Will be provided in the RFP.
19	Page No. 1/ Section 4/ k	(Chainage)	a) Linkage between chainage and sub-divisions of chainage with respect to survey points?	Per-km Chainage is defined on dxf charts.
			b) Are the sub-divisions uniform?	Sub-divisions (if required) are to be divided between defined chainages.
			c) How is a thalweg survey point assigned to a particular chainage?	w.r.t. positions (Latitude & Longitude).
20	Page No. 1/ Section 4/ k	GIS based report generation	a) Please confirm if IWAI requires report generation automatically.	Yes
			b) Please explain what is meant by "Graphical representation of Water Level v/s LAD"? We are assuming that it means a chart showing water level v/s LAD is displayed. Please confirm.	Profile view of graph of Chainage (river kms) (on y-axis) vs Depth & Water level (on x-axis).
21	Page No. 1/ Section 4/ k	(Zones)	What is the basis of zoning of a stretch?	If two shoals have less than 300m distance between them, they will be considered under a single zone.
22	Page No. 1/ Section 4/ k	Maximum Length of Shoal (Chainage as well as Zone wise)	Does IWAI mean simple maximum length of Shoal?	Chainage-wise shoal is simple maximum length of shoal. Zone-wise is, if two shoals have less than 300m distance between them, they will be considered under a single zone.
23	Page No. 2/ Section 4/ k	Number of days Shoal has occurred	What are the criteria to find out number of days shoal has occurred?	Fortnight (15 days) x no. of times of occurrence or monthly (30 days) / no. of times, depends on the pattern of thalweg survey.
24	Page No. 2/ Section 4/ k	Effect of Dredging & Bandalling (improvement in	Hope that the pre and post-dredging sound survey reports will be available. What will be the frequency for	Dredging / Bandalling alignment (position



		depths)	measuring the changes?	of start & end) is to be plotted and improvement in the depths is to show from the date of dredging / bandalling for a period, say 5 months for bandalling and depths after completion of dredging.
25	Page No. 2/ Section 4/ k	This is based on the following information received in XLS format:	What is the layout for the data to be imported from the XLS files, i.e what are the data types, number of columns, and field names? What is the amount of data to be imported?	Already clarified at SI#4.
26	Page No. 2/ Section 4/ k/ii	Generate Alarm for the areas where LAD reduces below the targeted depth (say 3.0m, 2.5m, 2.0m & 1.5m)	a) What is meant by "Generate Alarm for the areas where LAD reduces below the targeted depth (say 3.0m, 2.5m, 2.0m & 1.5m)"? Are these the only targeted depths?	Targeted depths are different for different sectors and will be intimated in the RFP. Red colour notation for sounding to be shown as alarm for these depths.
			b) Is this an automatic alarm? Do they mean (by generate alarm) that point location should be highlighted on LAD?	Yes.
27	Page No. 2/ Section 4/ k/iii	What is the water level at which the Shoal formation will start	Not clear! Requesting for more details.	This is the analysis of historic LAD data and corresponding Water level data. Ideal Water level is to be found out at which the shoal formed.
28	Page No. 2/ Section 4/ 1	Generation of query & reports in printable format (on the basis of month-wise & year-wise data)	a) Does IWAI want spatial/non-spatial query builder?	Yes
			b) Does IWAI require integration with other Apps?	No
			c) What is the format of the reports to be generated? E.g PDF, CSV etc.	CSV
			d) How many types of reports need to be generated? Can IWAI provide samples for all the report types that need to be generated	Will be provided in the RFP
29	Page No. 2/ Section 4/ m	Training to IWAI officials to utilize & manage the web based GIS application	Please provide the length of training period, no. of staff that are to be trained, No. of batches, and location of training.	Bidder has to give information on suitable period etc. and same will be mentioned in the

				RFP
30	Page No. 2/ Section 4/ o	Copyright of Software / program to IWAI	Please elaborate what is mean by "Copyright of Software / program to IWAI"?	Software / customize application / program will be the proprietary item of IWAI.
31	Page No. 3/ Section 9/viii	Time of completion of work: 180 days from the date of award of work	We assumes that total length of the project duration is 180 days ~ 6 months, please confirm.	Software / customize application / program should be completed within 180 days from the date of award of work. The system should be under warranty for 12 months period. O&M for two years thereafter.
32	General	Sounding Data / Land base Data	We assumed that all the necessary input data will be provided by the IWAI. We understand that there is no scope of digitization either from hard copy maps or from satellite image. Please confirm.	Input digital data will be provided by IWAI.
33	General	Data Cleaning	Is there any scope of data cleaning? If Yes, then provide percentage of data need to be clean? If No, then We will migrate data as it is. Please confirm.	No data cleaning. Only to be arranged in order, if required.
34		Data Migration	Is the data migration done by IWAI or the vendor? This involves format conversion ,data cleaning and data standardization	Already clarified at SI#33.
35	General	Survey Data	Survey data will be provided by IWAI. Please confirm.	Already clarified at SI#4.
36	General	Geo-referencing/ re-projection	Is there any scope of geo-referencing/re-projection of data before data migration? If 'Yes' then provide the coordinate system for re-projection.	Already clarified at SI#34.
37	General	Bandwidth	What is the bandwidth available for Intranet and internet with the organization?	Intranet - 10/100 Mbps Internet - 8 Mbps
38	General	General	What kind of security and application access level restrictions expected?	1. Administrator / Client based 2. Permission based (privileges Right)
39	General	General	What are the SLA clauses and their penalties?	Will be provided in the RFP.



40	General	General	Is IWAI willing to pay for the Pilot/ POC development efforts that the vendor will be putting in?	No
41	General	General	Please suggest whether vendor has to setup local office for coordination? If yes, We assumes that the IWAI will provide suitable office space and other facilities such as electricity, telephone, water and internet connection etc free of rent/cost. Please confirm?	Bidder has to give web-based O&M for two years from their premises / space. IWAI will not provide hardware, networking, system software, space etc.
42	On Pg. 3, Para ix		There is a mention about O&M for two years. By this, we understand that GIS solution Provider will provide the software application (COTS + customized content) and onsite manpower to operate & maintain the project for 2 years. It is assumed that all infrastructure required to host the application and data – like hardware, networking, system software, space, etc. will be provided by IWAI. Please confirm.	Already clarified at SI#31.
43			Do we need to submit budgetary offer with EOI? Normally, its asked with detailed technical proposal. Client is requested to not to ask for indicative budget at this stage (with EOI).	Budgetary offer is only for estimation purpose.
44			a) Budgetary offer to be given for entire scope of work for NW-1, 2 & 3, or only for pilot data for a stretch? Please confirm.	Budgetary offer should be given for Pilot data only (165km length of the river).
			b) If it is for all NW's then would IWAI provide the size of data – required for effort / price estimation?	Already clarified at a) above.
45	Clause 6.10	Budgetary Offers	a) Does IWAI desire a data analysis engine for the pilot? If so, clarification regarding the budgetary component for inclusion of software, hardware and hosting components is required.	Bidder has to assess as per SI#44.
			b) If a proof of capability is desired at this stage instead of data analysis engine, when is the revised scope of the project EOI be expected?	As per SI#47.
46	General	General	What is the budget for DSS and WebGIS application development?	Already clarified at SI#43.



47		As per notice, Pilot using survey data provided by IWAI, to be completed between 20 <sup>th</sup> June 2013 to 19 <sup>th</sup> July 2013, and presented on 19 <sup>th</sup> July 2013	<p>a) Should Pilot cover entire scope of work mentioned in EOI or will it be a limited scope?</p> <p>b) If entire application scope as defined in EOI notice needs to developed and presented, even with limited dataset, it will take approx. 180 days.</p> <p>c) However, IWAI has given a months' time only for the Pilot. So please convey clear scope of work for Pilot.</p>	<p>EOI pt. 4 (Scope of Work) a) to f) &amp; h) to i)</p> <p>Already clarified at a) above.</p> <p>Already clarified at a) above.</p>
48			We understand that for Pilot project, data shall be provided by IWAI. For the total project execution, will IWAI be responsible for providing the complete data set, including ensuring its quality and timely delivery? Please clarify.	Bidder has to give results based on the data being provided by IWAI. Bidder can inform about any leftover data required by them for completing the project, as per TOR.
49	Clause 8.3 and Clause 6.9	Methodology	What are the components desired by IWAI at this point?	Bidder has to give methodology as per their technical ability for completing the project.
50			Can see large requirement for analysis of data stored in the database (page 1,2 of scope of work) With large requirement for analysis of data in the database like LAD, Maximum length of shoal etc., the database should provide built in features like Linear Referencing, Spatial queries, Native inferencing support etc.	Yes.
51			We understand that the updated Base map will be provided before start of the work. Please confirm.	Yes.
52			Water level data: is it point data? Will it be made available in digital format?	Excel file will be provided.
53			Do you want to see the result of analysis using software or in PPT?	Software application.
54			Selection criteria during RFP: Please weightage of technical and financial proposal.	Will be mentioned in the RFP document.
55			Foreign firms who are having / project experience in India but are not	No, they need to form JV /

			registered in India can apply? Kindly confirm.	Partnership with Indian firms.
56			Is joint venture and association permitted?	Yes
57	Clause 8	Selection Criteria	<p>Please elaborate selection criteria:</p> <p>1. Is this is only technical evaluation.</p> <p>2. As per our understanding this is a technical evaluation, at the stage of EOI asking financial quotation is unusual. Please confirm the requirement of financial proposal.</p> <p>3. Without defining technology and volume of data- the quantum of work cannot be assessed. Request you to please define following:</p> <p>a) Quantum of work.</p> <p>b) Technology to be used.</p> <p>c) GIS engine to be used (option for Open source as well as proprietary software should be given to have competitive proposals).</p>	<p>1. Yes.</p> <p>2. Already clarified.</p> <p>3. a) Bidder has to assess.</p> <p>b) Liberty for the bidder to choose.</p> <p>c) Both Open &amp; proprietary firmware are acceptable.</p>
58		General	We understand that based on the technical proposal few companies will be shortlisted and a paid pilot will be give to selected companies. Please confirm	As per EOI.
59		General	After successful completion of the Paid Pilot, a detailed RFP will be invited for companies who have successfully completed the paid pilot. Please confirm	Yes.
60	9.iii.		Revised date of submission of EOI	05.07.2013 up to 1500 hours
61	9.iv		Revised date of opening of bid	05.07.2013 at 1600 hours
62	9.v.		Revised date for collection of Pilot data	Up to 16.07.2013
63	9.v.		Revised date for Presentation	Up to 23.08.2013. Specific date & time will be allotted to each bidder.