Government of India
National Hydrology Project (NHP)
Ministry of Water Resources, River Development & Ganga Rejuvenation
2nd Floor, Rear Wing, MDSS Building, 9, CGO Complex, New Delhi-110003.
Tel: +91-11-24363417, E-mail: **sjc2nhp-mowr@gov.in**

No. X-63014/2/2018-NHP/ 1856-1857 **Dated:22-03-2019**

INTERNATIONAL COMPETITIVE BIDDING

REQUEST FOR EXPRESSION OF INTEREST (EOI)

Sub: Clarification and Corrigendum for Expression of Interest for Consultancy Services for "**WATER ACCOUNTING AND INTEGRATED RESERVOIR OPERATIONS FOR NARMADA RIVER BASIN**" under the National Hydrology Project.

Dear Sir/Madam

With reference to the Pre-bid conference held on 18-03-2019 at the O/o National Project Monitoring Unit (NPMU), New Delhi, the Clarification and Corrigendum for Expression of Interest for Consultancy Services for "**WATER ACCOUNTING AND INTEGRATED RESERVOIR OPERATIONS FOR NARMADA RIVER BASIN**" is enclosed herewith as Annexure-1 for information and further necessary action please. The **last date for submission of EoI has been extended to 30-04-2019 15:00 hrs Server time and will be opened on 30-04-2019 15:30 hrs. Server time.**

22/3/2019

(**N K Manglik**)
Senior Joint Commissioner II

Copy to

All concerned.

Copy for information to:

1. Executive Member, NCA, Indore
2. JS(IC&GW), MoWR, RD & GR

Annexure-1

Request for Expression of Interest for Consultancy Services for "**WATER ACCOUNTING AND INTEGRATED RESERVOIR OPERATIONS FOR NARMADA RIVER BASIN**" under the National Hydrology Project

Clarification on the REOI document either via email or during the pre-bid conference held on 18th March 2019 at 11.00 am

No	Question	Answer
1	Are the reservoirs on the tributaries upstream to be considered?	In the test problem only the simplified system presented in the REOI is to be considered. The final model will eventually be developed for the entire system by the successful bidder.
2	Time is needed for identifying and teaming up with international partners. Can more time be given for the submission of the EOI?	Kindly refer to **Corrigendum No 4** below this table.
3	Only a limited number of international staff is considered in the REOI. Why is this tender being organised as an international competition?	The NCA wants to receive the best technical solution available both nationally and internationally.
4	It is suggested that more time should be allowed for training.	This would be as per REOI and RFP.
5	Can the budget for this project be disclosed?	No.
6	Can two different bidders use the same model?	Yes.
7	Are weather forecasts to be considered in the modelling?	The test problem should be solved only for the input data provided as part of the bidding package. Further, as per REOI, the output of Extended Hydrological Prediction Study (EHP) under consideration separately by this office should be integrated with this proposed study.
8	Does the consultant team have to be present at Indore?	Yes. The time input for the home and field will be defined at RFP stage.
9	Does a benchmark solution for the test problem exist?	Yes.
10	How will the model be connected with eSWIS.	The data from eSWIS may be integrated with the proposed model through dashboard in the form of web services or FTP protocol.
11	Should the proposed model be open source or can a commercial tool be used.	Both options are possible.
12	Please clarify the requirement of source code for proprietary software models.	The commented source code for additional elements (plug-ins, dashboards) and customisation part has to be handed over, not the source code of the main proprietary model.
13	What are the starting reservoir levels at the end of June 30th , 2008 for all test model runs?	Kindly refer to **Corrigendum No 1** below.
14	Will the rating curves be provided?	There is only one canal with a rating curve, which has already been provided in the REOI.

15	Will there be a presentation of the different solutions of the consultants at the end of the EOI process?	No, this is not permitted as per procedures. However, if required written clarifications can be sought on the historical facts.
16	Can the PPT presentation of the pre-bid meeting be shared?	Yes, the presentation will be uploaded to the NHP site with other updates.
17	A request was made to review the method of selection of consultants, i.e. by using QCBS instead of CQS?	The current approach has been reviewed by the competent authority. The proposed method i.e. CQS is considered appropriate.
18	Can one firm submit more than one model and alternative teams for each model within their proposal, if the solutions to the test problem from the two models are of approximately equal quality, such that the client has the option to choose?	Yes, one bidder is welcome to submit more than one choice for the model, provided the test problem solution is provided with each model.
19	What exactly is the 10-day time step? Is it 1/3 of a month, 1/36 of a year, or what ...?	Typical length of the time steps for setting and operating the irrigation canal flow targets in Asia are 10, 10, 10 days for months with 30 days, while the months with 31 days are divided into 10, 10, and 11 day time steps. For the month of February, the time step would be 10, 10, and 8 day lengths for non-leap years and 10, 10, 9 days for leap years. Any other assumption of the length of the 36 time steps on the part of the bidders should be explained in their submission, explicitly listed and justified. In general, a versatile model is expected to have flexibility with the time step lengths.
20	Mandatory target flows for Channel 15 are missing in the original spreadsheet.	Kindly refer to the updated input data spreadsheet "**narmadadata1.xls**" that contains the mandatory target flows for channel 15.
21	The final point in the elevation-area-capacity curve for elevation of 199.62 at OSP reservoir is missing in the storage capacity tables.	Kindly refer to the updated input data spreadsheet "**narmadadata1.xls**" that contains on additional point in the storage capacity table.
22	Why are deficits shared in time for the entire year?	The intent of the test problem is to show the ability of the model to optimize both the reservoir releases as well as hedge the demands optimally in years whey deficits are inevitable. Hence, the model should derive the level of reduction from the target demand in years when the demands cannot be fully satisfied. If the final solution includes 18% in irrigation deficits, such deficits should be spread over all 36 time steps, since the model solves all 36 time steps with the perfect foreknowledge of inflows and demands.
23	Does the client intend to evaluate all interested consultants at this phase to determine the best one without taking into account the financial aspects of the bid?	Yes, the client is interested in the quality of the solution and the proposed team at this stage.
24	Can bidders include a Third party – Liaison officer as an external advisor to enable effective and efficient performance of the contract?	Yes, bidders are allowed to form any sort of associations within their teams, but the nature of those associations should be clearly defined in the bidding documentation. More details would be firmed up during the negotiation phase.

25	Please explain nodes 8,9 and the direction of reach 17. Sardar is providing environmental flows to 17 and supply for 610. Is channel 17 supplied via 501 and node 9? i.e., 501 supplies both reach 17 environmental flows and 610? or is reach 17 supplied through 16 and node 8?	The direction of flow in channel 17 is from node 9 to node 8, supplied by channel 501. Node 8 is the terminal node in the schematic through which flows in channels 16 and 17 are discharged out of the system.
26	What should be included in the model output and in what format should it be presented?	Model output should include all channel flows, all reservoir levels, water use on irrigation blocks and net evaporation on reservoirs. The output should be provided both in the units of volume and in the units of flow (in separate worksheets). The assumed length of all time steps should also be indicated. Model output should be presented in a tabular format as a spreadsheet file with each model component containing output in a single column.
27	Please Clarify which shall be the criteria do consider in the evaluation of: • Model Results • The company profile and its consultant's team	Both model results, company profile and its consultant's team will be considered in the evaluation.

Corrigendum to the REOI document describing the test problem and answers to the questions posed before and during the pre-bid meeting, NHP office, March 18, 2019 at 11:00 am

The following changes to the REOI document should be noted:

Corrigendum No. 1. *Page 34 paragraph 3:* ***Table 1 in the REOI document describing the test problem:***

Reservoir	Maximum Water Level (m)	Full Supply Water Level (m)	Dead Storage Water Level (m)	Minimum Water Level (m) on June 30th
Bargi	425.70	422.76	406.00	409.00
Tawa	356.66	355.40	334.24	336.45
Indira Sagar (ISP)	263.35	262.13	243.23	245.00
Omkareshwar (OSP)	199.62	196.60	196.60	196.60
Sardar Sarovar (SSP)	140.21	138.68	110.64	110.64

Should read as: (includes the starting reservoir levels on June 30th, 2008 for all scenarios):

Reservoir	Maximum Water Level (m)	Full Supply Water Level (m)	Dead Storage Water Level (m)	Minimum Water Level (m) on June 30th	Starting Elevation in all Scenarios (m)
Bargi	425.70	422.76	406.00	409.00	417.00
Tawa	356.66	355.40	334.24	336.45	351.00
Indira Sagar (ISP)	263.35	262.13	243.23	245.00	260.00
Omkareshwar (OSP)	199.62	196.60	196.60	196.60	196.60
Sardar Sarovar (SSP)	140.21	138.68	110.64	110.64	122.00

Corrigendum No. 2. *Page 39, paragraph 4:* ***The following paragraph in Section 2.4 under the sub-heading of Scenario 1 (and valid for all other Scenarios):***

Sardar Sarovar Reservoir (SSP) will first provide environmental flow targets of 17 m^3/s for channel 17 at all times, and then provide flows for its irrigation block 610. If deficits are inevitable in irrigation block 610, they should be shared evenly in time over the 36 time intervals.

should read as:

Sardar Sarovar Reservoir (SSP) will first provide environmental flow targets of 17 m^3/s for channel 17 at all times, and then provide flows for its irrigation block 610. If deficits are inevitable in irrigation block 610, they should be shared evenly in time over the 36 time intervals. The environmental flow targets in channel 17 are mandatory for all time steps, they should be modelled either as the highest priority component, or as a hard constraint; they are not included in the evaluation of the value of the objective function, but they will be checked for compliance as model constraints.

Corrigendum No. 3. *Page 41, paragraph 5:* ***The following sentence 2 in Section 3.1.3:***

Other environmental flow targets on channels 10, 11 and 15 vary throughout the year and they should be met for all time steps if possible.

should read as:

Other environmental flow targets on channels 10, 11, 12 and 15 vary throughout the year and they should be met for all time steps if possible.

Corrigendum No. 4

Page 5 paragraph 2:

13. Expression of Interest with all relevant information and documents can be downloaded on https://eprocure.gov.in/eprocure/app for "CONSULTANCY FOR 'WATER ACCOUNTING AND INTEGRATED RESERVOIR OPERATIONS FOR NARMADA RIVER BASIN' UNDER NATIONAL HYDROLOGY PROJECT" **from 05-03-2019 to 16-04-2019 15:00 hrs Server time.**

Should read as:

13. Expression of Interest with all relevant information and documents can be downloaded on https://eprocure.gov.in/eprocure/app for "CONSULTANCY FOR 'WATER ACCOUNTING AND INTEGRATED RESERVOIR OPERATIONS FOR NARMADA RIVER BASIN' UNDER NATIONAL HYDROLOGY PROJECT" **from 05-03-2019 to 30-04-2019 15:00 hrs Server time and last date for submission of EoI is 30-04-2019 15:00 hrs Server time and will be opened on 30-04-2019 15:30 hrs Server time**