DETAILS OF WORKS / CONSULTANCY / PURCHASE CONTRACTS AWARDED ON NOMINATION BASIS

2ND QUARTER OF 2018 - 19 (JULY 2018 - SEPT 2018)

DETAILS OF WORKS / CONSULTANCY CONTRACT

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Sr. No.	**Name of Work / Description of Item**	**Tender / Quotation No. & Date**	**Estimated Cost (Rs. in Lakhs)**	**Name of the Agency**	**Work Order & Date**	**Value of work awarded (Rs. in Lakhs)**	**Contract Period**	**Reasons for nomination**	**Approving Authority**	**UNIT**
1	"Providing intellectual services, support and QA coverage to Geological Investigation and studies for Kaiga 5&6 at Kaiga Site".	NPCIL/KAIGA/CTC/Kaiga- Civil-5&62018-19/N/56	51.98	National Institute of Rock Mechanics Outer Ring Road, Eshwara Nagar, Banashankari II nd Stage Bangalore-560070	NPCIL/KAIGA/CTC/Kaiga- Civil-5&62018-19/N/56 Date:27.09.2018	51.98	6 Months	Presently NPCIL, Kaiga Site is not having qualified Geologist/ Geo-technical Engineer or QA establishment for Geological works to provide QA coverage in the aspects to be covered under geological studies. A formal enquiry was made with available Government of India Agencies in this region viz, Central Water and Power Research Services(CWPRS), Pune and National Institute of Rock Mechanics (NIRM), Bengaluru. The scope of work which the work demands and NPCIL requirement was mailed to the concerned agencies. CWPRS, Pune has conveyed their inability to provide such support to NPCIL from their organization. Whereas NIRM, Bengaluru conveyed their consent to provide such requirement. Hence contract is awarded to NIRM Bangalore.	Site Director	Kaiga Site
2	Area drainage study using coupled 1-D&2-D hydrodynamic model in MIKE FLOOD software including (i) hydrologic design of surface drains, and (ii) determining critical hydraulic forces and velocities for design of flood protection walls for proposed 4 x 700 MWe Mahi Banswara Rajasthan Atomic Power Project (MBRAPP-1 to 4) in Banswara District in the State of Rajasthan	SWHD/NIH/NPCIL/ 2017 dated 27.10.2017	76.36 including GST@18% or as applicable	National Institute of Hydrology, Roorkee	NPCIL/Projects/ MBRAPP – 1 to 4/ 10000/2018/M/ 200748 dated 9.7.2018	64.715 excluding GST. GST will be paid extra as per rate applicable.	09 months	Description of the work: Specialised studies of plant area drainage of MBRAPP-1 to 4 consisting of the following are required to be carried out to obtain AERB and MoEFCC clearance : (i) Plant area drainage study using coupled 1-D&2-D hydrodynamic model in MIKE FLOOD software (ii) Hydrologic design of surface drains (iii) Determining critical hydraulic forces and velocities for design of flood protection walls (iv) Assessment of spread of flood water under various cases of flooding for emergency preparedness plan (v) Integration of area drainage studies with previously awarded flood studies. (vi) Participation in MOEFCC and/or AERB meetings to defend their work. (vii) Carry out additional studies if required by AERB and MoEFCC during the course of review.	Executive Director (P-PHWR)	HQ

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								The above studies were awarded to NIH, Roorkee on nomination basis for reasons below: 1.Technical capability of NIH NIH is a Government of India Institution under Ministry of Water Resources. It is the premier R&D Institute in the area of hydrology and water resources in India. They have wide array of expertise, covering almost all the topics in the domain of hydrology and with large and vibrant groups of scientists, supported by scientific and project staff, and close links with field and academic community, they are taking up challenging tasks in water sector and serving the nation. The Institute has completed a number of consultancy and sponsored research projects awarded by several state governments, departments/ministries of central govt. and PSUs. NIH is familiar with entire scope of studies including developing digital elevation models, estimation of design flood		
								hydrographs, calibration and validation of model, carrying out coupled 1-D & 2-D hydrodynamic model simulations in MIKE FLOOD wherein the flow within drain (1-D flow) is simulated in MIKE 11 and overland flow (2-D flow) is simulated in MIKE 21.		
								2. Integration across studies There is no other institution in the country taking up entire scope of work under single umbrella taking single point responsibility. As the data of one sub study of the scope is to be used across the studies, the entire work has to be attempted together due to their interdependability as well as need of integrating drainage studies with flood studies taken up separately by NIH under a separate contract. 3. Past Track record NIH has completed a lot of studies entrusted by NPCIL in the past. They have carried out flood study for GHAVP, CMPAPP, NAPS, MBRAPP-1to4 and area drainage study including hydrologic design of site area drainage for GHAVP, CMPAPP. They are presently carrying out flood study and area drainage study for Kaiga-5&6 site. They could defend their studies successfully in AERB .		
								4. Other Competitors There are Govt. agencies (Central Water & Power Research Station (CWPRS) Pune & Central Water Commission(CWC) New Delhi) and Private agency (DHI India Water & Environment Pvt.Ltd. New Delhi) doing one or other part of the job but none of these are taking up, entire gamut of studies under single umbrella. Taking all above reasons in view, it was decided to place work order on NIH , Roorkee on nomination basis in the interest of work as well as of NPCIL.		

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3	In situ repair of pin hole in Boiler hair pins shell at RAPS-2.	NT-1849	16.76	M/s Prasanna Engineering Corporation	63890 dt. 16.08.18	16.94	01 Month	BSD of RAPS-2 was taken on 30th June 2018 for carrying out ISI of system, structure and components, maintenance on system equipment, implementation of engineering changes and surveillance test as per technical specification. Continuous increase in light water collection from Boiler room dryers was observed since 10/6/2018. Prior to this the light water collection from boiler room dryers was 1000-1250 Kg/day, which gradually started increasing and reached up to 4400 Kg/day on 30th June, 2018 when unit was shut down for BSD. After unit shut down for BSD, leak search was carried out in boiler room area and presence of light water leak was observed in south side boiler cabinet in hot condition but location of leak could not be confirmed as entry inside boiler cabinet was difficult due to high temperature. To further confirm the leaky source inside boiler cabinet, PHT system was cooled down, and secondary side of boiler was pressurized to 1.6 kg/cm2 with air, keeping secondary side of all boilers in filled condition. Leak search was carried out in all the 75 hair pins of all the 8 boilers which were in service. Jet of water was observed coming out from boiling leg of hair pin-4 of BO#8 whereas seepage of water with brown marks were also noticed at boiling leg of hair pins #5,6,7&9 of BO-7. Location of all these leaks /seepage were at toe of weld joint between monel tube sheet to CS shell of hair pin in boiling leg side. DPT(Repeated thrice for better results) was carried out in leaky hair pin# 4 of BO-8 which confirmed circumferential crack of about 9 inch length on the toe of weld joint between Monel tube sheet and CS shell of hair pin HX. Out of nine inch length of crack about 2” is through crack. Subsequently UT thickness gauging of this joint has confirmed gradual reduction of thickness at nearby location of crack. Similarly, DPT (repeated thrice for better results) was carried out in hair pins # 5,6,7 & 9 of BO-7. There were indications of tight crack on hair pin # 7&9 but no indication of crack on hair pin # 5&6. UTG of suspected leaky locations on hair pin # 5,6,7&9 has shown reduction in wall thickness. Moreover, it was observed some lines of seepage water on D2O piping connecting boiling leg of these hair pins and brown marks of corrosion at suspected leaky locations. Such marks are not observed in other hair pins of any boiler in both the cabinets. Based on these observations the hair pin # 5,6,7& 9 are confirmed to have minor crack / pin hole on boiling leg of HX which get opened at high pressure & temperature. Hence it is unsafe to operate he unit with these indications of early failure.	Station Director, Unit-1&2	RR SITE

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								Based on the NDT data and physical verification of all suspected leaky location design group (HQ) was consulted for further course of action. The NPCIL team of QA & design office from HQ visited station. They verified all NDT data and physically checked the leaky locations in hair pins of BO#8 & BO#7. Based on detailed discussion with designer at site, and keeping in mind that En-mass hairpin replacement work in RAPS-2 shall be taken up in 2019 the station has decided following strategy to identify root cause of failure and taking suitable corrective action for leak management in feed water side of boiler before taking unit start up after BSD activities.		