



भारत सरकार  
जल संसाधन, नदी विकास  
और गंगा संरक्षण मंत्रालय  
केन्द्रीय जल आयोग  
जल विज्ञान मंडल



Government of India  
Ministry of Water Resources,  
River Development & Ganga Rejuvenation  
Central Water Commission  
Hydrology Division

नीरवलम / NEERVALAM

संख्या.आर-81,टी.एन. एच. बी. कोलोनी / No. R-81, TNHB Colony,  
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संख्या/No-HD/HQS/NIT/2016/4632-43

दिनांक/Date: 24/11/2016

सेवा में/To

M/s. Sutron Hydromet Systems Pvt Ltd,  
D-128-129, 1<sup>st</sup> floor, Enterprise,  
Okhla Industrial Area, Phase-I,  
New Delhi - 110020.

M/s. Xylem Analytics South Asia,  
No. 456, Level 4, Augusta Point,  
DLF Golf course road, Sector-56,  
Gurgaon Haryana.

M/s. Astra Microwave Products Ltd,  
Astra Towers, No. 12(P),  
Kothaguda Post, Kondapur Hi-tech city,  
Hyderabad - 500084.

M/s. Mechatronics Systems Pvt Ltd,  
Mechatronics House, Survey No. 107,  
Warje, Mumbai Bangalore Highway,  
Pune - 411052.

विषय/Sub: Minutes of Meeting of the Pre-bid conference of the tender document for 70 Nos Telemetry stations held  
on 22.11.2016 in O/o The Chief Engineer, Cauvery & Southern Rivers Organization, CWC,  
Coimbatore - के बारे में/Reg.

संदर्भ/Ref: Lr. No. 14/4/19/2016/T/FF/Vol-II/5089-96 dated 23/11/2016

महोदय/Sir,

Please find enclosed the clarification for the queries raised by the above firms recorded at pre-bid conference held on 22.11.2016 in O/o The Chief Engineer, Cauvery & Southern Rivers Organization, CWC, Coimbatore as given at Annexure-A. The specifications of equipments and associated infrastructure required at Modelling Centre, Bengaluru is given at Annexure-B. The revised list of WL & MS stations (Bubbler & Radar) and MS stations is given at Annexure-C.

Representatives from M/s. Sutron Hydromet Systems Pvt Ltd, New Delhi & M/s. Astra Microwave Products Ltd, Hyderabad attended the pre-bid conference. The list of officers from CWC who attended the meeting is given at Annexure-D.

Prospective bidders may note that the annexures shall form the part of Tender document No. 7/HD/HQS/NIT/2016/ dated 07/11/2016. The same will be uploaded in CWC/PPP/TCIL portal for reference.

भवदीय/Yours faithfully

  
(र. गिरिधर)/(R.GIRIDHAR)

अधिष्ठासी अभियंता/Executive Engineer

o/c  
24/11/16

प्रतिलिपी/Copy for information to:

1. The Superintending Engineer, C&SRC, CWC, Bengaluru.
2. The Superintending Engineer (C), C&SRO, CWC, Coimbatore.
3. The Director, Flood Forecast Monitoring Directorate, CWC, New Delhi.
4. The Director, River Management Co-ordination Directorate, CWC, New Delhi.
5. The Executive Engineer, SRD/Coimbatore, CD/Bengaluru & SWRD/Kochi.
6. The Notice Board, HD, CWC, Chennai.

24/11

अधिषासी अभियंता/Executive Engineer

O/c  
24/11/16

**ANNEXURE -A**

<b>S.No</b>	<b>Tender Reference</b>	<b>Queries by M/s. Sutron Hydromet Systems</b>	<b>Clarification</b>
1.	Qualification, Page No. 3	Qualification criteria do not seems to provide recognize for the system that is running for more than 7 years. We therefore request you to kindly increase the number of year of experience to 15 years so that CWC can get proposals from field proven service provider so that the system life can be prolong for more than 7 years that is being envisaged	No Change
2.	Mandatory Visit, 14.11.4, Page No. 29	We understand that the visit mentioned here is for water level stations only. The visit to WL station every month is not required as during non monsoon most of the water level up to the bubbler termination. Also telemetry data can be compared with manual data at the modeling centre and if there is a mismatch beyond expected accuracy, our engineer will visit that particular station	Monthly visits are mandatory to all telemetry stations apart from visits during malfunction of equipments / errors. During Heavy Flood situation the agency has to report to modeling centre in short notice preferably within 2 hours.
3.	Dismantling & Reinstallation, 14.11.5, Page No. 29	Visit of engineer for dismantling and reinstallation is a cost so we request that the free dismantling and reinstallation service should be restricted to once per site for the duration of the project for 7 years	25 times during period of 7 years
4.	Schedule of quantities, Page No. 39	Here it is mentioned that bidder has to supply server, LAN, RDBMS at CWC Bengaluru has to be supplied but no specifications has been provided	As mentioned in Annexure B
5.	General, Para 2, Page No. 46	We understand that CWC already has a ERS and existing modeling centre in Chennai and Hyderabad and FFM Directorate, New Delhi with respective VSAT connectivity so the hardware/software for data reception and data transfer between ERS and all the modeling centre is not under the scope of this tender	Existing Modeling Centre at Chennai does not have VSAT connectivity. Only hardwares are available at Chennai. So VSAT connectivity from ERS, New Delhi to Chennai is in scope of works apart from New Modelling Centre at Bengaluru
6.	Bubbler Specifications, 4.3, Page No. 52	The range mentioned is 15 PSI or 30 PSI. Kindly clarify how many bubbler should be of 15 PSI and how many should be of 30 PSI as we can reduce cost by proposing appropriate range bubbler	Range is 15 PSI for all bubbler stations except for site Biligundulu which requires 30 PSI

7.	Bubbler Tube, 4.3, Page No. 52	For all the bidders to be on par, kindly provide the bubbler tube length required at each station	Detailed information pertaining to the works will be open for inspection by the tenderers at the office of the Purchaser. Tenderers are advised to inspect and examine the locations where the telemetry system is to be installed and their surroundings, at his own cost, and satisfy themselves before submitting their tenders (as far as practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their subsequent work at these sites. However the length of bubbler tube cannot exceed 200m
8.	Radar Specifications, 4.4, Page No. 53	The range mentioned is 15/20/35/75 m. Kindly clarify how many radar should be of each range as we can reduce the cost by proposing appropriate range	Out of 17 radar stations, only Mettur dam and Bhavanisagar dam requires 75 m range. All other stations require 35m range only
9.	Radar Specifications, 4.4, Page No. 53	Display is normally required when radar is installed as a standalone system. Since radar is being installed along with data logger with display, hence display in radar is not required. Moreover, accessing the radar display at the end of cantilever / boom is not practically possible. This will also reduce the cost of radar	Separate display in Radar not mandatory
10.	Alarm, 5.1.2, Page No 53	Instantaneous Alarm reporting needs RANDOM transmission mode of burst, which is normally, not followed as all remote station uses self time transmission mode. RANDOM transmission needs ISRO / IMD permission. Alternatively the alarm can be generated by data decoding software at ERS on the basis of threshold / limit data value. This will remove	Not Mandatory

		the requirement of RANDOM transmission. Kindly confirm whether alarm reporting to ERS is required	
11.	GSM / GPRS Modem, 5.2.1, Page No. 55	Kindly clarify who is responsible for issuing SIM card and its recurring charges	Recurring charges of SIM card will be paid by agency. SIM card to be purchased by agency. Necessary authorization shall be given by CWC
12.	GSM / GPRS Modem, 5.2.1, Page No. 55	CWC has asked for dual telemetry of satellite and cellular. Is the available software with CWC capable of receiving GPRS data also. If not does bidder needs to quote for separate software for receiving GPRS data. How the satellite and GPRS data are to be integrated. Who is responsible for integration of these two sets of data	Necessary software and integration of satellite and GPRS data is to be provided by the agency at Chennai & Bengaluru. Agency is responsible for integration of 2 sets of data
13.	Display, 5.2.3, Page No. 59	CWC has asked for display inbuilt in data logger and also asked for option for external display. We understand that external display is not in the scope of this tender	No Change
14.	Back up days, 6.2, Page No 66	Here the backup days mentioned is 60 days which is too long for DC power system as battery and solar panel for this backup will increase and dimension solar panel, battery and enclosure thus increasing the cost. Normally a back up days of 30 days is considered for remote stations	No Change
15.	AC charging option, 6.2, Page No. 66	Since all telemetry stations are located remotely and using battery for operation, do we need to provide option for AC charging	No Change. Wherever AC connection is available will be provided by CWC
16.	Battery pack alarm, 6.2, Page No. 66	Audio and visual alarms are usually for battery banks and not for single battery. Moreover since battery value will be transmitted along with hydro-meteorological data, the battery status can always be monitored and necessary action be taken when required	No Change
17.	Fencing, 9.2 (b), Page No. 69	We understand that fencing is not required in this tender	Point 9.2 (a) & (b) at Page No. 69 of NIT may be followed
18.	Payment	Payment should not be on hold for any delay in installation and commission due to non clearance of site from CWC and site should be accepted on pro-rata basis	No Change
19.	Site damage / Shifting	Any site damaged by vandalism or theft of site as well as site shifting of stations shall not be in the scope of tender	No Change

S.No	Tender Reference No	Queries by M/s. Mechatronics Systems Pvt Ltd	Clarification
1.	EMD in form of BG, 14, Page No 5	As EMD in form of BG also has equal liability on par with DD/FDR kindly allow 100% EMD by BG, irrespective of value & not limited to 50%	No Change As per CPWD norms
2.	Clause 16.5, Payment terms, Page No. 30 10% of contract price excluding AMC charges mobilization advance against BG, which shall be released after successful completion of 2 years of warranty & 5 years of AMC	We wish to submit 10% PBG to avoid SD deduction. 10% mobilization advance to be released against submission of PBG. PBG to release after UAT & 2 years warranty period. We can submit separate 10% PBG of the 5 years. O&M contract cost	No Change
3.	Clause 16.4, Payment terms, Page No. 30 55% of the contract price excluding AMC charges shall be paid after the issue of completion certificate	We request you to release 55% on pro rata basis on site readiness & completion to avoid any delay due to any site not being ready	No Change
4.	Clause 16.4, Page No. 30 Balance 35% of the contract price excluding AMC charges shall be paid @ 5% every year after successful running of contract including 2 years of warranty and 5 years of AMC	Balance 35% of contract price to be released @ 17.5% after each warranty year. Separate 10% PBG covering AMC costs shall be issued before commencing of AMC period	No Change
5.	Clause 16.7.1, Page No. 30 Security Deposit shall be deducted as per clause 1 and clause 1(A) of standard/general contract conditions under CPWD forms 7/8	As an alternative, we suggest to submit 10% PBG instead of 5% & not debit security deposit from payments	No Change
6.	Clause 1.m of Annexure I Dismantling and re-installation of any telemetry equipment of any site for whatsoever reason will be done free of cost by the contractor as per	As the same incurs huge costs, request you to consider cumulative no. of sites as total count for total dismantling & reinstalling to cover all reasons. Any count beyond the same, to be on chargeable basis	Refer clarification on Point No. 3 raised by M/s. Sutron Hydromet Systems

	directions of Engineer-in-charge		
7.	<p>Clause 6.2, Page No. 66</p> <p>One battery pack shall be provided for each DCU. The batteries pack provided shall have adequate capacity to sustain the maximum sized DCU configuration of sensors and telemetry equipment for a period of 60 days of continuous operation at the frequency of one observation per hour per sensor and one transmission per hour on a 24 hourly basis. This capacity shall be available at the end of second year of continuous operation</p>	<p>As battery capacity of 60 days continuous operation shall increase the battery size to a very large one, which would incur unnecessary space &amp; cost. Kindly consider the same for 30 days, as it would be more than appropriate</p>	<p>Refer clarification on Point No. 14 raised by M/s. Sutron Hydromet Systems</p>
8.	<p>Clause 17, Page No 79, Training and Documentation</p>	<p>As the total training is to be conducted at designated locations, we consider all the required manpower to assemble at the respective 2 CWC locations for the training</p>	<p>No Change</p>
9.	<p>Technical Specification Point 1, General, Page No 46</p> <p>The technical specification covers the contract for the installation of telemetry system in different sites in Rajasthan, Madhya Pradesh, Haryana &amp; Himachal Pradesh as specified including ERS, which shall be able to receive data from INSAT/Kalpana (INSAT 3A) data relay transponder as well as DRT of future SAT systems, instrumentation and associated DCU. Further the transmission should also be in GSM mode, allowing receiving of data from remote DCU to the specified mobile numbers. As all DCU units</p>	<p>As regards to the recurring charges for GSM SIM and INSAT License fees please clarify who will bear these charges. Is there any waiver for INSAT license fees as the system is for the bonafide use of Government</p>	<p>The Technical Specification at Point 1 in General may be read as below:-</p> <p>The technical specification covers the Contract for the installation of telemetry system in different sites in Tamil Nadu, Karnataka, Kerala, Andhra Pradesh, Telangana as specified including Earth Receiving Station, which shall be able to receive data from INSAT/Kalpana (INSAT 3A/3D) data relay transponder as well as DRT of future SAT systems,</p>

	are communicating through INSAT transmitter to ERS provision of GSM modem at each DCU to transmit the data to specified mobile numbers. Instead we provide related data from ERS or Regional stations where all the data is available which collected from all the remote station can be transmitted to specified mobile numbers over GSM network. Will it be acceptable		instrumentation and associated Data Collection Units (DCUs). Further, the transmission should also be in GSM mode, allowing receiving of data from remote DCU to the servers at Chennai & Bengaluru. Also, Wherever INSAT 3A is mentioned in NIT may be read as INSAT 3A/3D. INSAT license fee will be paid by CWC. Recurring charges of SIM shall be borne by the supplier
10.	Technical Specifications Clause No 2.1, Page No 48, Classification of Remote Stations Each station shall be fully automatic and shall only require routine maintenance and inspection. Readings of the paramaters (water level, rainfall, snow and other meteorological parameters) shall be automatically transmitted to the CWC existing ERS at Delhi at predefined intervals	As the proposed DCU stations have only water level and rainfall measurements, snow and other meteorological parameters will not be available.	Snow and other meteorological parameters are not in the scope of this tender.

S.No	Queries by M/s. Xylem Analytics	Clarification
1.	Please specify the range of radar sensor required	Refer clarification on Point No.8 raised by M/s. Sutron Hydromet Systems
2.	Please confirm who will be responsible for WPC license	CWC
3.	Please confirm maximum length of bubbler tube required for a particular station	Refer clarification on Point No.7 raised by M/s. Sutron Hydromet Systems



4.1	Please confirm if GSM mode communication is required only for data transmission through SMS or	As we are dealing with flood forecasting, we need dual mode of data communication (satellite as well as GSM) to avoid any disruption of data at the time of severe flood. The data through GSM is to be transmitted to server side at Chennai & Bengaluru. Necessary software and integration of satellite and GPRS data is to be provided by the agency at Chennai & Bengaluru. Agency is responsible for integration of 2 sets of data
4.2	Do you require data through GSM/GPRS to be transmitted on the server side? Does all the remote sites have GSM network. For GSM GPRS, a static IP on the server side is also required	
4.3	Please confirm on recurring charges of GSM SIM card and license fee associated with INSAT Tx. Who will bear these charges	Recurring charges of SIM card will be paid by agency. License fee associated with INSAT Tx shall be paid by CWC
4.4	Will CWC provide GSM SIM card	SIM card & Static IP shall be purchased by agency in the name of CWC. If Necessary, authorization shall be given by CWC
5.1	The DCU shall have a Wi-Fi connectivity for remote access for configuration and setup of DCU using smart phone or laptop	No Change
5.2	An inbuilt digital display for viewing current data and setting values is also specified in the data logger specifications and on contrary WIFI is also asked and an optional port for connecting external display screen for data in running text WIFI on the other part consume lot of power	Not mandatory as data can be viewed through WIFI and inbuilt display
<b>S.No</b>	<b>Queries by M/s. Astra Microwave Products Limited</b>	<b>Clarification</b>
1.	Who will be responsible for WPC License Fee	Refer clarification on Point No. 2 raised by M/s. Xylem Analytics
2.	Please provide the maximum length of orifice tube which will be integrated with bubbler type water level sensors	Refer clarification on Point No.7 raised by M/s. Sutron Hydromet Systems
3.	SIM card recurring charges in warranty & AMC. Whether CWC will pay charges to the service providers	Refer clarification on Point No.11 raised by M/s. Sutron Hydromet Systems
4.	GSM based transmission systems in real time basis. Required additional server / PC for all modeling centre. CWC will provide additional server	Refer clarification on Point No.4.1 & 4.2 raised by M/s. Xylem Analytics
5.	GSM based transmission systems in real time basis to the central server / PC required static IP. CWC will provide Static IP	Refer clarification on Point No.4.4 raised by M/s. Xylem Analytics

6.	Modeling Centre equipments are not mentioned. Please clarify below mentioned points	As per Annexure B
A	Supply, Installation, Testing, Commissioning of servers for modeling centre including integration with existing ERS	
B	5 KVA Line Interactive UPS for single phase AC 160V to 280V output 500 VA	
C	Operating systems software for server	
D	RDBMS software-Oracle Enterprise Edition with license for 1 server and 5 nodes	
E	Antivirus software with license for 1 server and 4 nodes up to warranty period	
F	Supply and Installation of room air conditioner 1.5 Ton	
G	Supply and Installation of Split air conditioner 1.5 Ton	
H	Cables required for connectivity	
I	Earthing for all equipments including VSAT in modeling centre	
7.	VSAT	
A	Supply, Installation, testing and commissioning of VSAT including antenna, outdoor unit, indoor unit with all accessories and cables for real time data transmission between ERS and modeling centre	Schedule of quantities mention that data transmission is required up to respective modeling centres through VSAT link. Hence separate item for VSAT need not be mentioned as tender is a turnkey type. 64 Kbps speed shall be maintained throughout
B	Bandwidth charges for connectivity from ERS to Hub, 64 Kbps	
C	Bandwidth charges for connectivity from Hub to modeling centre, 64 Kbps	
D	Civil works at modeling centre Bengaluru	Already space for modeling centre is decided. However electrical and other fittings will be done by agency based on requirement

## ANNEXURE - B

### Specifications for Modelling Centre at Bengaluru:

1. Server Intel Xeon One Processor Quad Core Tower configuration		
(a) CPU		1 no. of Intel Xeon E3-1220 v5 Quad Core Processor or higher 3 GHz with 8 MB L3 cache Memory, 80 Watt or equivalent rolled over Next Generation Processor.
(b) Chipset		Intel C200 Series or better compatible with CPU.
(c) Motherboard		OEM / Intel original Motherboard.
(d) Slots		4 PCI Express Gen 3.0
(e) Memory		8 GB ECC 2133 MHz DDR4 RAM upgradable upto 32 GB and min. 4 DIMM slots.
(f) Hard Disk Drive		2 x 1 TB or higher Enterprise Class NLSAS/SATA HDD 7200 RPM or higher
(g) RAID Controller		Four Port RAID Controller for RAID 0/1
(h) Video Controller		To support VGA or above resolution
(i) Keyboard		101 Keys Keyboard
(j) Mouse		Optical Mouse / Wireless
(k) Bays		4 Bays (Minimum 2 Internal)
(l) Ports		Minimum 4 USB Ports Version 3.0
(m) Cabinet		Tower
(n) Certifications		Windows, Red Hat or Novell certified, Compliance & Support.
(o) DVD ROM		24x
(p) Networking		Dual LAN (10/100/1000) Network Card with asset features tracking and security management, remote wake up.
(q) Power Management		Screen blanking, hard disk and system idle mode in power on, set up password, power supply surge protected.
2.	Monitor	19" LED with resolution 1024X768
3.	Operating System	Latest version which is compatible for the server
4.	Other software	Latest MS Office Enterprise Edition, Licensed Antivirus software (latest version), Graphic Accelerator Card PCI Express 512 MB Direct X-10 compatible up to AMC period
5.	RDBMS	Oracle DB Enterprise Edition with license for 1 server and 5 nodes
6.	UPS	5 KVA Line interactive UPS for single phase AC 160V to 280V Output 500 VA
7.	AC	3 Nos - Split AC 1.5 Ton with 5 star rating

## REVISED LIST OF FLOOD FORECASTING STATIONS

S.No	Station	Modeling Centre	River/Basin	Station Type	Sensor Type	Nearest District
1.	Sathanur Dam	Chennai	Ponnaiyar	WL & MS	Radar	Thiruvannamalai
2.	Gummanur	Chennai	Ponnaiyar	WL & MS	Bubbler	Krishnagiri
3.	Penneswaram	Chennai	Ponnaiyar	WL & MS	Bubbler	Krishnagiri
4.	Wellington Dam	Chennai	Manimukthanadhi / Vellar	WL & MS	Radar	Virudachalam
5.	V. Kalathur	Chennai	Manimukthanadhi / Vellar	WL & MS	Bubbler	Virudachalam
6.	Venganur	Chennai	Manimukthanadhi / Vellar	WL & MS	Bubbler	Virudachalam
7.	Melkalpoondi	Chennai	Manimukthanadhi / Vellar	WL & MS	Bubbler	Virudachalam
8.	Gomukhi Dam	Chennai	Gomukhinadhi/ Vellar	WL & MS	Radar	Villupuram
9.	Kalpadai	Chennai	Gomukhinadhi/ Vellar	WL & MS	Bubbler	Villupuram
10.	Mayampadi	Chennai	Gomukhinadhi/ Vellar	WL & MS	Bubbler	Villupuram
11.	Poondi Dam	Chennai	Kosasthalaiyar	WL & MS	Radar	Thiruvallur
12.	Ayalampedu	Chennai	Nandiyar/ Kosasthalaiyar	WL & MS	Bubbler	Thiruvallur
13.	Poyyapakkam	Chennai	Kosasthalaiyar	WL & MS	Bubbler	Thiruvallur
14.	Buggaagraharam	Chennai	Kosasthalaiyar	WL & MS	Bubbler	Chittoor
15.	Thiruvallangadu	Chennai	Kosasthalaiyar	MS	RF	Thiruvallur
16.	Mettur Dam	Chennai	Cauvery	WL & MS	Radar	Salem
17.	Biligundulu	Chennai	Cauvery	WL & MS	Bubbler	Dharmapuri
18.	T. Bekuppe	Chennai	Cauvery	WL & MS	Bubbler	Bengaluru Rural
19.	T.K Halli	Chennai	Cauvery	WL & MS	Bubbler	Mandya
20.	Kollegal	Chennai	Cauvery	WL & MS	Bubbler	Chamrajnagar
21.	Kudlur	Chennai	Cauvery	WL & MS	Bubbler	Chikmagalur
22.	BhavaniSagar Dam	Chennai	Bhavani/ Cauvery	WL & MS	Radar	Erode
23.	Thengumarahada	Chennai	Bhavani/Cauvery	WL & MS	Bubbler	Nilgris
24.	Nellithurai	Chennai	Bhavani/Cauvery	WL & MS	Radar	Coimbatore
25.	Vaigai Dam	Chennai	Vaigai	WL & MS	Radar	Madurai
26.	Theni	Chennai	Vaigai	WL & MS	Bubbler	Theni
27.	Ambasamudram	Chennai	Vaigai	WL & MS	Bubbler	Thirunelveli
28.	Kodaganar Dam	Chennai	Kodaganar/Cauvery	WL & MS	Radar	Dindigul
29.	Laxmanpatti	Chennai	Kodaganar/Cauvery	WL & MS	Bubbler	Dindigul
30.	Sanarpatti	Chennai	Kodaganar/Cauvery	WL & MS	Bubbler	Dindigul
31.	Vadamadurai	Chennai	Kodaganar/Cauvery	WL & MS	Bubbler	Dindigul
32.	Grand Anicut	Chennai	Cauvery	WL & MS	Radar	Thanjavur
33.	Musiri	Chennai	Cauvery	WL & MS	Bubbler	Trichy
34.	Nallamaranpatti	Chennai	Cauvery	WL & MS	Bubbler	Karur
35.	Kodumudi	Chennai	Cauvery	WL & MS	Bubbler	Erode
36.	Upper Anicut	Chennai	Cauvery	WL & MS	Radar	Trichy
37.	Pallipalayam	Chennai	Cauvery	WL & MS	Bubbler	Erode
38.	Urachikottai	Chennai	Cauvery	WL & MS	Bubbler	Erode

39.	Bhavani Bridge	Chennai	Bhavani/Cauvery	WL & MS	Bubbler	Bhavani
40.	Savandapur	Chennai	Bhavani/Cauvery	WL & MS	Bubbler	Erode
41.	Srirangam	Chennai	Cauvery	WL & MS	Bubbler	Trichy
42.	Harangi Dam	Bengaluru	Cauvery	WL & MS	Radar	Coorg
43.	Somwarpet	Bengaluru	Cauvery	MS	RF	Coorg
44.	Madapura	Bengaluru	Cauvery	MS	RF	Coorg
45.	Hattihole	Bengaluru	Cauvery	MS	RF	Coorg
46.	Kabini Dam	Bengaluru	Kabini/Cauvery	WL & MS	Radar	Mysore
47.	Muthenkere	Bengaluru	Kabini/Cauvery	WL & MS	Bubbler	Wayanad
48.	Manthavady	Bengaluru	Kabini/Cauvery	MS	RF	Wayanad
49.	Vythiri	Bengaluru	Kabini/Cauvery	MS	RF	Wayanad
50.	K.R. Sagar Dam	Bengaluru	Cauvery	WL & MS	Radar	Mandya
51.	K.M. Vadi	Bengaluru	Cauvery	WL & MS	Bubbler	Mysore
52.	Chunchunkate	Bengaluru	Cauvery	WL & MS	Bubbler	Mysore
53.	Akkihebbal	Bengaluru	Cauvery	WL & MS	Bubbler	Mandya
54.	Kudige	Bengaluru	Cauvery	WL & MS	Bubbler	Coorg
55.	M. H Halli	Bengaluru	Cauvery	WL & MS	Bubbler	Mysore
56.	Madikere	Bengaluru	Cauvery	MS	RF	Coorg
57.	Hemavati Dam	Bengaluru	Hemavati/Cauvery	WL & MS	Radar	Hassan
58.	Sakleshpur	Bengaluru	Hemavati/Cauvery	WL & MS	Bubbler	Hassan
59.	Thimmanahalli	Bengaluru	Hemavati/Cauvery	WL & MS	Bubbler	Tumkur
60.	Hadige	Bengaluru	Hemavati/Cauvery	WL & MS	Bubbler	Hassan
61.	Mudigere	Bengaluru	Hemavati/Cauvery	MS	RF	Chikkamagalur
62.	Bhadra Dam	Bengaluru/ Hyderabad	Bhadra/ Tungabhadra	WL & MS	Radar	Chikkamagalur
63.	Balehonnur	Bengaluru/ Hyderabad	Bhadra/ Tungabhadra	WL & MS	Bubbler	Chikkamagalur
64.	Koppa	Bengaluru/ Hyderabad	Bhadra/ Tungabhadra	MS	RF	Chikkamagalur
65.	N.R Pura	Bengaluru/ Hyderabad	Bhadra/ Tungabhadra	MS	RF	Chikkamagalur
66.	Tunga dam	Bengaluru/ Hyderabad	Tunga/ Tungabhadra	WL & MS	Radar	Shimoga
67.	Hariharapura	Bengaluru/ Hyderabad	Tunga/ Tungabhadra	WL & MS	Bubbler	Chikkamagalur
68.	Mahishi	Bengaluru/ Hyderabad	Tunga/ Tungabhadra	WL & MS	Bubbler	Chikkamagalur
69.	Sringeri	Bengaluru/ Hyderabad	Tunga/ Tungabhadra	MS	RF	Chikkamagalur
70.	Thirthahalli	Bengaluru/ Hyderabad	Tunga/ Tungabhadra	MS	RF	Shimoga

The number of Bubbler type stations (WL & MS) may be read as 41 and number of Radar type stations (WL & MS) may be read as 17 and Rainfall stations (MS) may be read as 12 wherever mentioned in NIT.

**Annexure-D****List of CWC Officers who attended the pre-bid conference on 22.11.2016**

<b>S. No</b>	<b>Name</b>	<b>Designation</b>
1.	Sh. N.M. Krishnanunni	Chief Engineer, C&SRO, Coimbatore
2.	Sh. G. Naga Mohan	Superintending Engineer(C), C&SRO, Coimbatore Superintending Engineer, C&SRC, Bengaluru
3.	Sh. R. Giridhar	Executive Engineer, Hydrology Division, Chennai
4.	Sh. V. Ashok Kumar	Executive Engineer, Cauvery Division, Bengaluru
5.	Sh. R. Saravanan	Executive Engineer, Southern Rivers Division, Coimbatore
6.	Sh. D. Ashokan	Executive Engineer, South Western Rivers Division, Kochi
7.	Sh. K. Iyappan	Assistant Director, C&SRO, Coimbatore
8.	Sh. R. Krishnamurthi	Assistant Director, C&SRO, Coimbatore
9.	Sh. R. Jayachandran	Extra Assistant Director (Hydromet), HD, Chennai
10.	Smt. K. Valarmathi	Sub-Divisional Engineer, MCSD, Coimbatore