

W.11015/12/2011-WQ  
Ministry of Drinking Water & Sanitation  
WQ Section

9<sup>th</sup> Floor, Parayvaran Bhawan,  
CGO Complex, Lodhi Road,  
New Delhi -110003.  
Dated 3<sup>rd</sup> May,2012.

Subject:-Minutes of Video Conference held with Principal Investigators of ongoing R&D projects funded by Ministry of Drinking Water & Sanitation(Government of India), held on 20-04.2012 in the Conference Hall (12<sup>th</sup> Floor), Paryavaran Bhawan, New Delhi.

The undersigned is directed to enclose herewith a copy of Minutes of Video Conference held with Principal Investigators of ongoing R&D projects funded by Ministry of Drinking Water & Sanitation(Government of India), held on 20-04.2012 in the Conference Hall (12<sup>th</sup> Floor), Paryavaran Bhawan, New Delhi, for information and necessary action.



**(A.K. Srivastava)**  
Under Secretary to the Government of India

Copy to:-

PS to JS (Water)/Addl.Adv./Dy.Adv(DRS) / Dy.Adv.(DC) Deputy Secretary(WQ)/Under Secretary(WQ)/ Tech. Director (NIC) for uploading on the website.

**Minutes of Video Conference with Principal Investigators of R & D projects funded by Ministry of Drinking Water & Sanitation ( GoI), held on 20.04.2012 in Conference Hall (12<sup>th</sup> Floor), Paryavaran Bhavan, New Delhi**

Ministry held a video conference on 20.04.2012 in Conference Hall with Principal Investigators of R & D/Educational institutions to which funds have been provided for carrying out R & D activities. The purpose of the video conference was to review the implementation of the project and to sort-out pending issues, if any. The meeting was chaired by Joint Secretary (Water). Out of the invited 17 Principal Investigators (PIs) from different organizations, 14 PIs participated in the video conference. During the video conference, the PIs made presentation before MDWS officials and discussed various issues of the R & D projects . A gist of the discussion in the VC in respect of each R & D project is given below.

**1. Artificial recharge & recovery in desert harnessing surplus storm run off for drinking water source creation [PI: Dr D. Murlidharan, Scientist (retired) - NGRI Hydrabad]**

***Budget approved and released amount:*** The project was approved for 2 years' duration with a budget of Rs 14.52 lac, of which, Rs 11.60 lac was released in two equal installments, in 1999 and 2001.

**Issue:** There is a mismatch between the ASA and UC submitted by the PI. During the last video conferecnce/meeting, PI had promised to send the corrected copies. However, these documents are still awaited.

**Present Status:** Pending ; PI did not participate in the video conference.

**2. Captive resource & ground water sanctuary development for drinking water sources well in Chittoor district of AP [PI: Dr D. Murlidharan, Scientist (retired) and Consultant NGRI Hydrabad] .**

***Budget approved and released amount:*** The project was approved for 2 years' duration with a budget of Rs 21.95 lac, of which, Rs 14.65 lac was released in two equal installments, in 1999 and 2000.

**Issue:** During last meeting, PI had promised to send 20 copies of Executive Summary and 2000 copies of printed brochure to the Ministry. These are still awaited.

**Present status:** Pending ; PI did not participate in the video conference.

3. **National seminar on rural water supply & sanitation: technological , socio-economic, Health, Environment & sustainability issues and poverty alleviation.** [ PI: Shri K. Pushpangandan-Centre for Development Studies, Trivendrum, Kerala]

**Budget approved and released amount:** The project was approved for 2 years' duration with a budget of Rs 4.67 lac, of which, Rs 4.44 lac was released in two equal installments, in 1996 and 1998.

**Issues:** IFD has observed that the expenditure is not as per the approved budgetary support. ASA has to be reconciled.

**Present status:** Pending, PI did not participate in the video conference.

4. **Development of catalytic system for reduction of nitrate in drinking water** [PI: Dr. Rajesh B. Binniwale,-NEERI, Nagpur]

**Budget approved and released amount:** The project was approved for 2 years' duration with a budget of Rs 9.56 lac, of which, Rs 3.82 lac was released as the first installment, in year 2008.

**Issue:** The current status Progress Report of the project and ASA are awaited from PI.

**Present status:** Pending, PI did not participate in the video conference.

5. **Design & fabrication of high capacity ceramic membrane modules & arsenic removal plants for attachments to contaminated deep tube-wells** [PI: Dr Sibdas Bandyopadhaya, Central Glass & Ceramic Research Institute, Kolkatta]

**Budget approved and released amount:** The project was approved for 2 years' duration with a budget of Rs 46.49 lac, of which, Rs 18.60 lac was released as first installment, in year 2004.

**Issue:** PI had sought extension of the project up to Sept, 2012 without any financial addition. He had also requested flexibility for reallocation of the fund (so that treatment plant cost could be accommodated in equipment cost).

**Current Status:** PI explained the progress made so far in achieving objectives of the project and requested the Ministry to provide additional fund of Rs. 9 lac. He informed that he had held several rounds of discussions with PHED officials of the

State regarding implementation of this project and based upon discussions, a suitable site for the pilot plant set up was identified. A treatment plant of 8.8 m<sup>3</sup>/hour capacity was installed. Lab trials of the treatment plants are over but field level operation is yet to be done.

JS (W) informed the PI that the Ministry would approve the extension of the project without any additional fund. A letter regarding this would be sent shortly. He also informed that the second installment of the R & D project is being processed for release.

**6. Improvement of Drinking water quality from surface water ponds by applying zero energy technologies ( Dr. S. Kanmani, CES, Anna University-Chennai)**

Budget approved and released account: The project was approved for 2 years period with a budget of Rs.19.55 lakh, of which Rs.15.58 lac have been release in 2 installments in Sept' 08 and May'10.

Issues: (i) UCs and ASA were not in proper formats. (ii) PI had sought extension of the project till 03.12.2012.

PI informed that she was still awaiting the letter regarding extension of the project. She said that she had been unable to understand what was wrong with the submitted UC and ASA. She also said that the delay in releasing fund was delaying the completion of the project. US (WQ) informed the PI that UC and ASA were merged and hence this was not acceptable. PI requested the Ministry to provide the standard UC and ASA formats so that she could send the corrected UC and ASA to the Ministry.

JS (W) assured the PI that the file would be immediately processed for extension of the project. He advised the PI to send the UC and ASA in the standard formats. He directed US (WQ) to send the standard formats to the PI and desired that these formats should also be available on Ministry's website.

**7. Nitrate removal in membrane bioreactors using indigenous membranes. (PI : Dr Malini Balakrishnan, TERI, New Delhi )**

Budget approved and released amount: The project was approved for 2 years' duration with a budget of Rs 15.73 lac, of which, Rs 6.29 lac was released as first installment in March, 2011.

Issue: Second installment is to be released.

Status: PI explained the salient features of the project and informed that this R & D project is specifically useful for effluent treatment plants and RO rejects where high nitrate in effluents is a major concern. She informed that the process involves

application of activated sludge in bioreactors for nitrate removal which is a biological treatment. The sludge generated during the process can be used as manure. She requested the Ministry to release the second installment as the necessary documents (Progress Report, UC and ASA etc) were already sent.

*JS (W) informed the PI that the file is being processed for release.*

**8. Disinfection byproducts formation & their management in water supplies in India (PI: Dr Sunil Gupta, Indian school of Mines, Dhanbad)**

*Budget approved and released amount :* The project was approved for one year duration with a budget of Rs 7.38 lac, of which, Rs 2.95 lac have been released as first installment.

PI informed that the objective of the project was to assess concentration of Trihalomethanes (THM's) in chlorine treated drinking water. For analysis of THM, 5 water supply schemes were identified, capacity of which varied from 46 to 909.2 MLD. THM was found between 274 to 511 ppb and the contribution of chloroform was found highest. Other chlorine byproducts such as DBCM, DCBM and BI were also found in the product water from all 5 water supply schemes. Chairman enquired the PI about the remedial measures for treatment of these chlorine byproducts on which PI apprised that the objective of the project is only to establish the concentration of THM and not the treatment. However, the analysis report was brought to the notice of the plants officials. PI also said that one R & D project on effective removal of chlorine byproducts might be taken up after completion of this project. PI also informed that BIS specification does not mention THM in drinking water standards and it needs to be taken up.

**JS (W) suggested the PI to send the progress report to the Ministry so that the matter could be taken up with BIS for inclusion of THM in BIS specification for drinking water (IS 10500:1991). He also informed the PI that 4 months extension of the project, as desired by PI, was approved. UC and ASA were also received and the file is under process for release of the second installment.**

**9. Ground water and surface water remediation through bio filters for metals and colour removal (PI: Dr Padma S. Vankar from- IIT Kanpur).**

*Budget approved and released amount:* The project was approved for 2 years duration with a budget of Rs 16.00 lac, of which, Rs 6.40 lac was released on 15.03. 2010.

PI informed that the project is already completed and the findings indicated presence of Pb and Cr in drinking water near Balotra. She also informed that FEAT lab, IIT-Kanpur has developed biofilters which are being used by many families affected with toxic metals in their drinking water. So far, 20 biofilters were distributed to 20 families and the response of the people was very encouraging. She also sought extension of the project for 3 months and also requested the Ministry to provide additional fund of Rs one lac for developing biofilters and salary to the research staff.

PI was advised to submit following documents;

- Statement of closure.
- Statement of expenditure ( indicating yearwise expenditure).
- UC and ASA in proper format.
- Executive Summary of the Project ( 20 copies).

If PI intends to seek 3 months extension of the R & D project then she should submit a request letter regarding this to Ministry as the duration of the project is already over.

**JS (W) observed that PI should develop technology that is suitable for community level treatment rather than for individual households.**

**10. Salinity & trace elements associated with water reuse in irrigated system, process, sampling protocol, remediation technology & site- specific management of soil & water in tannery industrial area of Kanpur & Unnao (PI: Dr Padma S. Vankar from- IIT Kanpur).**

***Budget approved and released amount:*** The project was approved for 2 years' duration with a budget of Rs 13.20 lac, of which, Rs 10.41 lac were released in two equal installments, in 2008 and 2009.

PI informed that though the duration of the project is over, there is a need to scale up the project considering the need to tackle industrial effluents in surface water and groundwater in Kanpur and Unnao districts. She informed that a new R & D project on similar line would be submitted to the Ministry for consideration.

PI was advised to submit following documents;

- UCs in proper format indicating funds utilized yearwise
- ASA in proper format
- Progress Report.

- Executive Summary of the Project ( 20 copies).
- Request for a new project.
- Other relevant documents related to closure of the project as per guidelines ( like Statement of closure etc.)

**11. Remediation of Chromium contaminated groundwater using ferro particles based technology (Prof. Sudhakar Rao, IISC, Bangalore)**

***Budget approved and released amount:*** The project was approved for 2½ years' duration with a budget of Rs 14.58 lac, of which, Rs 5.83 lac was released on 29.03.2012, as first installment.

Issue: Opening up of a new bank account.

The project is yet to start. PI was requested to open a new bank account exclusively for this R & D project as per R & D guidelines of the Ministry which the institute has not complied so far. PI apprised the Chairman that IISC-Bangalore is a premier GoI scientific institution and it receives funds from different Ministries/Government organizations for conducting R & D projects but opening a separate bank account is not insisted upon for undertaking R & D projects funded by other Ministries/GoI organizations. He said that considering numerous R & D projects which IISC conducts, it would be very difficult to open a separate Bank Account for each project. He requested the Ministry not to insist upon opening a new Bank Account as it would not be possible for IISC to open it separately.

**JS (W) suggested the PI to explain their position on opening Bank Account in writing . The letter from PI should also indicate the funding in common account by other Ministries/GoI organizations and information as to how interest is calculated in respect of each R & D project for funds kept in a common Bank Account in IISC.**

**12. Ultra-filtration Membrane for Arsenic, Chromium & Nitrate rejection (PI: Professor Gopal P. Aggarwal, Department of Bio-Chemical Engineering & Bio technology , IIT Delhi )**

***Budget approved and released amount:*** The project was approved for 2 years duration with a budget of Rs 77.20 lac of which, Rs 61.96 lac was released in two installments in 2009 and 2010.

PI informed the Chairman that IIT-Delhi is awaiting release of the third installment. He requested the Ministry to consider releasing Rs 21.11 lac, i.e higher than the balance amount due to hike of fellowship amount of the Research staff. He also informed that IIT- Delhi has already overspent the fund to the tune of Rs 1.76 lac to meet the objectives of the project. PI also requested for one year extension for the project and sought the Ministry's policy guidelines for filing a patent . He further informed that preparation of ASA is under process but it might take approx 2 months to finalize it and submit the same to the Ministry.

*JS (W) assured the PI that the Ministry would look into the points raised by PI. He informed the PI that extension of the project, as desired by the PI, would be processed by the Ministry. He also suggested the PI to send the DST policy on patent so that the Ministry could formulate its policy/decision.*

**13. Design & performance evaluation of solar energy drive RO & NF / RO hybrid water treatment system ( PI: Dr Himanshu Joshi -IIT Roorke)**

*Budget approved and released amount:* The project was approved for 2 years duration with a budget of Rs 13.97 lac, of which, Rs 8.38 lac was released as first installment in 2010.

PI informed that NF-RO system was procured and installed. Lab experiments were being performed and it would be shortly upscaled at field level. Software for estimation of fouling potential and efficiency is being developed. This is known as a ROIFA software. He also informed that out of Rs 8.38 lac fund released as first installment, total expenditure so far is Rs. 86,000 . Apart from this, procurement of NF-RO system has costed Rs 3.42 lac but this amount has not been given yet to the supplier as the system is being experimented and some amount would be withheld for O & M of the NF-RO system. He requested to release the IInd installment at the earliest.

*JS (W) requested the PI to send the ASA and UC along with the Progress Report to enable the Ministry to release the IInd installment. PI informed that he would send these documents positively by 27<sup>th</sup> April 2012.*

**14. Design, development & field testing of solar based electrolytic defluoridation unit for potable water supply (PI: Dr Pawan Labhshetwar, NEERI, Nagpur )**



**Budget approved and released amount :** The project was approved for 2 years duration with a budget of Rs 41.66 lac, of which, Rs 20.83 lac was released as first installment.

Dr. S. Ande, explained the status of the project on behalf of the PI ( Dr. Pawan Labhasetwar). He informed that the capacity of the solar energy based defluoridation unit is 2000 litre per batch and it has been designed for a population of 250-5000 at a cost of Rs 8.2 lac/plant. Two plants have been installed as pilot plants ; one in Seoni district in Madhya Pradesh and the second one in Durg district in Chhattisgarh. The cost of the water is Rs 8.20/1000 litre. The water from this plant should be used for drinking and cooking purpose, and not for all domestic purposes. JS (W) congratulated NEERI and the scientists for obtaining international awards for this technology.

Dr. Ande further said that the total amount released by the Ministry for this project is Rs 20.83 lac of which, expenditure incurred is Rs 19.35 lac and the balance amount of Rs 1.48 lac is in NEERI. He also informed that NEERI has received orders for supply of this technology to many other countries. PI said that they are awaiting the release of 2<sup>nd</sup> installment of the project. **Dr. Ande informed that the revised ASA and UC were sent to the Ministry by speed post one week back. JS (W) directed US (WQ) to check up the same and process it for release of 2<sup>nd</sup> installment.**

**15. Development of Standardized Design Procedure & Type Design for small Elevated Service reservoirs (PI: Dr. R. K. Ingle, Department of Applied Mechanics, Vishvesaraya National Institute of Technology, Nagpur ).**

**Budget approved and released amount:** The project was approved for one year duration with a budget of Rs 3.70 lac, of which, Rs 1.48 lac was released as first installment.

PI said that the standardized design has been prepared for 20,000 to 1,00,000 litre capacity Elevated Service Reservoirs (ESR) for 12 m staging height in seismic zone II, seismic zone III and seismic zone IV. The software developed was also sent to the Ministry in hard copy as well as in soft copy. He requested the Ministry to identify the concerned professors so that it could be sent to the professors in IITs for validation.

**JS (W) observed that the one year duration of the project is already over and the Ministry has not received the request for extension of the project so far. He suggested the PI to immediately submit the request for extension. JS (W) also**

*said that the software developed by PI would be sent to the professors in IITs for validation.*

**16 . Study & set up demonstration plot for phyto-remediation techniques of water recharge in stream to hilly terrane in Nainital District Uttrakhand, (PI: Dr Naresh Gopal Srivastava, Dy General Manager, BHEL, Haridwar).**

**Budget approved and released amount :** The project was approved for three year duration with a budget of Rs 16.11 lac, of which, two installments , each of Rs 6.44 lac, were released in September 2009 and February 2012 respectively.

Issue: Extension of the Project.

PI briefed about the progress of the implementation of the project and said that soil-moisture meters were procured and installed at various sites for measurement of temperature, relative humidity, wind speed, wind direction, rainfall, soil temperature and soil moisture. Plants with high water recharging capacity were also identified and experimented. He apprised the JS (W) that he had sent a request for extension many weeks back but he is yet to receive the extension of the project.

*JS (W) appreciated the outcome of the project and suggested the PI to submit detailed information regarding plant species so that this could be used for water recharging in water stressed areas and in over exploited blocks. He directed DS(WQ) to find out the letter of extension sent by the PI and process it immediately for extension of the project.* To expedite the matter, PI could resend the request for extension (without any financial addition) immediately.

**17. Development of low cost treatment of arsenic & fluoride contaminated ground water for rural communities ( Dr. P Mandal, Department of Chemical Engineering, IIT-Roorkee).**

**Budget approved and released amount:** The project was approved for two year duration with a budget of Rs 8.51 lac, of which, Rs 3.40 lac was released as first installment on 23.03 .2012.

PI raised the issue of opening a new account exclusively for this R & D project . He said that it would be difficult to open a separate account as IIT- Roorkee is a Govt institute and its policy does not permit to do so. He also requested the Ministry to allow him to take services of Research staff other than JRF which would cost little additional stipend .

JS (W) suggested the PI to write regarding their difficulty in opening a separate bank account and how interest accrued would be calculated on this

project amount if there is a common bank account. He informed the PI that the Ministry funds the R & D projects as per DST/CSIR guidelines, and advised the PI to send his request regarding Research staff in writing or through email.

**18. Design of Manually readable and automatic readable domestic water meters suitable for rural areas (Dr. PV S Natraj, IIT Mumbai,)**

***Budget approved and released amount::*** The project was approved for two years duration with a budget of Rs 42.85 lac, of which, Rs 17.14 lac was released as first installment on 25 .03.2012.

PI was requested to open a new bank account exclusively for this R & D project as per R & D guidelines of the Ministry which the institute has not complied so far. PI apprised the Chairman that IIT-Bombay is a premier educational GoI institution and it receives funds from different Ministries/ Government organizations for conducting R & D projects but opening a separate bank account is not a mandatory condition for undertaking R & D projects in any case. He said that considering numerous R & D projects which IIT-Bombay conducts, it would be very difficult to open a separate Bank Account. He requested the Ministry not to insist upon opening a new Bank Account as it would not be possible for the IIT-Bombay to open it separately.

**JS (W) suggested the PI to explain their position on opening a separate Bank Account in writing . The letter from PI should also indicate the funding in common account by other Ministries/GoI organizations and the information as to how interest is calculated on each R & D project if funds are kept in a common Bank Account, in IIT-Bombay.**

**Budget appoved and released amount.** The project was approved for 2 years' duration with a budget of Rs.5.57 lac, of which Rs.2.63 lac was released as first installment on 29.03.2012.

**19. Evaluation and estimation of water wastage/pilferages and unaccounted water losses in two selected PWS in the State of Assam. (Dr . Gautam Barua, IIT-Guwahati)**

Status: The project is yet to start. Pay & Account office of the Ministry has raised objections regarding incompatibility of IFSC code, Branch code, Branch address etc which were submitted by the PI for release of the fund.PI has also to provide undertaking regarding originality of the work to be undertaken by PI.

During the video conference, PI was requested to sort out the issues regarding bank details and was also requested to submit undertaking regarding originality of the project. PI said that he would try to sort out the problems on bank account details . However, it would be difficult to provide an undertaking for him to the Ministry considering the project is a survey kind of project and not exclusively an R & D one. He said that it would be difficult to establish whether the similar work was not undertaken by any other organizations.

JS (W) observed that other PIs from different institutions have already provided undertaking regarding originality of the R & D project. He suggested the PI to take a decision and inform the Ministry at the earliest. PI said that he would consult the Co-PI of the project and would inform the Ministry .

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