

**Sub: Construction Management System: Circular – 56**

**Ref: Guidelines for execution of water supply sub-projects.**

The works of water supply subprojects has been started in most of the RUSDIP. It has been observed that proper attention is not being given by PIUs and DSCs on some important activities. Following guidelines should also be followed during execution;

### **1. Bar Bending Schedule**

The reinforcement cutting, laying and binding for all related structural works should be according to the approved Bar Bending Schedule (BBS) prepared under guidance of IS-2502 and should be approved by DSC/IPIU before handing over to contractor. Checking of the reinforcement and recording it for payment should be as per approved BBS. No reinforcement work should be allowed without the approved BBS. Checking of reinforcement by IPIU officers should be recorded in MB as per norms along with photo graph for evidence. **This shall be applicable in other sectors sub-projects also.**

### **2. Laying, handling & Stacking of DI Pipe:**

The required fittings, valves and jointing material for pipe laying should be carefully worked out in beginning. This material should be received first of all on site and stored as pre-directions of manufacturer or as directions given elsewhere mentioned in standard manual.

- a. The material received should be checked for inspection certification as per contact and damage during transportation. All damaged material should be separated and not used.
- b. The pipes received should be stored strictly as per directions of the manufacturer or as mentioned elsewhere in the manual or standards.
- c. The pipes and other material should be again inspected for any damage before use in the Trench.
- d. The fittings and valves should be installed in sequence with the laying of pipes without leaving any gaps.
- e. It is desirable to lay the pipe lines from the end from where it can be connected to the water source to enable regular flushing of laid pipes.
- f. The entry of dirt or any foreign material in the pipe should be religiously prevented.
- g. Each joint should be carefully checked for its completeness before covering up.
- h. There should be a commensurate progress in trench excavation, laying and jointing of pipes, fittings, valves etc. and testing of laid pipes in sections so as to complete of all pipes laid in quick follow up of completing laying and jointing.
- i. Disinfection of pipe lines should be carried out before commissioning.





The method of handling and storage shall be strictly in accordance with the manufacturer's recommendations. Temporary packing, covering or crates provided by the supplier for the protection of pipes, fittings and valves in transit shall not be removed (except for purposes of inspection after which they shall be replaced) until immediately before the pipe, fitting or valve is installed and shall then be disposed of by the Contractor.

No pipe shall be moved by rolling. Suitable timber planking or other approved means should be arranged as not to damage the pipe or its sheathing, lining or paint work. The pipe shall be laid on timber batons and shall be secured with wooden wedges.

**The pipe shall be handled in a way to prevent damage to the cement lining or exterior coating and any damage shall be repaired promptly before installation as per manufacturer's recommendations. Repairing material should invariably be available so that necessary repair can be done as per manufacturer's instructions. In case of DI pipes, outer coating may get damaged at some point during loading and unloading. Apparently this does not find attention in the field but such damage proves fatal because pipe starts rusting fast at that point. The contractor should be asked to separately arrange the coating material in liquid form from the manufacturer with supply and keep it for application as per requirement. Wherever there is damaged portion, coating material shall be applied properly with brush in 2-3 layers and allowed to dry & then only such pipe shall be used.**

### **3. Confirmation of duty condition of proposed pumps according to confirmatory survey:**

The duty condition of the proposed pumps has already been designed in the Detailed Project Report. This duty condition as proposed in the bid document is required to be confirmed with respect to the levels proposed in the GA drawing of pump house and the TWL of the OHSRs. In most of the cases, one pump is designed to feed more than one SR. So, hydraulic diagram should be prepared & checked showing all necessary details such as NGLs, HGLs & head losses. The low water levels of the OHSRs are also required to be checked with the levels mentioned in the Detailed Project Report (DPR) to adopt the residual pressure in each node of the distribution system as designed in the DPR. All data sheets pertaining to pumps, motors, panels submitted by the contractor should bear rubber seal of manufacturer along with dates signature and name of the authorized signatory. Before approval of data sheet of pump & motor, individual efficiency and combined efficiency shall be compared with contract & if there is any difference on lower side then TL DSC and EE shall sit together & consult the water supply manual for maximum achievable efficiency in case of pumps and that with reputed manufacturers for motors mentioning them to report maximum available efficiency in high efficiency motors.

### **4. Confirmation of raw material of MDPE pipes:**

The MDPE piping material consists of a polyethylene resin PE-80. In India there may not be indigenous manufacturer of virgin PE-80 resin for MDPE pipes. It is certain that this resin was not being manufactured till recent past in India. Therefore it is important that before approval of vendor & QAP and at the time of inspection following is ensured:

- a. At the stage of vendor approval, contractor shall submit the name of manufacturer of virgin P-80 MDPE resin from which vendor shall purchase the resin to convert it in to pipes and proof of being used by the vendor.





- b. QAP should mention that MDPE pipes shall be manufactured from virgin PE-80 resin only. Manufacturers should be clearly informed that the record of evidence of purchase of virgin PE-80 resin shall be reviewed during inspection. The invoice/import document shall be reviewed.
- c. At the time of inspection, first of all, record pertaining to procurement of resin shall be reviewed and it will be confirmed from record that pipe manufacturer has used virgin PE-80 resin only. There after other inspections shall be conducted.

**This circular is equally applicable to all members of PMU, IPIU, IPMC & DSC.**

  
**(Vajbhav Galriya)**  
**Project Director**

Copy to following for information and necessary action:

1. Addl. PD / FA/ ACE (T)/ Dy. PD (Adm.)/SE (Co-ord)/ SE (WW)/ NLCP/ (WS) /UIDSSMT/ (R&B)/ PO (all)/ Sr. AO / All APOs / AAO/ PA to PD PMU, RUIDP, Jaipur.
2. Superintending Engineer, Zone Jaipur/ Jodhpur/ Kota
3. Executive Engineer, IPIU, RUSDIP, Alwar, Baran, Barmer, Bharatpur, Bundi, Chittorgarh, Churu, Dhaulpur, Jaisalmer, Jhalawar-Jhalrapatan, Karauli, Nagaur, Rajsamand, Sawai Madhopur and Sikar.
4. M/s Consulting Engineering Services (India) Pvt. Ltd., 57, Nehru Place (5th Floor), New Delhi-110019, Tel: 011-41392300, 26485284, 26465484, 26455485, Fax: 011-26460409 Email: cesinter@vsnl.com
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10. ACP, RUIDP, Jaipur to send by e-mail.

  
**Superintending Engineer (WS)**