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ADDITIONAL PURCHASE CONDITIONS (APC)

1.0 The following Special Conditions of Contract shall be read in conjunction with General Purchase Conditions. If there are any provisions in these Special Conditions of Contract, which are at variance with the provisions of General Purchase Conditions, the provisions in these Special Conditions of Contract shall take precedence.

2.0 INTRODUCTION

The water supply Scheme Project is situated in Waidhan Dist. Singrauli (MP). The nearest railway station is Singrauli which is 25km away. The area is situated near Sidhi in north east part of M.P. The pipes shall either be delivered at EPI’s store yard/Site as directed by EPI Site In-Charge.

3.0 SCOPE OF WORK INCLUDED IN THE CONTRACT

The brief scope of work included in this tender shall include (but not limited to)

- inspection of Pipes at manufacturer’s works, packing, dispatch, transportation,
- delivery to site, performance guarantee testing and handing over at EPI’s Site Waidhan Dist. Singrauli (M.P.).

4.0 Rate

The rate should include all taxes, insurance, Testing & Inspection charges, Loading at works, freight charges & transportation up to EPI store / SITE in Waidhen Dist. Singrauli (MP), etc. (The unloading and stacking of the pipes shall be arranged by EPI at Site / store).

The rate shall be exclusive of excise duty. (The certificate for the exemption of excise duty shall be provided by Owner / EPI as per prevailing norms.)
5.0 DISQUALIFICATION

In addition to clause no. 14 of Instructions To Tenderers (Suppliers), the bidders may note that they are liable to be disqualified and may not be considered for the opening of Price Bid if;

a) Representation in the forms, statements and attachments submitted in the pre-qualification document are proved to be incorrect, false and misleading.

b) They have record of poor performance during the past 10 years such as abandoning the work, rescinding of contract for which the reasons are attributable to the non-performance of the bidder, inordinate delay in completion, consistent history of litigation/arbitration awarded against the bidder or any of its constituents or financial failures due to bankruptcy etc. in their on going/past projects.

c) They have submitted incompletely filled in formats without attaching certified supporting documents and credentials to establish their eligibility to participate in the Tender.

d) If the bidders attempt to influence any member of the selection committee.

e) Non submission of Tender Fee and EMD or with inadequate amount of EMD.

EPI reserves its right to take appropriate action including disqualification of tenderer(s) as may be deemed fit and proper by EPI at any time without giving any notice to the bidder in this regard. The decision of EPI in the matter of disqualification shall be final and binding on the Bidders.

6.0 EPI reserves the right to independently verify the performance of the bidder from the Existing owners/users/owners’ Consultants. In case any installation of the bidder is found to be performing unsatisfactorily, EPI reserves the right to reject the tender and price bid of such bidder shall not be opened, even if the bidder is meeting the technical and other qualifying criteria.

In such circumstances the bidder shall have no claim on EPI of whatsoever nature.

7.0 Qty variation: EPIL reserve the right to vary the quantity by (±) 15% of the tender quantity.

8.0 Rate shall remain firm & fixed during the complete supply. Any request for price revision shall not be entertained.
9.0 Payment Terms

GPC Cl. 4 is amended as below

Unless otherwise agreed upon between the parties, payment for delivery of the stores will be made on submission of bills in accordance with instruction given in the purchase order by a cheque or demand draft in accordance with the following procedure.

(i) 90% of the price of the equipment/material shall be paid on proof of despatch to the consignee through bank or delivery to an interim consignee, if any, and on production of Inspection Note issued by the Inspector, Maker’s Test Certificate, the number- and date of the Railway receipt, postal receipt, bill of lading or consignment note under which the goods charged for in the bill are despatched by rail, post, sea or air respectively and the number and date of the letter with which such railway receipt, post receipt, bill of lading shall also be attached to the bill and in the case of stores despatched by post, the postal receipt shall be attached in original to the bill. The bank charges shall be borne by the supplier.

(ii) Balance 10% shall be released after satisfactory completion of total supply of material at site against submission of performance BG of equivalent amount valid till warranty period as mentioned in GPC Cl. 17

10.0 For Dispatch of materials to Site, the vendor shall mark consignee as “Engineering Projects (India) Ltd., Singrauli and follow dispatch instruction to be given by EPI.

11.0 COMPLETION PERIOD
Completion of the total work as mentioned in the NIT & tender documents shall be 05 months (five Months) from the date of order.

12.0 Bill of Quantities shall be read in conjunction with NIT, Instructions to Tenderers (Suppliers), General Purchase Conditions (GPC), Additional Purchase Conditions (APC), Technical Specifications, mutually agreed schedule of Pipes delivery and Annexure & Addendum etc. to complete tender Document.

13.0 TEST CERTIFICATE
All manufacturer’s certificates of test showing that the materials have been tested in accordance with the requirements of the relevant standard specification and the copy of the test certificate as well as standard shall be supplied free of cost to EPI

14.0 INITIAL INSPECTION AT MANUFACTURER’S WORK:
The bidder shall provide such facilities at his own cost as will be necessary for inspection of the material before dispatch at his or his associate’s works and also
for witnessing such tests as per technical specifications, as are done at the works if so required by EPI/Authorized representative in the form of Quality Assurance Plan (QAP). The bidder shall give minimum two weeks notice regarding the dates proposed for inspections. The Tenderer shall submit list of test on components of equipments, which shall be carried out at manufacturer’s premises.

15.0 Court Jurisdiction

GPC Cl 24 is amended as below.
Dispute of any nature that may arise in connection with the execution of the contract shall be subjected to the jurisdiction of courts situated in Mumbai only.
1.0 **Technical Specifications of Pipes**

1.1 **Applicable Codes**

The manufacturing, testing, supplying at work sites of HDPE pipes shall comply with all currently applicable statutes, regulations, standards and Codes. In particular, the following standards, unless otherwise specified herein, shall be referred. In all cases the latest revision of the Codes shall be referred to. If requirements of this Specification conflict with the requirements of the standards / Codes, this Specification shall govern.

Others Codes not specifically mentioned here but pertaining to the use of HDPE pipes form part of these Specifications.

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Title/Specification</th>
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<tr>
<td>IS 4984</td>
<td>High Density Polyethylene Pipes for Water Supply</td>
</tr>
<tr>
<td>IS 2530</td>
<td>Methods of test for polyethylene moulding materials and polyethylene compounds DI K7 Pipes, Joints and Fittings for use for Potable Water Supply</td>
</tr>
<tr>
<td>IS 5382</td>
<td>Rubber sealing rings for gas mains, water mains and sewers.</td>
</tr>
<tr>
<td>IS 4905</td>
<td>Methods for random sampling</td>
</tr>
<tr>
<td>IS 7328</td>
<td>High density polyethylene materials for moulding and extrusion</td>
</tr>
<tr>
<td>IS 7634</td>
<td>Laying &amp; Jointing of Polyethylene (PE) Pipes</td>
</tr>
<tr>
<td>IS 9845</td>
<td>Method of analysis for the determination of specific and/or overall migration of constituents of plastics material and articles intended to come into contact with foodstuffs</td>
</tr>
<tr>
<td>IS 10141</td>
<td>Positive list of constituents of polyethylene in contact with foodstuffs, pharmaceuticals and drinking water.</td>
</tr>
<tr>
<td>IS 10146</td>
<td>Polyethylene for its safe use in contact with foodstuff, Pharmaceuticals and drinking water.</td>
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1.2 **Designation**

Pipes shall be designated as per IS 4984, according to the grade of material, followed by pressure rating and nominal diameter, for example, PE 100 PN 10 DN 200 indicates a pipe pertaining to material grade 100 having a pressure rating 1.0 MPa and outside nominal diameter 200 mm.
1.3 **Color**

The color of the pipe shall be black.

1.4 **Materials**

The material used for the manufacturer of pipes should not constitute toxicity hazard, should not support microbial growth, should not give rise to unpleasant taste or odour, cloudiness or discoloration of water. Pipe manufacturers shall obtain a certificate to this effect from the manufacturers of raw material by any internationally reputed organization as per the satisfaction of the Engineer-in-Charge in charge.

1.5 **Raw Material**

(a) Raw material used to manufacture the HDPE pipes shall be PE 100, pre-compounded PE resin confirming to IS: 4984, IS: 7328 and ISO: 4427-2007. For this a certification has to be given by the resin manufacturer as per clause 3.2.3 of IS: 4984. The resin proposed to be used for manufacturing of the pipes should also comply with the following norms as per ISO 9080-2003.

(b) The resin should have been certified by an independent laboratory of international repute for having passed 10,000 hour long term hydrostatic strength (LTHS) test extrapolated to 50 years to show that the resin has a minimum MRS of over 10 MPa for PE 100 resin. Internal certificate of any resin manufacturer will not be acceptable.

(c) Certificate from reputed organization OR Raw material supplier for having passed the full scale rapid crack propagation test as per ISO 13478. High density Polyethylene (HDPE) used for the manufacture of pipes shall conform to designation PEEWA-50-T-003 of IS 7328. HDPE conforming to designation PEEWA-50-T-003 of IS 7328 may also be used with the exception that melt flow rate (MFR) shall not exceed 1.10 g/10 min. In addition the material shall also conform to clause 5.6.2 of IS 7328.

(d) The specified base density shall be between 940 kg/ m³ and 958 kg/ m³ (both inclusive) when determined at 27°C according to procedure prescribed in IS 7328. The value of the density shall also not differ from the nominal value by more than 3 kg/ m³ as per 5.2.1.1 of IS 7328. The MFR of the material shall be between 0.20 and 1.10 (both inclusive) when tested at 190°C with nominal load of 5 kgf as determined by method prescribed in IS 2530. The MFR of the material shall also be within ± 20 percent of the value declared by the manufacturer.

(e) The resin shall be compounded with carbon black. The carbon black content in the material shall be within 2.5 ±0.5% and the dispersion of carbon black shall be satisfactory when tested as per IS 2530.

1.6 **Anti-oxidant**

The percentage of anti-oxidant used shall not be more than 0.3 percent by mass of finished resin. The anti-oxidant used shall be physiologically harmless and shall be selected from the list given in IS 10141.

1.7 **Reworked Material**

No addition of Reworked/ Recycled Material from the manufacturer’s own rework material resulting from the manufacture of pipes is permissible and the vendor is required to use only 100% virgin resin compound.
1.8 Maximum Quality of Pipe
The outside diameter of pipes, tolerance on the same and quality of pipe shall be as given in table 2 of IS 4984. Ovality shall be measured as the difference between maximum outside diameter and minimum outside diameter measured at the same cross section of the pipe, at 300 mm away from the cut end. For pipes to be coiled the quality shall be measured prior to coiling. For coiled pipes, however, re-rounding of pipes shall be carried out prior to the measurement of quality.

1.9 Detect ability
HDPE Pipes should be detectable when buried underground, by providing a copper wire of 1.50 sq.mm +/- 0.2 sq. mm, co-extruded or fixed on to the pipe with the help of superior quality adhesive tape on the outer surface as provided in IS 7634 part II in such a way that in no way it affects the pipes’ conformity to relevant BIS codes.

1.10 Length of Straight Pipe
The length of straight pipe used shall be minimum 6 mtr or as agreed by Engineer-in-Charge. Short lengths of 3 meter (minimum) up to a maximum of 10% of the total supply may be permitted.

1.11 Coiling
The pipes supplied in coils shall be coiled on drums of minimum diameter of 25 times the nominal diameter of the pipe ensuring that kinking of pipe is prevented. Pipe beyond 110mm dia shall be supplied in straight length not less than 6m.

1.12 Workmanship / Appearance
Pipes shall be free from all defect including indentations, delaminating, bubbles, pinholes, cracks, pits, blisters, foreign inclusions that due to their nature degree or extent detrimentally affect the strength and serviceability of the pipe. The pipe shall be as uniform as commercially practicable in colour opacity, density and other physical properties as per relevant IS Code or equivalent International Code. The inside surface of each pipe shall be free of scouring, cavities, bulges, dents, ridges and other defects that result in a variation of inside diameter from that obtained on adjacent unaffected portions of the surface. The pipe ends shall be cut clearly and square to the axis of the pipe. IS 4984 :1995 will be followed for visual appearance.

1.13 Handling, Transportation of pipes
During handling, transportation all sections shall be handled by such means and in such a manner that no distortion or damage is done to the section or to the pipes as a whole. The following procedures should be followed so as to eliminate potential damage to pipes and fittings and to maintain maximum safety during unloading, lifting and lowering.
- Pipes must not be stored or transported where they are exposed to heat sources likely to exceed 60°C.
- Pipes shall be stored such that they are not in contact with direct sunlight, lubricating or hydraulic oils, petrol, solvents and other aggressive materials.
- Scores or scratches to a depth of greater than 10% or more of wall thickness are not permissible; any pipes having such defects should be strictly rejected.
• PE pipes should not be subjected to rough handling during loading and unloading operations. Rollers shall be used to move, drag the pipes across any surface.

• Only polyester webbing slings should be used to lift heavy PE (>315mm) pipes by crane. Under no circumstances, chains, wire ropes and hooks be used on PE pipes.

• Pipes shall not be dropped to avoid impact or bump. If any time during handling or during installation, any damage, such as gouge, crack or fracture occurs, the pipe shall be repaired if so permitted by the competent authority before installation.

• During coiling care should be taken to maintain the coil diameter at or above the specified minimum to prevent kinks. Coiling shall be done when the pipe attains the ambient temperature from the extruder. In uncoiling or recoiling care should be taken that sharp objects do not scour the pipe.

• When releasing coils, it must be remembered that the coil is under tension and must be released in a controlled manner. The end of the coil should be retained at all times, then the straps released steadily, one at a time. If the coil has bands at different layers of the coil, then they should be released sequentially starting from the outer layers. The amount of the energy locked up in the coil will depend on the size of the pipe, the SDR of the pipe, and the size of the coil.

• Straight lengths should be stored on horizontal racks giving continuous support to prevent the pipe taking on a permanent set

• Bare coils shall be wrapped with hesian cloth for long distance (> 300Kms) transportation. The truck used for transportation of the PE pipes shall be exclusively used of PE pipes only with no other material loaded – especially no metallic, glass and wooden items. The truck shall not have sharp edges that can damage the Pipe.

• Pipes manufactured at factory are to be carried to the site of work directly or stacked suitably and neatly along the alignment/road side/elsewhere near by the work site or as directed by the Engineer-in-Charge.

1.14 Marking ;-
All pipes shall be marked at maximum interval of 1m. The marking shall indicate at least the following information.
1) Manufacturers name and /or trademark
2) The dimensions ( nominal diameter x nominal wall thickness
3) The outside diameter balance (A or B)
4) The designation of pipe material (PE 100, PE 80 etc)
5) The nominal pressure
6) The production period (date or code)
7) The number of International standard
8) The word water shall also be included.
9) Lot Number / Batch number

1.15 Packing and transport
The pipes should be preferably transported by road from the factory and stored as per the manufacturer specifications to protect damages.
1.16 Summary of Quality test

1. Quality Mark: pipe IS 4984
2. Material: As per IS 4984. However only virgin resin is allowed, rework material is not allowed.
3. Grade of material: PE 100 as per IS 4984 (Certificate from raw material manufacturer is required)
4. Pressure rating: minimum PN 6 or above as per requirement
5. Colour: As per IS 4984
6. Dimension:
   - Diameter: The nominal diameter (outside)
   - Wall thickness: As per IS 4984
   - Length
     - (i) For dia upto 110 mm; min 6 mtr, max 100 meter (tolerance as per IS 4984)
     - (ii) For dia more than 110 mm; min 6 mtr
7. Visual appearance: As per IS 4984
8. Test and sampling: As per IS 4984
9. Special test:
   - Notch hydraulic test for the HDPE pipe made from PE 100 grade raw material as per ASTM 1474 OR ISO 13479 at manufacturer laboratory or independent laboratory and should pass the hydraulic test as per IS 4984; 1985 for a minimum 165 hours. The test reports shall not be more then 3 months old.
10. Jointing of pipes (pipe end)
    - For dia up and more than 110 mm dia: Butt or electro fusion process
11. Quality Assurance
    - Quality assurance Plan shall be got approved from the employer before production starts.

BIS License: The pipe manufacturer who is going to supply the pipe should have a valid BIS License. The bidder shall submit the valid license copy along with the offer.

Performance requirement:

The pipe supplied should have passed the acceptance tests as per clause given in specified standards. The manufacturer should provide the test certificate for the test conducted, as required in specified standards along with supply of pipes. These acceptance test can be performed in the in house laboratory of the pipe manufacturer. The employer will depute one person to be positioned at the pipe manufacturing facility of the successful bidder. This deputed person will check and approve each lot of the pipe manufactured before they leave the factory after ensuring that they are meeting the required specifications.

All remaining parameters/specifications shall be as per respective IS.