**OIL & GAS DEVELOPMENT COMPANY LIMITED**

**UCH GAS FIELD, DERA BUGTI-BALOCHISTAN**

**Schedule of Requirement**

**Tender Enquiry No. TE/UCH/PF/002/2020**

**“COLD REPAIRING SERVICES ON 26 INCH DIA SALE GAS PIPELINE”**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sr.**  **#** | **ITEM DESCRIPTION** | **UOM** | **QTY** | **Unit Price (Rs.)** | **Unit Price with BST(Rs.)** | **Total Price with BST (Rs.)** |
| 1 | **Metallic Full Sleeve Bonding** on 26 inch Dia Pipe Line (3LPE Coated**):**  Full Sleeve Width: **18 inch** | **Nos.** | **01** |  |  |  |
| 2 | **Metallic Plate bonding as Doubler patch** (26” Dia pipe, FBE Coated)  Size: **18 inch (Length) x 30 inch (Width)** | **Nos.** | **01** |  |  |  |
| 3 | **Metallic Plate bonding as Doubler patch** (26” Dia pipe, FBE Coated)  Size: **12 inch (Length) x 18 inch (Width)** | **Nos.** | **01** |  |  |  |
| 4 | **Metallic Plate bonding as Doubler patch** (26” Dia pipe, FBE Coated)  Size: **12 inch (Length) x 16 inch (Width)** | **Nos.** | **07** |  |  |  |

**TECHNICAL SPEICIFICATIONS:-**

**A. Application Surface:**

1. All the repairs are on the “external surface” of 26 inch Dia pipeline (Carbon Steel, Straight Seam welded, WT=9.5 mm, underground, FBE and 3LPE Coated, operating Pressure/Temp = 800 Psi/140°F)
2. Surface under repair is having metal loss in wall thickness (i.e. 40% ~60% metal loss).
3. For calculating Patch size, minimum 06 inch overlap on each side of the anomaly, has been provided as illustrated in attached sketch at page# 04 of SOR.

**B. Metal Sleeve/Patch Plates:**

1. Material: Carbon Steel
2. Thickness: Not less than 06 mm
3. Length of Patch is along the flow in pipe whereas, width is along the circumference.
4. Rolled as to fit over 26” dia pipe. (i.e Patch width will be rolled as to match the pipe circumference)
5. Metal sleeve and patch plates shall be blast cleaned with enough surface roughness.
6. Metal Sleeve and Patch plates should be pre-prepared at contractor’s workshop before mobilization to Uch for installation.
7. For 18 inch wide sleeve as tabulated above at Sr#1, the sleeve should be in 02 pieces and have un-projected clamping mechanism for easy application as shown in attached sketch.

**C.** **Bonding material:**

Preferably, **Belzona 1121** or **equivalent** shall be used as sleeve/patch bonding material.

**D.** **Coating removal tools:**

1. FB (Fusion bonding) /3LPE (Polyethylene) Pipe Coatings will be removed only with “Manual Tools” made of “Brass”.
2. Pipe surface will be made roughen through emery papers and wire brushes.

**PROCEDURE FOR COLD REPAIRING OF 26” SALE GAS LINE**

1. Assess the weather/operating condition whether suitable for the repair job as per recommendations of manufactures of product.
2. Cold work permit will be obtained before starting the job.
3. Tool box talk will be conducted at site by the contractor’s Job supervisor.
4. Coating removal from the 26” pipe at the effected portion as per respective patch plate size.
5. Surface preparation of the coating removed portion on 26” pipe with suitable method i.e. emery paper, wire brush etc.
6. Cleaning of the prepared pipe surface and patch/sleeve with Universal Cleaner/degreaser (for example Belzona 9111 or **equivalent**)
7. Thoroughly mix the Bonding Material (base and solidifier) as per recommended ratio/volumes.
8. Apply the bonding mixture to pipe repair surface and spread uniformly with provided tools.
9. Apply the same mixture to Metallic Patch plate inside surface and spread uniformly.
10. Fix the patch plate on the pipe surface and press down slightly to ensure bonding material is completely filled in all internal gapes and no air is entrapped inside.
11. Remove the excess mixture with spatula.
12. Press hold the patch plate with any suitable rope/ belt or bandage and allow to cure completely.

**Guarantee Period and Expected Useful Life for aforesaid Repairs:**

1. Bidders must have to mention the Guarantee period in the “Technical Bid” for the aforesaid repair job which must not be less than one year period.
2. Bidders must have to mention the “Expected Useful Life” of the repair as per Product Data of the Bonding chemical to be used for the repair job.
3. After Job completion, contractor has to submit “warranty/Assurance certificate” of at-least one year period for the aforesaid repairs.

**Provision of Technical Data/ As Built Drawings:**

After Job completion, contractor has to submit a detailed “Report” against the repairs which must include the following

1. As-built drawings of each repair with linear & angular measurements of patch position from adjacent circumferential weld on pipe, patch dimensions with photos etc.
2. Circumferential Measurements after patch work at each repair location.
3. Warranty/Assurance Certificate of at-least 01 year.
4. Expected useful life of the repair as per previous experience/product data etc.
5. Technical literature, properties/limitations etc. of bonding product.

**SKETCH FOR METAL SLEEVE AND PATCHES**



