ANNEXURE-I : TECHNICAL DATA SHEET

A – SITE CONDITION

Barometric Pressure …… 736 mmHg.

Design Ambient temperature : 45°C

Design temperature for electrical equipment : 50°C

B – TECHNICAL DATASHEET FOR DAMPERS -

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| 1) | Medium handled | Flue Gas – Analysis ( % by Volume, wet) : CO2 – 10.8 ; O2 – 6.62 ; N2-72.73 ; Moisture – 9.84 .  Flue Gas with dust concentration of 120 mg/Nm3 and SOx level- 1246 mm/Nm3 | | | | | | |
| 2) | Purpose of Dampers | For isolation purpose and shall be ON/OFF type. | | | | | |  |
| 3) | Type of Dampers | Multi Louvre Type | | | | | |  |
| 4) | Damper Location | New Duct -1 tapping of suction to Booster Fan | New Duct -2 tapping of suction to Booster Fan | | Existing Discharge Duct of ID Fan-1 to Existing Chimney | | Existing Discharge Duct of ID Fan-2 to Existing Chimney |  |
| 4a) | Damper Tag | DMP-1 | DMP-2 | | DMP-3 | | DMP-4 |  |
| 4a) | Installation | Horizontal installation of damper in vertical duct | Horizontal installation of damper in vertical duct | | Vertical installation of damper in horizontal duct | | Vertical installation of damper in horizontal duct |  |
| 5) | Actuation | Pilot Solenoid operated Pneumatically actuated . Actuator shall be linear and double acting type. | | | | | |  |
| 5a) | Power & Air failure situation | DMP-1 & DMP-2 duct dampers shall be of stay put type during Power failure. Dampers on customers gas line DMP-3 & DMP-4 will be Power Failure to open with overriding facility . Damper shall be operating of Power failure to open mode when it will be placed on auto in a auto /manual selector switch. Otherwise in manual mode of selector switch, operation from the panel shall initiated by the open/close push Button Switches. Selector switch shall be provided in the control panel by other | | | | | |  |
| 5b) | Actuator Pneumatic connections | ½ inch GI pipe threaded connection for Instrument Air line shall be provided by Client within 1mtr of the Damper. Instrument air pressure shall be 4 - 5 kg/cm2. | | | | | |  |
| 5c) | Actuator Electrical connections | 240V AC power to solenoid shall be provided. | | | | | |  |
| 6) | Instruments | Each dampers shall be provided with 2nos Limit switches ( for Damper Open & Close position ).Each switch shall have 2NO+2NC contacts -Signal cables from the limit switches of 4 dampers shall be terminated at a local Junction Box to be located ata place which will be within 10 meter from the farthest location of any damper.  Supply of Junction Box be included | | | | | |  |
| 7) | Sealing | The dampers shall seal upto 99.5% across blade. | | | | | |  |
| 8) | Manual override | Manual override by handwheel shall be provided. | | | | | |  |
| 9) | Construction | Damper shall be provided with blade shafts and complete link mechanism for connection with blades and with actuators. | | | | | |  |
| 9a) |  | Bearings sufficiently insulated to protect against overheating. | | | | | |  |
| 9b) |  | The principal consideration for damper selection shall be minimum leakage and fast action (opening/closing). Bidders shall indicate opening/closing time for each damper in bid data sheets.. | | | | | |  |
| 9c) |  | Gas dampers shall be capable of being operated and be tight in the closed position under the maximum differential pressures without bending/warping or seizure, and shall be fitted with locking devices in the fully open and closed positions. The Bidders shall state the special features provided to make them gas tight to enable maintenance of equipment whilst the power plant is in service. | | | | | |  |
| 9d) | Closing Time | Dampers must have a closing time of less than 60 seconds unless noted. | | | | | |  |
| 10) | Duct dimension  mm x mm | 1800 x 3600 | 1800 x 3600 | 1841 x 2044  (HOLD) | | 1841 x 2044  (HOLD ) | |  |
| 11) | Flow, m3/hr | 2,93,335.00 | 2,93,335.00 | 2,93,335.00 | | 2,93,335.00 | |  |
| 12) | Operating Temp Deg C | 148 | 148 | 148 | | 148 | |  |
| 13) | Operating Pressure, mmwc | (-) 25 | (-) 25 | (-) 25 | | (-) 25 | |  |
| 14) | Design Pressure,  mmwc | ( +/ -) 1000 | ( +/ -) 1000 | ( +/ -) 1000 | | ( +/ -) 1000 | |  |
| 15) | Qty, Nos | 01 | 01 | 01 | | 01 | |  |
| 16) | Pressure Drop,  mmwg | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| 17) | Instrument air flow reqd, Nm3/hr | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| 18) | Solenoid details | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| 20) | Max Damper Weight Actuator | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| 21) | Distance between flanges, mm | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| 22) | Gland Design | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| 23) | Linkage Design | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| 24) | Torque Requirement & Degree of Rotation kg-m | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| 25) | Actuator Details |  |  |  | |  | |  |
| a) | Make/Model No. | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| b) | Type | Pneumatic | Pneumatic | Pneumatic | | Pneumatic | |  |
| c) | Damper Characteristics | On-off | On-off | On-off | | On-off | |  |
| d) | Maximum operating pressure | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| e) | Operating time of the actuator | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| f) | Stroke Restrictor | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| g) | Air Filter Regulator  Model  Make | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| h) | Solenoid Valve  Model  Make  Rating  No of Ports | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| i) | Limit switch Open & Close | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
| j) | Contact Rating | Bidder to indicate | Bidder to indicate | Bidder to indicate | | Bidder to indicate | |  |
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C - MATERIAL OF CONSTRUCTION:

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| **Description** | **Material** |
| Body / Frame | IS 2062 GR B |
| Flange / counterflange | IS 2062 GR B |
| Blades/Louvres | IS 2062 GR B ; If Liner to be provided bidder to indicate |
| Shaft / Links | EN-8, Bidder to indicate |
| Nuts & Bolts | Carbon Steel |
| Gasket | Bidder to indicate |