

ANNEXURE-3 (BOQ OF FIRE FIGHTING FOR MPPTCL PROJECT)

(1) Unloading, Storage, Placement of fittings and supply of supports for mounting below detailed Fire Extinguishers for each Site are in ETC contractor scope:

Sl. No.	Description	Unit	Quantity
			Badnawar
1.	Dry-Chemical Powder (DCP) Type, Capacity-75Kg, Trolly Mounted	Nos.	02
2.	CO ₂ Type, Capacity-22.5Kg, Trolly Mounted	Nos.	04
3.	Mechanical Foam Type, Capacity-50Ltr, Trolly Mounted (Cylinder Type)	Nos.	04
4.	Set Of Fire Buckets Comprising 6 Nos Buckets, Capacity-9Kg , Each with Stand (Set)	Nos.	04

(2) Only Unloading, Storage and handling at Site of Nitrogen Injection Fire Protection System is required from ETC Contractor. The Erection, Testing and Commissioning work of Nitrogen Injection Fire Protection System will be taken care by Supplier of Nitrogen Injection Fire Protection system.

DETAILED BILL OF MATERIAL OF NITROGEN INJECTION SYSTEM FOR TRANSFORMER AND REACTOR

Sl. No.	Description of Transformer / Reactor on which Nitrogen Injection Fire Protection System is to be fitted	Unit	Quantity
			Badnawar
1.	315 MVA 400/220/33 kV Transformer	Nos.	02
2.	100 MVA 400/132 kV Transformer	Nos.	00
3.	125 MVAR 3 Phase 400 kV Shunt Reactor	Nos.	01



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Sl. No.	Item Description	Unit	Qty.
			Badnawar
1	Fire extinguishing Cabinet with base frame, consisting of: a. Nitrogen Gas cylinder of sufficient capacity with pressure regulator and manometer with sufficient number of adjustable NO contacts. b. Oil Drain Assembly c. Mechanical release device for oil drain and nitrogen release. d. Limit switches for monitoring the systems e. Panel lighting f. Flanges on top of the panel for connecting oil drain and nitrogen injection pipes for transformer / Reactor. g. Oil drain pipe extension of suitable size for connecting pipes to oil pit. h. Limit switch for pressure switch/ sensor.	SET	03
2	Control box to be installed in control room for monitoring system operation, automatic controls and remote operations. Control box should be complete with DC-DC converter for audio-visual alarm, indicating lights, switches, push buttons etc. suitable for tripping and signaling on 220V DC supply. The control box is to be installed in the control room of the substation based on control room lay out and feasibility. Necessary cables, cable laying, marshaling cabinets in control room, cabinets for fixation of control boxes etc are under the scope of Bidder.	Nos.	03
3	Signal box for terminating cable connections from PRV/ pressure sensor, PNRV/POBV, fire detectors and circuit breaker trip signal.	Nos.	03
4	Pre-stressed non-return valve (PNRV)/ high speed pneumatically operated ball valve (POBV) with sufficient number of NC contacts for remote alarm indication and with visual position indicator.	Nos.	03
5	Fire detectors rated for heat sensing at 141°C or suitable temperature recommended by the manufacturer and each fitted with two nos. PG 13.5 size cable glands.	Nos.	36
6	Fire survival cables of size 4C X 1.5 mm ² for connecting fire detectors and other signals on transformer / Reactor top cover to terminals in Signal Box.	Mtrs	150

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7	FRLS cable of size 12C X 1.5 mm ² for connecting signal box mounted on transformer / Reactor to Control Box in the station control room, Relay Panel to Control Box and Control Box to FE Cubicle.	Mtrs.	3000
7.1	FRLS cable of size 4C X 1.5 mm ² for connecting PNRV / POBV to signal box, AC supply to FE Cubicle, AC & DC supply to Control Box, interconnection of AC & DC supply and connections in Relay Panel.	Mtrs.	300
8	Piping along with supports & fittings between transformer / Reactor, FE cubicle and oil drain pit		
8.1	Oil drainpipe connection between outlet valve provided on transformer / Reactor tank and flange provided on top of FE cubicle.	Mtrs.	36
8.2	Oil drainpipe connection between oil drainpipe bottom (in FE cubicle) to the oil pit.	Mtrs.	18
8.3	Nitrogen injection pipe connection between inlet openings on transformer / Reactor tank and flange provided on top of FE cubicle.	Mtrs.	54
8.4	50N pipe for support to oil drain	Mtrs.	36
9.0	OIL STORAGE TANK OF MS OF SUITABLE CAPACITY AS PER THE RATING OF RESPECTIVE TRANSFORMER / REACTOR ALONG WITH ASSOCIATED ACCESSORIES.	LOT	03

