

**Subject: Installation of two nos. DP type orifice steam flow meters in process steam pipeline of factory.**

**Scope of work :**

**(A) Fabrication & Erection:**

- (1) Cutting pipeline piece in the existing steam line to create space for erection of 02 nos. matching flanges for each DP flow meter.
- (2) Erection of 02 nos. flanges of orifice plate assembly on each existing steam pipeline (Drawing no. Steam line/DP-FM/01) by welding work, and installation of orifice plate, Installation of tapping pipeline (1/2") & 01 no. valve on each flange.
- (3) Mounting of condensate pot (2 nos. for each flow meter), ½" valves (2 nos. for each flow meter) & ½" Pipe with manifold for connection with transmitter as per drawing no. GPX/4/2019-20/DPF/01.

**Note:**

- (i) IBR approval is to be taken for installation of flanges & primary isolation valves (drawing no. GPX/4/2019-20/DPF/01)
- (ii) Total 04 flanges are to be installed for mounting 02 orifices for 02 flow meters i.e. 02 flanges on each pipeline. Total ½" valves qty shall be 08 nos. (04 valves for each flow meter) and total pipeline length shall be approx. 20-25 meters.
- (iii) All required material for the above work like flow meter, flanges, pipe, valves, nut - bolt, thread tape etc. shall be provided by BHEL.
- (iv) Welding machine, cutting set including cutting gas & welding electrode shall be provided by BHEL, however tools & all safety gears is to be brought by contractors.

**(B) TESTING & APPROVAL:**

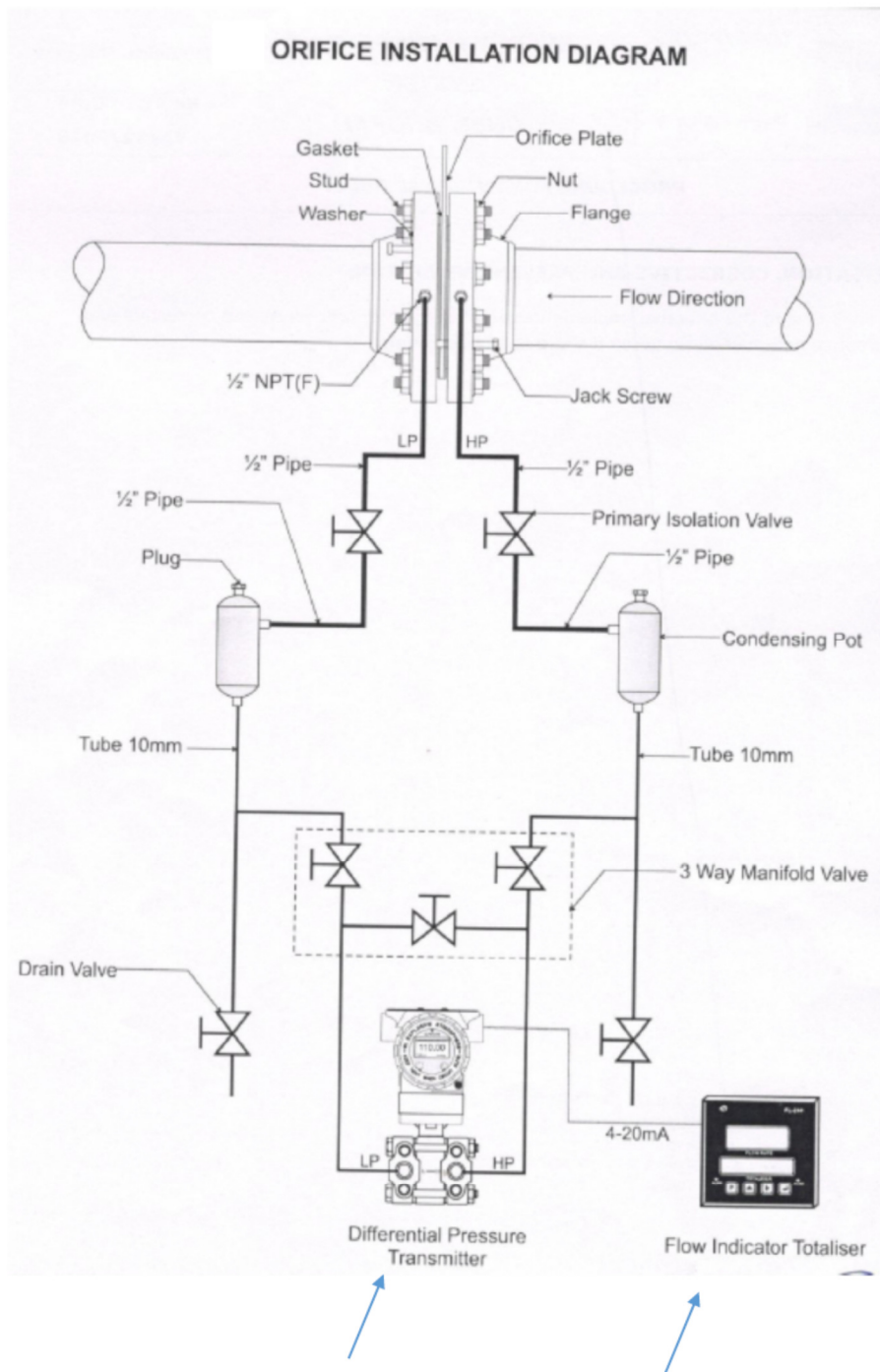
- (i) All the required tests (if any) of the work done are to be performed by the contractor as per IBR rules & IBR requirement.
- (ii) The contractor shall arrange all equipment, instruments, tools, manpower etc., for testing and shall carry out the various tests as required at his own expense.

**(C) IBR APPROVAL:**

- (i) Contractor shall carry out the fabrication, erection and testing of this piping as per requirements of Indian boiler Regulations and to the entire satisfaction of the boiler inspector/IBR authorities.
- (ii) All IBR approvals from IBR authorities for Fabrication, installation, erection, testing of steam pipeline etc. falling under IBR purview shall be obtained by the contractor. All arrangements for organizing IBR inspectors visit and testing etc. to be conducted in front of him. **All statutory charges & fee to be deposited in boiler inspector's office/IBR authorities' office/local authorities' office for IBR approval shall be borne by the contractor.**
- (iii) Development of Isometric drawing as per our piping layout plan as per drawing no. Steamline/DP-FM/01 & actual site condition for IBR approval & approval of the same from IBR authorities will be Contractor's scope.
- (iv) Contractor has to submit approved drawing from IBR authorities before start of work to us.
- (v) After Completion of work contractor has to take charging permission of pipelines from IBR authorities / Director of boilers M.P and same is to be submitted to us.

**Special Condition:**

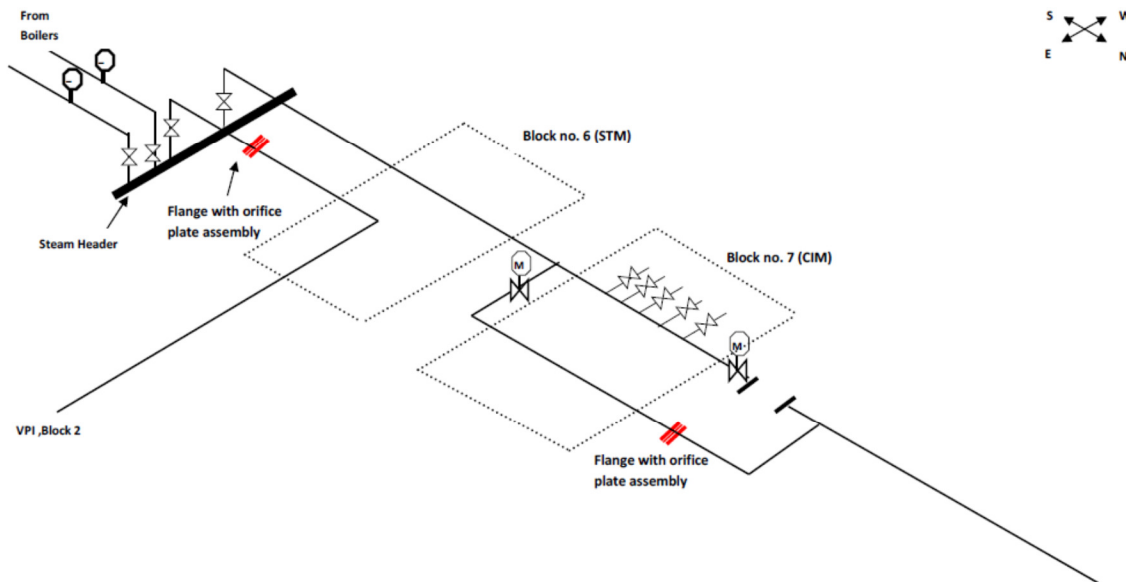
- Fabrication & Erection of flanges in steam pipeline can be done only after shutdown of steam services. About the availability of shutdown, contractor will be intimated in advance and they have to complete the shutdown work in very short span of time therefore they have to depute manpower accordingly.
- Work related to shutdown is to be done preferably in 02 shutdowns each of 06 hrs.



Installation of DP transmitter & FIT  
shall be BHEL's Scope

# Installation of orifice plate assembly in steam supply pipeline

Drawing/sketch no. : Steam line/DP-FM/01



Flange with orifice plate assembly shown in red is to be installed for mounting orifice plate