MATERIAL REQUISITION FOR Wagon Loading Arm

4.	**Item Description**	
	Design, Manufacturing, Inspection, Testing, Supply and Guarantee of the following equipment:	
	Description	**No. Required**
	3" x 2" Swivel Type Loading Arm for Wagon Loading Gantry	110

A. Technical Details:

Nos. of Wagon Loading Arms: 110 (One Hundred ten)
Arm size: 3X2 inch.
Service: MS/SRN/HSD/SKO
Operating Temperature: 45 Degree Celsius.
Design Temperature: 65 Degree Celsius.
Operating Pressure: 5 kg/cm2
Design Pressure: 8 kg/cm2

B. Details of Wagon Loading Arms:

i. The complete assembly shall be designed to make the arm maneuverable with the effort of a single person.
ii. Swivel joints shall be of split flanged type i.e. 2 pieces design. Ball races and sealing areas shall be suitably hardened to provide long life.
iv. Spring balanced unit should provide automatic, effortless control of loading arms in operation. No specific tools should be required for spring's field adjustment.
v. Vacuum breaker should be provided at the highest point of arm for quick draining of residual product and to avoid spillage after each filling operation.

C. Dimensions of Loading Arms: AS per drawing attached as Ann I

Note: Length of the loading arm indicated in the drawing is tentative only. During design approval stage, the exact design is to be submitted by the Bidder. Hence Bidders should quote for length (+/-) 10%.

D. Materials of Construction:

Material of Construction		
SL NO	**DESCRIPTIONS**	**MATERIAL**
01	3'' × 150# WNRF FLANGE	A 105
02	3'' × 90°× Sch. 80 L.R. ELBOW	A 234 WPB
03	3'' ×2'' CONCENTRIC REDUCER	A 234 WPB
04	2'' NB B.W. 2 PIECE DESIGN SWIVEL JOINT	A 105
05	COUNTER BALACE WEIGHTS & BRACKET	C.I. & IS : 2062
06	2'' ×90°× Sch. 40 L.R. ELBOW	A 234 WPB
07	2'' NB × Sch. 40 OUTBOARD ARM	A 106 Gr. B
08	3'' ×2'' NB RING GASKET	Grafoil
09	2'' × 150# SORF FLANGE	Alu. (B 26 Gr. 356-T6)
10	2'' × Sch. 40 DROP TUBE	Alu. (B 356-6063-T6)
11	2'' × Sch. 40 PIPE	A 106 Gr. B
12	HOOK & HANDLE ETC.	C.S. & IS: 2062
13	3'' NB B.W. 2 PIECE DESIGN SWIVEL JOINT	A 105
14	2'' × 150# SORF FLANGE	A 105
15	STUDS WITH NUTS	A 193 B7 & A 194 2 H
16	3'' NB × Sch. 40 INBOARD ARM	A 106 Gr. B
17	1/2 " VACUUM BREAKER WITH BALL VALVE & COUPLING	S.S., C.S. & PTFE
18	SUPPORT PIPE	IS: 1239 (HEAVY)
19	BEARING BLOCK WITH A.F BEARING	C.S. & IS : 2062
20	3 " NB × 150# FLANGE END BASE SWIVEL JOINT	A 105

NOTE:
1. ALL DIMENSION ARE IN MM.U.O.N

E. Testing & Inspection:

Loading arms are subjected to inspection and testing at Vendor's works by IOCL empanelled TPI Agency. Manufacturing/ fabrication should not be started without the due submission and approval of drawing & QAP by owner. The approved QAP shall form the basis of inspection, testing and documentation. Inspection shall include but not limited to the followings:

a)Dimensional check - 100 %
b)Checking and reviewing of all material test certificates-100%.
c)Review of Radiography films - 100%.
d)Witnessing hydro test of complete loading arms - 100%
e)Witnessing rotational test for swivel joints at design pressure - 100%.
f)Operability test for each loading arms to check the complete envelope - 10%.

SPECIAL TERMS & CONDITION:

The scope of work envisages

i) **Manufacturing and supply of 110 nos. of Wagon Loading Arms for petroleum product services at IOCL Bongaigaon Refinery.**

The scope shall be Design, manufacturing, testing, inspection, painting, packing and delivery of Loading Arms at IOCL Bongaigaon Refinery along with Manufacturer's Test Certificates, TPI Certificates and Guarantee Certificate etc. as per the specification attached in the MR.

ii) **Supervision during installation at IOCL Bongaigaon Refinery**. Successful Bidder shall depute their one Service Engineer at IOCL Bongaigaon Refinery site to supervise the erection and commissioning activities to ensure trouble free and guaranteed operation. The rate quoted by the Bidder for site supervision should be for 6 working days considering 8 hrs a day, including all travelling charges, boarding, lodging and local conveyance expenses for one Service Engineer deputed at site.
Successful Bidder shall also have to visit the site for one day and familiarize himself thoroughly with the site conditions and design and necessary measurements immediately after the placement of PO. Non-familiarity with the site conditions will not be considered a reason either for extra claims or for not carrying out the work in strict conformity with the drawings and specifications. For site visit the vendor may contact Engineering Service Manager at his office at Bongaigaon Refinery in any working days.

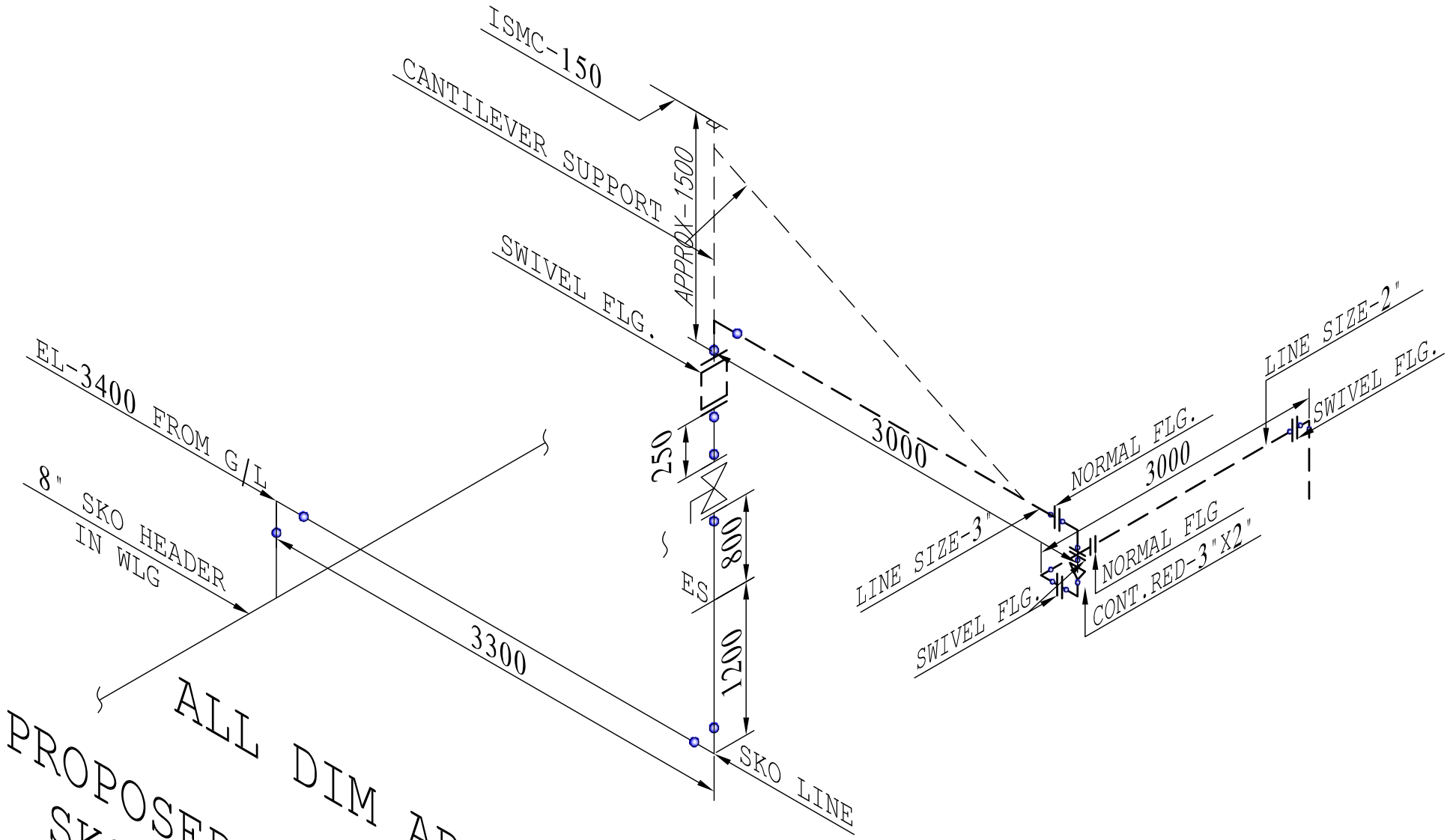
The Bidder should enclose the design of loading arm with Bill of Materials, QAP, job execution plan along with their bids.

The Vendor after the full installation and commissioning of the whole loading arms and acceptance by Owner should compulsorily submit 3 (three) sets of the following documents as per below:
i. Complete Final Documents consisting of Design engineering, installation and commissioning package.
ii. As-Built Drawings with complete Bill of Materials.
iii. Operation and Maintenance Manual including all other relevant documents.

Delivery Schedule: 3 to 4 months from the date of PO.

GENERAL NOTES:

1. Vendor to submit reference list of comparable equipment/packages previously supplied (client/year of supply/details of equipment supplied/user's feedback).
2. Vendor to submit GA drawing and catalogues during submission of bid.
3. Vendor to submit GA drawing, after placement of PO, for approval by IOCL.
4. Vendor to specifically confirm that all codes referred in specifications will be fully complied with. Any deviations with respect to codes/standards to be specified separately in the deviation sheet.



ALL DIM ARE IN MM.

PROPOSED SKO