



## PRP - LANCE TUBE SPECIFICATION

# SOOT BLOWER LANCE TUBE PURCHASING REQUIREMENTS



REV	DATE (dd/mm/yyyy)	DESCRIPTION OF REVISION	NAME	SIGNATURE
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## 1.0 Purpose

The purpose of this document is to ensure that materials, fabrication and quality control measures used for the manufacture of soot blower lance tubes that are purchased by MPR meet the minimum requirements of a recognized code or standard such as ASME Boiler and Pressure Vessel Code and ASME B31.1.

## 2.0 Soot Blower Lance Tubes

### 2.1 General Requirements

- i. Vendor shall have a Quality Management System (QMS) that is applicable to the scope of work being performed. The vendor QMS shall be certified / endorsed to a recognized standard such as ISO, ASME or approved by the local jurisdiction. The QMS shall be acceptable to MPR. MPR may choose to perform a field or shop audit of the vendor in order to accept the vendor QMS.
- ii. Soot Blower Lance Tubes shall be fabricated in to a recognized code or standard such as ASME Boiler and Pressure Vessel Code and ASME B31.1.
- iii. **Soot Blower Lance Tube Fabrication Checklist** to be completed and be supplied to MPR with each soot blower lance purchased.

### 2.2 Specific Requirements

- i. Lance tubes shall be designed for steam conditions up-stream of the poppet valve. Steam conditions up-stream of the poppet valve at MPR; 7756kPa @ 413oC. Design consideration shall also take into account any static and dynamic loads induced on the lance tube by normal operation into the furnace. Radiant furnace temperature (min 851oC) and additional loads and stress placed on the lance tube that would be inherent to typical recovery boiler service conditions should also to be taken into consideration.
- ii. Materials shall conform to the applicable code of construction, ASME B31.1.
- iii. All welding procedure specifications (WPS), welding procedure qualification records (WPQR) and welder qualifications (WQR) must comply with ASME Section IX.
- iv. Non Destructive Examination (NDE) to be completed as per the code(s) of construction and ASME Section V.
- v. Personnel performing the NDE must have minimum qualifications as per ASNT II.
- vi. Weld profiles shall have a smooth transition and be free from any abrupt or course geometry changes and notches, under cut shall not be permitted.
- vii. Hardness testing (MIC10/MIC20 Vickers) shall be complete at weld number one (W1), hardness testing of the HAZ (flange), W1, HAZ (section 1) and recorded as per Figure 1 on the attached checklist. Hardness shall be less than 250 HV.
- viii. Manufacturing to conform to the current version of specified ASME construction code.
- ix. All lance tubes purchased by MPR shall have a unique identification number. This identification number shall provide the means for traceability throughout the fabrication process.
- x. The vendor shall provide MPR with a complete quality control package for each lance tube upon request.
- xi. The vendor shall provide MPR with a Letter of Compliance (LOC) stating that each lance tube (unique identification number quoted on LOC) has been fabricated in accordance with the specified ASME Construction code (B31.1), as per point viii, above.

### **2.3 Repairs**

- i. In addition to the code or project specified NDE, MPR will not accept possession of the equipment if there are indications of defects identified by visual or other applicable NDE techniques at the time of final inspection prior to it leaving the fabrication shop or upon receiving inspection at MPR. Any such defects shall be sufficient to deem the equipment not fit for service.
- ii. Fabricator is expected to complete weld mapping and take electronic photographs of any weld defects and the final repairs. This information is to be documented in the construction turnover package.
- iii. MPR reserves the right to evaluate the fitness for service of any equipment should there be excessive repairs. The evaluation shall take place at the time of inspection.
- iv. MPR reserves the right to have their QC/QA Inspector or designate on hand to witness repairs.

### **2.4 Attachments**

- i. Soot Blower Lance Tube Fabrication Checklist