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1.0 Purpose

The purpose of this document is to ensure that materials, manufactured components, and fabricated items used for pressure equipment construction meet the requirements of the Safety Codes Act, Pressure Equipment Safety Regulation, ASME or CSA Code of Construction, and mill site requirements.

2.0 Pipe (Seamless (SMLS) and Electric Resistance Welded (ERW))

2.1 General Requirements (all material specification and grades)

- i. All lengths of piping must be legibly identified with material specification number, manufacturer marking, NPS, schedule or nominal wall thickness, grade, type, heat number, and Mercer Peace River(MPR) purchase order number.
- ii. Material Test Reports (MTR’s) or letters of compliance (LOC) shall be shipped with the items, where they shall be received at the time of delivery.
- iii. Pipe shall be identified with a full length stripe of paint applied using the roller method. The color code system to be implemented shall be as per Table 2.1.
- iv. Piping sections which are cut into shorter lengths shall have the complete identification markings transferred to each cut length.
- v. Pipe which is formed (Example - 5D bends), shall meet all the requirements of the applicable code, and shall be supplied by an organization that has the applicable Quality Management System (QMS) and Certificate of Authorization (CAP) for construction as per the scope of supply.

Table 2.1 COLOUR CODE SYSTEM FOR PIPE

MATERIAL	COLOR	PAINT TYPE (or equivalent)
SA 53	White	Rustoleum #2766
SA 106	Blue	Rustoleum #925
SA 335	Green	Rustoleum #933
SA 312	Orange	Halogen Free Rustoleum #956

2.2 Specific Requirements

2.2.1 SA 53

For piping which is NPS 1 ½" and smaller in which it is bundled, it shall be permissible to mark this information on a tag secured to each bundle, rather than marking each individual length of pipe. This applies to both random lengths as well as cut lengths of piping.

2.2.2 SA 106

- i. Piping shall be marked as per 2.1, with the following additional markings as applicable:
 - a. Requirements prescribed in specification A 530/A 530M
 - b. Hydrotest and NDE markings as per ASME Section II
 - c. Additional symbollogy as per supplementary requirements outlined in ASME Section II
- ii. For piping which is smaller than NPS ¾", and which is bundled, markings shall be on either a bundle tag or on each individual length of piping. This applies to both random lengths as well as cut lengths of piping.

2.2.3 SA 335

- i. Piping shall be marked as per 2.1, with the following additional markings as applicable:
 - a. Requirements prescribed in specification A 999/A 999M.
 - b. Hydrotest and NDE markings as per ASME Section II.
 - c. Additional symbology as per supplementary requirements outlined in ASME Section II.
 - d. Weld repair markings as outlined in ASME Section II.

2.2.4 SA 312

- i. Piping shall be marked as per 2.1, with the following additional markings as applicable:
 - a. Requirements prescribed in specification A 999/A 999M
 - b. Hydrotest and NDE markings as per ASME Section II
 - c. Type of pipe – Seamless (SML), Welded (WLD), or Heavily Cold Worked (HCW)

3.0 Boiler Tubing

3.1 General Requirements (All Material Specifications and Grades)

- i. All lengths of tubing must be legibly identified with material specification number, size, wall thickness, grade, type, heat number, and Mercer Peace River purchase order number.
- ii. Material Test Reports (MTR’s) or letters of compliance (LOC) shall be shipped with the items, where they shall be received at the time of delivery.
- iii. Tubing shall be identified with a full length stripe of paint applied using the roller method. The color code system to be implemented shall be as per Table 3.1.
- iv. Tubing sections which are cut into shorter lengths shall have the complete identification markings transferred to each cut length.
- v. Tubing must be capped at both ends.
- vi. Tubing which is formed (Example - 5D bends), shall meet all the requirements of the applicable code, and shall be supplied by an organization that has the applicable Quality Management System (QMS) and Certificate of Authorization (CAP) for construction as per the scope of supply.
- vii. Formed composite tubing shall have the cladding thickness verified, and inspected for cracking via Liquid Penetrant Testing.
- viii. Carbon and low alloy material shall not have a carbon content exceeding 0.35% unless approved by MPR’s Chief Inspector.

TABLE 3.1 COLOUR CODE SYSTEM FOR BOILER TUBING

MATERIAL	COLOR	PAINT TYPE (or equivalent)
SA 178 A	White	Rustoleum #2766
SA 178 C	White	Rustoleum #2766
SA 192	White	Rustoleum #2766
SA 210 A1	White	Rustoleum #2766
SA 210 A1 / 304 SS Composite	Orange	Halogen Free Rustoleum #956
SA 210 A1 / SB 163 Composite	Navy Gray	Halogen Free Rustoleum #975

SA 210 A1 / 825 Composite	Black	Halogen Free Rustoleum #634
SA 210 A1 / Sanicro 38 Composite	Black	Halogen Free Rustoleum #634
SA 209 T1A	Yellow	Rustoleum #944
SA 213 T2	Red	Rustoleum #964
SA 213 T11	Green	Rustoleum #933
SA 213 T22	Brown	Rustoleum #977

3.2 Specific Requirements

3.2.1 SA 178 A and SA 178 C

- i. Tubing shall be marked as per 3.1, with the following additional markings as applicable:
 - a. Requirements prescribed in specification A 450/A 450M.
 - b. The letters “ERW” shall be legibly stenciled on each tube, or marked on a tag attached to the bundle or box in which the tubes are shipped.

3.2.2 SA 192

- i. Tubing shall be marked as per 3.1, with the following additional markings as applicable:
 - a. Requirements prescribed in specification A 450/A 450M.
 - b. Markings indicating whether the tube is hot finished or cold finished.

3.2.3 SA 210 A1

- i. Tubing shall be marked as per 3.1, with the following additional markings as applicable:
 - a. Requirements prescribed in specification A 450/A 450M.
 - b. Markings indicating whether the tube is hot finished or cold finished.

3.2.4 SA 209 T1A

- i. Tubing shall be marked as per 3.1, with the following additional markings as applicable:
 - a. Requirements prescribed in specification A 1016/A 1016M.
 - b. Markings indicating whether the tube is hot finished or cold finished.

3.2.5 SA 213 T2, SA 213 T11, and SA 213 T22

- i. Tubing shall be marked as per 3.1, with the following additional markings as applicable:
 - a. Requirements prescribed in specification A 1016/A 1016M.
 - b. Markings shall include the condition, hot finished or cold finished; and the wall designation, minimum wall or average wall.
 - c. If T2 is ordered with higher sulfur contents (as permitted by ASME Section II), the marking shall include the letter, S, following the grade designation: (T2S).

3.2.6 Composite Tubing

- i. Tubing shall be marked as per the applicable material specification and must include the name of material or UNS number.

4.0 Instrument Tubing (ASME A213/SA213)

- i. All lengths of tubing must be legibly identified as prescribed in Specification A 1016/ A 1016M, and shall also include the condition, hot finished or cold finished, and the wall designation, minimum wall or average wall.

- ii. Tubing must also include the heat number, and if size permitting, the Mercer Peace River purchase order number. As an alternative, the Purchase Order number may be written on the tubing shipping container containing the bundle of tubing.
- iii. If either T2 or T12 tubing is ordered with higher sulfur content as permitted by ASME Section II, the marking shall include the letter “S” following the grade or designation: T2S or T12S.
- iv. Material Test Reports (MTR’s) or letters of compliance (LOC) shall be shipped with the items, where they shall be received at the time of delivery.
- v. Tubing sections which are cut into shorter lengths shall have the complete identification markings transferred to each cut length.
- vi. Marking paint or ink shall not contain harmful amounts of chlorides, metals, or metallic salt, such as zinc or copper that cause corrosive attack on heating.

5.0 Fittings, Valves, and Rupture Discs

TABLE 5.1 FITTING CATEGORY DESCRIPTION AS PER CSA B51

Category	Type of Fitting
A	Pipe fittings, including couplings, tees, elbows, wyes, plugs, unions, nipples, pipe caps, and reducers
B	All flanges
C	All line valves
D	All types of expansion joints, flexible connections, and hose assemblies
E	Strainers, filters, separators, and steam traps
F	Measuring devices, including pressure gauges, level gauges, sight glasses, levels, and pressure transmitters
G	Certified capacity-rated pressure-relief devices acceptable as primary overpressure protection on boilers, pressure vessels and pressure piping, and fusible plugs
H	Pressure-retaining components that do not fall into Categories A to G

NOTES:

1. These categories do not take into account size, materials, end connections, ratings, schedules, and methods of fabrication.
2. Category H can include:
 - a. Small pressure vessels registered and inspected as specified in figure 1(a), (b), or (c) of CSA B51.
 - b. A series of components (including piping components) joined together to form a single fitting, provided that the diameter of any component does not exceed 6" (152 mm) and the total volume of the fitting does not exceed 42.5 L (1.5 ft³).

5.1 Category A, B, C, D, E, and F

5.1.1 General Requirements

- i. Standard fittings may be manufactured to “Component Standards” listed in the adopted codes and standards in DCR.
- ii. Non-Standard Fittings may be manufactured to ASME codes as applicable

- iii. Fittings shall be permanently marked as required by MSS SP-25, and shall be traceable with a legible Heat Number.
- iv. Material Test Reports (MTR's) or letters of compliance (LOC) shall be shipped with the items, where they shall be received at the time of delivery, with exception to tubing compression fittings, where the MTR's must be available upon request.
- v. Mercer Peace River Purchase Order Number must be legible on all items over NPS 2".
- vi. Marking paint or ink shall not contain harmful amounts of chlorides, metals, or metallic salt, such as zinc or copper that cause corrosive attack on heating. On wall thicknesses thinner than 0.083" (2.1 mm), no metal impression stamps shall be used. Vibrating pencil marking is acceptable.
- vii. P4 and P5A materials, Low and Intermediate Alloy (Example SA 182 Grade F11/F22 – 1 ¼ and 2 ¼ Chrome), shall be specified to have a carbon content of 0.15% or less for attaching to piping with a nominal thickness of 0.500" or less. Material with a carbon content over 0.15% may be substituted with the approval of the MPR Chief Inspector or designate.
- viii. If requested, applications, acceptance, and correspondence with ABSA shall be electronically communicated to MPR's Chief Inspector and should be communicated at the time of correspondence, not at the time of equipment delivery.

5.1.2 Manufacturer and Fabrication Requirements

5.1.2.1 Where the Manufacturer is within Alberta:

- i. They must have an ABSA registered Alberta Quality Program (AQP) with a Certificate of Authorization Permit (CAP) for the construction of Category A,B,C,D, E, and F Fittings in Alberta.
- ii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. The design must be registered with ABSA.
- iv. CRN's must be available upon request.
- v. Materials must meet the applicable code of construction.
- vi. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- vii. Proof Tests, as required, shall be as per the code/standard of construction.
- viii. Hydro-testing to be as per the applicable code of construction.
- ix. Welding procedure specifications (WPS) and Welders must be registered with ABSA.
- x. Manufacturing to conform to the current specified construction code and CSA B51.
- xi. The fitting must be inspected and certified by the manufacturer.

5.1.2.2 Where the Manufacturer is within Canada, but outside of Alberta:

- i. They must have a registered Quality Management System (QMS) with the local jurisdiction that is acceptable with ABSA, for the scope of supply.
- ii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta, or, is registered in a central fitting registration program in accordance with CSA B51, Boiler, Pressure Vessel, and Pressure Piping Code.
- iii. CRN's must be available upon request.

- iv. Materials must meet the applicable code of construction.
- v. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- vi. Proof Tests, as required, shall be as per the code/standard of construction.
- vii. Hydro-testing to be as per the applicable code of construction.
- viii. Welding procedure specifications (WPS) and Welders must meet the requirements of the local jurisdiction.
- ix. Manufacturing to conform to the current specified construction code and CSA B51.
- x. The fitting must be inspected and certified by the manufacturer.

5.1.2.3 Where the Manufacturer is outside of Canada:

- i. They must have a registered Quality Management System (QMS) with ASME or ISO 9001, and hold the acceptable certification for the scope of supply.
- ii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta, or, is registered in a central fitting registration program in accordance with CSA B51, Boiler, Pressure Vessel, and Pressure Piping Code.
- iii. CRN's must be available upon request.
- iv. Materials must meet the applicable code of construction.
- v. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- vi. Proof Tests, as required, shall be as per the code/standard of construction.
- vii. Hydro-testing to be as per the applicable code of construction.
- viii. Welding procedure specifications (WPS) and Welders must comply with ASME Section IX.
- ix. Manufacturing to conform to the current construction code and CSA B51.
- x. The fitting must be inspected and certified by the manufacturer.

5.2 Category G – Pressure Relief Devices

5.2.1 General Requirements

- i. All Pressure Relief Devices (PRD – Pressure Relief Valves and Rupture Discs) must be constructed and code stamped to the applicable ASME Code, ASME 1 (V), ASME VIII 1,2 (UV & UD), ASME VIII 3 (UV3), or ASME IV (HV).

5.2.2 Manufacturer and Fabrication Requirements

5.2.2.1 Where the manufacturer is within Alberta

- i. Manufacturer is required to have an ABSA registered Alberta Quality Program (AQP) with a Certificate of Authorization Permit (CAP) for the construction of Category “G” Fittings (PRD).
- ii. Manufacturer must also have a CAP issued by ASME to manufacture or assemble ASME code stamped PRD in accordance with the applicable ASME codes.
- iii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta.
- iv. The design must be registered with ABSA.

- v. Materials must meet the applicable code of construction.
- vi. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- vii. Proof Tests, as required, shall be as per the code/standard of construction.
- viii. Hydro-testing to be as per the applicable code of construction.
- ix. Welding procedure specifications (WPS) and Welders must be registered with ABSA.
- x. Manufacturing to conform to the current specified construction code and CSA B51.
- xi. The fitting must be inspected by the manufacturer, by a Certified Individual.
- xii. Must have a nameplate as per the applicable ASME code requirement and must include the CRN that allows installation in Alberta.
- xiii. Additional tags or nameplates are required with the MPR Equipment or Tag Number and as per the current ABSA Requirement document AB-524.
- xiv. Setting and Testing must conform to the applicable ASME code and the current ABSA Requirement document AB-524.
- xv. Data reports are required as per the applicable ASME code; ASME 1, P7, P8 for (V), ASME UV-1, A-4 for (UV), and ASME K4 for (UV3). No specified reports are required for ASME IV (HV) PRD's.

5.2.2.2 Where the manufacturer is within Canada but outside of Alberta

- i. Manufacturer must have a registered Quality Management System (QMS) with the local jurisdiction that is acceptable with ABSA, for the construction of Category "G" fittings (PRD).
- ii. Manufacturer must also have a CAP issued by ASME to manufacture or assemble ASME code stamped PRD in accordance with the applicable ASME codes.
- iii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta.
- iv. The design must be registered with ABSA.
- v. Materials must meet the applicable code of construction.
- vi. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- vii. Proof Tests, as required, shall be as per the code/standard of construction.
- viii. Hydro-testing to be as per the applicable code of construction.
- ix. Welding procedure specifications (WPS) and Welders must meet the requirements of the local jurisdiction.
- x. Manufacturing to conform to the current specified construction code and CSA B51.
- xi. The fitting must be inspected by the manufacturer, by a Certified Individual.
- xii. Must have a nameplate as per the applicable ASME code requirement and must include the CRN that allows installation in Alberta.
- xiii. Additional tags or nameplates are required with the MPR Equipment or Tag Number and as per the current ABSA Requirement document AB-524.

- xiv. Setting and Testing must conform to the applicable ASME code and the current ABSA Requirement document AB-524.
- xv. Data reports are required as per the applicable ASME code; ASME 1, P7, P8 for (V), ASME UV-1, A-4 for (UV), and ASME K4 for (UV3). No specified reports are required for ASME IV (HV) PRD's.

5.2.2.3 Where the manufacturer is outside of Canada

- i. Manufacturer must have a CAP issued by ASME to manufacture or assemble ASME code stamped PRD in accordance with the applicable ASME codes.
- ii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. The design must be registered with ABSA.
- iv. Materials must meet the applicable code of construction.
- v. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- vi. Proof Tests, as required, shall be as per the code/standard of construction.
- vii. Hydro-testing to be as per the applicable code of construction.
- viii. Welding procedure specifications (WPS) and Welders must meet the requirements of ASME Section IX.
- ix. Manufacturing to conform to the current specified construction code and CSA B51.
- x. The fitting must be inspected by the manufacturer, by a Certified Individual.
- xi. Must have a nameplate as per the applicable ASME code requirement and must include the CRN that allows installation in Alberta.
- xii. Additional tags or nameplates are required with the MPR Equipment or Tag Number and as per the current ABSA Requirement document AB-524.
- xiii. Setting and Testing must conform to the applicable ASME code and the current ABSA Requirement document AB-524.
- xiv. Data reports are required as per the applicable ASME code; ASME 1, P7, P8 for (V), ASME UV-1, A-4 for (UV), and ASME K4 for (UV3). No specified reports are required for ASME IV (HV) PRD's.

5.3 Category H

5.3.1 General Requirements:

- i. All applications, acceptance, and correspondence with ABSA shall be electronically communicated to MPR's chief Inspector, and should be communicated at the time of correspondence, not at the time of equipment delivery.
- ii. Prior to construction, a copy of the construction drawing must be reviewed and accepted by MPR, as well as an approved Design Basis Memorandum (DBM).
- iii. Two copies of a construction turnover package, (1) electronic and (1) hard copy, shall be provided upon delivery of the equipment that shall include the following applicable sections:
 - a. Reference to the MPR Purchase Order Number and Equipment/Tag Number
 - b. Design Registration Documents
 - c. CRN Certificates

- d. Design Calculations, indicating minimum thickness calculations
- e. Material List with heat numbers
- f. Material Test Certificates
- g. Weld Procedures
- h. Welder Qualifications
- i. NDE Requests
- j. NDE Reports
- k. Inspection test Plans
- l. Hydro-test Reports
- m. Calibrated Equipment Certificates (Gauges, NDE Equipment, PWHT Equipment)
- n. Non Conformance Reports (if applicable)
- o. Post Weld Heat Treatment Reports
- p. ABSA AB-83, or AB-83F
- q. NDE Technician Qualifications
- r. As Built Drawings
- s. Weld Map
- t. Picture of nameplate

5.3.2 Manufacturer and Fabrication Requirements 5.3.2.1 Where the Manufacturer is within Alberta:

- i. They must have an ABSA registered Alberta Quality Program (AQP) with a Certificate of Authorization Permit (CAP) for the construction of Category H Fittings in Alberta.
- ii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. The design must be registered with ABSA.
- iv. Materials must meet the applicable code of construction.
- v. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- vi. Proof Tests, as required, shall be as per the code/standard of construction.
- vii. Hydro-testing to be as per the applicable code of construction.
- viii. Welding procedure specifications (WPS) and Welders must be registered with ABSA.
- ix. Manufacturing to conform to the current specified construction code and CSA B51.
- x. The fitting must be inspected by the manufacturer. If the fitting is registered as a vessel, then an inspection is also required by an Authorized Inspector (AI).
- xi. Must have a nameplate that specifies at a minimum, the design parameters, CRN, and MPR Equipment or Tag Number.

5.3.2.2 Where the Manufacturer is within Canada, but outside of Alberta:

- i. They must have a registered Quality Management System (QMS) with the local jurisdiction that is acceptable with ABSA, for the scope of supply.
- ii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta, or, is registered in a central fitting registration program in accordance with CSA B51, Boiler, Pressure Vessel, and Pressure Piping Code.
- iii. Materials must meet the applicable code of construction.
- iv. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- v. Proof Tests, as required, shall be as per the code/standard of construction.
- vi. Hydro-testing to be as per the applicable code of construction.
- vii. Welding procedure specifications (WPS) and Welders must meet the requirements of the local jurisdiction.
- viii. Manufacturing to conform to the current specified construction code and CSA B51.
- ix. The fitting must be inspected by the manufacturer. If the fitting is registered as a vessel, then an inspection is also required by an Authorized Inspector (AI).
- x. Must have a nameplate that specifies at a minimum, the design parameters, CRN, and MPR Equipment or Tag Number.

5.3.2.3 Where the Manufacturer is outside of Canada:

- i. They must have a registered Quality Management System (QMS) with ASME or ISO 9001, and hold the acceptable certification for the scope of supply.
- ii. The fitting must have a current design registration with a Canadian Registration Number (CRN) for installation in Alberta, or, is registered in a central fitting registration program in accordance with CSA B51, Boiler, Pressure Vessel, and Pressure Piping Code.
- iii. Materials must meet the applicable code of construction.
- iv. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, and personnel performing the NDE must have minimum qualifications as per ASNT II.
- v. Proof Tests, as required, shall be as per the code/standard of construction.
- vi. Hydro-testing to be as per the applicable code of construction.
- vii. Welding procedure specifications (WPS) and Welders must comply with ASME Section IX.
- viii. Manufacturing to conform to the current construction code and CSA B51.
- ix. The fitting must be inspected by the manufacturer.
- x. Must have a nameplate that specifies at a minimum, the design parameters, CRN, and MPR Equipment or Tag Number.

6.0 Plate**6.1 General Requirements:**

- i. All items shall be marked with Mercer Peace River purchase order number.

- ii. All items shall be traceable with a legible Heat Number, and the Material Test Reports (MTR's) or letters of compliance (LOC) shall be shipped with the items, where they shall be received at the time of delivery.
- iii. Plate which is formed shall be marked with the appropriate rolled diameter, and shall meet the requirements of ASME Section VIII Division 1, UG-79, or other applicable code of construction.
- iv. Tolerance on rolled sections shall be within 1/8" (3 mm) of the specified diameter.
- v. Carbon and low alloy material shall not have a carbon content exceeding 0.35% unless approved by MPR's Chief Inspector.

6.2 Specific Requirements for P8 Materials (SA240)

- i. Marking paint or ink shall not contain harmful amounts of chlorides, metals, or metallic salt, such as zinc or copper that cause corrosive attack on heating.

7.0 Fabricated Piping

7.1 General Requirements:

- i. Upon the receipt of a Purchase Order, the vendor is to provide a construction schedule for review.
- ii. Prior to fabrication, construction drawing(s), engineering calculations, welding procedures, and an inspection test plan (ITP), must be reviewed and accepted by MPR.
- iii. All applications, acceptance, and correspondence with ABSA or the National Board of Boiler and Pressure Vessel Inspectors, shall be electronically communicated to MPR's Chief Inspector and should be communicated at the time of correspondence, not at the time of equipment delivery.
- iv. All calculations must include minimum thicknesses for components.
- v. Two copies of a construction turnover package, (1) electronic and (1) hard copy, shall be provided upon delivery of the equipment and shall include the following applicable sections:
 - a. Reference to the MPR Purchase Order Number and Line Number
 - b. Design Registration Documents
 - c. If applicable, CRN Certificates
 - d. Design Calculations, indicating minimum thickness calculations
 - e. Material List with heat numbers
 - f. Material Test Certificates
 - g. Weld Procedures
 - h. Welder Qualifications
 - i. NDE Requests
 - j. NDE Reports
 - k. Inspection test Plans
 - l. Hydro-test Reports
 - m. Calibrated Equipment Certificates (Gauges, NDE Equipment, PWHT Equipment)
 - n. Non Conformance Reports (if applicable)
 - o. Post Weld Heat Treatment Reports
 - p. Applicable Data Reports (AB-83 or AB-83F, AB-81, P4A, P4-B)
 - q. Certificate of Inspection

- r. NDE Technician Qualifications
- s. As Built Drawings
- t. Weld Map

7.2 Manufacturer and Fabrication Requirements:

- i. The following are the requirements for organizations that manufacture Pressure Piping for use in Alberta:

7.2.1 Where the manufacturer is within Alberta:

- i. They must have an ABSA registered Alberta Quality Program (AQP) with a Certificate of Authorization Permit (CAP) for the construction of the applicable ASME Pressure Piping in Alberta.
- ii. If required, the fabricator may have to have the piping design registered with ABSA for installation in Alberta. This is required for applicable fluids on new systems, or additions to existing systems, where the volume of piping is over 0.5 cubic meters. Registration will require submission of an AB-96, and the design sealed by a professional engineer.
- iii. Materials to conform to the applicable piping code.
- iv. Non Destructive Examination (NDE) to be completed as per the code(s) of construction and ASME Section V.
- v. All personnel performing NDE pertaining to pressure equipment new construction or in-service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- vi. Hydro-testing to be as per the applicable construction code. Service Testing is not accepted unless written permission is granted by MPR.
- vii. Welding procedure specifications (WPS) and Welders must be registered with ABSA.
- viii. Only welder's holding "A", "B", or "C" pressure certificates of competency can weld on pressure piping.
- ix. Manufacturing to conform to the current version of specified ASME construction code and CSA B51.
- x. Piping must be inspected by both the Fabricator(s) and MPR. ABSA AI inspection is also required for ASME B31.1 Boiler External Piping. MPR, or their designate, reserves the right to perform an inspection at the manufacturer's facility, at their discretion. Photographs shall be permitted on shop inspections.
- xi. Pipe spools must be labeled with the MPR line and Purchase Order Number.
- xii. The Fabricator shall provide MPR with radiography of all piping work.
- xiii. MPR QA/QC inspector or designate to be on hand to witness shop or field pressure tests. This shall be indicated as a MPR hold point on the ITP.

7.2.2 Where the manufacturer is within Canada, but outside of Alberta:

- i. They must have a registered Quality Management System (QMS) with the local jurisdiction that is acceptable with ABSA, for the scope of supply.
- ii. If required, the fabricator may have to have the piping design registered with ABSA for installation in Alberta. This is required for applicable fluids on new systems, or additions to existing systems, where the volume of piping is over 0.5 cubic meters. Registration will require submission of an AB-96, and the design sealed by a professional engineer.
- iii. Materials to conform to the applicable piping code.

- iv. Non Destructive Examination (NDE) to be completed as per the code(s) of construction and ASME Section V.
- v. All personnel performing NDE pertaining to pressure equipment new construction or in-service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- vi. Hydro-testing to be as per the applicable construction code. Service Testing is not accepted unless written permission is granted by MPR.
- vii. Welding procedure specifications (WPS) and Welders must be registered with the local jurisdiction acceptable to ABSA.
- viii. Manufacturing to conform to the current version of specified ASME construction code and CSA B51.
- ix. Piping must be inspected by both the Fabricator(s) and MPR (if desired). Inspection by a local jurisdiction or NB AI is also required for ASME B31.1 Boiler External Piping. MPR, or their designate, reserves the right to perform an inspection at the manufacturer's facility, at their discretion. Photographs shall be permitted on shop inspections.
- x. Pipe spools must be labeled with the MPR line and Purchase Order Number.
- xi. The Fabricator shall provide MPR with radiography of all piping work.
- xii. MPR QA/QC inspector or designate to be on hand to witness shop or field pressure tests. This shall be indicated as a MPR hold point on the ITP.

7.2.3 Where the manufacturer is outside of Canada:

- i. They must have a registered Quality Management System (QMS) with ISO or with ASME. An ASME certificate of authorization is required for Boiler External Piping.
- ii. ASME B31.1 Boiler External Piping must be code stamped.
- iii. If required, the fabricator may have to have the piping design registered with ABSA for installation in Alberta. This is required for applicable fluids on new systems, or additions to existing systems, where the volume of piping is over 0.5 cubic meters. Registration will require submission of an AB-96, and the design sealed by a professional engineer.
- iv. Materials to conform to the applicable piping code.
- v. Non Destructive Examination (NDE) to be completed as per the code(s) of construction and ASME Section V.
- vi. All personnel performing NDE pertaining to pressure equipment new construction or in-service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- vii. Hydro-testing to be as per the applicable construction code. Service Testing is not accepted unless written permission is granted by MPR.
- viii. Welding procedure specifications (WPS) and Welders must comply with ASME Section IX.
- ix. Manufacturing to conform to the current version of specified ASME construction code and CSA B51.
- x. Piping must be inspected by both the Fabricator(s) and the AI from the local jurisdiction certified by the National Board with an "A" endorsement. MPR, or their designate, reserves the right to perform an inspection at the manufacturer's facility, at their discretion. Photographs shall be permitted on shop inspections.
- xi. Pipe spools must be labeled with the MPR line and Purchase Order Number.
- xii. The Fabricator shall provide MPR with radiography of all piping work.

- xiii. MPR QA/QC inspector or designate to be on hand to witness shop or field pressure tests. This shall be indicated as a MPR hold point on the ITP.

7.2.4 Fabrication Tolerances:

- i. Unless otherwise specified, fabrication tolerances shall be as per the current edition of the Pipe Fabrication Institute (PFI) Standard ES-3.

7.2.5 Repairs:

- i. In addition to the code or project specified NDE, MPR will not accept possession of the piping if there are indications of defects identified by visual or liquid penetrant techniques at the time of final inspection prior to it leaving the fabrication shop. Any such defects shall be sufficient to deem the piping 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 any piping 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. These and other activities shall be added to the ITP as a MPR hold point.

7.2.6 Shipping:

- i. All pressure components are to be protected from damage or contamination during shipment.
- ii. Pipe ends are to be covered to prevent contamination during transport. Plastic is not permissible if alternate methods are possible. Using plastic must be approved by MPR prior to shipping.

8.0 ASME Section VIII Division 1 Pressure Vessels or Components

8.1 General Requirements:

- i. Upon the receipt of a Purchase Order, the vendor is to provide a construction schedule for review.
- ii. Prior to fabrication, a Design Basis Memorandum (DBM), construction drawing(s), engineering calculations, welding procedures, and an inspection test plan (ITP), must be reviewed and accepted by MPR.
- iii. All applications, acceptance, and correspondence with ABSA or the National Board of Boiler and Pressure Vessel Inspectors, shall be electronically communicated to MPR's Chief Inspector and should be communicated at the time of correspondence, not at the time of equipment delivery.
- iv. All calculations must include minimum thicknesses for components. For vessel components used for repairs to existing equipment, the calculations must be completed using the allowable stress from the original code of construction, not the current code.
- v. Two copies of a construction turnover package, (1) electronic and (1) hard copy, shall be provided upon delivery of the equipment and shall include the following applicable sections:
 - a. Reference to the MPR Purchase Order Number and Equipment/Tag Number
 - b. Design Registration Documents

- c. CRN Certificates
- d. Design Calculations, indicating minimum thickness calculations
- e. Inspection Test Plans (ITP's)
- f. Data Reports (U1, U1A, U-3, U5, or ABSA AB-25, AB-24 Forms)
- g. Certificate of Inspection (If built in Alberta)
- h. As Built Drawings
- i. Picture of nameplate

8.2 Manufacturer and Fabrication Requirements

- i. The following are the requirements for organizations that manufacture Section VIII Division 1 Pressure Vessels for use in Alberta:

8.2.1 Where the manufacturer is within Alberta:

- i. They must have an ABSA registered Alberta Quality Program (AQP) with a Certificate of Authorization Permit (CAP) for the construction of ASME Section VIII Division 1 Pressure Vessels in Alberta.
- ii. The vessel must have a current design registration with ABSA, with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. Materials must meet UG-4 to UG-15 of ASME Section VIII Div I, listed in ASME Section II.
- xiv. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, all personnel performing NDE pertaining to pressure equipment new construction or in-service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- iv. Hydro-testing to be as per UG-99, 1.3 X MAWP, with compensation for stress at design and test temperature.
- v. Welding procedure specifications (WPS) and Welders must be registered with ABSA.
- vi. Only welders holding "A", "B", or "C" pressure certificates of competency can weld on pressure vessels.
- vii. Manufacturing to conform to the current version of specified construction code and CSA B51.
- viii. Vessel must be inspected by both the Manufacturer and ABSA AI prior to shipping. MPR, or their designate, reserves the right to perform an inspection at the manufacturer's facility, at their discretion. If MPR requires a shop inspection to be performed by an employee or a selected delegate, then the vessel is to be open to allow an internal inspection and re-assembled to allow dimension checks. Photographs shall be permitted on shop inspections.
- ix. Vessel must have a nameplate that complies with code marking requirements except that the official ASME Code symbol is not required. In addition, the nameplate must also include the CRN number, the MPR Equipment or Tag Number, MPR Purchase Order Number, and space to accommodate the ABSA "A" number.
- x. Manufacturer must certify construction via the applicable Data Report(s), U1, U1A, U3 (miniature vessels), or U-5 (fixed tube heat exchangers) for code stamped equipment and AB-25 or AB-24 (miniature vessels) if not code stamped.
- xi. Vessel must be stamped with its ABSA identification "A" number prior to leaving the fabrication facility, with the exception of miniature vessels.
- xii. An ABSA Certificate of Inspection Permit is required with the supply of the pressure vessel.

8.2.2 Where the manufacturer is within Canada, but outside of Alberta:

- i. They must have a registered Quality Management System (QMS) with the local jurisdiction that is acceptable with ABSA, for the scope of supply.
- ii. The vessel must have a current design registration with ABSA, with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. Materials must meet UG-4 to UG-15 of ASME Section VIII Div I, listed in ASME Section II.
- xv. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, all personnel performing NDE pertaining to pressure equipment new construction or in-service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- iv. Hydro-testing to be as per UG-99, $1.3 \times \text{MAWP}$, with compensation for stress at design and test temperature.
- v. Welding procedure specifications (WPS) and Welders must meet the requirements of the local jurisdiction.
- vi. Manufacturing to conform to the current version of specified construction code and CSA B51.
- vii. Vessel must be inspected by both the Manufacturer and Local Jurisdiction or National Board (with "A" endorsement) AI prior to shipping. MPR, or their designate, reserves the right to perform an inspection at the manufacturer's facility, at their discretion. If MPR requires a shop inspection to be performed by an employee or a selected delegate, then the vessel is to be open to allow an internal inspection and re-assembled to allow dimension checks. Photographs shall be permitted on shop inspections.
- viii. Vessel must have a nameplate that complies with code marking requirements except that the official ASME Code symbol is not required. In addition, the nameplate must also include the CRN number, the MPR Equipment or Tag Number, MPR Purchase Order Number, and space to accommodate the ABSA "A" number.
- ix. Manufacturer must certify construction via the applicable Data Report(s), U1, U1A, U3 (miniature vessels), or U-5 (fixed tube heat exchangers) for code stamped equipment and AB-25 or AB-24 (miniature vessels) if not code stamped.
- x. Vessel will be stamped with its ABSA identification "A" number at MPR's facility in Peace River.
- xi. An ABSA Certificate of Inspection Permit will be issued during the installation of the vessel at the MPR facility in Peace River.

8.2.3 Where the manufacturer is outside of Canada:

- i. They must have a registered Quality Management System (QMS) with ISO or ASME, and hold Certificate of Authorization Permit from ASME for the scope of supply.
- ii. The vessel must have a current design registration with ABSA, with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. Materials must meet UG-4 to UG-15 of ASME Section VIII Div I, listed in ASME Section II.
- xvi. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, all personnel performing NDE pertaining to pressure equipment new construction or in-service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- iv. Pressure Vessel must have both the ASME Code and NB stamping.

- v. Hydro-testing to be as per UG-99, 1.3 X MAWP, with compensation for stress at design and test temperature.
- vi. Welding procedure specifications (WPS) and Welders must meet the requirements of ASME Section IX.
- vii. Manufacturing to conform to the current version of specified construction code and CSA B51.
- viii. Vessel must be inspected by both the Manufacturer and AI (National Board Commissioned Inspector with "A" endorsement) prior to shipping. MPR, or their designate, reserves the right to perform an inspection at the manufacturer's facility, at their discretion. If MPR requires a shop inspection to be performed by an employee or a selected delegate, then the vessel is to be open to allow an internal inspection and re-assembled to allow dimension checks. Photographs shall be permitted on shop inspections.
- ix. Vessel must have a nameplate that complies with code marking requirements. In addition, the nameplate must also include the CRN number, the MPR Equipment or Tag Number, MPR Purchase Order Number, and space to accommodate the ABSA "A" number.
- x. Manufacturer must certify construction via the applicable ASME Data Report(s).
- xi. Vessel will be stamped with its ABSA identification "A" number at MPR's facility in Peace River.
- xii. An ABSA Certificate of Inspection Permit will be issued during the installation of the vessel at the MPR facility in Peace River.
- xiii. Pressure Vessel must be registered with the National Board of Boiler and Pressure Vessel Inspectors.

8.2.4 Fabrication Tolerances:

- i. Unless otherwise specified by code or by construction documents, dimensional tolerances shall be with 1/8" (3 mm) of those specified.

8.2.5 Repairs:

- i. In addition to the code or project specified NDE, MPR will not accept possession of the vessel if there are indications of defects identified by visual or liquid penetrant techniques at the time of final inspection prior to it leaving the fabrication shop. Any such defects shall be sufficient to deem the vessel not fit for service.
- ii. Manufacturer 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 any vessel 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 and shop pressure tests. These and other activities shall be added to the ITP as a MPR hold point.

8.2.6 Shipping:

- i. All pressure components are to be protected from damage or contamination during shipment.

- ii. Vessel openings are to be covered to prevent contamination during transport. Plastic is not permissible if alternate methods are possible. Using plastic must be approved by MPR prior to shipping.

9.0 Boilers and Boiler Components (Water Wall Panels)

9.1 General Requirements:

- i. Upon the receipt of a Purchase Order, the vendor is to provide a construction schedule for review.
- ii. Prior to fabrication, a Design Basis Memorandum (DBM), construction drawing(s), engineering calculations, welding procedures, and an inspection test plan (ITP), must be reviewed and accepted by MPR.
- iii. All applications, acceptance, and correspondence with ABSA or the National Board of Boiler and Pressure Vessel Inspectors, shall be electronically communicated to MPR's Chief Inspector and should be communicated at the time of correspondence, not at the time of equipment delivery.
- iv. All calculations must include minimum thicknesses for components. For boiler components used for repairs to existing equipment, the calculations must be completed using the allowable stress from the original code of construction, not the current code.
- v. Two copies of a construction turnover package, (1) electronic and (1) hard copy, shall be provided upon delivery of the equipment and shall include the following applicable sections:
 - a. Reference to the MPR Purchase Order Number and Equipment/Tag Number
 - b. Design Registration Documents
 - c. CRN Certificates
 - d. Inspection Test Plans (ITP's)
 - e. Design Calculations, indicating minimum thickness calculations
 - f. ASME Data Reports (P2, P2A, P2B, P3, P3A, P4, P5, or P6) for ASME stamped boilers or ABSA Data Reports (AB-26 or AB-27) for Boilers not stamped with the ASME Code
 - g. Certificate of Inspection (If built in Alberta)
 - h. As Built Drawings
 - i. Picture of nameplate

9.2 Manufacturer and Fabrication Requirements

- i. The following are the requirements for organizations that manufacture Power Boilers (ASME Section I) and Heating Boilers (ASME Section IV) for use in Alberta. This includes:
 - Power Boiler "S"
 - Miniature Boiler "M"
 - Electric Boiler "E"
 - Field Assembled Boiler "A"
 - Heating Boilers and Hot Water Boilers "H"

9.2.1 Where the manufacturer is within Alberta:

- i. They must have an ABSA registered Alberta Quality Program (AQP) with a Certificate of Authorization Permit (CAP) for the construction of ASME Section I Power Boilers or Section IV Heating Boilers as applicable.

- ii. The boiler must have a current design registration with ABSA, with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. The design must meet the requirements of the applicable code, ASME Section I or ASME Section IV.
- iv. Materials must meet PG-5 to PG-13 of ASME Section I, listed in ASME Section II, and ASME Section IV, Article 2.
- v. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, all personnel performing NDE pertaining to pressure equipment new construction or in-service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- vi. Hydro-testing of Power Boilers to be as per PG-99, 1.5 x MAWP. Hydrotesting of ASME Section IV boilers is to be completed as per the applicable code requirements.
- vii. Welding procedure specifications (WPS) and Welders must be registered with ABSA.
- viii. Only welders holding “A”, “B”, or “C” pressure certificates of competency can weld on boilers.
- ix. Manufacturing to conform to the current version of specified construction code and CSA B51.
- x. Boilers must be inspected by both the Manufacturer and ABSA AI prior to shipping. MPR, or their designate, reserves the right to perform an inspection at the manufacturer’s facility, at their discretion. If MPR requires a shop inspection to be performed by an employee or a selected delegate, then the boiler is to be open to allow an internal inspection and re-assembled to allow dimension checks. Photographs shall be permitted on shop inspections.
- xi. Boiler must have a nameplate that complies with code marking requirements except that the official ASME Code symbol is not required. In addition, the nameplate must also include the CRN number, the MPR Equipment or Tag Number, MPR Purchase Order Number, and space to accommodate the ABSA “A” number.
- xii. Manufacturer must certify construction via the applicable Data Report(s), P2, P2A, P2B, P3, P3A, P4, P5, P6, H2, H3 or H5 for code stamped equipment, and AB-26 or AB-27 if not code stamped, or applicable certificate of compliance as per ASME.
- xiii. Boilers must be stamped with its ABSA identification “A” number prior to leaving the fabrication facility.
- xiv. An ABSA Certificate of Inspection Permit is required with the supply of the boiler.

9.2.2 Where the manufacturer is within Canada, but outside of Alberta:

- i. They must have a registered Quality Management System (QMS) with the local jurisdiction that is acceptable with ABSA, for the scope of supply.
- ii. The boiler must have a current design registration with ABSA, with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. The design must meet the requirements of the applicable code, ASME Section I or ASME Section IV.
- iv. Materials must meet PG-5 to PG-13 of ASME Section I, listed in ASME Section II, and ASME Section IV, Article 2.
- v. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, all personnel performing NDE pertaining to pressure equipment new construction or in-

- service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- vi. Hydro-testing of Power Boilers to be as per PG-99, 1.5 x MAWP. Hydro-testing of ASME Section IV boilers is to be completed as per the applicable code requirements.
 - vii. Welding procedure specifications (WPS) and Welders must meet the requirements of the local jurisdiction.
 - viii. Manufacturing to conform to the current version of specified construction code and CSA B51.
 - ix. Boiler must be inspected by both the Manufacturer and Local Jurisdiction or National Board (with "A" endorsement) AI prior to shipping. MPR, or their designate, reserves the right to perform an inspection at the manufacturer's facility, at their discretion. If MPR requires a shop inspection to be performed by an employee or a selected delegate, then the boiler is to be open to allow an internal inspection and re-assembled to allow dimension checks. Photographs shall be permitted on shop inspections.
 - x. Boiler must have a nameplate that complies with code marking requirements except that the official ASME Code symbol is not required. In addition, the nameplate must also include the CRN number, the MPR Equipment or Tag Number, MPR Purchase Order Number, and space to accommodate the ABSA "A" number.
 - xi. Manufacturer must certify construction via the applicable Data Report(s), P2, P2A, P2B, P3, P3A, P4, P5, P6, H2, H3 or H5 for code stamped equipment, and AB-26 or AB-27 if not code stamped, or applicable certificate of compliance as per ASME.
 - xii. Boiler will be stamped with its ABSA identification "A" number at MPR's facility in Peace River.
 - xiii. An ABSA Certificate of Inspection Permit will be issued during the installation of the boiler at the MPR facility in Peace River.

9.2.3 Where the manufacturer is outside of Canada:

- i. They must have a registered Quality Management System (QMS) with ISO or ASME, and hold Certificate of Authorization Permit from ASME for the scope of supply.
- ii. The boiler must have a current design registration with ABSA, with a Canadian Registration Number (CRN) for installation in Alberta.
- iii. The design must meet the requirements of the applicable code, ASME Section I or ASME Section IV
- iv. Materials must meet PG-5 to PG-13 of ASME Section I, listed in ASME Section II, and ASME Section IV, Article 2.
- v. Non Destructive Examination (NDE) to be completed as per the code(s) of construction, all personnel performing NDE pertaining to pressure equipment new construction or in-service repairs or alterations must be certified in accordance with an SNT-TC-1A written practice.
- vi. Hydro-testing of Power Boilers to be as per PG-99, 1.5 x MAWP. Hydro-testing of ASME Section IV boilers is to be completed as per the applicable code requirements.
- vii. Welding procedure specifications (WPS) and Welders must meet the requirements of ASME Section IX.
- viii. Manufacturing to conform to the current version of specified construction code and CSA B51.

- ix. Boiler must be inspected by both the Manufacturer and Local Jurisdiction or National Board (with "A" endorsement) AI prior to shipping. MPR, or their designate, reserves the right to perform an inspection at the manufacturer's facility, at their discretion. If MPR requires a shop inspection to be performed by an employee or a selected delegate, then the boiler is to be open to allow an internal inspection and re-assembled to allow dimension checks. Photographs shall be permitted on shop inspections.
- x. Boiler must have a nameplate that complies with code marking requirements of the applicable ASME Section, and shall be code stamped. In addition, the nameplate must also include the CRN number, the MPR Equipment or Tag Number, MPR Purchase Order Number, and space to accommodate the ABSA "A" number.
- xi. Manufacturer must certify construction via the applicable ASME Data Report(s), P2, P2A, P2B, P3, P3A, P4, P5, P6, H2, H3 or H5, or applicable certificate of compliance as per ASME.
- xii. Boiler will be stamped with its ABSA identification "A" number at MPR's facility in Peace River.
- xiii. An ABSA Certificate of Inspection Permit will be issued during the installation of the boiler at the MPR facility in Peace River.
- xiv. Boilers must be registered with the National Board of Boiler and Pressure Vessel Inspectors.

9.2.4 Fabrication Tolerances

- i. Unless otherwise specified by code or by construction documents, dimensional tolerances shall be with 1/8" (3 mm) of those specified.

9.2.5 Repairs

- i. In addition to the code or project specified NDE, MPR will not accept possession of the boiler if there are indications of defects identified by visual or liquid penetrant techniques at the time of final inspection prior to it leaving the fabrication shop. Any such defects shall be sufficient to deem the boiler not fit for service.
- ii. Manufacturer 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 any boiler 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 and shop pressure tests. These and other activities shall be added to the ITP as a MPR hold point.

9.2.6 Shipping

- i. All pressure components are to be protected from damage or contamination during shipment.
- ii. Boiler openings are to be covered to prevent contamination during transport. Plastic is not permissible if alternate methods are possible. Using plastic must be approved by MPR prior to shipping.

10.0 Welding Consumables

10.1 Electrodes (welding rod)

- i. Must conform to SFA specification and AWS classification of which the numbers must be permanently identified on containers.
- ii. MTR's shall be available upon request.

10.2 TIG Wire

- i. Must conform to SFA specification and AWS classification of which the numbers must be permanently identified on containers. Wire to be flagged or stamped on both ends with material specification.
- ii. MTR's shall be available upon request.