**WELDING PROCEDURE SPECIFICATION**

**WELDING PROCESS:** TF - and TF -
**SUPPORTING PQR:** 7200-HDPE Butt weld

**WELDING CHARACTERISTICS:**
- **Current:** N/A and N/A
- **Tungsten Type:** N/A
- **Ranges:** Amps: 0 to 0, Tungsten Dia.: 0
- **Fuel Gas:** N/A
- **Flame:** N/A
- **Transfer Mode:** N/A
- **Pulsing Cycle:** N/A to N/A
- **Background Current:** N/A
- **Braze Temp °F:** N/A to N/A

**BASE MATERIAL:**
- **Spec.:** ASME PE 3408
- **Grade:** N/A
- **AWS Root Pass:** 0 thru 0
- **ASME Root Pass:** 0 thru 0
- **AWS Balance:** 0 thru 0
- **ASME Balance:** 0 thru 0

**QUALIFIED POSITIONS:**
- **AWS:** N/A
- **ASME:** N/A
- **Vert. Prog.:** N/A

**QUALIFIER METALS:**
- **A No.:** N/A
- **F No.:** N/A and N/A
- **Insert:** N/A
- **Insert Type:** N/A
- **Weld Metal Thickness Ranges:**
  - AWS Root Pass: 0 thru 0
  - ASME Root Pass: 0 thru 0
  - AWS Balance: 0 thru 0
  - ASME Balance: 0 thru 0

**FILLER METALS:**
- **Class:** N/A and N/A
- **SFA Class:** N/A and N/A
- **Size:** 0 0 0
- **Flux:** N/A
- **Type:** N/A
- **Backgrd Root:** N/A
- **Bkgrd Method:** N/A
- **GTAW Flux:** N/A
- **Backing Retainer:** N/A

**JOINT:** This WPS shall be used in conjunction with the General Welding Standards (GWS) and Welding Fabrication Procedure (WFP) sections and criteria for joint details, repairs, NDE, inspection, etc.

**Supporting PQR:** 7200-HDPE Butt weld

**WELDING TECHNIQUE:**
- **For fabrication specific requirements such as fitup, cleaning, grinding, PWHT and inspection criteria, refer to Volume 2, Welding Fabrication Procedures.
- **Technique:** Thermal fusion
- **Cleaning Method:** Scrap to remove surface film

**APPLICABILITY**
- **WELDING PROCESS:** TF - and TF -
- **CODE:** ASME IX
- **OTHER:** ANSI B31.3 Ch. VII
Comments: This procedure will be used following LANL Large Diameter HDPE Butt Fusion Procedure and piping manufacturer heating and joining equipment or a manufacturer approved equivalent. This procedure may be used only for single wall pipe materials with maximum pipe diameter of 48”. Material Handling, storage, heating, pressure, holding, and time @ temperature shall be in accordance with manufacturers and consensus standards, (ANSI/ASME/ASTM, etc.) WPS Data Sheets will be added for each type of plastic pipe, (i.e. PP/PE/PPE/PVDF/HDPE/etc.) that fall within the jurisdiction of ANSI/ASME B31.3 Chap. VII and are performed within the manufacturers instructions/requirements.

REM. * Weld layers are representative only - actual number of passes and layer sequence may vary.

ML-1/2 projects or jobs must determine if the supporting documentation for this WPS complies with quality requirements of the project/job.

Use of LANL Welding Procedures and Welder Qualifications for non-LANL work shall be at the sole risk and responsibility of the Subcontractor, and the Subcontractor shall indemnify and save LANL and the Government harmless from any and all claims, demands, actions or causes of action, and for any expense or loss by the reason of Subcontractor's and their employees possession and use of LANL procedures and qualifications.