**ANNEXURE - D**

**Inspection and Test Plan**

Supplier have to do inspection and test plan as per the following tables

List of aberrvations

|  |  |
| --- | --- |
| ABBREVIATIONS | H – HOLD Hr- RANDOM-HOLD W-WITNESSR- REVIEWPT-PENETRANT TESTRT- RADIOGRAPHY TESTP.O- PURCHASE ORDERIR- INSPECTION REPORTIPS- INSPECTION PROCESS SHEETNDT-NON-DESTRUCTIVE TESTINGWPS-WELDING PROCEDURE SPECIFICATIONPQR-PROCEDURE QUALIFICATION RECORD |

Hold Point: A point beyond which an activity must not proceed without the approval of Keltron.

Witness Point: Stage of inspection beyond which work may proceed but inspection authority should be able to inspect later and signoff.

**INSPECTION AND TEST PLAN**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **SL.NO.** | **INSPECTION ACTIVITY** | **CHARACTERISTICS** | **QUANTUM OF CHECK** | **REFERENCE STANDARD** | **ACCEPTANCE STANDARD** | **FORMAT OF REPORT** | **SCOPE OF INSPECTION** |
| **VENDOR** | **KELTRON** |  |
| **1** | **MATERIAL IDENTIFICATION** |
| 1.1 | TITANIUM PLATE RODS FOR ALL COMPONENTS | 1. VISUAL INSPECTION
2. DIMENSIONAL INSPECTION
3. IDENTIFICATION MARK VERIFICATION
4. TRANSFER MARK VERIFICATION
5. UT TO BE CONDUCTED ON RAW MATERIAL
 | 100% | DRAWING | DRAWING/ MATERIAL SPECIFICATION | DETAILED INSPECTION REPORT | H | R |  |
| **2** | WELDING PROCEDURES & WELDER QUALIFICATION | 1. ALL VARIABLES
2. REVIEW OF WPS/PQR
 | 100% | DRAWING/ ASME SEC IX | DRAWING/ ASME SEC IX | WPS & PQR | H | R |  |
| **3** | **FABRICATION** |
| 3.1 | MACHINED COMPONENT | 1. VISUAL AND DIMENSIONAL INSPECTION
2. TAPPED HOLE THREAD INSPECTION
 | 100% | DRAWING | DRAWING | INSPECTION REPORT | H | R |  |
| 3.2 | SHELL LONG SEAM FIT UP | 1. VISUAL AND DIMENSIONAL INSPECTION
2. EDGE PREPARATION
3. MISMATCH & STRAIGHTNESS
 | 100% | DRAWING/ ASME SEC VIII DIV.I | DRAWING/ ASME SEC VIII DIV.I | INSPECTION PROCESS SHEET | H | R |  |
| 3.3 | SHELL CIRCULAR. SEAM FIT UP (SHELL TO SHELL/DOME) | 1. VISUAL AND DIMENSIONAL INSPECTION
2. EDGE PREPARATION
3. MISMATCH & STRAIGHTNESS
 | 100% | H | R |  |
| 3.4 | FIT UP OF MACHINED COMPONENTS | 1. VISUAL AND DIMENSIONAL INSPECTION
2. EDGE PREPARATION
3. ORIENTATION
 | 100% | H | R |  |

**INSPECTION AND TEST PLAN**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **SL.NO.** | **INSPECTION ACTIVITY** | **CHARACTERISTICS** | **QUANTUM OF CHECK** | **REFERENCE STANDARD** | **ACCEPTANCE STANDARD** | **FORMAT OF REPORT** | **SCOPE OF INSPECTION** |
| **VENDOR** | **KELTRON** |  |
| **4** | **EXAMINATION & TESTING** |
| 4.1 | INSPECTION AFTER WELDING | 1. WELD VISUAL INSPECTION
2. WELD DIMENSIONAL INSPECTION
 | 100% | DRAWING, P.O. SPEC | DRAWING,P.O SPEC | INSPECTION PROCESS SHEET | H | R |  |
| 4.2 | NDT | 1. PT – ON BRANCH WELDS
 | 100% | DRAWING, P.OSPECIFICATION | DRAWING,P.O SPECIFICATION | PT REPORT | H | R |  |
| 4.3 | NDT | 1. REVIEW OF RT FILMS

ON BUTT WELDS | 100% | DRAWING, P.OSPECIFICATION | DRAWING, P.O SPECIFICATION | RT REPORT | H | R |  |
| **5** | FINAL INSPECTION | 1. REVIEW OF ALL INSPECTION DOCUMENTS AS PER INSPECTION TEST PLAN.
2. FINAL DIMENSIONAL INSPECTION
 | 100% | DRAWING, P.OSPECIFICATION | DRAWING, P.O SPECIFICATION | FINAL INSPECTION REPORT | H | H |  |
| **6** | FINAL CERTIFICATION | 1. COMPLETENESS OF EQUIPMENT
2. IDENTIFICATION AND VERIFICATION
 | 100% | DRAWING, P.OSPECIFICATION | DRAWING, P.O SPECIFICATION | INSPECTION RELEASE NOTE | H | H |  |
|  | DOCUMENTATION | 1) MATERIAL TRACTABILITY AND SUMMERY SHEET2) MATERIAL TEST CERTIFICATES3) NDT REPORTS – RT, PT REPORTS4) FINAL DIMENSION REPORT |  |  |  |  |  |  |  |