|  |
| --- |
| * **All ITR documents to be completed & witnessed by competent person/s.**
* **All ITR documents to be completed & witnessed by competent person/s.**
 |
|  |
| **1. REFERENCE INFORMATION** |
| **INSPECTION DATA** | **ASSET DATA** |
| PROJECT NAME: | MANUFACTURER: |
| LOCATION: | MF SERIAL NO: |
| INSPECTION DATE: | WC FLER / TAG NO:  |
| INSPECTOR NAME: | TYPE / MODEL NO / SIZE: |
| PROJECT / CONTRACT NO: | DESIGN CRITERIA:SPS 295 – Penstocks for Waterworks Purposes |
| ATTENDEES: |

| **2. INSPECTION** | **YES** | **NO** | **N/A** | **COMMENTS / DETAILS** |
| --- | --- | --- | --- | --- |
| ***GENERAL*** |
| 1 | Visually inspect penstock installation and verify correct installation as per Manufacturer’s recommendations. | [ ]  | [ ]  | [ ]  |  |
| 2 | Confirm that penstock location is correct as per drawings. | [ ]  | [ ]  | [ ]  |  |
| 3 | Verify correct orientation / direction of flow for installed penstock. | [ ]  | [ ]  | [ ]  |  |
| 4 | Check that the penstock hand-wheel / cap is accessible and at correct height above floor. | [ ]  | [ ]  | [ ]  | Height of hand-wheel / cap:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mm |
| ***BOLT UP*** |
| 5 | Check that mating surfaces are flat, clean and free of irregularities. | [ ]  | [ ]  | [ ]  |  |
| 6 | Confirm all bolts installed on penstock and that bolt sizes, material and grade are correct. | [ ]  | [ ]  | [ ]  | Size: \_\_\_\_\_\_\_\_ Material: \_\_\_\_\_\_\_\_\_\_Grade: 4.6 [ ]  8.8 [ ]  Other: \_\_\_\_\_ |
| 7 | Confirm that associated nut grade is correct. | [ ]  | [ ]  | [ ]  | Grade: 5 [ ]  8 [ ]  Other \_\_\_\_\_\_\_\_ |
| 8 | Confirm correct protrusion of bolt threads past nut. | [ ]  | [ ]  | [ ]  | Protrusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 9 | Confirm correct bolt tightening sequence has been followed. | [ ]  | [ ]  | [ ]  |  |
| 10 | Verify bolt torque complies with Supplier’s requirements. | [ ]  | [ ]  | [ ]  | Required bolt torque: \_\_\_\_\_\_\_\_\_\_NmActual bolt torque: \_\_\_\_\_\_\_\_\_\_\_\_\_Nm |
| 11 | Verify that torque wrench / machine used is calibrated. | [ ]  | [ ]  | [ ]  | Calibration certificate date: \_\_\_\_\_\_\_\_\_ |
| 12 | Check that earth ring(s) have been installed correctly. | [ ]  | [ ]  | [ ]  |  |

| **3. TESTING** | **PASS** | **FAIL** | **N/A** | **COMMENTS / DETAILS** |
| --- | --- | --- | --- | --- |
| ***APPLIES TO MANUAL PENSTOCKS AND MANUAL OVERIDE OF ELECTRICALLY ACTUATED PENSTOCKS*** |
| 1 | Confirm that the penstock starting position is closed. Close the penstock if not already so. | [ ]  | [ ]  | [ ]  |  |
| 2 | Slowly open and close the penstock fully to confirm smooth penstock operation and that the required force is not excessive. | [ ]  | [ ]  | [ ]  |  |
| 3 | Confirm that the open and close position indications are correct. | [ ]  | [ ]  | [ ]  |  |
| 4 | Verify the direction of rotation to close. | [ ]  | [ ]  | [ ]  | Direction of rotation to close:Anti-clockwise [ ]  Clockwise [ ]  |
| 5 | Count the number of turns between fully open and fully closed. | [ ]  | [ ]  | [ ]  | Number of turns: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

|  |  |  |  |
| --- | --- | --- | --- |
| **4. REMARKS / REMEDIAL / FOLLOW UP ACTIONS** | **ACTION BY** | **TARGET DATE** | **STATUS** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

|  |
| --- |
| **5. SIGNOFFS** |
| NAME (PRINT) | COMPANY / ROLE | SIGNATURE | DATE |
| NAME (PRINT) | COMPANY / ROLE | SIGNATURE | DATE |
| NAME (PRINT) | COMPANY / ROLE | SIGNATURE | DATE |