

---

## **PART 1 - GENERAL**

### **1.1 INSTALLATION/START-UP CHECK LISTS**

- .1 Include the following data:
  - .1 Product manufacturer's installation instructions and recommended checks.
  - .2 Special procedures as specified in relevant technical sections.
  - .3 Items considered good installation and engineering industry practices deemed appropriate for proper and efficient operation.
- .2 Equipment manufacturer's installation/start-up check lists are acceptable for use. As deemed necessary by Departmental Representative, supplemental additional data lists will be required for specific project conditions.
- .3 Use check lists for equipment installation. Document check list verifying checks have been made, indicate deficiencies and corrective action taken.
- .4 Installer to sign check lists upon completion, certifying stated checks and inspections have been performed. Return completed check lists to Departmental Representative. Check lists will be required during Commissioning and will be included in the Operation and Maintenance Manual at completion of project.
- .5 Use of check lists will not be considered part of commissioning process, but will be stringently used for equipment pre-start and start-up procedures.

### **1.2 PRODUCT INFORMATION (PI) REPORT FORMS**

- .1 Product Information (PI) forms compile gathered data on items of equipment produced by equipment manufacturer, includes nameplate information, parts list, operating instructions, maintenance guidelines and pertinent technical data, and recommended checks necessary to prepare for start-up and functional testing, and used during operation and maintenance of equipment. This documentation is included in the Operation and Maintenance Manual at completion of Work.
- .2 Prior to Performance Verification (PV) of systems, complete items on PI forms related to systems and obtain Departmental Representative's approval.

### **1.3 PERFORMANCE VERIFICATION (PV) FORMS**

- .1 PV forms to be used for checks, running dynamic tests, and adjustments carried out on equipment and systems to ensure correct operation, efficiently, and function independently and interactively with other systems as intended with project requirements.
-

- .2 PV report forms include those developed by Contractor's records measured data and readings taken during functional testing and Performance Verification procedures.
- .3 Prior to PV of integrated system, complete PV forms of related systems and obtain Departmental Representative's approval.

#### 1.4 SAMPLES OF COMMISSIONING FORMS

- .1 Departmental Representative will develop and provide to Contractor required project-specific Commissioning forms in electronic format complete with specification data.
  - .1 Water-Meter.
  - .2 Diesel day tank.
- .2 Revise items on Commissioning forms to suit project requirements.
- .3 Samples of Commissioning forms and complete index of produced to date will be attached to this section.

#### 1.5 COMMISSIONING FORMS

- .1 Use Commissioning forms to verify installation and record performance when starting equipment and systems.
- .2 Strategy for Use:
  - .1 Departmental Representative provides Contractor project-specific Commissioning forms with Specification data included.
  - .2 Contractor will provide required shop drawings information and verify correct installation and operation of items indicated on these forms.
  - .3 Confirm operation as per Design Criteria and intent.
  - .4 Identify variances between design and operation and reasons for variances.
  - .5 Verify operation in specified normal and emergency modes and under specified load conditions.
  - .6 Record analytical and substantiating data.
  - .7 Verify reported results.
  - .8 Form to bear signatures of recording technician, reviewed, and signed off by Departmental Representative.

- .9 Submit immediately after tests are performed.
- .10 Reported results in true measured SI unit values.
- .11 Provide Departmental Representative with originals of completed forms.
- .12 Maintain copy on site during start-up, testing, and commissioning period.
- .13 Forms to be both hard copy and electronic format with typed written results.

**PART 2 - PRODUCTS**

**2.1 NOT USED**

- .1 Not Used.

**PART 3 - EXECUTION**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**

---