

## **1.0 GENERAL**

### **1.1 DESCRIPTION OF TYPES OF OPERATION AND MAINTENANCE DATA**

- .1 The following documents are designated as Operation and Maintenance Data.
- .2 For systems designed by the Contractor, Contractor Designed System Data includes the following:
  - .1 System Design and Performance Criteria.
  - .2 System and Controls Descriptions.
  - .3 System and Controls Schematics.
  - .4 Operating Instructions.
  - .5 Equipment Data.
  - .6 Other data as required by the Minister.
- .3 Installation Instructions includes the manufacturer's printed instructions describing the recommended installation procedures, and photographs, video footage, and computer software.
- .4 Operating Instructions includes the manufacturer's printed instructions describing proper operation, and photographs, video footage, and computer software.
- .5 Equipment Identification includes the nameplate information for each piece of equipment, in a form, and with content acceptable to the Minister.
- .6 Maintenance Instructions includes the manufacturer's printed instructions describing the manufacturer's recommended maintenance and photographs, video footage, and computer software.
- .7 Spare Parts Lists includes parts lists and the manufacturer's recommended maintenance products and spare parts.
- .8 Suppliers and Contractors List includes a list of Contractor, Subcontractors, and Suppliers who supplied and installed equipment, systems, materials, or finishes, organized by the Division of Specifications and system, and company names, addresses, and telephone numbers.
- .9 Tag Directory includes a directory identifying tag number and equipment description and location.
- .10 Drawings List includes a list of Drawings.
- .11 Shop Drawings includes the final reviewed Shop Drawings.
- .12 Product Data includes the manufacturer's product data for equipment, systems, materials, and finishes, and photographs, video footage, and computer software.

- .13 Material Safety Data Sheets (MSDS) includes the MSDS for all relevant products.
- .14 Certifications includes the following:
  - .1 Copies of inspection reports prepared by authorities having jurisdiction.
  - .2 Certified copies of test reports prepared by independent testing agencies.
  - .3 Any other certificates required by the Contract Documents.
- .15 Warranties and Bonds include the Minister's copy of manufacturer's warranties, maintenance bonds, and service contracts.
- .16 Reports includes the following:
  - .1 Documentation certifying the performance of tests required by the Contract Documents and the results of those tests.
  - .2 Documentation of other material, equipment, or system related information required by the Contract Documents.

## **1.2 [OPERATION AND MAINTENANCE MANUAL BY THE CONTRACTOR]**

- .1 Prepare the operation and maintenance manual as follows:
- .2 General organization of each volume:
  - .1 Title page including Project name, Contract name, and Tender number.
  - .2 Table of contents. Identify the volume number where the listed information is located.
  - .3 Sheets: 75g/m<sup>2</sup>, white bond paper. In general, use 216 mm by 279 mm standard sheet size. Limit sheet size to a maximum of 279 mm by 415 mm, wherever possible.
  - .4 Divider tabs:
    - .1 Heavy-weight coloured paper, mylar laminated with tab number and title printed on tab as follows.
    - .2 Main divisions: white tabs, labelled with division name, 2 bank tab length.
    - .3 Sections of a main division: colour coded tabs, labelled with section name, 4 bank tab length.
    - .4 Subsections: same colour tabs as the section, printed label, 8 bank tab length.
    - .5 Co-ordinate tab colour codes and labelling format with the Minister.
- .5 Binders:

- .1 Commercial quality, fabric coated, hard covers attached to spine with metal piano hinges, three posts, designed to accommodate 216 mm by 279 mm standard sheets. Maximum 100 mm thick binders.
  - .2 Punch and, if required, fold sheets to allow use without having to remove the sheets from the binder.
  - .3 For drawings that are larger than 279 mm by 415 mm, insert drawings in heavy duty vinyl envelopes with reinforced binding holes, open on 1 side. Fold drawing to a maximum size of 216 mm by 279 mm. Do not punch holes in the drawings.
- .3 Contents organization:
- .1 Organize Operation and Maintenance Data for each system, controls, equipment, materials and finishes into the following main divisions
    - .1 Operation Division that includes the following sections and data, as applicable.
      - System Design and Performance Criteria.
      - System and Controls Descriptions.
      - System and Controls Schematics.
      - Operating Instructions.
      - Equipment Identification.
      - Samples.
    - .2 Maintenance Division that includes the following sections and data, as applicable.
      - Maintenance Instructions and Schedules.
      - Spare Parts List.
      - Suppliers and Contractors List.
      - Tag Directory.
      - MSDS.
    - .3 Contract Document Division that includes the following sections and data, as applicable.
      - Drawings List.
      - Shop Drawings.
      - Product Data.
      - Certifications.
      - Warranties and Bonds.
      - Maintenance Brochures.
      - Reports.

**1.3 SUBMITTALS**

- .1 Provide the following submittals.
- .2 4 copies of the following Operation and Maintenance Data prior to requesting the inspection for Substantial Performance:
  - .1 Contractor Designed System Data.
  - .2 Installation Instructions.
  - .3 Operating Instructions.
  - .4 Equipment Identification.
  - .5 Maintenance Instructions including schedules.
  - .6 Spare Parts Lists.
  - .7 Suppliers and Contractors Lists.
  - .8 Tag Directory.
  - .9 Drawings List.
  - .10 Shop Drawings.
  - .11 Product Data.
  - .12 MSDS.
  - .13 Certifications.
  - .14 Warranties and Bonds.
  - .15 Reports.
- .3 1 draft copy of the operation and maintenance manual prior to requesting inspection for Substantial Performance.
- .4 3 copies and 1 digital copy of the completed operation and maintenance manual prior to requesting inspection for Total Performance.

**2.0 PRODUCTS – NOT USED**

**3.0 EXECUTION – NOT USED**

**END OF SECTION**