

COMMISSIONING

Part 1 General

1.1 INTRODUCTION

- .1 The basic purpose of electrical and mechanical commissioning is to provide documented confirmation that electrical and mechanical systems function in compliance with the criteria set forth in the contract documents to satisfy the operational needs of the Departmental Representative.

1.2 EQUIPMENT AND MATERIALS

- .1 The Contractor shall provide all equipment as required to perform all commissioning.
- .2 The Contractor shall provide all equipment not provided by the Owner as required to perform all commissioning, including PFT.

1.3 SUBMITTALS

- .1 The contractor shall submit the following documentation prior functional performance testing.
 - .1 Record drawings.
 - .2 Operation and Maintenance Manuals.
 - .3 Letter of acceptance from the inspection authority.
 - .4 Letter of guarantee.
 - .5 Copies of the following test results:
 - .1 Insulation/megger tests.
 - .2 Load balance tests on the main switchboard, distribution panels, transformers and panels.
 - .3 Voltage regulation/tap tests on transformers.
 - .4 Load tests on motors.
 - .5 A Commissioning and/or Certification Report from the manufacturer.
 - .6 Written verification from the end user that staff training has been performed according to the manufacturer's recommendations.

1.4 FUNCTIONAL PERFORMANCE TESTING (FPT)

- .1 The Departmental Representative will commence a functional performance testing program independent of other processes, upon receipt of written verification from the General Contractor that:
 - .1 All systems are complete and operational.
 - .2 All specified reports and documents have been submitted and approved.
 - .3 All tests, commissioning and start-up processes are complete.
 - .4 All demonstrations have been completed and documented.
 - .5 Written verification identified during the construction process and during the commissioning process have been corrected.

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- .2 Provide one electrician and all manufacturers' technical representatives as required by the Departmental Representative. Make all arrangements and pay all associated costs.
- .3 FPT's shall be performed on all electrical systems in the contract documents which may include, but not limited to, the following:
 - .1 Power outlet box.
 - .2 Power distribution system.
 - .3 Digital meter.
 - .4 Emergency lighting.
 - .5 Lighting and lighting control.
 - .6 Heating.
 - .7 HVAC system.
 - .8 Pad mounted transformers.
 - .9 Primary cable.
- .4 Deficiencies discovered during the FPT process shall be rectified immediately by the Electrical Contractor and re-tested.

END OF SECTION