REFERENCE SYLLABUS

For

Steam Boiler Operator (LP)
Introduction

This Syllabus is intended to assist candidates studying for the Steam Boiler Operator (LP) Examination.

Recommended Study Program:
It is recommended that, before undertaking this examination, the candidate completes Power Engineering Course of study, offered through a recognized and approved technical institute or training provider which addresses the Syllabus Outline.
Reference Syllabus for Steam Boiler Operator (LP) Examination Candidates

**Major Topic: Basic Physical Science, Safety, and Regulation for Facility Operations**

- **Topic 1** Introduction to Thermodynamics
- **Topic 2** Fire Safety and Site Hazards
- **Topic 3** Building Safety
- **Topic 4** Confined Space Entry
- **Topic 5** Introduction to Occupational Health and Safety Legislation
- **Topic 6** Introduction to Heating Plant Safety
- **Topic 7** Handling of Dangerous Materials
- **Topic 8** Introduction to Electricity

**Major Topic: Low Pressure Boiler Components and Operation**

- **Topic 1** Watertube Boilers (Heating, Power, and Tubular)
- **Topic 2** Cast-Iron Sectional and Modular Boilers
- **Topic 3** Firetube Boilers (Heating and Power)
- **Topic 4** Electric Boilers
- **Topic 5** Basic Fittings for Steam Boilers
- **Topic 6** Basic Fittings for Hot Water Boilers
- **Topic 7** Low Water Fuel Cut-Offs and Feedwater Controls
- **Topic 8** Heating Boiler Operating Controls
- **Topic 9** Boiler Combustion Controls
- **Topic 10** Boiler Programming Controls
- **Topic 11** Basic Boiler Operation
- **Topic 12** Routine Boiler Maintenance and Inspection
- **Topic 13** Combustion and Draft
- **Topic 14** Burners for Boilers
- **Topic 15** Piping Materials and Connections
- **Topic 16** Piping Expansion, Support, and Insulation
- **Topic 17** Steam Traps
- **Topic 18** Introduction to Valves
Major Topic: Elements of Human Comfort in Facility Operation

Topic 1 Steam Heating Equipment
Topic 2 Steam Heating Systems
Topic 3 Hot Water Heating Systems
Topic 4 Hot Water Heating System Equipment and Operation
Topic 5 Warm Air Heating System Equipment
Topic 6 Warm Air Furnace Components and Maintenance
Topic 7 Ventilation and Air Filters
Topic 8 Electric Controls for Heating Systems
Topic 9 Refrigeration Theory
Topic 10 Air Compression