Combined Cycle – Operation Familiarization

Course Outline – Open Enrollment
Course: O-CCP10205
Course Description
This course offers an understanding of the basic operations of GE Combine Cycle Plants and is designed for those persons with no or limited or basic knowledge of Combined Cycle Plants. The objective of this course is to give participants an understanding of basic Combined Cycle Power Plant operations as well as a fundamental knowledge of plant start-up, normal operations, shutdown and abnormal operations, with an emphasis on safe, efficient power plant operations.

This course is intended for personnel with limited or basic knowledge of GE Combined Cycle power plant operation.

Duration
5 Days

Target Audience
- Supervisors
- Plant Operators
- Mechanical Maintenance

Prerequisites
- Instruction is given in English; therefore, a reasonable ability to read and understand spoken English is required.
- Reasonable computer skills

Class Size
Maximum number of students: 15

Learning Objectives
This course will provide basic knowledge on the following:
- Thermodynamic Review
- Operating Philosophy
- General Operator Responsibilities
- Systems Review and Operation
- Plant Start-up
- Operations
- Shutdown
LESSON 1
A. Introduction
B. Thermodynamic Review
C. Operating Philosophy
D. General Operator Responsibilities
E. Balance of Plant Systems Review and Operation

LESSON 2
A. Gas Turbine Review and Operation
B. HRSG Review and Operation
C. Steam Turbine Review and Operation

LESSON 3
A. Combined Cycle Startup
   1. Pre-Startup Requirements
   2. Gas Turbine Startup
   3. HRSG Startup
   4. Auto Drain Sequence
   5. Steam Turbine Startup

LESSON 4
A. Combined Cycle Startup – Review
B. Combined Cycle Normal Operation
   1. Off Peaking Operations
   2. GT Water Wash
   3. Routing Testing & Maintenance
C. Combine Cycle Shutdown

LESSON 5
A. Combined Cycle Startup - Review
   1. Load Rejection
   2. Trips
   3. Loss of Lube Oil
   4. Loss of Vacuum
B. Review