



## **SECTIONS**

**Page**

[View by Equipment](#)

[View by Plant Configuration](#)

<a href="#"><u>Section 1: Combined Cycle Fundamentals</u></a> .....	1
<a href="#"><u>Section 2: Gas Turbines (GT) and Combined Cycle (CC) Plants</u></a> .....	3
<a href="#"><u>Section 3: Conventional Boiler Fundamentals</u></a> .....	33
<a href="#"><u>Section 4: Coal Fired Plants</u></a> .....	35
<a href="#"><u>Section 5: Ammonia Plants</u></a> .....	40
<a href="#"><u>Section 6: Makeup Water Treatment</u></a> .....	41
<a href="#"><u>Section 7: Maintenance</u></a> .....	43

## **CBT COURSE AREAS**

### **Book 1 (B1)**

**Detailed 3D animations of Systems and Process Flows.** These books include chapters that cover a specific area, such as 7FA firing modes or Lube oil. They include review questions. We are continually adding new content such as reference photos, control screens, piping and instrument drawings and other related content.

### **Book 2 (B2)**

**Control Screen Navigation and Familiarization.** These books are created to provide an overview of the function of each control screen as well as navigation between control screens.

### **Book 3 (B3)**

**Unit Startup and Operation.** This book provides a step-by-step explanation, using control screens for GT, ST, HRSG and BOP as well as sample walk down lists and other relevant content to describe the startup of a combined cycle plant.

### **Book 4 (B4)**

**System Troubleshooting.** Only developed through content that is specific to a site and where the content is provided by the customer.

# Table of Contents - Equipment

<b><u>Specific Equipment – Gas Turbines</u></b>	<b><u>Page</u></b>
<a href="#">Siemens 501FD2, natural gas (Plant 1)</a> .....	3
<a href="#">GE 7FA.02, natural gas (Plant 2)</a> .....	4
<a href="#">GE 7FA.05, natural gas (Plant 16)</a> .....	29
<a href="#">GE 7EA, natural gas (Plant 5)</a> .....	13
<a href="#">GE LM2500, SAC, natural gas (Plant 12)</a> .....	22
<a href="#">GE LM6000, SAC, natural gas (Plant 6)</a> .....	14
<a href="#">GE LMS100, natural gas (Plant 9)</a> .....	18
<a href="#">Siemens SGT-800, natural gas (Plant 7)</a> .....	15
<a href="#">Siemens V84.2, natural gas (Plant 8)</a> .....	17
<b><u>Specific Equipment – Steam Turbines</u></b>	
<a href="#">GE A10, 100MW (Plant 14)</a> .....	28
<a href="#">GE D11, 300MW (Plant 2)</a> .....	6
<a href="#">Siemens SST6-5000 (Plant 16)</a> .....	31
<a href="#">Toshiba TCDF, 241MW (Plant 10)</a> .....	20
<a href="#">MHI TCF1, 126MW (Plant 4)</a> .....	12
<a href="#">GE Cross-tandem (Coal Plant 1)</a> .....	35
<a href="#">GE Tandem (Coal Plant 2)</a> .....	38
<b><u>Specific Equipment – HRSGs</u></b>	
<a href="#">Nooter-Eriksen, 3-Pressure (Plant 2)</a> .....	6
<a href="#">Vogt, 2-Pressure (Plant 4)</a> .....	12
<a href="#">Vogt, 3-Pressure (Plant 16)</a> .....	30
<b><u>Specific Equipment – Electrical</u></b>	
<a href="#">Siemens 5kV GW3 (Plant 2)</a> .....	7
<a href="#">GE/Powell 5kV (Plant 3)</a> .....	9
<a href="#">GE MagneBlast 5kV (Coal Plant 1)</a> .....	37
<a href="#">GE 7H2 (7FA) H2-Cooled Generator (Plant 2)</a> .....	5
<a href="#">GE 483kva H2-Cooled Generator (Coal Plant 1)</a> .....	35
<b><u>General Equipment – Cooling Towers</u></b>	
<a href="#">Conventional, forced draft (Plant 2)</a> .....	6
<a href="#">Conventional, forced draft, plume abate (Plant 3)</a> .....	9
<a href="#">Conventional, forced draft, plume abate (Plant 4)</a> .....	12
<a href="#">Hyperbolic, nat. draft (Coal Plant 1)</a> .....	36
<a href="#">Air-Cooled Condenser (Plant 13)</a> .....	25
<a href="#">Air-Cooled Condenser (Plant 16)</a> .....	31
<b><u>General Equipment – Maintenance – Heat Exchangers</u></b>	
<a href="#">Plate-type Heat Exchanger (010)</a> .....	43
<a href="#">Combined Cycle Surface Condenser (010)</a> .....	43
<a href="#">Deaerator (010)</a> .....	43

## Table of Contents - Equipment (continued)

<a href="#">Shell and tube type (010)</a> .....	43
<b><u>General Equipment – Maintenance – Bearings</u></b>	
<a href="#">Elliptical Journal Bearing (012)</a> .....	43
<a href="#">Tilt-pad Journal Bearing (012)</a> .....	43
<a href="#">Tilt-pad Thrust Bearing (012)</a> .....	43
<a href="#">Bearing Instrumentation (012)</a> .....	43
<b><u>General Equipment – Maintenance – Laser Alignment</u></b>	
<a href="#">Vibralign Fixture Alignment Tool (013)</a> .....	43
<a href="#">Pruftechnik Rotalign Alignment Tool (013)</a> .....	43
<b><u>General Equipment – Maintenance – Boiler Feed Pump</u></b>	
<a href="#">Flowserve, 2-press, 10-stg BFWP (016)</a> .....	44
<b><u>General Equipment – Maintenance – Actuator</u></b>	
<a href="#">Limitorque L120-85 Actuator (017)</a> .....	44
<b><u>General Equipment – Water Treatment</u></b>	
<a href="#">Reverse Osmosis System 1 (0941)</a> .....	42
<a href="#">Ion Exchange System 1 (0951)</a> .....	42
<a href="#">Ion Exchange System 2 (0952)</a> .....	42
<a href="#">GE Zero Liquid Discharge (w/filter press) (Plant 3)</a> .....	9
<a href="#">Recycled Water Facility (w/Lamella) (Plant 3)</a> .....	10
<a href="#">US Water Reverse Osmosis System</a> .....	41

# Table of Contents - Plant Configuration

	<u>Page</u>
<a href="#">Plant 1</a> .....	3
2X1 combined cycle, Siemens 501FD2 gas turbine, NEM 3-pressure HRSGs, MHI axial flow steam turbine, water-cooled condenser, and conventional cooling tower.	
<a href="#">Plant 2</a> .....	4
2X1 combined cycle, GE 7FA gas turbine, Nooter-Eriksen 3-pressure HRSGs, GE D11 steam turbine, water-cooled condenser, site electrical distribution, and conventional cooling tower. Generator course available featuring generator construction, theory, fault protection, and LCI operation.	
<a href="#">Plant 3</a> .....	8
2X1 combined cycle, Siemens 501 gas turbine, NEM 3-pressure HRSGs, GE D11 steam turbine, water-cooled condenser, conventional cooling tower with plume abatement equipment, zero-liquid discharge facility, recycled water facility, site electrical distribution, and an oil-flooded screw-type gas compressor station.	
<a href="#">Plant 4</a> .....	11
4X1 combined cycle, GE LM6000 SAC gas turbines, Vogt 2-pressure HRSGs, MHI TCF1 steam turbine, water-cooled condenser, conventional cooling tower with plume abatement equipment, and site electrical distribution.	
<a href="#">Plant 5</a> .....	13
Simple cycle, GE 7EA gas turbine.	
<a href="#">Plant 6</a> .....	14
Simple cycle, GE LM6000 SAC gas turbine.	
<a href="#">Plant 7</a> .....	15
Siemens SGT-800 gas turbine. This course is provided with Vogt 2-pressure HRSG and MHI TCF1 steam turbine courses.	
<a href="#">Plant 8</a> .....	17
Simple Cycle Siemens V84.2 gas turbine. This turbine is equipped with a bypass stack setup for possible combined cycle operation.	
<a href="#">Plant 9</a> .....	18
Simple cycle, GE LMS100 SAC gas turbine.	
<a href="#">Plant 10</a> .....	20
Features an overview of a combined cycle facility equipped with a Toshiba TCDF241 steam turbine and site electrical distribution.	
<a href="#">Plant 11</a> .....	21
This course covers the design and operation of a 1992 Westinghouse 248MW steam turbine seal oil system.	
<a href="#">Plant 12</a> .....	22
Simple cycle, GE LM2500 SAC gas turbine.	

## Table of Contents - Plant Configuration (continued)

	<u>Page</u>
<b><u>Plant 13</u></b> .....	<b>23</b>
2X1 combined cycle, GE 7FA gas turbines, NEM 3-pressure HRSGs, GE D11 steam turbine, and an air-cooled condenser.	
<b><u>Plant 14</u></b> .....	<b>26</b>
1X1 combined cycle, GE 7FA gas turbine, NEM 3-pressure HRSGs, GE A10 steam turbine, and a conventional cooling tower.	
<b><u>Plant 16</u></b> .....	<b>29</b>
2x1 combined cycle, GE 7FA.05 gas turbines, Vogt 3-pressure HRSGs, Siemens SST6-5000 steam turbine, Cleave-Brooks D-type Auxiliary steam boiler, and a 30-cell SPIG air-cooled condenser.	
<b><u>Coal Plant 1</u></b> .....	<b>35</b>
Dual supercritical B&W coal fired units, two GE Cross-tandem 750MW steam turbines, baghouse, flue gas desulfurization system, and lime slaking system. A hydrogen-cooled generator course is available for this steam turbine set.	
<b><u>Coal Plant 2</u></b> .....	<b>38</b>
Dual subcritical C-E coal fired units, two GE tandem 800MW steam turbines, Mercury Removal System, condensate and feedwater systems, and circulating water system featuring natural draft cooling towers.	
<b><u>Coal Plant 4</u></b> .....	<b>39</b>
Coal-fired, dual 800MW subcritical boiler power plant that includes a pollution mitigation air quality control system consisting of dry electrostatic precipitators, lime injection, wet flue gas desulfurization, and a wet electrostatic precipitator.	



Course #	Course Title	Duration
<b>Combined Cycle Power Plant Fundamentals</b>		<b>8 hr. 34 mins.</b>
<b>GEN00A_0101S_B1</b>	<b>Combined Cycle Power Plant Fundamentals</b>	<b>7 minutes</b>
GEN00A_0101S_B1_Ch1	Overview	7 minutes
<b>GEN00A_0301S_B1</b>	<b>Gas Turbine Fundamentals</b>	<b>1 hr. 22 mins.</b>
GEN00A_0301S_B1_Ch1	Simple Cycle	21 minutes
GEN00A_0301S_B1_Ch2	Air Path	13 minutes
GEN00A_0301S_B1_Ch3	Hot Gas Path	16 minutes
GEN00A_0301S_B1_Ch4	Turbine Section	17 minutes
GEN00A_0301S_B1_Ch5	Auxiliary Equipment	15 minutes
<b>GEN00A_0401S_B1</b>	<b>HRSG Fundamentals</b>	<b>1 hr. 54 mins.</b>
GEN00A_0401S_B1_Ch1	Overview	11 minutes
GEN00A_0401S_B1_Ch2	Steam	16 minutes
GEN00A_0401S_B1_Ch3	Feedwater	11 minutes
GEN00A_0401S_B1_Ch4	Level Control	27 minutes
GEN00A_0401S_B1_Ch5	Emission Reduction	12 minutes
GEN00A_0401S_B1_Ch6	Equipment	19 minutes
GEN00A_0401S_B1_Ch7	Operation	18 minutes
<b>GEN00A_0501S_B1</b>	<b>Steam Turbine Fundamentals</b>	<b>1 hr 5 mins.</b>
GEN00A_0501S_B1_Ch1	Design	21 minutes
GEN00A_0501S_B1_Ch2	Components	10 minutes
GEN00A_0501S_B1_Ch3	Operation	18 minutes
GEN00A_0501S_B1_Ch4	Condensate	16 minutes

## Course Catalog: Combined Cycle Fundamentals (continued)

Course #	Course Title	Duration
<b>GEN00A_0601S_B1</b>	<b>Generator Fundamentals</b>	<b>1 hr. 55 mins</b>
GEN00A_0601S_B1_Ch1	Overview	10 minutes
GEN00A_0601S_B1_Ch2	Design	16 minutes
GEN00A_0601S_B1_Ch3	Auxiliary Systems	18 minutes
GEN00A_0601S_B1_Ch4	Energizing	15 minutes
GEN00A_0601S_B1_Ch5	MW and MVAR	18 minutes
GEN00A_0601S_B1_Ch6	Load Control	12 minutes
GEN00A_0601S_B1_Ch7	Fault Protection	26 minutes
<b>GEN00A_0701S_B1</b>	<b>Plant Operation Fundamentals</b>	<b>2 hrs. 11 mins</b>
GEN00A_0701S_B1_Ch1	Overview	17 minutes
GEN00A_0701S_B1_Ch2	Water Balance	19 minutes
GEN00A_0701S_B1_Ch3	Water Treatment	15 minutes
GEN00A_0701S_B1_Ch4	Electrical	20 minutes
GEN00A_0701S_B1_Ch5	Heat Rate	17 minutes
GEN00A_0701S_B1_Ch6	Output	16 minutes
GEN00A_0701S_B1_Ch7	CEMS	27 minutes

Course #	Course Title	Duration
<b>Plant 1 - 2 on 1, Siemens 501FD2 Gas Turbine, 3-Drum NEM HRSG, MHI Steam Turbine, Water Cooled Condenser, Cooling Towers</b>		<b>4 hrs. 8 mins.</b>
<b>GEN01A_0111S_B1</b>	<b>Siemens 501FD2 Gas Turbine</b>	<b>1 hr. 21 mins.</b>
GEN01A_0111S_B1_Ch1	Inlet Air	9 minutes
GEN01A_0111S_B1_Ch2	Compressor Section	7 minutes
GEN01A_0111S_B1_Ch3	Combustion Section	12 minutes
GEN01A_0111S_B1_Ch4	Fuel Gas System	10 minutes
GEN01A_0111S_B1_Ch5	Lube Oil System	9 minutes
GEN01A_0111S_B1_Ch6	Bleed Air System	11 minutes
GEN01A_0111S_B1_Ch7	Kettle Boiler	7 minutes
GEN01A_0111S_B1_Ch8	Electrical Starting System	9 minutes
GEN01A_0111S_B1_Ch9	Electrical Distribution System	7 minutes
<b>GEN01A_0121S_B1</b>	<b>NEM 3-Drum HRSG</b>	<b>1 hr. 21 mins.</b>
GEN01A_0121S_B1_Ch1	General Design	11 minutes
GEN01A_0121S_B1_Ch2	Water Flowpaths	13 minutes
GEN01A_0121S_B1_Ch3	Steam Flowpaths	10 minutes
GEN01A_0121S_B1_Ch4	Selective Catalytic Reduction System	5 minutes
GEN01A_0121S_B1_Ch5	Condensate Supply	6 minutes
GEN01A_0121S_B1_Ch6	LP Steam	13 minutes
GEN01A_0121S_B1_Ch7	Boiler Feedwater Pumps	6 minutes
GEN01A_0121S_B1_Ch8	IP Steam	8 minutes
GEN01A_0121S_B1_Ch9	Main Steam Flow	9 minutes
<b>GEN01A_0131S_B1</b>	<b>MHI Steam Turbine</b>	<b>1 hr. 26 mins.</b>
GEN01A_0131S_B1_Ch1	Overview	13 minutes
GEN01A_0131S_B1_Ch2	Main Steam Flow	12 minutes
GEN01A_0131S_B1_Ch3	Reheat Steam Flow	7 minutes
GEN01A_0131S_B1_Ch4	Low Pressure Steam Flow	7 minutes
GEN01A_0131S_B1_Ch5	Main Steam Components	7 minutes
GEN01A_0131S_B1_Ch6	Reheat Steam Components	6 minutes
GEN01A_0131S_B1_Ch7	Low Pressure Steam Components	5 minutes
GEN01A_0131S_B1_Ch8	Generator Overview	3 minutes
GEN01A_0131S_B1_Ch9	Lube Oil System	10 minutes
GEN01A_0131S_B1_Ch10	Turning Gear	3 minutes
GEN01A_0131S_B1_Ch11	Control Oil	4 minutes
GEN01A_0131S_B1_Ch12	Gland Steam System	9 minutes



## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 2 - 2 on 1, GE 7FA Gas Turbine, 3-Drum Nooter-Eriksen HRSG, D-11 ST, Water Cooled Condenser, Cooling Towers</b>		<b>32 hrs. 55 mins.</b>
<b>GEN01A_0201S_B1</b>	<b>Combined Cycle Site Overview – System Description and Process Flow</b>	<b>1 hr. 59 mins.</b>
GEN01A_0201S_B1_Ch1	Site Overview	10 minutes
GEN01A_0201S_B1_Ch2	7FA Gas Turbine Overview	8 minutes
GEN01A_0201S_B1_Ch3	7FA Generator Overview	11 minutes
GEN01A_0201S_B1_Ch4	7FA Gas Turbine Routine Maintenance Overview	28 minutes
GEN01A_0201S_B1_Ch5	7FA Gas Turbine Major Inspections Overview	12 minutes
GEN01A_0201S_B1_Ch6	HRSG Overview	11 minutes
GEN01A_0201S_B1_Ch7	D-11 Steam Turbine Overview	11 minutes
GEN01A_0201S_B1_Ch8	Condensate System Overview	12 minutes
GEN01A_0201S_B1_Ch9	Circulating Water System Overview	6 minutes
GEN01A_0201S_B1_Ch10	Electrical Distribution Overview	10 minutes
<b>GEN01A_0211S_B1</b>	<b>7FA.02 Gas Turbine System Descriptions and Process Flows</b>	<b>2 hrs. 48 mins.</b>
GEN01A_0211S_B1_Ch1	Overview	9 minutes
GEN01A_0211S_B1_Ch2	Inlet Air	8 minutes
GEN01A_0211S_B1_Ch3	Compressor Section	12 minutes
GEN01A_0211S_B1_Ch4	Combustors and Turbine Section	15 minutes
GEN01A_0211S_B1_Ch5	Fuel Gas System	22 minutes
GEN01A_0211S_B1_Ch6	Lube Oil Supply Distribution	17 minutes
GEN01A_0211S_B1_Ch7	EHC Supply and Distribution	26 minutes
GEN01A_0211S_B1_Ch8	Compressor Bleed System	10 minutes
GEN01A_0211S_B1_Ch9	Generator Overview	12 minutes
GEN01A_0211S_B1_Ch10	Turbine Start	37 minutes
<b>GEN01A_0211S_B2</b>	<b>Control Screen Description &amp; Navigation</b>	<b>2 hrs. 15 min.</b>
GEN01A_0211S_B2_Ch1	Introduction to 7FA Mark VI Control Screen Familiarization	5 minutes
GEN01A_0211S_B2_Ch2	7FA Mark VI Control Group Familiarization	1 hour 9 minutes
GEN01A_0211S_B2_Ch3	7FA Mark VI Auxiliary Group Familiarization	36 minutes
GEN01A_0211S_B2_Ch4	7FA Mark VI Monitor Group Familiarization	20 minutes
GEN01A_0211S_B2_Ch5	7FA Mark VI Test Screen Familiarization	5 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_0212S_B1</b>	<b>7FA Hydrogen Cooled Generator</b>	<b>3 hrs. 50 mins.</b>
GEN01A_0212S_B1_Ch1	Overview	12 minutes
GEN01A_0212S_B1_Ch2	Generator Fault Protection	33 minutes
GEN01A_0212S_B1_Ch3	Generator Seal Oil System	20 minutes
GEN01A_0212S_B1_Ch4	Generator Hydrogen System	18 minutes
GEN01A_0212S_B1_Ch5	Stator Design	25 minutes
GEN01A_0212S_B1_Ch6	Rotor Design	22 minutes
GEN01A_0212S_B1_Ch7	Power Generation	29 minutes
GEN01A_0212S_B1_Ch8	Reactive Power	23 minutes
GEN01A_0212S_B1_Ch9	LCI Overview	32 minutes
GEN01A_0212S_B1_Ch10	LCI Operation	16 minutes
<b>GEN01A_0213S_B1</b>	<b>7FA Gas Turbine Routine Maintenance</b>	<b>2 hr. 53 mins.</b>
GEN01A_0213S_B1_Ch1	Overview	28 minutes
GEN01A_0213S_B1_Ch2	Preventive Maintenance	23 minutes
GEN01A_0213S_B1_Ch3	Combustion Inspection Overview	9 minutes
GEN01A_0213S_B1_Ch4	Pre-Maintenance Procedures	14 minutes
GEN01A_0213S_B1_Ch5	Combustion System Inspection	49 minutes
GEN01A_0213S_B1_Ch6	Combustion System Reassembly	50 minutes
<b>GEN01A_0214S_B1</b>	<b>7FA Gas Turbine Major Inspections</b>	<b>4 hr. 35 mins.</b>
GEN01A_0214S_B1_Ch1	Overview	12 minutes
GEN01A_0214S_B1_Ch2	HGP Clearance Measurements	19 minutes
GEN01A_0214S_B1_Ch3	HGP Turbine Casing Removal	29 minutes
GEN01A_0214S_B1_Ch4	HGP Concentricity, Rotor Float, and Clearance Checks	16 minutes
GEN01A_0214S_B1_Ch5	HGP Component Removal	25 minutes
GEN01A_0214S_B1_Ch6	HGP Inspection	41 minutes
GEN01A_0214S_B1_Ch7	HGP Turbine Section Assembly	1 hr. 25 mins.
GEN01A_0214S_B1_Ch8	HGP Assembly Clearances	10 minutes
GEN01A_0214S_B1_Ch9	HGP Combustion Section Assembly	25 minutes
GEN01A_0214S_B1_Ch10	HGP External Equipment Assembly and Testing	13 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_0221S_B1</b>	<b>Nooter-Eriksen 3-Drum HRSG</b>	<b>1 hr. 55 mins.</b>
GEN01A_0221S_B1_Ch1	Overview	12 minutes
GEN01A_0221S_B1_Ch2	LP System	37 minutes
GEN01A_0221S_B1_Ch3	IP System	15 minutes
GEN01A_0221S_B1_Ch4	HP System	15 minutes
GEN01A_0221S_B1_Ch5	Emissions & SCR System	11 minutes
GEN01A_0221S_B1_Ch6	Blowdown System	11 minutes
GEN01A_0221S_B1_Ch7	Duct Firing System	14 minutes
<b>GEN01A_0231S_B1</b>	<b>D-11 Steam Turbine System Description and Process Flows</b>	<b>1 hr. 34 mins.</b>
GEN01A_0231S_B1_Ch1	Overview	12 minutes
GEN01A_0231S_B1_Ch2	High Pressure Steam	20 minutes
GEN01A_0231S_B1_Ch3	Reheat Steam	10 minutes
GEN01A_0231S_B1_Ch4	Low Pressure Steam	10 minutes
GEN01A_0231S_B1_Ch5	Lube Oil System	18 minutes
GEN01A_0231S_B1_Ch6	Steam Turbine Start	24 minutes
<b>GEN01A_0231S_B2</b>	<b>D-11 Steam Turbine Mark VI Control System</b>	<b>2 hrs. 31 mins.</b>
GEN01A_0231S_B2_Ch1	Introduction to D-11 Mark VI Control Screen Familiarization	5 minutes
GEN01A_0231S_B2_Ch2	D-11 Mark VI Control Group Familiarization	59 minutes
GEN01A_0231S_B2_Ch3	D-11 Mark VI Monitor Group Familiarization	30 minutes
GEN01A_0231S_B2_Ch4	D-11 Mark VI Auxiliary Group Familiarization	32 minutes
GEN01A_0231S_B2_Ch5	D-11 Mark VI Test Group Familiarization	25 minutes
<b>GEN01A_0241S_B1</b>	<b>BOP - Condensate System</b>	<b>43 Minutes</b>
GEN01A_0241S_B1_Ch1	Overview	12 minutes
GEN01A_0241S_B1_Ch2	Condenser Overview	10 minutes
GEN01A_0241S_B1_Ch3	Air Ejector and Gland Seal Condenser	21 minutes
<b>GEN01A_0242S_B1</b>	<b>BOP - Circulating Water System</b>	<b>39 Minutes</b>
GEN01A_0242S_B1_Ch1	Overview	6 minutes
GEN01A_0242S_B1_Ch2	Cooling Tower	9 minutes
GEN01A_0242S_B1_Ch3	Cooling Tower Chemicals	24 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_0244S_B1</b>	<b>BOP - Electrical Distribution</b>	<b>1 hr. 18 mins.</b>
GEN01A_0244S_B1_Ch1	Overview	10 minutes
GEN01A_0244S_B1_Ch2	High Voltage 13.8kV and Above	8 minutes
GEN01A_0244S_B1_Ch3	4160V Electrical System	9 minutes
GEN01A_0244S_B1_Ch4	4160V Breaker	27 minutes
GEN01A_0244S_B1_Ch5	480V Electrical System	15 minutes
GEN01A_0244S_B1_Ch6	DC and UPS Systems	9 minutes
<b>GEN01A_0290S_B3</b>	<b>Cold Start-up</b>	<b>5 hrs. 55 mins.</b>
GEN01A_0290S_B1_Ch1	Start Familiarization	5 minutes
GEN01A_0290S_B1_Ch2	CT Prestarts	35 minutes
GEN01A_0290S_B1_Ch3	ST Prestarts	26 minutes
GEN01A_0290S_B1_Ch4	DCS Prestarts	36 minutes
GEN01A_0290S_B1_Ch5	FG and Aux Boiler	32 minutes
GEN01A_0290S_B1_Ch6	Condenser Vacuum	26 minutes
GEN01A_0290S_B1_Ch7	Lead CT Start	37 minutes
GEN01A_0290S_B1_Ch8	ST Preparations	22 minutes
GEN01A_0290S_B1_Ch9	ST Roll and Sync	29 minutes
GEN01A_0290S_B1_Ch10	Loading the ST and Lag CT Start	49 minutes
GEN01A_0290S_B1_Ch11	Blendng and Loading	32 minutes
GEN01A_0290S_B1_Ch12	Duct Burners	26 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 3 - 2 on 1, 501FD2 Gas Turbine, 3-Drum Nooter-Eriksen HRSG, D-11 ST, Water Cooled Condenser, Cooling Towers, ZLD</b>		<b>14 hrs. 40 mins.</b>
<b>GEN01A_0301S_B1</b>	<b>Plant 3 Site Overview</b>	<b>1 hr. 35 mins.</b>
GEN01A_0301S_B1_Ch1	Site Overview	11 minutes
GEN01A_0301S_B1_Ch2	501 Combustion Turbine Overview	12 minutes
GEN01A_0301S_B1_Ch3	HRSG Overview	12 minutes
GEN01A_0301S_B1_Ch4	D-11 Steam Turbine Overview	11 minutes
GEN01A_0301S_B1_Ch5	Condensate System Overview	11 minutes
GEN01A_0301S_B1_Ch6	Circulating Water System Overview	6 minutes
GEN01A_0301S_B1_Ch7	Electrical Distribution System Overview	10 minutes
GEN01A_0301S_B1_Ch8	ZLD System Overview	9 minutes
GEN01A_0301S_B1_Ch9	Gas Compressor Station Overview	7 minutes
GEN01A_0301S_B1_Ch10	Recycled Water Facility Overview	6 minutes
<b>GEN01A_0311S_B1</b>	<b>Siemens 501 Gas Turbine</b>	<b>1 hr. 28 min.</b>
GEN01A_0311S_B1_Ch1	Overview	12 minutes
GEN01A_0311S_B1_Ch2	Gas Supply	13 minutes
GEN01A_0311S_B1_Ch3	Inlet Air	7 minutes
GEN01A_0311S_B1_Ch4	Compressor Section	8 minutes
GEN01A_0311S_B1_Ch5	Combustion Section	12 minutes
GEN01A_0311S_B1_Ch6	Fuel Gas Control	7 minutes
GEN01A_0311S_B1_Ch7	Lube Oil System	12 minutes
GEN01A_0311S_B1_Ch8	Bleed Air System	10 minutes
GEN01A_0311S_B1_Ch9	Kettle Boiler	7 minutes
<b>GEN01A_0321S_B1</b>	<b>Nooter-Eriksen 3-Drum HRSG</b>	<b>1 hr. 55 min.</b>
GEN01A_0321S_B1_Ch1	Overview	12 minutes
GEN01A_0321S_B1_Ch2	LP System	37 minutes
GEN01A_0321S_B1_Ch3	IP System	15 minutes
GEN01A_0321S_B1_Ch4	HP System	15 minutes
GEN01A_0321S_B1_Ch5	Emissions & SCR System	11 minutes
GEN01A_0321S_B1_Ch6	Blowdown System	11 minutes
GEN01A_0321S_B1_Ch7	Duct Firing System	14 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_0331S_B1</b>	<b>D-11 ST System Description &amp; Process Flows</b>	<b>1 hr. 29 min.</b>
GEN01A_0331S_B1_Ch1	Overview	12 minutes
GEN01A_0331S_B1_Ch2	High Pressure Steam	20 minutes
GEN01A_0331S_B1_Ch3	Reheat Steam	10 minutes
GEN01A_0331S_B1_Ch4	Low Pressure Steam	10 minutes
GEN01A_0331S_B1_Ch5	Lube Oil System	18 minutes
GEN01A_0331S_B1_Ch6	Steam Turbine Start	24 minutes
<b>GEN01A_0331S_B2</b>	<b>D-11 Mark VI Control Screen Description &amp; Navigation</b>	<b>2 hrs. 31 min.</b>
GEN01A_0331S_B2_Ch1	Introduction to D-11 Mark VI Control Screen Familiarization	5 minutes
GEN01A_0331S_B2_Ch2	D-11 Mark VI Control Group Familiarization	59 minutes
GEN01A_0331S_B2_Ch3	D-11 Mark VI Monitor Group Familiarization	30 minutes
GEN01A_0331S_B2_Ch4	D-11 Mark VI Auxiliary Group Familiarization	32 minutes
GEN01A_0331S_B2_Ch5	D-11 Mark VI Tests Group Familiarization	25 minutes
<b>GEN01A_0341S_B1</b>	<b>BOP - Condensate System</b>	<b>56 Minutes</b>
GEN01A_0341S_B1_Ch1	Overview	12 minutes
GEN01A_0341S_B1_Ch2	Condenser Overview	10 minutes
GEN01A_0341S_B1_Ch3	Air Ejector and Gland Seal Condenser	21 minutes
GEN01A_0341S_B1_Ch4	Condenser Water Side	13 minutes
<b>GEN01A_0342S_B1</b>	<b>BOP - Circulating Water System</b>	<b>1 hr. 5 mins.</b>
GEN01A_0342S_B1_Ch1	Overview	12 minutes
GEN01A_0342S_B1_Ch2	Cooling Tower	25 minutes
GEN01A_0342S_B1_Ch3	Cooling Tower Chemicals	28 minutes
<b>GEN01A_0344S_B1</b>	<b>BOP - Electrical Distribution</b>	<b>1 hr. 18 mins.</b>
GEN01A_0344S_B1_Ch1	Overview	10 minutes
GEN01A_0344S_B1_Ch2	High Voltage 13.8kV and above	8 minutes
GEN01A_0344S_B1_Ch3	4160V Electrical System	9 minutes
GEN01A_0344S_B1_Ch4	4160V Breaker	27 minutes
GEN01A_0344S_B1_Ch5	480V Electrical System	15 minutes
GEN01A_0344S_B1_Ch6	DC and UPS Systems	9 minutes
<b>GEN01A_0346S_B1</b>	<b>BOP - Zero Liquid Discharge</b>	<b>44 Minutes</b>
GEN01A_0346S_B1_Ch1	Overview	9 minutes
GEN01A_0346S_B1_Ch2	Brine Concentrator	15 minutes
GEN01A_0346S_B1_Ch3	Crystallizer	11 minutes
GEN01A_0346S_B1_Ch4	Filter Press	9 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_0347S_B1</b>	<b>BOP - Gas Compressor Station</b>	<b>1 hr. 9 min.</b>
GEN01A_0347S_B1_Ch1	Overview	7 minutes
GEN01A_0347S_B1_Ch2	Fuel Gas Inlet	10 minutes
GEN01A_0347S_B1_Ch3	Compressors	15 minutes
GEN01A_0347S_B1_Ch4	Lube Oil System	14 minutes
GEN01A_0347S_B1_Ch5	Discharge	10 minutes
GEN01A_0347S_B1_Ch6	CT Gas Conditioning Skid	13 minutes
<b>GEN01A_0361S_B1</b>	<b>BOP - Recycled Water Facility</b>	<b>30 Minutes</b>
GEN01A_0361S_B1_Ch1	Overview	6 minutes
GEN01A_0361S_B1_Ch2	Clarifier Overview	11 minutes
GEN01A_0361S_B1_Ch3	Sand Filter Overview	13 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 4 - 4 on 1, LM6000 GT, 2 Drum HRSG, MHI ST, Water Cooled Condenser, Cooling Towers</b>		<b>11 hrs. 17 mins.</b>
<b>GEN01A_0401S_B1</b>	<b>Plant 4 Site Overview</b>	<b>1 hr. 6 mins.</b>
GEN01A_0401S_B1_Ch1	Site Overview	8 minutes
GEN01A_0401S_B1_Ch2	LM6000 Combustion Turbine Overview	14 minutes
GEN01A_0401S_B1_Ch3	Vogt 2-Drum HRSG Overview	11 minutes
GEN01A_0401S_B1_Ch4	MHI Steam Turbine Overview	9 minutes
GEN01A_0401S_B1_Ch5	Condensate System Overview	8 minutes
GEN01A_0401S_B1_Ch6	Circulating Water System Overview	6 minutes
GEN01A_0401S_B1_Ch7	Electrical Distribution Overview	10 minutes
<b>GEN01A_0411S_B1</b>	<b>LM6000 Gas Turbine</b>	<b>2 hrs. 58 mins.</b>
GEN01A_0411S_B1_Ch1	Overview	15 minutes
GEN01A_0411S_B1_Ch2	Inlet Air	12 minutes
GEN01A_0411S_B1_Ch3	Compressor	17 minutes
GEN01A_0411S_B1_Ch4	Gas Supply	17 minutes
GEN01A_0411S_B1_Ch5	Turbine	15 minutes
GEN01A_0411S_B1_Ch6	Lube Oil System	18 minutes
GEN01A_0411S_B1_Ch7	Hydraulic System	21 minutes
GEN01A_0411S_B1_Ch8	Start System	29 minutes
GEN01A_0411S_B1_Ch9	Firing	21 minutes
GEN01A_0411S_B1_Ch10	Generator Overview	13 minutes
<b>GEN01A_0411S_B2</b>	<b>GE LM6000 Control Screen Familiarization</b>	<b>2 hrs. 47 mins.</b>
GEN01A_0411S_B2_Ch1	Introduction to LM6000 Control Screen Familiarization	5 minutes
GEN01A_0411S_B2_Ch2	LM6000 Control Group Familiarization	47 minutes
GEN01A_0411S_B2_Ch3	LM6000 Auxiliary Group Familiarization	1 hour 2 minutes
GEN01A_0411S_B2_Ch4	LM6000 Generator Group Familiarization	28 minutes
GEN01A_0411S_B2_Ch5	LM6000 Monitor Group Familiarization	25 minutes



## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_0421S_B1</b>	<b>Vogt 2-Drum HRSG</b>	<b>1 hr. 38 mins.</b>
GEN01A_0421S_B1_Ch1	Overview	11 minutes
GEN01A_0421S_B1_Ch2	IP System Overview	15 minutes
GEN01A_0421S_B1_Ch3	HP System Overview	31 minutes
GEN01A_0421S_B1_Ch4	Emissions & SCR System Overview	14 minutes
GEN01A_0421S_B1_Ch5	Blowdown System Overview	12 minutes
GEN01A_0421S_B1_Ch6	Duct Burner System Overview	15 minutes
<b>GEN01A_0431S_B1</b>	<b>MHI Steam Turbine</b>	<b>45 minutes</b>
GEN01A_0431S_B1_Ch1	Overview	9 minutes
GEN01A_0431S_B1_Ch2	High Pressure Section	13 minutes
GEN01A_0431S_B1_Ch3	IP-LP Pressure Section	12 minutes
GEN01A_0431S_B1_Ch4	Lube Oil System	11 minutes
<b>GEN01A_0441S_B1</b>	<b>BOP - Condensate</b>	<b>8 Minutes</b>
GEN01A_0441S_B1_Ch1	Overview	8 minutes
<b>GEN01A_0442S_B1</b>	<b>BOP - Circulating Water System</b>	<b>39 Minutes</b>
GEN01A_0442S_B1_Ch1	Overview	6 minutes
GEN01A_0442S_B1_Ch2	Cooling Tower	9 minutes
GEN01A_0442S_B1_Ch3	Cooling Tower Chemicals	24 minutes
<b>GEN01A_0444S_B1</b>	<b>BOP - Electrical Distribution</b>	<b>1 hr. 16 Min.</b>
GEN01A_0444S_B1_Ch1	Overview	10 minutes
GEN01A_0444S_B1_Ch2	4160V & Generator Voltage Distribution	15 minutes
GEN01A_0444S_B1_Ch3	4160V Breaker	25 minutes
GEN01A_0444S_B1_Ch4	480V Electrical Distribution	14 minutes
GEN01A_0444S_B1_Ch5	DC Distribution and UPS	12 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 5 - Simple Cycle 7EA Combustion Turbine</b>		<b>5 hrs. 26 mins.</b>
<b>GEN01A_0511S_B1</b>	<b>7EA Combustion Turbine - Systems and Process Flows</b>	<b>2 hrs. 2 min.</b>
GEN01A_0511S_B1_Ch1	Inlet Air	5 minutes
GEN01A_0511S_B1_Ch2	Compressor Section	12 minutes
GEN01A_0511S_B1_Ch3	Combustion and Turbine	13 minutes
GEN01A_0511S_B1_Ch4	Fuel Path and Firing Modes	25 minutes
GEN01A_0511S_B1_Ch5	Lube Oil Supply and Distribution	11 minutes
GEN01A_0511S_B1_Ch6	EHC Supply and Distribution	22 minutes
GEN01A_0511S_B1_Ch7	Compressor Bleed System	9 minutes
GEN01A_0511S_B1_Ch8	Starting System	21 minutes
GEN01A_0511S_B1_Ch9	Generator Overview	4 minutes
<b>GEN01A_0511S_B2</b>	<b>7EA Mark V Control Screen Familiarization</b>	<b>2 hrs. 21 mins.</b>
GEN01A_0511S_B2_Ch1	Introduction to 7EA Mark V Control Screen Familiarization	5 minutes
GEN01A_0511S_B2_Ch2	7EA Mark V Control Group Familiarization	1 hour 17 minutes
GEN01A_0511S_B2_Ch3	7EA Mark V Monitor Group Familiarization	26 minutes
GEN01A_0511S_B2_Ch4	7EA Mark V Auxiliary Group Familiarization	17 minutes
GEN01A_0511S_B2_Ch5	7EA Mark V Tests Group Familiarization	16 minutes
<b>GEN01A_0590S_B3</b>	<b>7EA Combustion Turbine Startup and Operation</b>	<b>1 hr. 3 mins.</b>
GEN01A_0590S_B3_Ch1	Startup	42 minutes
GEN01A_0590S_B3_Ch2	Shutdown	21 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 6 - LM6000 Simple Cycle</b>		<b>6 hrs. 47 mins.</b>
<b>GEN01A_0601S_B1</b>	<b>Plant 6 Site Overview</b>	<b>25 minutes</b>
GEN01A_0601S_B1_Ch1	Plant 6 Site Overview	25 minutes
<b>GEN01A_0611S_B1</b>	<b>LM6000 Systems and Process Flows</b>	<b>2 hrs. 58 mins.</b>
GEN01A_0611S_B1_Ch1	Overview	15 minutes
GEN01A_0611S_B1_Ch2	Inlet Air	12 minutes
GEN01A_0611S_B1_Ch3	Compressor	17 minutes
GEN01A_0611S_B1_Ch4	Gas Supply	17 minutes
GEN01A_0611S_B1_Ch5	Turbine	15 minutes
GEN01A_0611S_B1_Ch6	Lube Oil System	18 minutes
GEN01A_0611S_B1_Ch7	Hydraulic System	21 minutes
GEN01A_0611S_B1_Ch8	Start System	29 minutes
GEN01A_0611S_B1_Ch9	Firing	21 minutes
GEN01A_0611S_B1_Ch10	Generator Overview	13 minutes
<b>GEN01A_0611S_B2</b>	<b>LM6000 Control Screen Familiarization</b>	<b>2 hrs. 47 mins</b>
GEN01A_0611S_B2_Ch1	Introduction to LM6000 Screen Familiarization	5 minutes
GEN01A_0611S_B2_Ch2	Control Group Familiarization	47 minutes
GEN01A_0611S_B2_Ch3	Auxiliary Group Familiarization	1 hr 2 mins.
GEN01A_0611S_B2_Ch4	Generator Group Familiarization	28 minutes
GEN01A_0611S_B2_Ch5	Monitor Group Familiarization	25 minutes
<b>GEN01A_0690S_B3</b>	<b>LM6000 Startup</b>	<b>37 minutes</b>
GEN01A_0690S_B3	Startup	37 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 7 - Siemens SGT800 GT, 2 Drum HRSG, MHI ST, Water Cooled Condenser, Cooling Towers</b>		<b>6 hrs. 29 mins.</b>
<b>GEN01A_0711S_B1</b>	<b>SGT-800 GT Systems &amp; Process Flows</b>	<b>2 hrs. 4 mins.</b>
GEN01A_0711S_B1_Ch1	Overview	13 minutes
GEN01A_0711S_B1_Ch2	Air Inlet System	15 minutes
GEN01A_0711S_B1_Ch3	Compressor Section	24 minutes
GEN01A_0711S_B1_Ch4	Combustion Section	14 minutes
GEN01A_0711S_B1_Ch5	Turbine Section	8 minutes
GEN01A_0711S_B1_Ch6	Lube Oil System	16 minutes
GEN01A_0711S_B1_Ch7	Turbine Start System	13 minutes
GEN01A_0711S_B1_Ch8	Turbine Firing	12 minutes
GEN01A_0711S_B1_Ch9	Generator	9 minutes
<b>GEN01A_0721S_B1</b>	<b>Vogt 2-Drum HRSG</b>	<b>1 hr. 37 mins.</b>
GEN01A_0721S_B1_Ch1	Overview	11 minutes
GEN01A_0721S_B1_Ch2	IP System	14 minutes
GEN01A_0721S_B1_Ch3	HP System	31 minutes
GEN01A_0721S_B1_Ch4	Emissions and SCR System	14 minutes
GEN01A_0721S_B1_Ch5	Blowdown System	12 minutes
GEN01A_0721S_B1_Ch6	Duct Burner System	15 minutes
<b>GEN01A_0731S_B1</b>	<b>MHI Steam Turbine</b>	<b>45 minutes</b>
GEN01A_0731S_B1_Ch1	Overview	9 minutes
GEN01A_0731S_B1_Ch2	HP Section	13 minutes
GEN01A_0731S_B1_Ch3	IP-LP Section	12 minutes
GEN01A_0731S_B1_Ch4	Lube Oil System	11 minutes
<b>GEN01A_0741S_B1</b>	<b>BOP - Condensate System</b>	<b>8 minutes</b>
GEN01A_0741S_B1_Ch1	Overview	8 minutes
<b>GEN01A_0742S_B1</b>	<b>BOP - Circulating Water System</b>	<b>39 Minutes</b>
GEN01A_0742S_B1_Ch1	Overview	6 minutes
GEN01A_0742S_B1_Ch2	Cooling Tower	9 minutes
GEN01A_0742S_B1_Ch3	Cooling Tower Chemicals	24 minutes

Course #	Course Title	Duration
<b>GEN01A_0744S_B1</b>	<b>BOP - Electrical Distribution</b>	<b>1 hr. 16 mins.</b>
GEN01A_0744S_B1_Ch1	Overview	10 minutes
GEN01A_0744S_B1_Ch2	4160V and Generator Voltage Distribution	15 minutes
GEN01A_0744S_B1_Ch3	4160V Breaker	25 minutes
GEN01A_0744S_B1_Ch4	480V Electrical Distribution	14 minutes
GEN01A_0744S_B1_Ch5	DC Distribution and UPS	12 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 8 - Siemens V84.2 Simple Cycle CT with a Dual Stack Setup for possible Combined Cycle Operation and SCR (NOx catalytic reaction)</b>		<b>3 hrs. 14 mins.</b>
<b>GEN01A_0811S_B1</b>	<b>Siemens V84.2 Gas Turbine - Systems &amp; Process Flows</b>	<b>3 hrs. 14 mins.</b>
GEN01A_0811S_B1_Ch1	Overview	14 minutes
GEN01A_0811S_B1_Ch2	Turbine Inlet Air System	10 minutes
GEN01A_0811S_B1_Ch3	Compressor	14 minutes
GEN01A_0811S_B1_Ch4	Turbine Overview	22 minutes
GEN01A_0811S_B1_Ch5	Lube Oil System	18 minutes
GEN01A_0811S_B1_Ch6	Turbine Hydraulics System	24 minutes
GEN01A_0811S_B1_Ch7	Turbine Blowoff System	10 minutes
GEN01A_0811S_B1_Ch8	Glycol Cooling System	8 minutes
GEN01A_0811S_B1_Ch9	Fuel Gas System	26 minutes
GEN01A_0811S_B1_Ch10	Water Injection System	14 minutes
GEN01A_0811S_B1_Ch11	Turbine Firing	29 minutes
GEN01A_0811S_B1_Ch12	Generator Overview	5 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 9 - LMS100 Simple Cycle Single Unit</b>		<b>9 hrs. 40 mins.</b>
<b>GEN01A_0911S_B1</b>	<b>LMS100 Systems and Process Flows</b>	<b>3 hrs. 47 mins.</b>
GEN01A_0911S_B1_Ch1	Overview	20 minutes
GEN01A_0911S_B1_Ch2	Inlet Air System	11 minutes
GEN01A_0911S_B1_Ch3	LP Compressor	12 minutes
GEN01A_0911S_B1_Ch4	Intercooler	14 minutes
GEN01A_0911S_B1_Ch5	HP Compressor	14 minutes
GEN01A_0911S_B1_Ch6	Fuel Gas System	15 minutes
GEN01A_0911S_B1_Ch7	Turbine Sections	14 minutes
GEN01A_0911S_B1_Ch8	Accessory Drive System	7 minutes
GEN01A_0911S_B1_Ch9	Synthetic Lube Oil System	17 minutes
GEN01A_0911S_B1_Ch10	Mineral Lube Oil System	9 minutes
GEN01A_0911S_B1_Ch11	Hydraulic Oil System	30 minutes
GEN01A_0911S_B1_Ch12	Hydraulic Start System	29 minutes
GEN01A_0911S_B1_Ch13	Turbine Firing	22 minutes
GEN01A_0911S_B1_Ch14	Generator Overview	13 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_0911S_B2</b>	<b>LMS100 Control Screen Familiarization</b>	<b>6 hrs. 2 mins.</b>
GEN01A_0911S_B2_Ch1	Main Control Screen	32 minutes
GEN01A_0911S_B2_Ch2	Turbine Overview Screen	24 minutes
GEN01A_0911S_B2_Ch3	Generator Overview Screen	29 minutes
GEN01A_0911S_B2_Ch4	Intercooler Screen	22 minutes
GEN01A_0911S_B2_Ch5	Gas Turbine Ventilation Screen	24 minutes
GEN01A_0911S_B2_Ch6	CDP System Screen	5 minutes
GEN01A_0911S_B2_Ch7	Lube Oil Cooling Pumps Screen	5 minutes
GEN01A_0911S_B2_Ch8	Synthetic Lube Oil Pump Screen	6 minutes
GEN01A_0911S_B2_Ch9	Synthetic Lube Oil System Screen	7 minutes
GEN01A_0911S_B2_Ch10	Generator Lube Oil System Screen	5 minutes
GEN01A_0911S_B2_Ch11	Mineral Lube Oil System Screen	21 minutes
GEN01A_0911S_B2_Ch12	Mineral Lube Oil Distribution Screen	21 minutes
GEN01A_0911S_B2_Ch13	Mineral Hydraulic Oil System Screen	17 minutes
GEN01A_0911S_B2_Ch14	Fire Protection System Screen	30 minutes
GEN01A_0911S_B2_Ch15	NOx Water Injection System Screen	26 minutes
GEN01A_0911S_B2_Ch16	Fuel Gas System Screen	24 minutes
GEN01A_0911S_B2_Ch17	Hydraulic Start System Screen	16 minutes
GEN01A_0911S_B2_Ch18	Gas Turbine Enclosures Screen	21 minutes
GEN01A_0911S_B2_Ch19	Thrust Balance Screen	22 minutes
GEN01A_0911S_B2_Ch20	Permissives Screen	5 minutes
<b>GEN01A_0990S_B3</b>	<b>LMS100 Gas Turbine Start</b>	<b>51 mins.</b>
GEN01A_0990S_B3_Ch1	Control	5 minutes
GEN01A_0990S_B3_Ch2	Ventilation	5 minutes
GEN01A_0990S_B3_Ch3	Oil System	5 minutes
GEN01A_0990S_B3_Ch4	Valve Cycling	6 minutes
GEN01A_0990S_B3_Ch5	Fuel Gas Test	5 minutes
GEN01A_0990S_B3_Ch6	Turbine Roll	5 minutes
GEN01A_0990S_B3_Ch7	Purge and Fire	5 minutes
GEN01A_0990S_B3_Ch8	Conditions Check	5 minutes
GEN01A_0990S_B3_Ch9	Self Sustaining	5 minutes
GEN01A_0990S_B3_Ch10	Sync and Load	5 minutes



## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 10 - Toshiba TCDF 241MW ST</b>		<b>5 hrs. 45 min.</b>
<b>GEN01A_1001S_B1</b>	<b>Plant 10 Site Overview</b>	<b>48 minutes</b>
GEN01A_1001S_B1_Ch1	Overview	25 minutes
GEN01A_1001S_B1_Ch2	Toshiba Steam Turbine Overview	10 minutes
GEN01A_1001S_B1_Ch3	Electrical Distribution Overview	13 minutes
<b>GEN01A_1031S_B1</b>	<b>Toshiba ST</b>	<b>3 hrs. 19 min.</b>
GEN01A_1031S_B1_Ch1	Overview	10 minutes
GEN01A_1031S_B1_Ch2	HP Turbine Section	19 minutes
GEN01A_1031S_B1_Ch3	IP Turbine Section	8 minutes
GEN01A_1031S_B1_Ch4	LP Turbine Section	9 minutes
GEN01A_1031S_B1_Ch5	Lube Oil System	18 minutes
GEN01A_1031S_B1_Ch6	EHC System	26 minutes
GEN01A_1031S_B1_Ch7	Seal Steam System	22 minutes
GEN01A_1031S_B1_Ch8	Generator Overview	9 minutes
GEN01A_1031S_B1_Ch9	Hydrogen System	13 minutes
GEN01A_1031S_B1_Ch10	Seal Oil System	21 minutes
GEN01A_1031S_B1_Ch11	Hydrogen Purge	14 minutes
GEN01A_1031S_B1_Ch12	Hydrogen Fill	30 minutes
<b>GEN01A_1044S_B1</b>	<b>Electrical Distribution</b>	<b>1 hr. 38 mins.</b>
GEN01A_1044S_B1_Ch1	Overview	13 minutes
GEN01A_1044S_B1_Ch2	High Voltage System	10 minutes
GEN01A_1044S_B1_Ch3	4160V Electrical System	7 minutes
GEN01A_1044S_B1_Ch4	4160V Feeder	30 minutes
GEN01A_1044S_B1_Ch5	480V Electrical System	25 minutes
GEN01A_1044S_B1_Ch6	DC and UPS Systems	13 minutes

Course #	Course Title	Duration
<b>Plant 11 - Seal Oil System on a 1992 Westinghouse 248MW ST</b>		<b>33 minutes</b>
<b>GEN01A_1131S_B1</b>	<b>Westinghouse Generator Seal Oil</b>	<b>33 mins.</b>
GEN01A_1131S_B1_Ch1	Overview	7 minutes
GEN01A_1131S_B1_Ch2	Hydrogen Side Operation	12 minutes
GEN01A_1131S_B1_Ch3	Air Side Operation	14 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 12 - LM2500 Simple Cycle</b>		<b>3 hrs. 4 mins.</b>
<b>GEN01A_1211S_B1</b>	<b>LM2500 Systems &amp; Processes Control</b>	<b>3 hrs. 4 mins.</b>
GEN01A_1211S_B1_Ch1	Overview	20 minutes
GEN01A_1211S_B1_Ch2	Inlet Air System	10 minutes
GEN01A_1211S_B1_Ch3	Accessory Drive	10 minutes
GEN01A_1211S_B1_Ch4	Compressor Section	15 minutes
GEN01A_1211S_B1_Ch5	Fuel Gas System	18 minutes
GEN01A_1211S_B1_Ch6	Turbine Section	8 minutes
GEN01A_1211S_B1_Ch7	Lube Oil System	21 minutes
GEN01A_1211S_B1_Ch8	Hydraulic Oil System	23 minutes
GEN01A_1211S_B1_Ch9	Hydraulic Start System	29 minutes
GEN01A_1211S_B1_Ch10	Firing	15 minutes
GEN01A_1211S_B1_Ch11	Generator Overview	15 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 13 - 2 on 1, GE 7FA, 3-Drum Nooter-Eriksen HRSG, D-11 ST, Air Cooled Condenser</b>		<b>25 hrs. 16 mins.</b>
<b>GEN01A_1301S_B1</b>	<b>Combined Cycle Site Overview – System Description &amp; Process Flow</b>	<b>1 hr. 39 mins.</b>
GEN01A_1301S_B1_Ch1	Site Overview	8 minutes
GEN01A_1301S_B1_Ch2	7FA Combustion Turbine Overview	9 minutes
GEN01A_1301S_B1_Ch3	7FA Generator Overview	11 minutes
GEN01A_1301S_B1_Ch4	7FA Gas Turbine Routine Maintenance Overview	28 minutes
GEN01A_1301S_B1_Ch5	7FA Gas Turbine Major Inspections Overview	12 minutes
GEN01A_1301S_B1_Ch6	HRSG Overview	12 minutes
GEN01A_1301S_B1_Ch7	D-11 Steam Turbine Overview	11 minutes
GEN01A_1301S_B1_Ch8	Air Cooled Condenser Overview	8 minutes
<b>GEN01A_1311S_B1</b>	<b>7FA.02 Gas Turbine - System Descriptions and Process Flows</b>	<b>2 hrs. 48 mins.</b>
GEN01A_1311S_B1_Ch1	Overview	9 minutes
GEN01A_1311S_B1_Ch2	Inlet Air	8 minutes
GEN01A_1311S_B1_Ch3	Compressor Section	12 minutes
GEN01A_1311S_B1_Ch4	Combustors and Turbine Section	15 minutes
GEN01A_1311S_B1_Ch5	Fuel Gas System	22 minutes
GEN01A_1311S_B1_Ch6	Lube Oil Supply Distribution	17 minutes
GEN01A_1311S_B1_Ch7	EHC Supply and Distribution	26 minutes
GEN01A_1311S_B1_Ch8	Compressor Bleed System	10 minutes
GEN01A_1311S_B1_Ch9	Generator Overview	12 minutes
GEN01A_1311S_B1_Ch10	Turbine Start	37 minutes
<b>GEN01A_1311S_B2</b>	<b>7FA Mark VI Control Screen Familiarization</b>	<b>2 hrs. 15 mins.</b>
GEN01A_1311S_B2_Ch1	Introduction to 7FA Mark VI Screen Familiarization	5 minutes
GEN01A_1311S_B2_Ch2	7FA Mark VI Control Group Familiarization	1 hour 9 minutes
GEN01A_1311S_B2_Ch3	7FA Mark VI Auxiliary Group Familiarization	36 minutes
GEN01A_1311S_B2_Ch4	7FA Mark VI Monitor Group Familiarization	20 minutes
GEN01A_1311S_B2_Ch5	7FA Mark VI Test Group Familiarization	5 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_1312S_B1</b>	<b>7FA Generator</b>	<b>3 hrs. 48 mins.</b>
GEN01A_1312S_B1_Ch1	Overview	11 minutes
GEN01A_1312S_B1_Ch2	Generator Fault Protection	33 minutes
GEN01A_1312S_B1_Ch3	Generator Seal Oil System	20 minutes
GEN01A_1312S_B1_Ch4	Generator Hydrogen System	17 minutes
GEN01A_1312S_B1_Ch5	Stator Design	25 minutes
GEN01A_1312S_B1_Ch6	Rotor Design	22 minutes
GEN01A_1312S_B1_Ch7	Power Generation	29 minutes
GEN01A_1312S_B1_Ch8	Reactive Power	23 minutes
GEN01A_1312S_B1_Ch9	LCI Overview	32 minutes
GEN01A_1312S_B1_Ch10	LCI Operation	16 minutes
<b>GEN01A_1313S_B1</b>	<b>7FA Gas Turbine Routine Maintenance</b>	<b>2 hrs. 53 mins.</b>
GEN01A_1313S_B1_Ch1	Overview	28 minutes
GEN01A_1313S_B1_Ch2	Preventive Maintenance	23 minutes
GEN01A_1313S_B1_Ch3	Combustion Inspection Overview	9 minutes
GEN01A_1313S_B1_Ch4	Pre-Maintenance Procedures	14 minutes
GEN01A_1313S_B1_Ch5	Combustion System Inspection	49 minutes
GEN01A_1313S_B1_Ch6	Combustion System Reassembly	50 minutes
<b>GEN01A_1314S_B1</b>	<b>7FA Gas Turbine Major Inspections</b>	<b>4 hrs. 35 mins.</b>
GEN01A_1314S_B1_Ch1	Overview	12 minutes
GEN01A_1314S_B1_Ch2	HGP Clearance Measurements	19 minutes
GEN01A_1314S_B1_Ch3	HGP Turbine Casing Removal	29 minutes
GEN01A_1314S_B1_Ch4	HGP Concentricity, Rotor Float, and Clearance Checks	16 minutes
GEN01A_1314S_B1_Ch5	HGP Component Removal	25 minutes
GEN01A_1314S_B1_Ch6	HGP Inspection	41 minutes
GEN01A_1314S_B1_Ch7	HGP Turbine Section Assembly	1 hr. 25 mins.
GEN01A_1314S_B1_Ch8	HGP Assembly Clearances	10 minutes
GEN01A_1314S_B1_Ch9	HGP Combustion Section Assembly	25 minutes
GEN01A_1314S_B1_Ch10	HGP External Equipment Assembly and Testing	13 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_1321S_B1</b>	<b>3-Drum HRSG - System Descriptions and Process Flows</b>	<b>1 hr. 55 mins.</b>
GEN01A_1321S_B1_Ch1	Overview	12 minutes
GEN01A_1321S_B1_Ch2	LP System	37 minutes
GEN01A_1321S_B1_Ch3	IP System	15 minutes
GEN01A_1321S_B1_Ch4	HP System	15 minutes
GEN01A_1321S_B1_Ch5	Emmissions and SCR System	11 minutes
GEN01A_1321S_B1_Ch6	Blowdown System	11 minutes
GEN01A_1321S_B1_Ch7	Duct Firing System	14 minutes
<b>GEN01A_1331S_B1</b>	<b>D-11 Steam Turbine - System Description &amp; Process Flows</b>	<b>1 hr. 34 mins.</b>
GEN01A_1331S_B1_Ch1	Overview	12 minutes
GEN01A_1331S_B1_Ch2	High Pressure Steam	20 minutes
GEN01A_1331S_B1_Ch3	Reheat Steam	10 minutes
GEN01A_1331S_B1_Ch4	Low Pressure Steam	10 minutes
GEN01A_1331S_B1_Ch5	Lube Oil System	18 minutes
GEN01A_1331S_B1_Ch6	Steam Turbine Start	24 minutes
<b>GEN01A_1331S_B2</b>	<b>D-11 Mark VI Control Screen Familiarization</b>	<b>2 hrs. 31 mins.</b>
GEN01A_1331S_B2_Ch1	Introduction to D-11 Mark VI Screen Familiarization	5 minutes
GEN01A_1331S_B2_Ch2	Control Group Familiarization	59 minutes
GEN01A_1331S_B2_Ch3	Monitor Group Familiarization	30 minutes
GEN01A_1331S_B2_Ch4	Auxiliary Group Familiarization	32 minutes
GEN01A_1331S_B2_Ch5	Test Group Familiarization	25 minutes
<b>GEN01A_1341S_B1</b>	<b>Air Cooled Condenser</b>	<b>1 hr. 18 mins</b>
GEN01A_1341S_B1_Ch1	Overview	8 minutes
GEN01A_1341S_B1_Ch2	Steam Flow and Design	19 minutes
GEN01A_1341S_B1_Ch3	Condensate System	14 minutes
GEN01A_1341S_B1_Ch4	Air Removal System	14 minutes
GEN01A_1341S_B1_Ch5	Operating Modes	23 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 14 - 1 on 1, GE 7FA, 3-Drum Nooter-Eriksen HRSG, GE A10 ST, Cooling Tower</b>		<b>23 hrs. 38 mins.</b>
<b>GEN01A_1401S_B1</b>	<b>Combined Cycle Site Overview – System Description &amp; Process Flow</b>	<b>1 hr. 58 mins.</b>
GEN01A_1401S_B1_Ch1	Site Overview	24 minutes
GEN01A_1401S_B1_Ch2	7FA Combustion Turbine Overview	9 minutes
GEN01A_1401S_B1_Ch3	7FA Generator Overview	11 minutes
GEN01A_1401S_B1_Ch4	7FA Gas Turbine Routine Maintenance Overview	28 minutes
GEN01A_1401S_B1_Ch5	7FA Gas Turbine Major Inspections Overview	12 minutes
GEN01A_1401S_B1_Ch6	HRSG Overview	12 minutes
GEN01A_1401S_B1_Ch7	A10 Steam Turbine Overview	12 minutes
GEN01A_1401S_B1_Ch8	Electrical Distribution Overview	10 minutes
<b>GEN01A_1411S_B1</b>	<b>7FA.02 Gas Turbine - System Descriptions and Process Flows</b>	<b>2 hrs. 48 mins.</b>
GEN01A_1411S_B1_Ch1	Overview	9 minutes
GEN01A_1411S_B1_Ch2	Inlet Air	8 minutes
GEN01A_1411S_B1_Ch3	Compressor Section	12 minutes
GEN01A_1411S_B1_Ch4	Combustors and Turbine Section	15 minutes
GEN01A_1411S_B1_Ch5	Fuel Gas System	22 minutes
GEN01A_1411S_B1_Ch6	Lube Oil Supply Distribution	17 minutes
GEN01A_1411S_B1_Ch7	EHC Supply and Distribution	26 minutes
GEN01A_1411S_B1_Ch8	Compressor Bleed System	10 minutes
GEN01A_1411S_B1_Ch9	Generator Overview	12 minutes
GEN01A_1411S_B1_Ch10	Turbine Start	37 minutes
<b>GEN01A_1411S_B2</b>	<b>7FA Mark VI Control Screen Familiarization</b>	<b>2 hrs. 15 mins.</b>
GEN01A_1411S_B2_Ch1	Introduction to 7FA Mark VI Screen Familiarization	5 minutes
GEN01A_1411S_B2_Ch2	7FA Mark VI Control Group Familiarization	1 hour 9 minutes
GEN01A_1411S_B2_Ch3	7FA Mark VI Auxiliary Group Familiarization	36 minutes
GEN01A_1411S_B2_Ch4	7FA Mark VI Monitor Group Familiarization	20 minutes
GEN01A_1411S_B2_Ch5	7FA Mark VI Test Group Familiarization	5 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_1412S_B1</b>	<b>7FA Generator</b>	<b>3 hrs. 48 mins.</b>
GEN01A_1412S_B1_Ch1	Overview	11 minutes
GEN01A_1412S_B1_Ch2	Generator Fault Protection	33 minutes
GEN01A_1412S_B1_Ch3	Generator Seal Oil System	20 minutes
GEN01A_1412S_B1_Ch4	Generator Hydrogen System	17 minutes
GEN01A_1412S_B1_Ch5	Stator Design	25 minutes
GEN01A_1412S_B1_Ch6	Rotor Design	22 minutes
GEN01A_1412S_B1_Ch7	Power Generation	29 minutes
GEN01A_1412S_B1_Ch8	Reactive Power	23 minutes
GEN01A_1412S_B1_Ch9	LCI Overview	32 minutes
GEN01A_1412S_B1_Ch10	LCI Operation	16 minutes
<b>GEN01A_1413S_B1</b>	<b>7FA Gas Turbine Routine Maintenance</b>	<b>2 hrs. 53 mins.</b>
GEN01A_1413S_B1_Ch1	Overview	28 minutes
GEN01A_1413S_B1_Ch2	Preventive Maintenance	23 minutes
GEN01A_1413S_B1_Ch3	Combustion Inspection Overview	9 minutes
GEN01A_1413S_B1_Ch4	Pre-Maintenance Procedures	14 minutes
GEN01A_1413S_B1_Ch5	Combustion System Inspection	49 minutes
GEN01A_1413S_B1_Ch6	Combustion System Reassembly	50 minutes
<b>GEN01A_1414S_B1</b>	<b>7FA Gas Turbine Major Inspections</b>	<b>4 hrs. 35 mins.</b>
GEN01A_1414S_B1_Ch1	Overview	12 minutes
GEN01A_1414S_B1_Ch2	HGP Clearance Measurements	19 minutes
GEN01A_1414S_B1_Ch3	HGP Turbine Casing Removal	29 minutes
GEN01A_1414S_B1_Ch4	HGP Concentricity, Rotor Float, and Clearance Checks	16 minutes
GEN01A_1414S_B1_Ch5	HGP Component Removal	25 minutes
GEN01A_1414S_B1_Ch6	HGP Inspection	41 minutes
GEN01A_1414S_B1_Ch7	HGP Turbine Section Assembly	1 hr. 25 mins.
GEN01A_1414S_B1_Ch8	HGP Assembly Clearances	10 minutes
GEN01A_1414S_B1_Ch9	HGP Combustion Section Assembly	25 minutes
GEN01A_1414S_B1_Ch10	HGP External Equipment Assembly and Testing	13 minutes



## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_1421S_B1</b>	<b>3-Drum HRSG - System Descriptions and Process Flows</b>	<b>1 hr. 55 mins.</b>
GEN01A_1421S_B1_Ch1	Overview	12 minutes
GEN01A_1421S_B1_Ch2	LP System	37 minutes
GEN01A_1421S_B1_Ch3	IP System	15 minutes
GEN01A_1421S_B1_Ch4	HP System	15 minutes
GEN01A_1421S_B1_Ch5	Emmissions and SCR System	11 minutes
GEN01A_1421S_B1_Ch6	Blowdown System	11 minutes
GEN01A_1421S_B1_Ch7	Duct Firing System	14 minutes
<b>GEN01A_1431S_B1</b>	<b>A10 Steam Turbine</b>	<b>2 hrs. 11 mins.</b>
GEN01A_1431S_B1_Ch1	Overview	12 minutes
GEN01A_1431S_B1_Ch2	High Pressure Section	12 minutes
GEN01A_1431S_B1_Ch3	IP-LP Pressure Section	12 minutes
GEN01A_1431S_B1_Ch4	Lube Oil System	16 minutes
GEN01A_1431S_B1_Ch5	EHC System	26 minutes
GEN01A_1431S_B1_Ch6	Steam Seal System	16 minutes
GEN01A_1431S_B1_Ch7	Generator Overview	14 minutes
GEN01A_1431S_B1_Ch8	Steam Turbine Start	23 minutes
<b>GEN01A_1444S_B1</b>	<b>Electrical Distribution</b>	<b>1 hr. 15 mins.</b>
GEN01A_1444S_B2_Ch1	Overview	10 minutes
GEN01A_1444S_B2_Ch2	High Voltage 18kV and Above	8 minutes
GEN01A_1444S_B2_Ch3	4160V and 480V Systems	17 minutes
GEN01A_1444S_B2_Ch4	4160V Feeder Operation	29 minutes
GEN01A_1444S_B2_Ch5	DC and UPS Systems	11 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>Plant 16 - 2 on 1, GE 7FA.05 Gas Turbine, 7FA.05 Gas Turbine Generator, Vogt 3-Drum HRSG, Sample Panel, Siemens SST6-5000 Steam Turbine, Air Cooled Condenser and Condensate, CEMS, and AUX Boiler</b>		<b>47 hrs. 29 mins.</b>
<b>GEN01A_1611S_B1</b>	<b>GE 7FA.05 Gas Turbine</b>	<b>3 hrs. 54 mins.</b>
GEN01A_1611S_B1_Ch1	Overview	30 minutes
GEN01A_1611S_B1_Ch2	Inlet Air System	22 minutes
GEN01A_1611S_B1_Ch3	Compressor Section	23 minutes
GEN01A_1611S_B1_Ch4	Combustion and Turbine Section	31 minutes
GEN01A_1611S_B1_Ch5	Fuel Gas System	28 minutes
GEN01A_1611S_B1_Ch6	Lubricating Oil System	19 minutes
GEN01A_1611S_B1_Ch7	Hydraulic Oil System	28 minutes
GEN01A_1611S_B1_Ch8	Turbine Start	53 minutes
<b>GEN01A_1611S_B2</b>	<b>7FA.05 Mark Vle Control Screen Familiarization</b>	<b>9 hrs. 41 mins.</b>
GEN01A_1611S_B2_Ch1	Speed and Load Screen	1 hr. 1 min.
GEN01A_1611S_B2_Ch2	Turbine Protection Screen	45 minutes
GEN01A_1611S_B2_Ch3	Turbine Air Inlet Screen	19 minutes
GEN01A_1611S_B2_Ch4	Cooling Sealing Air Screen	25 minutes
GEN01A_1611S_B2_Ch5	Fuel Gas Conditioning Screen	25 minutes
GEN01A_1611S_B2_Ch6	Gas Fuel Conditioning Screen	29 minutes
GEN01A_1611S_B2_Ch7	Gas Fuel Module Screen	22 minutes
GEN01A_1611S_B2_Ch8	Lubrication Screen	22 minutes
GEN01A_1611S_B2_Ch9	Hydraulic Lift Oil System Screen	16 minutes
GEN01A_1611S_B2_Ch10	Fast Start Readiness Screen	17 minutes
GEN01A_1611S_B2_Ch11	Generator Capability Screen	17 minutes
GEN01A_1611S_B2_Ch12	Hydrogen System Screen	24 minutes
GEN01A_1611S_B2_Ch13	Generator Temperatures Screen	18 minutes
GEN01A_1611S_B2_Ch14	Synchronization Screen	16 minutes
GEN01A_1611S_B2_Ch15	Exhaust Temperatures Screen	17 minutes
GEN01A_1611S_B2_Ch16	Monitor Rotor Temperatures and Vibrations Screen	19 minutes
GEN01A_1611S_B2_Ch17	Proximity Screen	17 minutes
GEN01A_1611S_B2_Ch18	Monitor Heat and Ventilation Screen	19 minutes
GEN01A_1611S_B2_Ch19	Transmitters Screen	20 minutes
GEN01A_1611S_B2_Ch20	Model Base Control Sensor Data Screen	21 minutes
GEN01A_1611S_B2_Ch21	Tasks Auxiliaries and Motors Screen	23 minutes
GEN01A_1611S_B2_Ch22	Case Temperature Management Screen	21 minutes
GEN01A_1611S_B2_Ch23	Tasks, Timers, and Counters Screen	14 minutes
GEN01A_1611S_B2_Ch24	Tasks Motor Timers Screen	16 minutes
GEN01A_1611S_B2_Ch25	Water Wash System Screen	18 minutes
GEN01A_1611S_B2_Ch26	Overspeed Tests Screen	20 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_1612S_B1</b>	<b>GE 7FA.05 Gas Turbine Generator</b>	<b>4 hrs. 18 mins.</b>
GEN01A_1612S_B1_Ch1	Overview	18 minutes
GEN01A_1612S_B1_Ch2	Hydrogen Gas System	30 minutes
GEN01A_1612S_B1_Ch3	Seal Oil System	24 minutes
GEN01A_1612S_B1_Ch4	Stator Design	30 minutes
GEN01A_1612S_B1_Ch5	Rotor Design	21 minutes
GEN01A_1612S_B1_Ch6	Power Generation	29 minutes
GEN01A_1612S_B1_Ch7	Reactive Power	23 minutes
GEN01A_1612S_B1_Ch8	Generator Fault Protection	34 minutes
GEN01A_1612S_B1_Ch9	LCI Overview	33 minutes
GEN01A_1612S_B1_Ch10	LCI Operation	16 minutes
<b>GEN01A_1621S_B1</b>	<b>Vogt 3-Pressure HRSG</b>	<b>3 hrs. 15 mins.</b>
GEN01A_1621S_B1_Ch1	Overview	22 minutes
GEN01A_1621S_B1_Ch2	LP Steam and Feedwater	44 minutes
GEN01A_1621S_B1_Ch3	IP Steam	27 minutes
GEN01A_1621S_B1_Ch4	HP Steam	22 minutes
GEN01A_1621S_B1_Ch5	Emission Reduction	18 minutes
GEN01A_1621S_B1_Ch6	Blowdown System	38 minutes
GEN01A_1621S_B1_Ch7	Steam Plant	24 minutes
<b>GEN01A_1622S_B1</b>	<b>Boiler Feedwater Pump</b>	<b>2 hrs. 2 mins.</b>
GEN08A_018S_B1_Ch1	Design and Operation	21 minutes
GEN08A_018S_B1_Ch2	Pump Curves	28 minutes
GEN08A_018S_B1_Ch3	Operational Checks and Alarms	31 minutes
GEN08A_018S_B1_Ch4	Maintenance	10 minutes
GEN08A_018S_B1_Ch5	Bearing Replacement	32 minutes
<b>GEN01A_1623S_B1</b>	<b>Sample Panel</b>	<b>3 hrs. 4 mins.</b>
GEN01A_1623S_B1_Ch1	Overview	20 minutes
GEN01A_1623S_B1_Ch2	Sample Source	1 hr. 5 mins
GEN01A_1623S_B1_Ch3	Sample Conditioning	39 minutes
GEN01A_1623S_B1_Ch4	Continuous Analysis	1 hour

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_1631S_B1</b>	<b>SST6-5000 Steam Turbine</b>	<b>3 hrs. 18 mins.</b>
GEN01A_1631S_B1_Ch1	Overview	14 minutes
GEN01A_1631S_B1_Ch2	HP Turbine Section	22 minutes
GEN01A_1631S_B1_Ch3	IP Turbine Section	9 minutes
GEN01A_1631S_B1_Ch4	LP Turbine Section	12 minutes
GEN01A_1631S_B1_Ch5	Seal Steam System	22 minutes
GEN01A_1631S_B1_Ch6	Lubricating Oil System	34 minutes
GEN01A_1631S_B1_Ch7	Hydraulic Oil System	31 minutes
GEN01A_1631S_B1_Ch8	Generator Overview	19 minutes
GEN01A_1631S_B1_Ch9	Steam Turbine Start	35 minutes
<b>GEN01A_1631S_B2</b>	<b>SST6-5000 Steam Turbine Control Screen Familiarization</b>	<b>8 hrs. 4 mins.</b>
GEN01A_1631S_B2_Ch1	Preconditions for Starting Subgroup Control	16 minutes
GEN01A_1631S_B2_Ch2	Controller Screen	15 minutes
GEN01A_1631S_B2_Ch3	Step Sequence Screen	39 minutes
GEN01A_1631S_B2_Ch4	Lubricating Oil Screen	21 minutes
GEN01A_1631S_B2_Ch5	Control Fluids Screen	21 minutes
GEN01A_1631S_B2_Ch6	Seal Steam Screen	20 minutes
GEN01A_1631S_B2_Ch7	Steam Turbine and Valve Drains Screen	17 minutes
GEN01A_1631S_B2_Ch8	Bearing Temp and Vibration Screen	47 minutes
GEN01A_1631S_B2_Ch9	Startup and Temperature Screen	30 minutes
GEN01A_1631S_B2_Ch10	Protection 1 Screen	1 hr. 2 mins.
GEN01A_1631S_B2_Ch11	Protection 2 Screen	49 minutes
GEN01A_1631S_B2_Ch12	Generator Excitation Screen	39 minutes
GEN01A_1631S_B2_Ch13	Power Screen	25 minutes
GEN01A_1631S_B2_Ch14	Generator Temperature Screen	20 minutes
GEN01A_1631S_B2_Ch15	Generator Protection Screen	27 minutes
GEN01A_1631S_B2_Ch16	Automatic Turbine Tester Screen	29 minutes
GEN01A_1631S_B2_Ch17	Overview Screen	7 minutes

## Course Catalog: GT & CC Plants (continued)

Course #	Course Title	Duration
<b>GEN01A_1635S_B1</b>	<b>Auxiliary Boiler</b>	<b>3 hrs. 37 mins.</b>
GEN01A_1635S_B1_Ch1	Overview	43 minutes
GEN01A_1635S_B1_Ch2	Furnace and Flue Gas	22 minutes
GEN01A_1635S_B1_Ch3	Fuel Gas and Burner	28 minutes
GEN01A_1635S_B1_Ch4	Feedwater and Steam Systems	42 minutes
GEN01A_1635S_B1_Ch5	Aux Boiler Emissions	39 minutes
GEN01A_1635S_B1_Ch6	Aux Boiler Operations and Maintenance	43 minutes
<b>GEN01A_1641S_B1</b>	<b>BOP - Air Cooled Condenser and Condensate</b>	<b>2 hrs. 35 mins.</b>
GEN01A_1641S_B1_Ch1	Overview	32 minutes
GEN01A_1641S_B1_Ch2	ACC Design and Operation	41 minutes
GEN01A_1641S_B1_Ch3	Air Removal System	46 minutes
GEN01A_1641S_B1_Ch4	Condensate System Design and Operation	36 minutes
<b>GEN01A_1644S_B1</b>	<b>Electrical Distribution</b>	<b>14 minutes</b>
GEN01A_1644S_B1_Ch1	Overview	14 minutes
GEN01A_1644S_B1_Ch2	High Voltage 13.8kV and Above	N/C
GEN01A_1644S_B1_Ch3	6900V Electrical System	N/C
GEN01A_1644S_B1_Ch4	480V Electrical System	N/C
GEN01A_1644S_B1_Ch5	DC and UPS Systems	N/C
<b>GEN01A_1645S_B1</b>	<b>Teledyne Continuous Emission Monitoring System</b>	<b>2 hrs. 35 mins.</b>
GEN01A_1645S_B1_Ch1	Overview	20 minutes
GEN01A_1645S_B1_Ch2	Sample Conditioning Components	40 minutes
GEN01A_1645S_B1_Ch3	Flue Gas Analyzer Operation	41 minutes
GEN01A_1645S_B1_Ch4	Maintenance	54 minutes
<b>GEN01A_1660S_B1</b>	<b>Makeup Water Treatment System</b>	<b>1 hrs. 20 mins.</b>
GEN01A_1660S_B1_Ch1	Overview	10 minutes
GEN01A_1660S_B1_Ch2	RO Flowpaths	26 minutes
GEN01A_1660S_B1_Ch3	EDI Modules and Vessels	16 minutes
GEN01A_1660S_B1_Ch4	Operation	28 minutes



Course #	Course Title	Duration
<b>Conventional Boiler Fundamentals</b>		<b>10 hrs. 56 mins.</b>
<b>CBF00A_0101S_B1</b>	<b>Conventional Boiler Fundamentals Overview</b>	<b>7 minutes</b>
CBF00A_0101S_B1_Ch1	Overview	7 minutes
<b>CBF00A_0301S_B1</b>	<b>Boiler Fundamentals</b>	<b>2 hrs. 46 mins.</b>
CBF00A_0301S_B1_Ch1	Overview	21 minutes
CBF00A_0301S_B1_Ch2	Feedwater and Steam Flow	27 minutes
CBF00A_0301S_B1_Ch3	Water Properties	33 minutes
CBF00A_0301S_B1_Ch4	Fuel	19 minutes
CBF00A_0301S_B1_Ch5	Primary and Secondary Air	13 minutes
CBF00A_0301S_B1_Ch6	Burners	29 minutes
CBF00A_0301S_B1_Ch7	Combustion	14 minutes
CBF00A_0301S_B1_Ch8	Gas-Fired Boiler	10 minutes
<b>CBF00A_0401S_B1</b>	<b>Flue Gas Fundamentals</b>	<b>1 hr. 7 mins.</b>
CBF00A_0401S_B1_Ch1	Overview	7 minutes
CBF00A_0401S_B1_Ch2	Electrostatic Precipitators	16 minutes
CBF00A_0401S_B1_Ch3	Baghouses	15 minutes
CBF00A_0401S_B1_Ch4	Flue Gas Desulfurization	17 minutes
CBF00A_0401S_B1_Ch5	Mercury Removal	12 minutes
<b>CBF00A_0501S_B1</b>	<b>Steam Turbine Fundamentals</b>	<b>1 hr. 57 mins.</b>
CBF00A_0501S_B1_Ch1	Overview	10 minutes
CBF00A_0501S_B1_Ch2	Design	28 minutes
CBF00A_0501S_B1_Ch3	Auxiliary Systems	30 minutes
CBF00A_0501S_B1_Ch4	Condenser	20 minutes
CBF00A_0501S_B1_Ch5	Operation/Expansion	29 minutes
<b>CBF00A_0601S_B1</b>	<b>Generator Fundamentals</b>	<b>1 hr. 50 mins.</b>
CBF00A_0601S_B1_Ch1	Overview	8 minutes
CBF00A_0601S_B1_Ch2	Design	14 minutes
CBF00A_0601S_B1_Ch3	Auxiliaries	21 minutes
CBF00A_0601S_B1_Ch4	Energizing	15 minutes
CBF00A_0601S_B1_Ch5	MW and MVAR	14 minutes
CBF00A_0601S_B1_Ch6	Load Control	12 minutes
CBF00A_0601S_B1_Ch7	Fault Protection	26 minutes

## Course Catalog: Legacy Boiler Fundamentals (continued)

---

Course #	Course Title	Duration
<b>CBF00A_0701S_B1</b>	<b>Plant Operation Fundamentals</b>	<b>3 hrs. 9 mins.</b>
CBF00A_0701S_B1_Ch1	Overview	14 minutes
CBF00A_0701S_B1_Ch2	Water Treatment	16 minutes
CBF00A_0701S_B1_Ch3	Condensate/Feedwater	18 minutes
CBF00A_0701S_B1_Ch4	Cooling Towers	24 minutes
CBF00A_0701S_B1_Ch5	Heat Rate	19 minutes
CBF00A_0701S_B1_Ch6	Boiler Efficiency	19 minutes
CBF00A_0701S_B1_Ch7	Boiler Control	9 minutes
CBF00A_0701S_B1_Ch8	CEMS	31 minutes
CBF00A_0701S_B1_Ch9	Ash	21 minutes
CBF00A_0701S_B1_Ch10	Electrical	18 minutes



# Course Catalog: Coal Fired Plants

Course #	Course Title	Duration
<b>Coal Plant 1 - Two Supercritical B&amp;W Boiler Units, Two GE Cross-Compound 750MW Steam Turbines, Baghouse, FGD System, Lime Slaking</b>		<b>18 hrs. 24 mins.</b>
<b>GEN02A_0101S_B1</b>	<b>Plant Overview</b>	<b>1 hr. 57 mins.</b>
GEN02A_0101S_B1_Ch1	Site Overview	9 minutes
GEN02A_0101S_B1_Ch2	Pulverizer Overview	In Progress
GEN02A_0101S_B1_Ch3	Hydrogen Cooled Generator Overview	12 minutes
GEN02A_0101S_B1_Ch4	Lube Oil System Overview	13 minutes
GEN02A_0101S_B1_Ch5	ST Differential Expansion Overview	13 minutes
GEN02A_0101S_B1_Ch6	Furnance Overview	8 minutes
GEN02A_0101S_B1_Ch7	Rotary Screw Air Compressor Overview	11 minutes
GEN02A_0101S_B1_Ch8	Baghouse Overview	9 minutes
GEN02A_0101S_B1_Ch9	Absorber Overview	12 minutes
GEN02A_0101S_B1_Ch10	Lime Slurry System Overview	14 minutes
GEN02A_0101S_B1_Ch11	CEMS Overview	6 minutes
GEN02A_0101S_B1_Ch12	MagneBlast 4160V Breaker Overview	10 minutes
<b>GEN02A_0110S_B1</b>	<b>Pulverizer</b>	<b>28 minutes</b>
GEN02A_0110S_B1_Ch1	Pulverizer Overview	In Progress
GEN02A_0110S_B1_Ch2	Pulverizer Feed	6 minutes
GEN02A_0110S_B1_Ch3	Pulverizer Operation	22 minutes
<b>GEN02A_0111S_B1</b>	<b>Hydrogen Cooled Generator</b>	<b>1 hr. 50 mins.</b>
GEN02A_0111S_B1_Ch1	Overview	15 minutes
GEN02A_0111S_B1_Ch2	Stator	24 minutes
GEN02A_0111S_B1_Ch3	Rotor	24 minutes
GEN02A_0111S_B1_Ch4	Power Generation	26 minutes
GEN02A_0111S_B1_Ch5	Reactive Power	21 minutes
<b>GEN02A_0112S_B1</b>	<b>Lube Oil System</b>	<b>55 minutes</b>
GEN02A_0112S_B1_Ch1	Overview	13 minutes
GEN02A_0112S_B1_Ch2	Component Operations	30 minutes
GEN02A_0112S_B1_Ch3	Cooler Transfer	12 minutes
<b>GEN02A_0113S_B1</b>	<b>Steam Turbine Differential Expansion</b>	<b>55 minutes</b>
GEN02A_0113S_B1_Ch1	Overview	13 minutes
GEN02A_0113S_B1_Ch2	Expansion	12 minutes
GEN02A_0113S_B1_Ch3	Start Blocks to FSNL	20 minutes
GEN02A_0113S_B1_Ch4	Start and Loading	10 minutes



## Course Catalog: Coal Fired Plants (continued)

Course #	Course Title	Duration
<b>GEN02A_0120S_B1</b>	<b>Furnace</b>	<b>1 hr. 15 mins.</b>
GEN02A_0120S_B1_Ch1	Overview	6 minutes
GEN02A_0120S_B1_Ch2	Primary Air System	15 minutes
GEN02A_0120S_B1_Ch3	Secondary Air System	12 minutes
GEN02A_0120S_B1_Ch4	Burners	24 minutes
GEN02A_0120S_B1_Ch5	Combustion	18 minutes
<b>GEN02A_0124S_B1</b>	<b>Rotary Screw Air Compressors</b>	<b>40 minutes</b>
GEN02A_0124S_B1_Ch1	Overview	11 minutes
GEN02A_0124S_B1_Ch2	Air and Oil Systems	15 minutes
GEN02A_0124S_B1_Ch3	Operations	14 minutes
<b>GEN02A_0130_B1</b>	<b>Baghouse</b>	<b>1 hr. 21 mins.</b>
GEN02A_0130S_B1_Ch1	Overview	9 minutes
GEN02A_0130S_B1_Ch2	Baghouse and Air Flows	27 minutes
GEN02A_0130S_B1_Ch3	Cleaning and Bags	18 minutes
GEN02A_0130S_B1_Ch4	Ash Removal System	12 minutes
GEN02A_0130S_B1_Ch5	Opacity Event	15 minutes
<b>GEN02A_0130S_B2</b>	<b>Baghouse</b>	<b>48 mins.</b>
GEN02A_0130S_B2_Ch1	Introduction	5 minutes
GEN02A_0130S_B2_Ch2	Baghouse System	20 minutes
GEN02A_0130S_B2_Ch3	Baghouse Component	23 minutes
<b>GEN02A_0130S_B3</b>	<b>Baghouse</b>	<b>33 mins.</b>
GEN02A_0130S_B3_Ch1	Introduction	5 minutes
GEN02A_0130S_B3_Ch2	Baghouse Start	28 minutes
<b>GEN02A_0140S_B1</b>	<b>Absorber</b>	<b>55 Minutes</b>
GEN02A_0140S_B1_Ch1	Overview	12 minutes
GEN02A_0140S_B1_Ch2	Absorber Operation	16 minutes
GEN02A_0140S_B1_Ch3	Chemical Reactions in the Absorbers	27 minutes
<b>GEN02A_0140S_B3</b>	<b>Absorber</b>	<b>1 hr. 10 mins.</b>
GEN02A_0140S_B3_Ch1	Introduction	5 minutes
GEN02A_0140S_B3_Ch2	Startup	1 hr. 5 mins.
<b>GEN02A_0141S_B1</b>	<b>Absorber</b>	<b>14 minutes</b>
GEN02A_0141S_B1_Ch1	Lime Slurry System Overview	14 minutes
<b>GEN02A_0141S_B2</b>	<b>Lime and Absorber</b>	<b>1 hr. 58 mins.</b>
GEN02A_0141S_B2_Ch1	Introduction	5 minutes
GEN02A_0141S_B2_Ch2	Absorber Group Familiarization	23 minutes
GEN02A_0141S_B2_Ch3	Lime Slaking Group Familiarization	40 minutes
GEN02A_0141S_B2_Ch4	Process Liquor Group Familiarization	27 minutes
GEN02A_0141S_B2_Ch5	Thickener Group Familiarization	23 minutes

## Course Catalog: Coal Fired Plants (continued)

Course #	Course Title	Duration
<b>GEN02A_0141S_B3</b>	<b>Lime and Absorber</b>	<b>2 hrs. 6 mins.</b>
GEN02A_0141S_B3_Ch1	Introduction	5 minutes
GEN02A_0141S_B3_Ch2	Lime Slaking System/Electrical and Slurry Transfer	21 minutes
GEN02A_0141S_B3_Ch3	Lime Slaking System/Grit Strainer	19 minutes
GEN02A_0141S_B3_Ch4	Lime Slaking System/Grit Conveyor and Scrubbers	25 minutes
GEN02A_0141S_B3_Ch5	Lime Slaking System/Classifier	17 minutes
GEN02A_0141S_B3_Ch6	Lime Slaking System/Slaker	16 minutes
GEN02A_0141S_B3_Ch7	Lime Slaking System/Feeders and Conveyors	23 minutes
<b>GEN02A_0142S_B1</b>	<b>CEMS</b>	<b>40 minutes</b>
GEN02A_0142S_B1_Ch1	Overview	6 minutes
GEN02A_0142S_B1_Ch2	Hardware	12 minutes
GEN02A_0142S_B1_Ch3	Emissions	22 minutes
<b>GEN02A_0144S_B1</b>	<b>MagneBlast 4160V Breaker</b>	<b>39 minutes</b>
GEN02A_0144S_B1_Ch1	Overview	10 minutes
GEN02A_0144S_B1_Ch2	Circuit Breaker Operation	29 minutes

## Course Catalog: Coal Fired Plants (continued)

Course #	Course Title	Duration
<b>Coal Plant 2 - Two Subcritical C-E Boilers, Two GE Tandem-Compound 800MW Steam Turbines, Condensate and Feedwater, Mercury Removal, Circulating Water, Natural-Draft Cooling Towers</b>		<b>11 hrs. 46 mins.</b>
<b>GEN02A_0201S_B1</b>	<b>Site Overview</b>	<b>1 hr. 46 mins</b>
GEN02A_0201S_B1_Ch1	Site Overview	18 minutes
GEN02A_0201S_B1_Ch2	Steam Turbine Overview	21 minutes
GEN02A_0201S_B1_Ch3	Boiler Overview	22 minutes
GEN02A_0201S_B1_Ch4	Condensate and Feedwater System Overview	7 minutes
GEN02A_0201S_B1_Ch5	Mercury Removal System Overview	11 minutes
GEN02A_0201S_B1_Ch6	Circulating Water System Overview	10 minutes
GEN02A_0201S_B1_Ch7	Water Treatment System Overview	17 minutes
<b>GEN02A_0210S_B1</b>	<b>4-Cylinder Tandem-Compound Reheat Steam Turbine</b>	<b>2 hrs. 4 mins.</b>
GEN02A_0210S_B1_Ch1	Overview	21 minutes
GEN02A_0210S_B1_Ch2	Gland Seal System	18 minutes
GEN02A_0210S_B1_Ch3	Lube Oil System	23 minutes
GEN02A_0210S_B1_Ch4	EHC System	10 minutes
GEN02A_0210S_B1_Ch5	Generator Overview	10 minutes
GEN02A_0210S_B1_Ch6	Seal Oil System	29 minutes
GEN02A_0210S_B1_Ch7	Generator Gas System	13 minutes
<b>GEN02A_0220S_B1</b>	<b>Boiler</b>	<b>2 hrs. 50 mins.</b>
GEN02A_0220S_B1_Ch1	Overview	22 minutes
GEN02A_0220S_B1_Ch2	Feedwater Flow	14 minutes
GEN02A_0220S_B1_Ch3	Steam Flow	16 minutes
GEN02A_0220S_B1_Ch4	Primary Air	17 minutes
GEN02A_0220S_B1_Ch5	Secondary Air	21 minutes
GEN02A_0220S_B1_Ch6	Burners	17 minutes
GEN02A_0220S_B1_Ch7	Combustion	19 minutes
GEN02A_0220S_B1_Ch8	Bottom Ash System	29 minutes
GEN02A_0220S_B1_Ch9	Fly Ash Removal System	15 minutes
<b>GEN02A_0222S_B1</b>	<b>Condensate and Feedwater Systems</b>	<b>1 hr. 10 mins.</b>
GEN02A_0222S_B1_Ch1	Overview	7 minutes
GEN02A_0222S_B1_Ch2	Condenser Water Side	17 minutes
GEN02A_0222S_B1_Ch3	Condenser Steam Side	11 minutes
GEN02A_0222S_B1_Ch4	Condensate System	23 minutes
GEN02A_0222S_B1_Ch5	Feedwater System	12 minutes
<b>GEN02A_0232S_B1</b>	<b>Mercury Removal</b>	<b>51 Minutes</b>
GEN02A_0232S_B1_Ch1	Overview	11 minutes
GEN02A_0232S_B1_Ch2	Calcium Halide Injection	19 minutes
GEN02A_0232S_B1_Ch3	Activated Carbon Injection	21 minutes

## Course Catalog: Coal Fired Plants (continued)

Course #	Course Title	Duration
<b>GEN02A_0242S_B1</b>	<b>Circulating Water System</b>	<b>1 hr. 6 mins.</b>
GEN02A_0242S_B1_Ch1	Overview	10 minutes
GEN02A_0242S_B1_Ch2	Circulation Pumps and System Flow	11 minutes
GEN02A_0242S_B1_Ch3	Cooling Towers	22 minutes
GEN02A_0242S_B1_Ch4	Cooling Tower Chemistry	23 minutes
<b>GEN02A_0261S_B1</b>	<b>Water Treatment</b>	<b>1 hr. 59 mins.</b>
GEN02A_0261S_B1_Ch1	Overview	17 minutes
GEN02A_0261S_B1_Ch2	Carbon Filters	24 minutes
GEN02A_0261S_B1_Ch3	Cation System	20 minutes
GEN02A_0261S_B1_Ch4	Anion System	21 minutes
GEN02A_0261S_B1_Ch5	Mixed Bed Vessels	26 minutes
GEN02A_0261S_B1_Ch6	Deionized Neutralization System	11 minutes
<b>Coal Plant 4 - Coal-fired, dual 800MW subcritical boiler power plant that includes a pollution mitigation air quality control system consisting of dry electrostatic precipitators, lime injection, wet flue gas desulfurization, and a wet electrostatic precipitator.</b>		<b>1 hrs. 51 mins.</b>
<b>GEN02A_0435S_B1</b>	<b>DESP</b>	<b>1 hr. 24 mins</b>
GEN02A_0435S_B1_Ch1	Dry Electrostatic Precipitators	53 minutes
GEN02A_0435S_B1_Ch2	DESP Fly Ash System	31 minutes
<b>GEN02A_0436S_B1</b>	<b>Induced Draft Fans</b>	<b>27 minutes</b>
GEN02A_0436S_B1_Ch4	Induced Draft Fan Operation	27 minutes



# Course Catalog: Ammonia Plants

Course #	Course Title	Duration
<b>Ammonia Plant 1 - 1,500 tons per day Ammonia Plant</b>		<b>3 hrs. 37 min.</b>
<b>GEN03A_0101_B1</b>	<b>Reformer Process Overview</b>	<b>1 hr. 15 mins.</b>
GEN03A_0101_B1_Ch1	Reformer Overview	15 minutes
GEN03A_0101_B1_Ch2	Natural Gas Supply	15 minutes
GEN03A_0101_B1_Ch3	Steam Supply	9 minutes
GEN03A_0101_B1_Ch4	Combustion Air and Draft System	18 minutes
GEN03A_0101_B1_Ch5	Primary Reformer	18 minutes
GEN03A_0101_B1_Ch6	Secondary Reformer	19 minutes
<b>GEN03A_0101_B2</b>	<b>Primary Reformer Control Screen Familiarization</b>	<b>1 hr. 45 min.</b>
GEN03A_0101_B2_Ch1	General Equipment	20 minutes
GEN03A_0101_B2_Ch2	Natural Gas	15 minutes
GEN03A_0101_B2_Ch3	Primary Reformer	15 minutes
GEN03A_0101_B2_Ch4	Secondary Reformer	25 minutes
GEN03A_0101_B2_Ch5	Radiant Section	30 minutes
<b>GEN03A_0101_B3</b>	<b>Primary Reformer Start</b>	<b>3 hr. 35 min.</b>
GEN03A_0101_B3_Ch1	ID Fan Prestarts	20 minutes
GEN03A_0101_B3_Ch2	ID Fan Roll	20 minutes
GEN03A_0101_B3_Ch3	FD Fan Prestarts	20 minutes
GEN03A_0101_B3_Ch4	FD Fan Preparations	20 minutes
GEN03A_0101_B3_Ch5	FD Fan Roll	15 minutes
GEN03A_0101_B3_Ch6	Reformer Gas Pressure	30 minutes
GEN03A_0101_B3_Ch7	Reformer Box Purge	30 minutes
GEN03A_0101_B3_Ch8	Reformer Burner Fuel Gas Seal Test	20 minutes
GEN03A_0101_B3_Ch9	Reformer Burner Fuel Valve Setup	20 minutes
GEN03A_0101_B3_Ch10	Primary Reformer Burner Lightoff	20 minutes



# Course Catalog: Water Treatment

Course #	Course Title	Duration
<b>Makeup Water Treatment Fundamentals</b>		<b>2 hrs. 3 mins.</b>
<b>GEN09A_0903S_B1</b>	<b>RO Fundamentals</b>	<b>2 hrs. 3 mins.</b>
GEN09A_0903S_B1_Ch1	Introduction to Reverse Osmosis	9 minutes
GEN09A_0903S_B1_Ch2	Osmotic Forces	6 minutes
GEN09A_0903S_B1_Ch3	Hydrostatic Head	6 minutes
GEN09A_0903S_B1_Ch4	Osmotic Pressure	13 minutes
GEN09A_0903S_B1_Ch5	Reversing Osmosis	14 minutes
GEN09A_0903S_B1_Ch6	RO Element Construction	14 minutes
GEN09A_0903S_B1_Ch7	Pressure Vessel Components	12 minutes
GEN09A_0903S_B1_Ch8	RO Flow Considerations	14 minutes
GEN09A_0903S_B1_Ch9	Example of a Typical RO System	8 minutes
GEN09A_0903S_B1_Ch10	System Configurations	27 minutes

## Course Catalog: Makeup Water Treatment (continued)

Course #	Course Title	Duration
<b>Makeup Water Treatment Systems</b>		<b>6 hrs. 41 mins.</b>
<b>GEN09A_0941S_B1</b>	<b>RO System 1</b>	<b>54 mins.</b>
GEN09A_0941S_B1_Ch1	Raw Water Supply	6 minutes
GEN09A_0941S_B1_Ch2	Ultrafilters and Filtrate Buffer Tank	3 minutes
GEN09A_0941S_B1_Ch3	Buffer Tank Supply to RO	3 minutes
GEN09A_0941S_B1_Ch4	Operational Cycle Flowpaths for RO	10 minutes
GEN09A_0941S_B1_Ch5	Degasifier	6 minutes
GEN09A_0941S_B1_Ch6	Permeate Buffer and Storage Tank	6 minutes
GEN09A_0941S_B1_Ch7	Chemical Cleaning	20 minutes
<b>GEN09A_0951S_B1</b>	<b>IX System 1</b>	<b>3 hrs. 51 min.</b>
GEN09A_0951S_B1_Ch1	Cycle Makeup IX Overview	24 minutes
GEN09A_0951S_B1_Ch2	Activate Carbon Filter Service Cycle	27 minutes
GEN09A_0951S_B1_Ch3	Activate Carbon Filter Regeneration	21 minutes
GEN09A_0951S_B1_Ch4	Cation Vessel Service Flow	12 minutes
GEN09A_0951S_B1_Ch5	Cation Exchanger Regeneration	27 minutes
GEN09A_0951S_B1_Ch6	Forced Draft Degasifier	12 minutes
GEN09A_0951S_B1_Ch7	Anion Vessel Service Flow	12 minutes
GEN09A_0951S_B1_Ch8	Anion Exchanger Regeneration	30 minutes
GEN09A_0951S_B1_Ch9	Mixed Bed Exchanger Vessel Service Flow	21 minutes
GEN09A_0951S_B1_Ch10	Mixed Bed Exchanger Regeneration	45 minutes
<b>GEN09A_0952S_B1</b>	<b>IX Industrial System 2</b>	<b>1 hr. 56 mins.</b>
GEN09A_0952S_B1_Ch1	Overview	17 minutes
GEN09A_0952S_B1_Ch2	Activated Carbon Filter Flow	24 minutes
GEN09A_0952S_B1_Ch3	Cation System	18 minutes
GEN09A_0952S_B1_Ch4	Anion System	20 minutes
GEN09A_0952S_B1_Ch5	Mixed Bed Vessels	26 minutes
GEN09A_0952S_B1_Ch6	Deionized Neutralization System	11 minutes

Course #	Course Title	Duration
<b>Maintenance</b>		<b>21 hrs. 2 mins.</b>
<b>GEN08A_010S_B1</b>	<b>Heat Exchangers</b>	<b>1 hr. 34 mins.</b>
GEN08A_010S_B1_Ch1	Overview	6 minutes
GEN08A_010S_B1_Ch2	Plate Heat Exchangers	12 minutes
GEN08A_010S_B1_Ch3	Plate Heat Exchanger Instrumentation	12 minutes
GEN08A_010S_B1_Ch4	Main Condenser Water Side	15 minutes
GEN08A_010S_B1_Ch5	Main Condenser Steam Side	21 minutes
GEN08A_010S_B1_Ch6	Deaerator Overview	19 minutes
GEN08A_010S_B1_Ch7	Shell and Tube Heat Exchanger	9 minutes
<b>GEN08A_012S_B1</b>	<b>Bearings</b>	<b>1 hr. 24 mins.</b>
GEN08A_012S_B1_Ch1	Overview	6 minutes
GEN08A_012S_B1_Ch2	Elliptical Bearing	18 minutes
GEN08A_012S_B1_Ch3	Tilt Pad Journal Bearing	24 minutes
GEN08A_012S_B1_Ch4	Thrust Bearing	21 minutes
GEN08A_012S_B1_Ch5	Bearing Instrumentation	15 minutes
<b>GEN08A_013S_B1</b>	<b>Laser Alignment</b>	<b>1 hr. 30 mins.</b>
GEN08A_013S_B1_Ch1	Overview	6 minutes
GEN08A_013S_B1_Ch2	Soft Foot and Runout	15 minutes
GEN08A_013S_B1_Ch3	Angularity and Offset	9 minutes
GEN08A_013S_B1_Ch4	Vibralign Setup	15 minutes
GEN08A_013S_B1_Ch5	VibraAlign Measure	15 minutes
GEN08A_013S_B1_Ch6	Rotalign Setup	15 minutes
GEN08A_013S_B1_Ch7	Rotalign Measure	15 minutes
<b>GEN08A_014S_B1</b>	<b>7FA Gas Turbine Routine Maintenance</b>	<b>2 hrs. 53 mins.</b>
GEN08A_014S_B1_Ch1	Overview	28 minutes
GEN08A_014S_B1_Ch2	Preventive Maintenance	23 minutes
GEN08A_014S_B1_Ch3	Combustion Inspection Overview	9 minutes
GEN08A_014S_B1_Ch4	Pre-Maintenance Procedures	14 minutes
GEN08A_014S_B1_Ch5	Combustion System Inspection	49 minutes
GEN08A_014S_B1_Ch6	Combustion System Reassembly	50 minutes



## Course Catalog: **Maintenance** (continued)

Course #	Course Title	Duration
<b>GEN08A_015S_B1</b>	<b>7FA Gas Turbine Major Inspections</b>	<b>4 hrs. 35 mins.</b>
GEN08A_015S_B1_Ch1	Overview	12 minutes
GEN08A_015S_B1_Ch2	HGP Clearance Measurements	19 minutes
GEN08A_015S_B1_Ch3	HGP Turbine Casing Removal	29 minutes
GEN08A_015S_B1_Ch4	HGP Concentricity, Rotor Float, and Clearance Checks	16 minutes
GEN08A_015S_B1_Ch5	HGP Component Removal	25 minutes
GEN08A_015S_B1_Ch6	HGP Inspection	41 minutes
GEN08A_015S_B1_Ch7	HGP Turbine Section Assembly	1 hr. 25 minutes
GEN08A_015S_B1_Ch8	HGP Assembly Clearances	10 minutes
GEN08A_015S_B1_Ch9	HGP Combustion Section Assembly	25 minutes
GEN08A_015S_B1_Ch10	HGP External Equipment Assembly and Testing	13 minutes
<b>GEN08A_016S_B1</b>	<b>Boiler Feed Pump</b>	<b>5 hr. 24 mins.</b>
GEN08A_016S_B1_Ch1	Overview	20 minutes
GEN08A_016S_B1_Ch2	Construction	22 minutes
GEN08A_016S_B1_Ch3	Pump Accessories	19 minutes
GEN08A_016S_B1_Ch4	Operation	19 minutes
GEN08A_016S_B1_Ch5	Performance Curves	27 minutes
GEN08A_016S_B1_Ch6	Troubleshooting	46 minutes
GEN08A_016S_B1_Ch7	Bearing Replacement	33 minutes
GEN08A_016S_B1_Ch8	Pump Disassembly	1 hr.
GEN08A_016S_B1_Ch9	Pump Reassembly	1 hr. 18 mins.
<b>GEN08A_017S_B1</b>	<b>Limitorque L120-85 Actuator</b>	<b>1 hr. 40 mins.</b>
GEN08A_017S_B1_Ch1	Overview	12 minutes
GEN08A_017S_B1_Ch2	Actuator Operation	22 minutes
GEN08A_017S_B1_Ch3	Limit Switch Setting	23 minutes
GEN08A_017S_B1_Ch4	Torque Switch Setting	9 minutes
GEN08A_017S_B1_Ch5	Troubleshooting	34 minutes
<b>GEN08A_018S_B1</b>	<b>Boiler Feedwater Pump</b>	<b>2 hrs. 2 mins.</b>
GEN08A_018S_B1_Ch1	Design and Operation	21 minutes
GEN08A_018S_B1_Ch2	Pump Curves	28 minutes
GEN08A_018S_B1_Ch3	Operational Checks and Alarms	31 minutes
GEN08A_018S_B1_Ch4	Maintenance	10 minutes
GEN08A_018S_B1_Ch5	Bearing Replacement	32 minutes