

ETHANOL PLANT OPERATING SERIES

Code No.	Class Title	Occ. Area	Work Area	Prob. Period	Last Action	Effective Date
4401	Ethanol Plant Operating Technician	02	503	6 mo.	New	04/15/09
4402	Ethanol Plant Operating Coordinator	02	503	6 mo.	New	04/15/09

Promotional Line: 88

Series Narrative

Employees in this series are responsible for the operation, maintenance, and monitoring of equipment and associated control mechanisms of an ethanol plant. They assist in operating and troubleshooting mechanical control systems, utility equipment, and other laboratory research mechanical components commonly associated with various fermentation, distillation, dehydration, and grain handling processes in these facilities. They work closely with clients to maintain specified research protocols within a strict business confidentiality environment.

DESCRIPTIONS OF LEVELS OF WORK

Level I: Ethanol Plant Operating Technician

4401

Employees at this level of the series perform process sampling, data collection, sample analysis, equipment preparation, operation of process analyzers, housekeeping, chemical handling, grain transfer system operations. Employees at this level also maintain, repair, and upgrade equipment and systems in a pilot ethanol plant.

An Ethanol Plant Operating Technician typically -

1. assists in collecting and recording research data and obtains samples from various stages of the operating process
2. assists in ensuring analytical laboratory samples are obtained from proper sources at appropriate time intervals
3. inspects, prepares, starts-up, operates, and shuts down machinery and equipment using research protocols and standardized operating procedures
4. monitors and controls special processing streams, waste streams, and client confidential products according to customer's directions
5. disassembles, inspects, cleans, and repairs operating equipment and machinery following pilot plant operating trials
6. monitors inventories of raw materials, plant process rates, production efficiencies, and product output
7. adjusts chemical controls and monitors power and gas usage rates to ensure efficient utility supplies
8. completes other duties as assigned

Level II: Ethanol Plant Operating Coordinator

4402

Employees at this level of the series train, lead and/or operate and troubleshoot processing and utility systems associated with the operation of a pilot ethanol plant. Primary responsibilities include safety training, process sampling, data collection, sample analysis, equipment preparation, operation of process analyzers, housekeeping, chemical handling, grain transfer system operations, and the maintenance, repair, and upgrade of all equipment and systems in the pilot plant.

An Ethanol Plant Operating Coordinator typically -

1. conducts tests and measurements of quantities and qualities of process materials
2. reviews laboratory analytical test results and provides direction to staff to make necessary changes to process controls, equipment, and machinery
3. works with research engineering assistants to ensure plant process systems are prepared or modified to accommodate specified operating conditions
4. ensures that specialized feedstock is handled and maintained according to client protocols
5. maintains records of client materials for their reporting to regulatory agencies
6. operates in-plant analytical devices, completes recordkeeping logs, maintains operation log book, operates and records data from on-line plant research measuring devices, and corrects deficiencies in process deviations
7. maintains regulatory compliance data and logs and ensures safety policies are followed by all employees
8. conducts safety meetings with personnel, addressing specific safety concerns of research protocols
9. directs employees to ensure operating equipment is properly sanitized and conditioned
10. samples and documents cooling water, boiler feed water, and sanitation fluids, and conducts analytical tests to ensure proper treatment levels are maintained
11. provides leadership for special projects assigned by research engineering assistant or plant manager
12. performs other duties consistent with the lower level of this series
12. completes other duties as assigned

MINIMUM ACCEPTABLE QUALIFICATIONS REQUIRED FOR ENTRY INTO:

Level I: Ethanol Plant Operating Technician

4401

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High School Graduation or equivalent
2. Any combination totaling two years (24 months) from the following categories
 - (a) work experience in renewable fuels, chemicals, refining, brewing or research plant operations, which includes experience in grain handling operations, fermentation/distillation/dehydration processes, utility operations, and related laboratory techniques associated with plant operations.

OR

(b) college coursework as measured by the following conversion table or its proportional equivalent

- 30 semester hours in Process Operations Technology (or related program) equal 1 year (12 months)
- 60 semester hours or an Associate Degree in Process Operations Technology (or related program) equals 2 years (24 months)

OR

- 90 semester hours of coursework in mechanical or industrial engineering

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance
2. Safety and Security - Knowledge of relevant equipment, policies, procedures
3. Operation and Control - Controlling operations of equipment or systems
4. Equipment Maintenance - Performing routine maintenance on equipment and troubleshooting
5. Basic knowledge of chemical composition, structure, and properties of substances and chemical processes related to the process industry
6. Strong oral and written communication skills

Level II: Ethanol Plant Operating Coordinator

4402

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High School Graduation or equivalent
2. Any combination totaling three years (36 months) from the following categories
 - (a) work experience in renewable fuels, chemicals, refining, brewing or research plant operations, which includes experience in grain handling operations, fermentation/distillation/dehydration processes, utility operations, and related laboratory techniques associated with plant operations.
 - (b) college coursework as measured by the following conversion table or its proportional equivalent
 - 60 semester hours or Associate Degree in Process Operations Technology (or related program) equals two years (24 months)
 - 90 semester hours in Process Operations Technology (or related program) equals three years (36 months)

OR

- 120 semester hours or a Bachelor Degree in mechanical or industrial engineering.

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance
2. Safety and Security - Knowledge of relevant equipment, policies, procedures
3. Basic knowledge of chemical composition, structure, and properties of substances and chemical processes related to the process industry
4. Operation and Control - Controlling operations of equipment or systems
5. Equipment Maintenance - Performing routine maintenance on equipment and troubleshooting
6. Strong oral and written communication skills
7. Supervision/Training - Scheduling activities, as well as the work of others, developing specific goals and plans to prioritize, organize, work. Conduct on-the-job training.