

STS-Petrochemical Blueprint and Examination Specification

Task 1 (11.4%)

Conduct job safety analyses by performing pre-task hazard analyses, and by evaluating personal protective equipment, tools, equipment, and job expectations in order to identify potential hazards and reduce the risk of incident or injury.

Knowledge	Skills
<ol style="list-style-type: none"> Hazards (e.g., biological, chemical, physical, ergonomic) related to work process, equipment, and tool needed Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) Limitations of personal protective equipment Requirements for the selection of personal protective equipment Principles and applications of hazard control Safety resources (e.g., material safety data sheets, key personnel, experts) Documentation of job safety analyses and procedures derived from the analyses Basic mathematics 	<ol style="list-style-type: none"> Recognizing hazards and mitigating exposure Facilitating job safety analyses (identifying job steps) Communicating the purpose and effectiveness of job safety analyses Selecting, using, and maintaining personal protective equipment Using safety resources Using basic mathematical formulas

Task 2 (6.7%)

Verify that equipment and the facility are inspected in accordance with requirements in order to reduce the risk of loss.

Knowledge	Skills
<ol style="list-style-type: none"> Safety, health, and environmental management systems Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) Process safety management requirements Organizational policies and procedures Manufacturers' requirements 	<ol style="list-style-type: none"> Surveying the worksite Reviewing documentation (e.g., logbooks, tags)

Task 3 (10.7%)

Enforce safety, health, and environmental rules and regulations within the work group by coaching and correcting observed deficiencies or by taking appropriate disciplinary action in order to reduce the risk of incident or injury.

Knowledge	Skills
<ol style="list-style-type: none"> Hazards (e.g., biological, chemical, physical, ergonomic) related to work process, equipment, and tools needed Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) Coaching techniques Conflict resolution techniques Appropriate disciplinary policies and procedures Applicable process safety management requirements Specific topics: confined space entry, hot work permitting, energy isolation, excavation, crane operations, hoists and rigging, fall protection, hazardous waste operations and emergency response (HAZWOPER), personal protective equipment, handling compressed gases, atmospheric monitoring/gas testing, regulated hazardous materials, hazardous waste handling, hearing conservation, ionizing radiation safety 	<ol style="list-style-type: none"> Recognizing hazards and mitigating exposure Coaching safe behaviors Keeping records Taking appropriate action when observing possible alcohol and other drug abuse at the work place

Task 4 (8.4%)

Take appropriate action when confronted with problems by exercising stop-work authority, modifying tasks, elevating issues, consulting with qualified professionals (when the matter is outside the scope of the supervisor's capabilities), etc., in order to maintain a safe and healthful work environment.

Knowledge	Skills
<ol style="list-style-type: none"> Hazards (e.g., biological, chemical, physical, ergonomic) related to work process, equipment, and tools needed Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) Organizational structure for the organization (e.g., hierarchy, chain of command) Organizational policies and procedures Principles and applications of hazard control Basic principles of risk assessment 	<ol style="list-style-type: none"> Exercising leadership Making decisions Communicating to employees effectively Analyzing Resolving conflicts Recognizing and evaluating high risk problems

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<p>Task 5 (11.0%) Facilitate a positive, proactive safety culture by anticipating hazards, modeling and coaching safe behavior, promoting incident reporting, supporting employee participation, and communicating performance measures in order to enhance safety and health.</p>	
<p>Knowledge</p> <ol style="list-style-type: none"> Hazards (e.g., biological, chemical, physical, ergonomic) related to work process, equipment, and tools needed Characteristics of proactive safety cultures and reactive safety cultures Industry-accepted performance measures (e.g., incidence rates) Conflict resolution techniques Principles and applications of hazard control (e.g., energy isolation, permitting) Facilitation and safety communication strategies Purpose and organization of safety meetings Organizational management of change procedures 	<p>Skills</p> <ol style="list-style-type: none"> Distinguishing types of safety cultures Coaching safe behaviors Using observation to identify unsafe behaviors Using open, clear, and interactive communication Resolving conflicts Using facilitation skills Leading safety meetings Communicating management of change procedures
<p>Task 6 (6.4%) Verify that work group employees are capable of performing work safely by reviewing their training records and job-specific qualifications in order to ensure competent staff.</p>	
<p>Knowledge</p> <ol style="list-style-type: none"> Hazards (e.g., biological, chemical, physical, ergonomic) related to work process, equipment, and tools needed Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) Training and qualifications necessary for specific jobs and/or tasks Organizational record keeping systems Evidence of required training (e.g., DOT operator qualifications, hazardous waste operations and emergency response (HAZWOPER), confined spaces, process safety management operator qualifications, welding, crane operation) Key personnel who are authorized to sign/issue permits 	<p>Skills</p> <ol style="list-style-type: none"> Assessing training needs based on requirements and hazards Making decisions Keeping records
<p>Task 7 (8.8%) Ensure that new personnel in the work area are oriented to safety, health, and environmental considerations by communicating potential and existing hazards and monitoring behavior in order to make sure that applicable rules and emergency action plans are understood.</p>	
<p>Knowledge</p> <ol style="list-style-type: none"> Hazards (e.g., biological, chemical, physical, ergonomic) related to work process, equipment, and tools needed Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) Emergency action plans and procedures Specific topics: confined space entry, hot work permitting, energy isolation, excavation, crane operations, hoists and rigging, fall protection, hazardous waste operations and emergency response (HAZWOPER), personal protective equipment, handling compressed gases, atmospheric monitoring/gas testing, regulated hazardous materials, hazardous waste handling, hearing conservation, ionizing radiation safety 	<p>Skills</p> <ol style="list-style-type: none"> Using observation to identify unsafe behaviors Using open, clear, and interactive communication

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<p>Task 8 (6.0%)</p> <p>Apply safety, health, and environmental-related record keeping as required by organizational policy and regulations using established procedures to document essential processes.</p>	
<p>Knowledge</p> <ol style="list-style-type: none"> 1. Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) 2. Security and confidentiality requirements of record keeping processes 3. Ethical considerations concerning the accuracy of information, conflict of interests, etc. 4. Injury management/workers' compensation (working knowledge) 5. Specific process safety management record keeping requirements: process hazard analyses, process safety information, management of change, pre-start-up safety reviews, training, operations procedure verification, process hazard analysis revalidation, site access control 	<p>Skills</p> <ol style="list-style-type: none"> 1. Resolving ethical conflicts related to record keeping 2. Keeping records
<p>Task 9 (6.2%)</p> <p>Participate in employee evaluations by including safety, health, and environmental performance as a key criterion in order to hold employees accountable for safety.</p>	
<p>Knowledge</p> <ol style="list-style-type: none"> 1. Strategies for evaluating safety behavior, participation in safety culture, etc. 2. Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) 3. Observation techniques 4. Organizational safety performance measures for employees 5. Techniques for safety performance recognition and reward or correction 6. Specific topics: confined space entry, hot work permitting, energy isolation, excavation, crane operations, hoists and rigging, fall protection, hazardous waste operations and emergency response (HAZWOPER), personal protective equipment, handling compressed gases, atmospheric monitoring/gas testing, regulated hazardous materials, hazardous waste handling, hearing conservation, ionizing radiation safety 	<p>Skills</p> <ol style="list-style-type: none"> 1. Using observation to identify unsafe behaviors 2. Coaching safe behaviors 3. Communicating to employees effectively 4. Listening to concerns and suggestions 5. Implementing organizational and regulatory requirements 6. Implementing organizational performance measurement procedures 7. Comparing safety, health, and environmental performance to applicable standards 8. Evaluating employee performance regarding confined space entry, hot work permitting, energy isolation, excavation, crane operations, hoists and rigging, fall protection, hazardous waste operations and emergency response (HAZWOPER), personal protective equipment, handling compressed gases, atmospheric monitoring/gas testing, regulated hazardous materials, hazardous waste handling, hearing conservation, and ionizing radiation safety
<p>Task 10 (7.9%)</p> <p>Participate in investigations that determine causes, identify corrective actions, and document lessons learned using recognized investigation techniques in order to reduce the risk of workplace incidents and address employee concerns.</p>	
<p>Knowledge</p> <ol style="list-style-type: none"> 1. Purpose and principles of accident/incident investigations 2. Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) 3. Investigation techniques 4. Organizational record keeping systems 5. Principles and applications of hazard control 6. Lessons learned from incidents at the worksites 7. Organizational policies regarding communication with external entities 8. Ethical considerations concerning sources of data, accuracy of data, preservation of evidence, application of investigation techniques, reporting, etc. 9. Process safety management incident investigation requirements (e.g., timeliness, investigation team make up) 	<p>Skills</p> <ol style="list-style-type: none"> 1. Selecting correct investigation techniques 2. Accessing lessons learned at the worksite and in the industry 3. Applying investigation techniques correctly 4. Analyzing and protecting evidence 5. Communicating results 6. Resolving ethical conflicts 7. Applying requirements for confined space entry, hot work permitting, energy isolation, excavation, crane operations, hoists and rigging, fall protection, hazardous waste operations and emergency response (HAZWOPER), personal protective equipment, handling compressed gases, atmospheric monitoring/gas testing, regulated hazardous materials, hazardous waste handling, hearing conservation, and ionizing radiation safety
<p>Task 11 (8.1%)</p> <p>Implement emergency action plans in accordance with the nature of incidents in order to minimize potential losses.</p>	
<p>Knowledge</p> <ol style="list-style-type: none"> 1. Emergency action plans 2. Safety, health, and environmental requirements relevant to the work performed (e.g., regulations, consensus standards, best practices) 3. Emergency procedures 4. Terminology used in emergency action plans 5. Techniques for implementing exercises 6. Organizational record keeping requirements 	<p>Skills</p> <ol style="list-style-type: none"> 1. Recognizing the nature and severity of incidents 2. Determining actions needed 3. Communicating to employees effectively 4. Executing the emergency action plan 5. Facilitating post exercise/incident evaluations 6. Keeping records

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Task 12 (8.3%)	
Interact with other work group supervisors using timely communication to coordinate operations and work processes and to minimize risk.	
Knowledge	Skills
<ol style="list-style-type: none">1. Hazards (e.g., biological, chemical, physical, ergonomic) related to work process, equipment, and tools needed2. Leadership techniques3. Facilitation techniques4. Effective communication techniques (e.g., among shifts, simultaneous work groups, different levels of the hierarchy within the organization)5. Principles and applications of hazard control6. Organizational policies and procedures7. Organizational record keeping requirements8. Specific process safety management contractor requirements	<ol style="list-style-type: none">1. Recognizing hazards and mitigating exposure2. Making decisions3. Using techniques for minimizing risk4. Using open, clear, and interactive communication