

Primary PSM Inspection Priority List #4

Effective Date: June 19, 2008				
#	Inspection Priority Item	Yes, No, N/A	Possible Violations [1910.119...]	Comments
1	<p>Does the PSI include definable criteria (acceptable limits) for continued service/removal from service criteria for rotating equipment (pumps, compressors and turbines)?</p> <p><i>Compliance Guidance: To determine if the PSI includes information on definable criteria (acceptable limits) for continued service/removal from service criteria for rotating equipment, evaluate the employer's mechanical integrity program procedures, manufacturers' recommendations, and other pertinent PSI for rotating equipment.</i></p>		(d) (d)(3)(ii)	
2	<p>Does the employer operate the selected rotating equipment (pumps, compressors and turbines) beyond its acceptable limits for continued service?</p> <p><i>Compliance Guidance: 1) Request that the employer provide a list of the product pump(s), compressor(s) and turbines which are located in or feed directly into and out of the Selected Unit(s); 2) from the list of product pump(s), compressor(s) or turbines, randomly select the inspection and testing records for a total of five of the product pumps, compressors and turbines (e.g., 3 pumps, 1 compressor and 1 turbine) in the Selected Unit(s); 3) Interview board operators and review operating data to determine if the selected rotating equipment has been operated outside its acceptable limits.</i></p>		(j)(2) (j)(5)	
3	<p>For the six pressure vessels selected to be evaluated per X.E.3.aa., does the employer have each of these pressure vessel's form U-1 manufacturer's data report (PSI)?</p> <p><i>Compliance Guidance: "Form U-1 Manufacturer's Data Report For Pressure Vessels" is required by provisions of the ASME Code Rules, Section VIII, Division 1 (Code) for pressure vessels.</i></p> <p><i>The manufacturer's records (e.g. U-1 Data</i></p>		(d) (d)(3)(ii)&(iii) (j)6(i)& (ii), (i)(2)(i)	

	<p>Report), nameplates and stamping serves a safety management and hazard control function and is part of the quality control system for construction of a Code vessel. The Code records assure employers that they are using pressure vessels that have been constructed to a nationally recognized consensus standard/good engineering practice. Without the quality control system required by the Code through its specifications for nameplates, records, and stamping, employers cannot determine if they have pressure vessels which have been constructed to a recognized standard, and they cannot assure that their vessels are safe to operate.</p>			
<p>4</p>	<p>For the six pressure vessels selected to be evaluated per X.E.3.aa., if any of these vessels have been repaired, or altered, does the employer have each of the repaired pressure vessel's R-1 (Report of Welded Repair) or R-2 (Report of Alteration) form(s) or their equivalent documentation (PSI)?</p>		<p>(d)(3)(ii)</p>	
<p>5</p>	<p>Does the PSI include information regarding:</p> <ul style="list-style-type: none"> - gaskets, e.g. composition rating, pressure rating, etc.; - fasteners - size, grade and torque requirements; and - bolt tightening sequencing for flanges, blind flanges and slip blinds? <p><i>Compliance Guidance: Randomly select from different locations in the Selected Unit(s) the following equipment which are being used to contain HHCs:</i></p> <p>1) 5 gaskets;</p> <p>2) 5 fasteners used either for pressure vessels components (e.g. bolted head to shell connections), pressure piping to piping, or pressure vessel to piping connections;</p> <p>and</p> <p>3) 2 flanges, 2 blind flanges, and 2 slip flanges and determine if there is a mechanical integrity program procedure and/or specific procedures which specifies torque requirements and bolt tightening sequencing for these selected flanges.</p>		<p>(d)(1)</p> <p>(d)(3)(i)(A)</p> <p>(d)(3)(i)(F)</p> <p>(d)(3)(ii)</p>	
<p>6</p>	<p>Does the PSI include corrosivity data with respect to chemicals in process and their interaction with the materials of construction for the</p>		<p>(d)(1)(v)</p>	

	equipment in the process?			
7	<p>Does the PHA and emergency planning and response procedures address hazards from an adjacent facility (e.g. nearby unit, facility owned or controlled by a different employer) such as:</p> <ul style="list-style-type: none"> - overpressures from explosions - toxic or flammable vapor clouds and fire - contamination of utilities - Improper feedstocks 		(e)(1); (n)	
8	<p>For employers that keep operating procedures on computer databases, are there written procedures available for operators that may need them in a timely manner, e.g. during emergency operations which may have been initiated by an electrical or computer malfunction - resulting in no access to the computer based procedures?</p>		(f)(2)	
9	<p>Does the PSI for the Selected Unit(s) include an evaluation of the consequence of deviations related to:</p> <ul style="list-style-type: none"> - abnormal process conditions, e.g. high temperature or pressures, pH, too much/little catalyst, crude heater trip, etc. - mechanical failure, e.g. pump or compressor trip, exchanger tube failure, relief valve needing to be taken out-of-service, failure of critical instrumentation, etc. - utility failure, e.g. electrical, inert gas system, instrument air, cooling water, etc. 		(d)(2)(i)(E)	
10	<p>Does the employer's mechanical integrity program procedure include instructions on how to determine corrosion rates?</p> <p>If so, was the subject procedure used for determining the corrosion rates in the 6 pressure vessels randomly selected as per Section X.E.3.aa?</p>		(j)(2);(d)(3)(ii)	
11	<p>Are there written procedures for controlling situations where safety mechanisms (operational controls, interlocks, etc.) might be overridden?</p> <p><i>Compliance Guidance: Request policies and/or procedures for overriding or bypassing equipment at the facility.</i></p>		(f)(1);(j)(2); (d)(2)(i)(E); (f)(1)(ii)(A);(e)(1) (e)(3)(iii); (e)(3)(iv);(l)(1)	
12	If operators and or instrument		(f)(1)	

<p>technicians override or by-pass equipment in the Selected Unit(s), is it done per an established procedure?</p> <p><i>Compliance Guidance: Interview process operators and instrument technicians to determine if equipment related to the Selected Unit(s) is by-passed or overridden.</i></p> <p><i>If operators or instrument technicians do override or by-pass equipment, request the equipment by-pass procedure used by the employer.</i></p>		(j)(2)	
<p>13 Are designated safe havens located in areas which may be subject to the ingress of toxic materials?</p> <p><i>Compliance Guidance: Consider factors such as: the location of fresh air intakes for the safe haven; the location of the safe haven in relation to any over pressure hazards; how the design of the safe haven prevents the ingress of toxic materials, e.g., adequate separation distance, positive pressure ventilation; whether the safe haven includes SCBAs and if so are they properly maintained and is there an adequate number of SCBAs for the number of employees intended to occupy the safe haven when needed; etc.</i></p>		(d)(3)(ii);(e)(1); (e)(3)(i);(e)(3)(iii); (e)(3)(iv); (e)(3)(v); n; 1910.38(a) and 1910.120(q)	
<p>14 Are there adequate detailed procedures developed and implemented for occupying safe havens during emergencies?</p> <p><i>Compliance Guidance: 1) Request the employer's emergency action plan and emergency response plan to determine if it contains procedures for occupying safe havens in or near covered processes during emergencies; and 2) Interview operators to determine if they have occupied a safe haven during an emergency and if they have been trained in emergency procedures with respect to evacuating to and occupying a safe haven structure during an emergency</i></p>		(n), 1910.38(a), 1910.120(q)	
<p>15 Are the assembly areas for employees including contractors located out of harms way?</p> <p>Does the written emergency action plan or emergency response plan specify the location of assembly areas for workers?</p>		(n),1910.38(a), 1910.120(q)	

Secondary PSM Inspection Priority List

Effective Date: June 19, 2008				
#	Inspection Priority Item	Yes, No, N/A	Possible Violations [1910.119....]	Comments
1	<p>Does the process safety information (PSI) for the equipment in the Selected Unit(s) include its electrical classification?</p> <p><i>Compliance Guidance: Randomly identify 15 pieces of electrical equipment in the Selected Unit(s). Request PSI for the identified equipment which indicates its electrical classification.</i></p>		(d)(3)(i)(C)	
2	<p>Is there electrical equipment in the Selected Unit which does not meet the requirements of its electrical classification?</p> <p><i>Compliance Guidance: Request that the employer provide an electrical classification drawing(s) for the Selected Unit(s).</i></p> <p><i>During the walkaround inspection of the Selected Unit(s) observe the 15 pieces of electrical equipment (e.g. lighting, electric pumps, instrumentation, etc.) which were identified in Question 5 (above), using the employer's electrical classification drawing, RAGAGEP for example NFPA 70 - National Electric Code, the employers engineering standards/codes for the installation of electrical equipment, etc., determine if the electrical equipment is approved for its location.</i></p>		(d)(3)(ii),(j)(5) 1910.307	
3	<p>Are there controls in-place for safety systems in the Selected Unit(s) to assure valves which must remain in the open, closed, or other position are in the specified position to ensure these safety systems are operational, (e.g., block valve for a deluge system is car-sealed in the open position to assure flow when the safety system is challenged; an identified safety-critical instrument is prevented from being rendered inoperable by closing a valve; a safety interlock is prevented from being inadvertently taken out of service when a valve is locked in the open position; a reaction shortstop or kill system cannot function because of a closed valve, etc.)?</p>		(f)(1), (d)(3)(ii), (e)(1),(e)(3)(iii), (e)(3)(vi)	

<p><i>Compliance Guidance: Request a list of safety systems in the Selected Unit(s). Using the list of safety systems and the employer's associated P&IDs determine if any of these systems could be rendered inoperable if a valve was in an incorrect position during operations. If this situation exists, determine if adequate controls (e.g. car seals, chains and locks, operating procedures, etc.) are in place to assure the valves are in the correct positions during all phases of operations.</i></p> <p><i>During walkaround(s) of the Selected Unit(s) determine if the valves which could potentially render the safety systems inoperable have been adequately controlled, e.g. an operating procedure addresses the specific situation, a PHA has identified, evaluated and controlled the situation, car-seals when required are in place, etc.</i></p> <p><i>Examples of safety systems include but are not limited to: emergency relief systems including relief devices, disposal systems and flares; automatic depressurization valves; remote isolation capabilities (aka emergency isolation valves; safety-instrumented-systems (SIS) including emergency shutdown systems, and safety interlock systems; emergency reaction shortstop or kill systems; fire detection and protection systems, deluge systems; fixed combustible gas and fire detection system; safety critical alarms and instrumentation; uninterruptible power supply; dikes; etc.</i></p> <p><i>Where employees could render a safety system non-functional (e.g., by closing or opening a valve), the employer must address this human factor in its PHA. Human factors must be addressed in the PHA regardless of whether an employee's action is a matter of omission or commission and its action has potential to result in a safety system becoming non-functional during operations.</i></p>			
<p>4 Are the inspection and testing procedures for the employer's safety systems and emergency shutdown systems listed in 119(d), 119(f)(1), and (j)(1) audited to assure they are adequate and implemented?</p> <p><i>Compliance Guidance: A statistically</i></p>		(o)(1)	

	<p><i>significant number inspection and testing procedures for safety system(s) and emergency shutdown system(s) must be audited to assure the validity of the audit and that an appropriate confidence level in the audit has been attained.</i></p>			
5	<p>Based on the geographic location of the covered process, does the employer's emergency response and planning address external forces which might impact the site, e.g. hurricanes, tornados, earthquakes, cold weather, snow/ice, flooding, lightening, releases from nearby plants, crash of an airplane from a nearby airport, fire, etc.</p> <p><i>Compliance Guidance: Request the employer's emergency action plan (1910.38(a)), and its emergency response plan (1910.120(q)(1) and (2)) to determine if the employer has addressed potential emergency situations which can be initiated by external forces.</i></p>		(n)-includes 1910.38 & 1910.120(q);(f)(1)	
6	<p>Does the PHA of the Selected Unit(s) address the loss of utilities and what affects the loss of utilities may have at specific locations in the process?</p>		(e)(1), (e)(3)(i), (iii), and (iv)	