|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Facility:** | | **Process(es) Covered:** | | | **HHS(s):** | |
| **Completion Score History** | | **Date** | **Part A Score** | | **Part B Score** | |
| xx/xx/xxxx | xx% | | xx% | |
|  |  | |  | |
| **A. PROCEDURE/POLICY REVIEW** | | | | | | |
| **Documents Reviewed** | | | | | | |
| **Date Reviewed** | **Title of Document** | | | **Rev. #** | **Date** | **# Pgs.** |
|  |  | | |  |  |  |
|  |  | | |  |  |  |
| **1) INFORMATION PERTAINING TO HAZARDS OF SUBSTANCES** | | | | | **NAC Ref.** | **Resp.**  **Code** |
| ***Item #1 Completion Score – Weighted 10% of Part A*** | | | | | **x / 2 = xx%** | |
| i. Are material safety data sheets (MSDS) or other substance hazard information on site for all highly hazardous substances and explosives? | | | | | 459.95412(2a) |  |
| ii. Does the hazard information include all relevant hazard information (refer to MSDS Summary Form)? | | | | | 459.95412(2a) |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 1):** | | | | | | |
| **2) INFORMATION PERTAINING TO THE TECHNOLOGY OF THE PROCESS** | | | | | **NAC Ref.** | **Resp.**  **Code** |
| ***Item #2 Completion Score – Weighted 20% of Part A*** | | | | | **x / 5 = xx%** | |
| i. Has a block flow or simplified Process Flow Diagram been developed? | | | | | 459.95412(2b1) |  |
| ii. Does a Process Chemistry description exist for current process and does it include the applicable items noted in questions a through d below? | | | | | 459.95412(2b2) |  |
| a. Describe chemical reactions for primary & secondary reactions? | | | |  | 459.95412(2b2) |  |
| b. Describe the type and nature of catalysts used? | | | |  | 459.95412(2b2) |  |
| c. Describe competing side reactions? | | | |  | 459.95412(2b2) |  |
| d. Describe undesirable chemical reactions such as decompositions and auto polymerizations? | | | |  | 459.95412(2b2) |  |
| iii. Is the maximum intended onsite inventory defined? | | | | | 459.95412(2b3) |  |
| iv. Are Safe Limits for process variable(s), along with the basis, defined and consistent with design criteria defined in section 4 for variables a through g below? | | | | | 459.95412(2b4) |  |
| a. Pressures | | | |  | 459.95412(2b4) |  |
| b. Temperatures | | | |  | 459.95412(2b4) |  |
| c. Flows | | | |  | 459.95412(2b4) |  |
| d. Stream Composition Limits | | | |  | 459.95412(2b4) |  |
| e. Minimum Pipe and Vessel Wall Thickness | | | |  | 459.95412(2b4) |  |
| f. Rotating Equipment Tolerances, Such as Vibration Limits | | | |  | 459.95412(2b4) |  |
| g. Other Process Mechanical Limit(s) | | | |  | 459.95412(2b4) |  |
| v. Have the Consequences of Deviating outside the variable(s) limits been evaluated for variables a through g below? | | | | | 459.95412(2b5) |  |
| a. Pressures | | | |  | 459.95412(2b5) |  |
| b. Temperatures | | | |  | 459.95412(2b5) |  |
| c. Flows | | | |  | 459.95412(2b5) |  |
| d. Stream Composition Limits | | | |  | 459.95412(2b5) |  |
| e. Minimum Pipe and Vessel Wall Thickness | | | |  | 459.95412(2b5) |  |
| f. Rotating Equipment Tolerances, Such as Vibration Limits | | | |  | 459.95412(2b5) |  |
| g. Other Process Mechanical Limit(s) | | | |  | 459.95412(2b5) |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 2):** | | | | | | |
| **3) INFORMATION RELATED TO THE EQUIPMENT OF THE PROCESS** | | | | | **NAC Ref.** | **Resp.**  **Code** |
| ***Item #3 Completion Score – Weighted 30% of Part A*** | | | | | **x / 25 = xx%** | |
| i. Have comprehensive equipment and piping design information been developed? | | | | | 459.95412(2c1) |  |
| ii. Have equipment & piping materials been evaluated for compatibility with process fluids? | | | | | 459.95412(3&4) |  |
| iii. Have design parameters (e.g., temperature, pressure, etc.) been defined for equipment and piping; and is the equipment and piping capable of handling the maximum and minimum process conditions? | | | | | 459.95412(3&4) |  |
| iv. Have comprehensive instrument design information been developed? | | | | | 459.95412(2c1) |  |
| v. Have instruments been evaluated for compatibility with process fluids? | | | | | 459.95412(3&4) |  |
| vi. Have design parameters (e.g., temperature, pressure, etc.) been defined for instruments, and are instruments capable of handling the maximum and minimum process conditions? | | | | | 459.95412(3&4) |  |
| vii. Do Piping & Instrument Diagrams (P&IDs) cover the entire regulated process, including process auxiliary systems and utilities? | | | | | 459.95412(2c2) |  |
| viii. Do P&IDs contain all process equipment and piping? | | | | | 459.95412(2c2) |  |
| ix. Do P&IDs contain all instrumentation? | | | | | 459.95412(2c2) |  |
| x. Is control logic readily evident from the P&ID, or if not, is control logic documented in a separate format such as ladder logic diagrams, wiring schematics, SAFE charts? | | | | | 459.95412(2c2) |  |
| xi. Has P&ID and control logic accuracy been confirmed by the facility? | | | | | 459.95412(2c2) |  |
| xii. Have Electrically Hazardous Areas, defined pursuant to Article 500 of the National Electric Code, been defined? | | | | | 459.95412(2c3) |  |
| xiii. Have all electrical components & equipment within defined Electrically Hazardous Areas been evaluated for compatibility with the electrical classification, and found to be compatible? | | | | | 459.95412(3&4) |  |
| xiv. Have control rooms and other buildings within Electrically Hazardous Areas been evaluated for compatibility with the electrical classification and found to be compatible? | | | | | 459.95412(3&4) |  |
| xv. Have all Pressure Relief Devices been listed with the following information from the actual valve: set pressure and capacity @ defined overpressure (taken from valve nameplate or from vendor data traceable to the valve)? | | | | | 459.95412(2c4) |  |
| xvi. Have required relief pressures, rates and sizing basis (e.g., process upset, fire or thermal relief) been determined for each corresponding Pressure Relief Device listed in xv above? | | | | | 459.95412(3&4) |  |
| xvii. Have actual Pressure Relief Device pressure settings and capacities been determined to be adequate? | | | | | 459.95412(3&4) |  |
| xviii. Has the capacity of pressure relief headers and associated flares or scrubbers been evaluated for adequacy, and has the capacity been determined to be adequate? | | | | | 459.95412(3&4) |  |
| xix. For regulated processes enclosed by a building, has the capacity of the Mechanical Ventilation Systems been determined? | | | | | 459.95412(2c5) |  |
| xx. Has the required capacity of the building Ventilation System, as required by the Uniform Fire Code, or other relevant and more conservative codes, been evaluated? | | | | | 459.95412(3&4) |  |
| xxi. Is there documentation verifying that the building Ventilation System configuration and capacity are adequate? | | | | | 459.95412(3&4) |  |
| xxii. If building Ventilation System includes a scrubber for toxic or highly toxic compressed gases, does it meet requirements of Uniform Fire Code, Article 80 (section 8003.3.1.3.5) or other nationally recognized code? | | | | | 459.95412(3&4) |  |
| xxiii. Does the building Ventilation System meet Uniform Fire Code requirements or other nationally recognized code? | | | | | 459.95412(3&4) |  |
| xxiv. Do Heat & Material Balances exist for the regulated process (not mandatory if the process was built before May 26, 1992)? | | | | | 459.95412(2c7) |  |
| xxv. Do Heat & Material Balances show, at a minimum: stream pressure, temperature, composition (including minor concentrations of toxics and corrosives), physical properties (e.g., as molecular weight, density, viscosity, etc.), and thermodynamic properties? | | | | | 459.95412(2c7) |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 3):** | | | | | | |
| **4) DESCRIPTION OF SAFETY SYSTEMS AND THEIR FUNCTIONS** | | | | | **NAC Ref.** | **Resp.**  **Code** |
| ***Item #4 Completion Score – Weighted 10% of Part A*** | | | | | **x / 1 = xx%** | |
| i. Has a Safety System Description, SSD, been developed and does it include the applicable systems noted in questions 1 through 11 below? | | | | | 459.95412(2c8) |  |
| a. If process is covered by an Emergency Shut-Down System, is it discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| b. If the process area has Toxic Gas Sensors, are they discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| c. If the process area has Combustible Gas Sensors, are they discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| d. If the process area has Flame Detectors, are they discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| e. If the process has a Firewater System, is it discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| f. If the process has an Emergency Generator, is it discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| g. If the process has an Uninterruptible Power Supply, UPS, is it discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| h. If the process has a Flare System, Incinerator or Vent Scrubber, is it discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| i. If there are audible or visual Alarms, are they discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| j. If the process has an associated building Ventilation System, is it discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| k. Are there other safety systems (list below)? If so, are they discussed in the SSD? | | | |  | 459.95412(2c8) |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 4):** | | | | | | |
| **5) EVALUATION OF CODE APPLICABILITY AND COMPLIANCE** | | | | | **NAC Ref.** | **Resp.**  **Code** |
| ***Item #5 Completion Score – Weighted 20% of Part A*** | | | | | **x / 3 = xx%** | |
| i. Have applicable codes, specifications, and/or best engineering practices been defined by the facility (refer to PSI data forms)? | | | | | 459.95412(2c6) |  |
| ii. Has compliance been evaluated with codes, specifications, and/or best engineering practices by the facility (refer to PSI data forms)? | | | | | 459.95412(3&4) |  |
| iii. Have deficiencies with codes, specifications, and/or best engineering practices been corrected? | | | | | 459.95412(3&4) |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 5):** | | | | | | |
| **6) MANAGEMENT PLAN AND DOCUMENT CONTROL** | | | | | **NAC Ref.** | **Resp.**  **Code** |
| ***Item #6 Completion Score – Weighted 10% of Part A*** | | | | | **x / 2 = xx%** | |
| i. Is there a site-specific plan that addresses how the PSI requirements will be developed and maintained, and does it include applicable portions of items a through f below? | | | | | 459.95341 |  |
| a. Document the names of person(s) who are members of the team with overall responsibility for the development, implementation and integration of the Process Safety Information Program Requirements? | | | |  | 459.95341 |  |
| b. Has the facility documented how the PSI for the hazards of the highly hazardous substances or explosives will be compiled? | | | |  | 459.95341 |  |
| c. Has the facility documented how the PSI for the technology of the process will be compiled? | | | |  | 459.95341 |  |
| d. Has the facility documented how the PSI for the equipment of the process will be compiled? | | | |  | 459.95341 |  |
| e. Has the facility documented how processes and equipment will be evaluated for conformance to applicable codes, standards and good engineering practices? | | | |  | 459.95341 |  |
| f. Has the facility documented how processes and equipment will be documented that they comply with recognized and generally accepted good engineering practices? | | | |  | 459.95341 |  |
| ii. Is there a site-specific policy or procedure that addresses how PSI documentation is controlled to ensure that the most current information is in circulation and use? | | | | | 459.95341 |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 6):** | | | | | | |
| **General On-Site Inspection Notes/Comments:** | | | | | | |

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| **B. ON-SITE INSPECTION - RECORDS AUDIT** | | | | | | | | |
| **1) VERIFY THAT PSI IS ONSITE, ACCESSIBLE AND CURRENT** | | | **NAC Ref.** | | | | **Resp. Code** | |
| ***Item #1 Completion Score – Weighted 25% of Part B*** | | | **x / 5 = xx%** | | | | | |
| i. Are MSDS sheets or hazardous substance information on site and available to employees? | | | 459.95412 | | | |  | |
| ii. Are block flow or process flow diagrams, and process chemistry available to employees? | | | 459.95412 | | | |  | |
| iii. Are P&IDs available to employees? | | | 459.95412 | | | |  | |
| iv. Are piping, equipment and instrument specifications available to employees that must use them? | | | 459.95412 | | | |  | |
| v. Is electrical hazardous area classification information available to employees that must use the information? | | | 459.95412 | | | |  | |
| **Notes/Comments Pertaining to Responses to Questions under Issue 1):** | | | | | | | | |
| **2) SELECT AT LEAST ONE P&ID FOR FIELD VERIFICATION**  *List Selected P&ID(s) on the Following Table:* | | | **NAC Ref.** | | **459.95412** | | | |
| ***Item #2 Completion Score – Weighted 50% of Part B*** | | | **x / 4 = xx%** | | | | | |
| **#** | **P&ID**  **NUMBER** | **DRAWING TITLE** | **Revision** | | | **Revision**  **Date** | | |
| **i** |  |  |  | | |  | | |
| **ii** |  |  |  | | |  | | |
| **iii** |  |  |  | | |  | | |
| **iv** |  |  |  | | |  | | |
| **Inquiry/Observation** | | | **Response Code:** | | | | | |
| **(Highlight items on P&ID as they are verified in field)** | | | **i** | **ii** | **iii** | | | **iv** |
| 1. Do the piping and piping components match the drawing? | | |  |  |  | | |  |
| 1. Does a spot check of flanges, fittings and valves indicate conformance to piping specifications? | | |  |  |  | | |  |
| 1. Do the pressure vessels, pumps, compressors, heat exchangers and other equipment match the drawing? | | |  |  |  | | |  |
| 1. Does spot check of pressure vessels, pumps, compressors, heat exchangers and other equipment indicate conformance to equipment specifications? | | |  |  |  | | |  |
| 1. Do instruments match the drawing? | | |  |  |  | | |  |
| 1. Based on Response Codes used to complete items ‘a’ through ‘e’ above, do representative P&IDs appear to be accurate? | | |  |  |  | | |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 2):** | | | | | | | | |
| **3) VERIFY OTHER PSI INFORMATION** | | | **NAC Ref.** | | | | **Resp. Code** | |
| ***Item #3 Completion Score – Weighted 25% of Part B*** | | | **x / 3 = xx%** | | | | | |
| i. From a spot check of electrical components (such as motors, enclosures and instruments) in electrically hazardous locations, does it appear that the components comply with the area classification? | | | 459.95412 | | | |  | |
| ii. From a field review of the systems in the Safety System Description, does the description appear to be accurate and complete based on review of Process Flow Diagram, P&ID and on-site inspection? | | | 459.95412 | | | |  | |
| iii. From the field review, does the PFD appear to be accurate and complete based on review of P&ID and on-site inspection? | | | 459.95412 | | | |  | |
| **Notes/Comments Pertaining to Responses to Questions under Issue 3):** | | | | | | | | |
| **General On-Site Inspection Notes/Comments:** | | | | | | | | |