|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **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) DEVELOPMENT OF MAINTENANCE PROCEDURES** | | | | | | | | **NAC Ref.** | **Resp.**  **Code** | |
| ***Item #1 Completion Score – Weighted 30% of Part A*** | | | | | | | | **x / 13 = xx%** | | |
| ***In each of the following components, have procedures been developed for maintenance activities and have they been confirmed to follow generally accepted good engineering practices:*** | | | | | | | | | | |
| i. Pressure vessels and storage tanks | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| ii. Process piping | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| iii. Pressure relief devices | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| iv. Pressure relief systems | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| v. Scrubber systems | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| vi. Building ventilation systems *(if CAPP process inside)* | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| vii. Emergency shutdown systems | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| viii. Instrumentation | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| ix. Sensors | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| x. Alarms systems | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| xi. Pumps | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| xii. Compressors | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| xiii. Other equipment? | | | | | | | | 459.95421(1a)  459.95421(d) | |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 1):** | | | | | | | | | | |
| **2) PM SCHEDULE: DETERMINATION OF REQUIRED MAINTENANCE FREQUENCY** | | | | | | | **NAC Ref.** | | | **Resp.**  **Code** |
| ***Item #2 Completion Score – Weighted 30% of Part A*** | | | | | | | **x / 13 = xx%** | | | |
| Has a preventative maintenance schedule been developed for the piping, equipment and instruments; and has the type and frequency of maintenance been determined to be the **most conservative of vendor recommendations, best engineering practices or facility experience** for the following components:? | | | | | | | | | | |
| i. Pressure vessels and storage tanks | | | | | | | 459.95421(1e) | | |  |
| ii. Process piping | | | | | | | 459.95421(1e) | | |  |
| iii. Pressure relief devices | | | | | | | 459.95421(1e) | | |  |
| iv. Pressure relief systems | | | | | | | 459.95421(1e) | | |  |
| v. Scrubber systems | | | | | | | 459.95421(1e) | | |  |
| vi. Building ventilation systems *(if CAPP process inside)* | | | | | | | 459.95421(1e) | | |  |
| vii. Emergency shutdown systems | | | | | | | 459.95421(1e) | | |  |
| viii. Instrumentation | | | | | | | 459.95421(1e) | | |  |
| ix. Sensors | | | | | | | 459.95421(1e) | | |  |
| x. Alarms systems | | | | | | | 459.95421(1e) | | |  |
| xi. Pumps | | | | | | | 459.95421(1e) | | |  |
| xii. Compressors | | | | | | | 459.95421(1e) | | |  |
| xiii. Other equipment? | | | | | | | 459.95421(1e) | | |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 2):** | | | | | | | | | | |
| **3) DEVELOPMENT OF MAINTENANCE TRAINING PROGRAM** | | | | | | | **NAC Ref.** | | | **Resp.**  **Code** |
| ***Item #3 Completion Score – Weighted 10% of Part A*** | | | | | | | **x / 3 = xx%** | | | |
| ***Is training required for all maintenance personnel in each of the following areas:*** | | | | | | | | | | |
| i. An overview of the process and the potential hazards associated with the process? | | | | | | | 459.95421(1b1) | | |  |
| ii. Training in the procedures related to the job tasks, to ensure that the employee can perform the job tasks in a safe manner? | | | | | | | 459.95421(1b2) | | |  |
| iii. Training in management of change provisions, including how to recognize a change that would prompt the need for the MOC? | | | | | | | 459.95421(1b3) | | |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 3):** | | | | | | | | | | |
| **4) QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES** | | | | | | | **NAC Ref.** | | | **Resp.**  **Code** |
| ***Item #4 Completion Score – Weighted 20% of Part A*** | | | | | | | **x / 3 = xx%** | | | |
| i. Does the mechanical integrity program provide a mechanism to ensure that new equipment, instruments and controls are checked to ensure suitability with the process? | | | | | | | 459.95421(1h) | | |  |
| ii. Does the mechanical integrity program provide a mechanism to ensure that equipment, instruments and controls are checked to ensure that installation is per design specifications and manufacturers instructions? | | | | | | | 459.95421(1i) | | |  |
| iii. Does the mechanical integrity program provide a mechanism to ensure that maintenance materials, spare parts, and equipment are suitable for the process for which they will be used? | | | | | | | 459.95421(1j) | | |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 4)** | | | | | | | | | | |
| **5) MANAGEMENT PLAN AND DOCUMENT CONTROL** | | | | | | **NAC Ref.** | | | | **Resp.**  **Code** |
| ***Item #5 Completion Score – Weighted 10% of Part A*** | | | | | | **x / 2 = xx%** | | | | |
| i. Is there a site-specific plan that addresses how the Mechanical Integrity Program requirements will be developed and maintained, including: | | | | | | 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 Mechanical Integrity Program Requirements? | | | |  | | 459.95341 | | | |  |
| b. Does the site-specific plan define the responsibility and method to validate facility Process Safety Information prior to developing or modifying the Mechanical Integrity program element? | | | |  | | 459.95341 | | | |  |
| c. Does the site-specific plan address how the training program is developed and administered? | | | |  | | 459.95341 | | | |  |
| d. Does the site-specific plan address how preventive maintenance activities are determined? | | | |  | | 459.95341 | | | |  |
| e. Does the site-specific plan address how the work order system functions? | | | |  | | 459.95341 | | | |  |
| ii. Is there a site-specific policy or procedure that addresses how Mechanical Integrity Program 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 5):** | | | | | | | | | | |
| **General Procedure/Policy Review Notes/Comments:** | | | | | | | | | | |

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| **B. ON-SITE INSPECTION - RECORDS AUDIT** | | | | | | | | | | | | | |
| **1) VERIFY EXISTENCE AND AVAILABILITY OF MAINTENANCE PROCEDURES** | | | | | **NAC Ref.** | | | | | | | **Resp.**  **Code** | |
| ***Item #1 Completion Score – Weighted 25% of Part B*** | | | | | **x / 2 = xx%** | | | | | | | | |
| i. Do maintenance procedures generally appear to be in place and accessible to maintenance employees as indicated on the data forms for the following components: | | | | | 459.95421(1a) | | | | | | |  | |
| a. Heat Exchangers | | | |  | 459.95421(1a) | | | | | | |  | |
| b. Other Types of Pressure Vessels & Storage Tanks | | | |  | 459.95421(1a) | | | | | | |  | |
| c. Piping Systems | | | |  | 459.95421(1a) | | | | | | |  | |
| d. Manual Valves | | | |  | 459.95421(1a) | | | | | | |  | |
| e. Pressure relief devices | | | |  | 459.95421(1a) | | | | | | |  | |
| f. Pressure relief systems *(pressure relief discharge headers and flare systems)* | | | |  | 459.95421(1a) | | | | | | |  | |
| g. Scrubber systems | | | |  | 459.95421(1a) | | | | | | |  | |
| h. Building ventilation systems *(if CAPP process inside)* | | | |  | 459.95421(1a) | | | | | | |  | |
| i. Emergency shutdown systems | | | |  | 459.95421(1a) | | | | | | |  | |
| j. Instrumentation | | | |  | 459.95421(1a) | | | | | | |  | |
| k. Sensors *(toxic/combustible gas, flame)* | | | |  | 459.95421(1a) | | | | | | |  | |
| l. Alarm systems | | | |  | 459.95421(1a) | | | | | | |  | |
| m. Pumps | | | |  | 459.95421(1a) | | | | | | |  | |
| n. Compressors | | | |  | 459.95421(1a) | | | | | | |  | |
| o. Other equipment? | | | |  | 459.95421(1a) | | | | | | |  | |
| ii. Do the safe work practices appear to be in place and accessible to maintenance employees and is there evidence of their use: | | | | | 459.95421(1a) | | | | | | |  | |
| a. Hot Work | | | |  | 459.95421(1a) | | | | | | |  | |
| b. Lockout/Tagout | | | |  | 459.95421(1a) | | | | | | |  | |
| c. Confined Space | | | |  | 459.95421(1a) | | | | | | |  | |
| d. Process Equipment Opening / Line Breaking | | | |  | 459.95421(1a) | | | | | | |  | |
| e. Controlled Access | | | |  | 459.95421(1a) | | | | | | |  | |
| f. Other type of safe work permit? | | | |  | 459.95421(1a) | | | | | | |  | |
| **Notes/Comments Pertaining to Responses to Questions under Issue 1):** | | | | | | | | | | | | | |
| **2) SELECT 2 TO 4 EMPLOYEE TRAINING FILES/RECORDS TO REVIEW AGAINST ACTUAL PRACTICE** *List on the Following Table:* | | | | | | | | | **NAC 459.95421(1b)** | | | | |
| ***Item #2 Completion Score – Weighted 25% of Part B*** | | | | | | | | | **x / 4 = xx%** | | | | |
| **#** | **Employee ID # or Name** | | **Job Description or Title of Position** | | | | | | | | | | |
| **i** |  | |  | | | | | | | | | | |
| **ii** |  | |  | | | | | | | | | | |
| **iii** |  | |  | | | | | | | | | | |
| **iv** |  | |  | | | | | | | | | | |
| **Inquiry/Observation** | | | | | | | **Response Code:** | | | | | | |
| **i** | | | **ii** | **iii** | | **iv** |
| **Do the records indicate the date & substance of training and comprehension records for:** | | | | | | | | | | | | | |
| 1. Relevant safe work practices? | | | | | | |  | | |  |  | |  |
| 1. Job safety training? | | | | | | |  | | |  |  | |  |
| 1. Overview of the process and its potential hazards? | | | | | | |  | | |  |  | |  |
| 1. Management of Change program? | | | | | | |  | | |  |  | |  |
| 1. Based on Response Codes used to complete items ‘a’ through ‘d’ above, does a random check of records indicate that training of maintenance personnel is being conducted as required by this section? | | | | | | |  | | |  |  | |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 2):** | | | | | | | | | | | | | |
| **3) REVIEW THE SYSTEM USED TO SCHEDULE AND TRACK MAINTENANCE ACTIVITIES. SELECT 2 TO 4 COMPONENTS FOR SPECIFIC REVIEW**  *List on the Following Table:* | | | | | | **NAC 459.95421(1)** | | | | | | | |
| ***Item #3 Completion Score – Weighted 25% of Part B*** | | | | | | **x / 4 = xx%** | | | | | | | |
| **#** | **Component**  **ID #** | **Component Description**  (Valve, Vessel,Pump, etc.) | Type of Activity (Scheduled PM or Repair) | | | **Work Order**  **Identifier** | | | | | | | |
| **i** |  |  |  | | |  | | | | | | | |
| **ii** |  |  |  | | |  | | | | | | | |
| **iii** |  |  |  | | |  | | | | | | | |
| **iv** |  |  |  | | |  | | | | | | | |
| **Inquiry/Observation** | | | | | | **Response Code:** | | | | | | | |
| **i** | | | | **ii** | **iii** | | **iv** |
| 1. Is the component being maintained pursuant to the schedule? | | | | | |  | | | |  |  | |  |
| 1. Is the maintenance activity & frequency based upon the most conservative criteria? | | | | | |  | | | |  |  | |  |
| 1. Is the following information being provided in the maintenance record: Date of activity? | | | | | |  | | | |  |  | |  |
| 1. Is the following information being provided in the maintenance record: Name of inspector or maintenance person? | | | | | |  | | | |  |  | |  |
| 1. Is the following information being provided in the maintenance record: Serial number or component identifier? | | | | | |  | | | |  |  | |  |
| 1. Is the following information being provided in the maintenance record: Description of inspection or test (or required repair activity)? | | | | | |  | | | |  |  | |  |
| 1. Is the following information being provided in the maintenance record: Results of inspection or test? | | | | | |  | | | |  |  | |  |
| 1. Is there a maintenance procedure associated with this activity? | | | | | |  | | | |  |  | |  |
| 1. Are there safe work practices associated with this activity? | | | | | |  | | | |  |  | |  |
| 1. If a repair of equipment operating outside of acceptable limits (as defined in the PSI), was the deficiency corrected before returning to service? | | | | | |  | | | |  |  | |  |
| 1. Based on Response Codes used to complete items ‘a’ through ‘j’ above, does a random check of records indicate that scheduled maintenance activities are being completed and properly documented? | | | | | |  | | | |  |  | |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 3):** | | | | | | | | | | | | | |
| **4) REVIEW QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PRACTICES** *List on the Following Table:* | | | | | | | | **NAC 459.95421(1)** | | | | | |
| ***Item #4 Completion Score – Weighted 25% of Part B*** | | | | | | | | **x / 4 = xx%** | | | | | |
| **#** | **Component**  **ID #** | **Component Description**  (Valve, Vessel,Pump, etc.) | Design Spec ID / PO # | | | | | **Work Order**  **Identifier** | | | | | |
| **i** |  |  |  | | | | |  | | | | | |
| **ii** |  |  |  | | | | |  | | | | | |
| **iii** |  |  |  | | | | |  | | | | | |
| **iv** |  |  |  | | | | |  | | | | | |
| **Inquiry/Observation** | | | | | | | | **Response Code:** | | | | | |
| **i** | | **ii** | **iii** | | **iv** |
| 1. Is there evidence that a purchase order for a process component is being confirmed against the design specification? | | | | | | | |  | |  |  | |  |
| 1. Is there evidence that the receiving documentation for an item is being confirmed against the applicable purchase order? | | | | | | | |  | |  |  | |  |
| 1. Is there evidence that checks are performed to ensure the proper component is installed and is installed properly? | | | | | | | |  | |  |  | |  |
| 1. Is there evidence that the suitability of materials, spare parts and equipment for new and existing processes are confirmed? | | | | | | | |  | |  |  | |  |
| 1. Based on Response Codes used to complete items ‘a’ through ‘d’ above, does a random check of purchasing records and installation work orders indicate that program quality control measures are being implemented? | | | | | | | |  | |  |  | |  |
| **Notes/Comments Pertaining to Responses to Questions under Issue 4):** | | | | | | | | | | | | | |
| **General On-Site Inspection and Records Audit Notes/Comments:** | | | | | | | | | | | | | |