



Frazier Reliability Solutions

Mechanical Integrity Audit Checklist

Location: _____

Completed By: _____

Date: _____

MI Audit Checklist

MI Program Management	Yes	No	Notes
Does the company and/or site have a documented MI policy?			
Does the MI program have an administrator or owner?			
Have MI roles been assigned to specific team members?			
Have they clearly defined the responsibilities associated with each role?			
<p>The RACI model is often very helpful when assigning roles and responsibilities:</p> <ul style="list-style-type: none"> • Responsible: The person who performs the work. • Accountable: The person who is ultimately accountable for the work completed and/or the decisions being made. • Consulted: Any and all people that must be consulted prior to making decisions and/or completion of a task. • Informed: Any and all people that must be informed when a decision is made and/or work is completed. 			
Does the company and/or site have an MI manual which sets out, among other things, the scope and objectives of the MI program?			
Does the MI management team have the appropriate training?			
Does the MI program require regular, e.g. monthly, reporting on inspection activities that are due or past due?			
Are these reports communicated across the entire MI team and followed up on by management and team members?			
Does the MI program require regular, e.g. quarterly, equipment reports that detail needed repairs and/or replacements?			
Are these reports communicated across the entire MI team and other appropriate groups, e.g. engineering or maintenance?			
Does the company and/or facility have a documented policy for addressing equipment deficiencies?			

MI Audit Checklist

Process Safety Management (PSM) Covered Equipment	Yes	No	Notes
Does the facility have a master list of all PSM covered equipment?			
Is this list included in the MI manual?			
Does the company and/or facility have procedures for evergreening the PSM covered equipment master list?			
Do they have procedures for updating the master list when the projects or maintenance teams add, remove, or replace equipment?			
Has a person been assigned ownership of the master list?			
If so, who?			

Notes

MI Audit Checklist

Written MI Procedures	Yes	No	Notes
Does the company and/or facility have documented MI procedures?			
Are employees aware of these procedures?			
Are documented MI procedures easily accessible to all necessary personnel, e.g. MI team members, operations, maintenance, etc.?			
Do employees know where the procedures are located?			
Do employees understand the applicability of the procedures to the individual's role?			
Does the company and/or facility have documented Process Safety Information (PSI)?			
Are employees aware of the PSI?			
Is PSI easily accessible to all necessary personnel, e.g. MI team members, operations, maintenance, etc.?			
Do employees know the location of and how to access the PSI?			
Does the company and/or site have a documented policy for updating and revalidating the MI procedures?			
Does the company and/or site have document control policies for:	Yes	No	Notes
MI procedures			
PSI			

Notes

MI Audit Checklist

MI Training Program	Yes	No	Notes
Does the company conduct Process Overview training for each employee working in a process unit?			
Does this training include hazards, safety, emergency operations, and safe work practices that are applicable to the employee's job?			
Does the company conduct Process Overview refresher training at least every three years?			
Does the company maintain documentation that details the processes included in the training?			
Does the company maintain documentation that details:	Yes	No	Notes
The attendees of each training			
The date of the training			
Verification that each employee understood the training			
Does the company and/or facility have the following requirements defined for inspectors:	Yes	No	Notes
Training curriculums			
Certifications			
Qualifications			
Does the company and/or facility have the following requirements defined for maintenance technicians:	Yes	No	Notes
Training curriculums			
Certifications			
Qualifications			

MI Audit Checklist

MI Training Program	Yes No	Notes
Does the company and/or facility maintain documentation that details the trainings, certifications, and qualifications of each inspector and maintenance technician?		
Does the company and/or facility have procedures for ensuring that each inspector and maintenance technician renews certifications within required time periods?		
Does the company and/or facility have procedures for demonstration, testing, and updating the qualifications of each inspector and maintenance technician?		
Does the company and/or facility have formalized MI program training?		
Does the company and/or facility have formalized Management of Change (MOC) training?		

Notes

MI Audit Checklist

Inspection and Testing	Yes	No	Notes
Does the facility have documented inspection schedules?			
Does the company and/or facility have documented procedures for establishing and updating inspection schedules?			
Does each piece of equipment covered under PSM have documentation that includes PSI, inspection history, design and other relevant information?			
For each inspection, is there an inspection folder or package that includes relevant information, e.g. PSI, NDE, drawings, safety, etc.?			
Are the inspection procedures based on Recognized and Generally Accepted Good Engineering Practices (RAGAGEP), relevant information from equipment manufacturers, and operating experience?			
Does the company and/or facility have documented inspection and test procedures for:	Yes	No	Notes
Pressure Vessels			
Storage Tanks			
Piping Systems			
Valves			
Hoses			
Relief Systems and Devices			
Does this include overhaul procedures?			
Do they have a checklist to ensure inlet and outlet piping are inspected for pluggage?			
Pumps and Rotating Equipment			
Does this include preventative maintenance procedures?			

MI Audit Checklist

Inspection and Testing	Yes	No	Notes
Does the facility maintain inspection drawings, isometric drawings (ISOs), or sketches that locate TMLs/CMLs?			
Does the company and/or facility have a process for addressing thickness readings that show growth, high corrosion rates, and thicknesses less than the required minimum?			
Does the company and/or facility have a documented procedure for addressing negative remaining life?			
For example, after taking thickness readings and calculating remaining life, it is determined that equipment thickness dropped below minimum design thickness prior to taking the thickness readings.			
In these cases, is there a procedure for addressing when the equipment should have been inspected in the past and what measures should have been taken, e.g. fitness for services assessment or retire the equipment?			
Does the company and/or facility have documented procedures for prioritizing maintenance and testing of rotating equipment?			
Do these procedures account for different severity levels of adverse conditions?			
Does the company and/or facility have documented inspection and loop check procedures for all instrument loops and functions?			
Does the company/and or facility have documented procedures for addressing inconsistencies between test set points versus what's actually found in the field?			
Has a person been assigned the responsibility of ensuring inconsistencies are addressed?			

MI Audit Checklist

Inspection and Testing	Yes	No	Notes
Does the facility have past due inspections and/or tests for the following equipment types:			
Pressure Vessels			
If so, how many?			
Storage Tanks			
If so, how many?			
Piping Systems			
If so, how many?			
Valves			
If so, how many?			
Hoses			
If so, how many?			
Relief Systems and Devices			
If so, how many?			
Rotating Equipment			
If so, how many?			
Does the company and/or facility have documented procedures for managing inspections and tests that are past due?			

MI Audit Checklist

Inspection and Testing	Yes	No	Notes
Have specific people been assigned the responsibility of reviewing and approving:			
Inspection reports and findings			
If so, who?			
Test reports and findings			
If so, who?			
Preventative maintenance			
If so, who?			
Have these review and approval responsibilities been included in the MI program assignment of responsibilities?			
Does the company and/or facility have processes in place to ensure the minimum information required by regulators, e.g. OSHA, is included in documentation?			

Notes

MI Audit Checklist

Deficiencies and Repairs	Yes	No	Notes
Does the facility have a process for documenting equipment deficiencies, i.e. deficiency tracking list?			
Are deficiencies tracked to completion?			
Does the company and/or facility have procedures for removing deficiency recommendations from the tracking list?			
Does the facility have any reported deficiencies that were not addressed?			
Are fitness for service (FFS) assessments performed to address deficiencies?			
If so, how are the FFS assessments documented?			
Who is responsible for managing, performing, and documenting FFS assessments?			
Who is responsible for writing the scope of repairs or necessary corrective actions to restore equipment integrity?			
Is the person or organization responsible for repairs issued a work package with the necessary PSI and other relevant information?			
Are temporary repairs managed and tracked to permanent repair?			
Are repairs re-inspected to verify code compliance?			
Is risk re-assessed on repairs to determine if further monitoring is required or administrative or corrective action is necessary?			

MI Audit Checklist

Quality Assurance (QA)	Yes	No	Notes
Does the facility have a documented QA program?			
Does the company have QA/QC procedures for:	Yes	No	
Fabrication of new vessels			
Fabrication of new piping			
Incoming materials			
Leftover materials			
Installation of new equipment			
Materials identification			
Relief devices			
Rotating equipment			
Instrumentation and controls			
Is required QA/QC performed during and/or after:	During	After	Notes
Repairs			
Assembly			
Installation			

Notes

