

NYRSTAR TENNESSEE MINES

Contractor Management

Contractor Health & Safety Program NTM ст-005

1. Context

To provide contractors, subcontractors, Nyrstar project owners, contractor and Nyrstar supervisors and other personnel with a procedure for contractor safety management, that will reduce or eliminate serious injuries or fatalities, that can occur during mine and mill operations where contractor projects might be present.

2. Purpose

This manual is intended to outline the steps necessary for contractors and subcontractors (going forward subcontractors will be known as Contractors) working on NTM properties to have a good understanding of Nyrstar Tennessee Mines (NTM) expectations of contractors working on the company's properties.

However, no manual/procedure can anticipate unusual or extraordinary circumstances.

If you have any questions or doubts regarding the application of this manual to a specific situation, contact your Nyrstar Contract Manager or Nyrstar Safety Department prior to beginning the task.

3. Scope

The Contractor Health & Safety Program has been prepared to provide a formal written procedure which will be used by designated contractors, subcontractors, and Nyrstar's contract owner's representative(s) in providing instruction on the Nyrstar Tennessee Mines expectations when conducting contractor operations on company sites. This manual will be used as a guide by supervisory personnel for the purpose of maintaining the Nyrstar Tennessee Mines policies.

4. References

- MSHA CFR 30
- Nyrstar Standards
- SHE Contractor Management Guideline
- NTM-CT-001 Contractor Management Process Flow
- NTM-CT-002 Site Entry Agreement and Liability Release
- NTM-CT-003 Contractor Screening Form
- NTM-CT-008 Weekly Contractor Schedule
- NTM-CT-009 Supplier Evaluation Form
- NTM-CT-010 Contractor Administration Checklist and Evaluation Form Pre-Award
- NTM-CT-013 Contractor Personnel Discipline Form
- ETN SAF-049 Drug Policy

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

- ETN SAF-076 Fit for Duty Policy
- ETN SAF-189 Alcohol Policy

5. Requirements

Nyrstar has a duty to care for the safety, health and welfare of its employees, contractors and visitors within their operations or whilst performing work. The principles of SHE management for contractors or subcontractors apply regardless of the size of the contract. These principles are divided into the following four steps;

- Before contracting;
- During sourcing activity;
- During work execution;
- At the end of the work execution.

6. Definitions

The following section outlines definitions and abbreviations that are used in these Standard Operating Procedures or that are commonly used within Nyrstar and relate to them.

Term	Definitions	
Contract	A Contract is an agreement between two parties that creates I obligations that are enforceable.	egal
Contractor	A contractor is a legal person engaged to carry out work for Non- Contract for Service arrangement. This may include Project Co	
Contractor Employee	Any temporary worker, not on Nyrstar payroll including consult subcontractors and sub consultants. Subcontractors must comply with the same requirements as consultants are subcontracting is only allowed with approval of Nyrstar.	
Scope Definition	It is the orderly collection of facts that accurately and succinctl and defines Nyrstar's: • Need; • intentions and objectives; and • expected deliverables.	y identifies
Contractor SHE Management	The process of selection, retention, rating, evaluation and develocity contracted services to ensure SHE risks to people, the environ equipment and property are reduced to a level of as low as real practicable.	nment,
Site Conditions	A list of applicable Nyrstar standards, policies, procedures and assessment of the area where the job will be done.	d a risk
Employee	Any person employed on a permanent or temporary basis (car Nyrstar (on the Nyrstar payroll). This includes temporary collea other Nyrstar sites.	
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Contractor Supervisor	The most senior contractor in the work group who takes responsibility for a team.
Contractor SHE Representative	Designated contractor representative who is responsible for ensuring that the contractor / subcontractor comply with Nyrstar standards, site procedures and governmental regulations.
JSEA	Job Safety Environmental Assessment (JSA, JTO)
Nyrstar Contract Coordinator or Nyrstar Contract Manager	A Nyrstar employee appointed to define the scope of work, and who is responsible for the overall management of the contracted work.
Nyrstar Area / Installation Owner	A Nyrstar employee who has the responsibility for a defined physical area including equipment, plant installations etc.
Third Party Owner / Contract Administrator	A Nyrstar employee appointed to manage the Contract between the Contract Company and Nyrstar (Procurement personnel).
Visitor	Any other person accessing a Nyrstar site that is not an employee, approved contractor, or third party employee.
Safety, Health and Environment Plan	A plan containing, at a minimum: SHE objectives and targets; contact details of all responsible companies and people; organizational chart; planning; general risk assessment details; and controls.

7. Introduction

Nyrstar Tennessee Mines are committed to conducting all activities in a manner that will protect the safety and health of their employees, contractors, and the public. Nyrstar Tennessee Mines requires its employees and contractors to maintain stringent safety standards. The goal of this program is to:

- Minimize the potential for accidental injury and/or damage resulting from contractor activities while on our property.
- Outline the roles and responsibilities of the contractor and Owner in respect to health and safety.
- Ensure that all contractor personnel on our property comply with Federal, State, Local and Nyrstar Tennessee Mines requirements.
- Contractors on Nyrstar Tennessee Mines property are responsible for promoting excellent safety practices. They must ensure their employees are familiar with and comply with applicable safety regulations relevant to the work performed.

Questions or concerns relating to the safety and health of contractor personnel shall be communicated to the Nyrstar Tennessee Mines Safety Department for resolution.

Issues regarding the need for additional controls with respect to Nyrstar Tennessee Mines supplemental safety rules and regulations shall also be referred to the Nyrstar Tennessee Mines Safety Department for resolution.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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8. During Sourcing Activity

Tender and Selection

Tendering shall be completed as per the requirements set forth in the Group Contracting Procedure (GCP), section 3.

Received tenders shall be evaluated against a set of pre-defined criteria, taking into account SHE risks associated with the service or product and the past SHE performance of the tendering contractor. In addition, the evaluation shall confirm that the contractors have the necessary resources, systems and processes to comply with applicable SHE legislation and Nyrstar requirements as applicable to the products or services being requested. Contractor qualification results shall be taken into account when awarding contracts.

Selection and contract award shall be completed as per the requirements set out in the **GCP**, section 4. Contracts shall describe the specific SHE requirements that the contractor must comply with and the requirement for contractors to operate in compliance with all applicable SHE laws and regulations. Consequences for non-compliance with Nyrstar SHE requirements shall be formalized in contracts or other appropriate documentation.

Once the contractor is selected, the Third Party Owner / Contract Administrator shall request the documentation outlined in the GCP section 5.2.2 to be provided to Nyrstar.

Document Submission

Once the Contract has been awarded to a contractor, subcontractors, the Nyrstar Third Party Owner / Contract Administrator shall ensure the contractor meets the following Nyrstar requirements, and submits to Nyrstar for approval, all appropriate documentation relating to the following.

Extended Risk Analysis and SHE Plan

- If the scope of the work exceeds 500 man days, or if it involves high risk work, then a Safety, Health and Environment Plan shall be prepared based on the assessment.
- High risk work includes as a minimum:
 - Work which puts personnel at risk of burial under earth falls, engulfment in swampland or falling from a height, where the risk is particularly aggravated by the nature of the work or processes used or by the environment at the place of work.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	----------------------------

- Work which puts personnel at risk from chemical or biological substances constituting a particular danger to the safety and health of personnel or involving a legal requirement for health monitoring.
- Work with ionizing radiation.
- Work near high voltage power lines.
- Work exposing personnel to the risk of drowning.
- Work in confined spaces
- Work on wells, underground earthworks and tunnels.
- Work carried out by divers having a system of air supply.
- Work carried out by personnel in caissons with a compressed air atmosphere.
- Work involving the use of explosives.
- Work involving the assembly or dismantling of heavy prefabricated components.

Site specific or government requirements may be added to this list if required. This may include work involving site-specific occupational hazards such as exposure to lead.

9. Bidder Qualification Criteria

A contractor shall provide documentation that demonstrates they have taken adequate measures to protect the health and safety of their workers, which includes subcontractors. Before being considered for awarding a contract the following must be reviewed by the Nyrstar Tennessee Mines Safety Department:

- 1. A copy of the contractor's Health and Safety program. The program must be comprehensive and Nyrstar Tennessee Mines reserves the right to require standards that exceed MSHA minimum requirements.
- 2. Record of all citations and orders in last three years for MSHA infractions. If any exist, provide a written report stating what action has occurred to eliminate the problem or reduce the risk to achieve compliance.
- 3. Copies of the Contractors MSHA Inspection Reports for the past three years. (If Applicable)
- 4. A copy of lost time injury accident investigations for the previous three years.
- 5. Copies of all MSHA form 7000-1 submitted over previous 3 years.
- 6. A completed copy of Form NTM CT-004, "Contractor Screening Form" is to be submitted.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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10. Pre-job Meeting

Nyrstar Tennessee Mine's representative may decide to hold a Pre-Contract meeting with contractors depending on the size of the contract. This meeting will ensure that the contractor is aware of all site-specific hazards associated with the work.

The Health and Safety topics of this meeting should include:

- Scope of work.
- Details of contractor's safety program and related policies and procedures.
- Training and qualifications of supervisors and employees
- Selection and qualifications of the Contractor's Safety Manager
- Contractor Employee Training and Induction
- Responsibilities of Nyrstar Tennessee Mines, the Contractor, the Contractor Safety Manager and Contractor employees.
- Processes of safety. Communications to ensure updates are relayed to the workers. Establish the frequency of "crew talk" safety meetings. Establish the minimum frequency of safety inspections by Contractor.
- Potentially serious hazards requiring special attention.
- Tools and equipment standards
- Environmental compliance
- Site Access/Egress Forms ETN CT-002 and 008, "Site Entry Agreement and Liability Release" and the "Weekly Contractor Schedule" forms must be completed.
- Traffic Control / security
- Work Permits safe work, hot work, O/H Power lines, Excavation & Demolition
- Site Services
 - **Note:** Nyrstar Tennessee Mines Representative shall document all discussions at this meeting.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE R	RELEASED: Feb 1, 2023
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11. Safety Training and Induction

11.1.Safety Training & Induction

It is the contractors' responsibility to provide employees and supervisors who are competent and adequately trained in all aspects of the job.

As outlined in the Mine Safety & Health Administration (MSHA), Code of Federal Regulations (CFR);

30 CFR Part 48 – Training and retraining of underground miners

Nyrstar Tennessee Mines are operating / producing underground metal mines. All contractors who conduct work on the mine site are required by MSHA to meet all training requirements listed in 30 CFR Part 48 subparts (a) & (b).

Training Requirements for Contractors Not Exempt from MSHA Part 48

All contractor personnel require MSHA training before commencement of work. This shall include a minimum of 40 hours of training for underground work or 24 hours of training for surface work in accordance with MSHA Part 48. This training shall include eight hours of site-specific hazard training that will be provided by Nyrstar Tennessee Mines. In addition, MSHA requires that all employees receive appropriate hazard and task training. The Contractor shall ensure that no personnel begin work without receiving this required training. This training shall include but not be limited to the following where applicable:

- Overview of Nyrstar Tennessee Mines operation (Mandatory).
- Roles and Responsibilities of Nyrstar Tennessee Mines Representatives, Contractor, Contractor Safety Manager, Supervisors and Contractor Personnel (Mandatory).
- Introduction to Work Environment (Mandatory)
- Health and Safety Aspects of Assigned Task (Mandatory)
- MSHA Statutory Rights and Responsibilities of Miners (Mandatory)
- Self-Rescue and Respiratory Devices (Underground Only)
- Transport and Communications
- Roof/Ground Control & Ventilation (Underground Only)
- Mine Map, Escape Ways, Emergency Evacuation, Barricading (Underground Only – provided by Nyrstar Tennessee Mines Safety Representative)
- MSHA Mandatory Health and Safety Standards (Mandatory as Applicable)
- MSHA Authority & Responsibility of Supervisors and Miners Representatives (Mandatory)
- First Aid (Mandatory)
- Welding, Cutting and Burning (Mandatory)

NTM CT-005 Contractor Health & Safety Program	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	---	---------------------------	----------------------------

- Electrical Hazards (Mandatory)
- Lock Out/Tag Out Procedures (Mandatory)
- Mine Gases (Underground Only)
- Explosives (Underground Only)
- Personal Protective Equipment (Mandatory)
- Confined Space Entry (Mandatory)
- Mobile Equipment Safety
- Fall Protection (Mandatory)
- Safety Hoisting, Lifting and Rigging (Mandatory)
- Fire Protection (Mandatory)
- Workplace hazardous Communications Program (Mandatory)
- Relevant Nyrstar Tennessee Mines standards, policies, and safe work procedures (Mandatory)
- The name of Contractor Safety Manager and Nyrstar's Safety Manager (Mandatory)
- A site drawing, which must be posted, showing project layout, first aid location, emergency transportation provisions, and the evacuation marshalling station (Mandatory)

Records and Certificates

It is the Contractor's responsibility to ensure that training provided by the Contractor is documented and a copy of this documentation (MSHA Form 5000-23) is supplied to Nyrstar Tennessee Mines Safety Representative. It is the Nyrstar Tennessee Mines Safety Representatives responsibility to ensure that training and orientation provided by Nyrstar Tennessee Mines is documented (MSHA Form 5000-23). This documentation shall include: contractor's name, address and telephone number, contract number, date; names of those trained or inducted, copy of Forms 5000-23. Contractor employees must carry copies of record of training Forms 5000-23 and present these upon request. The contractor shall keep a copy of all certificates in case one is lost.

Training Requirement for Contractors

It is the Contractors' responsibility to provide employees and supervisors who are competent and adequately trained in all aspects of the job. Contractors performing work on Nyrstar Tennessee Mine Sites will be required to ensure that personnel will not begin any work on the Nyrstar Tennessee Mine Sites without receiving sufficient training. This training shall include, but not be limited to the following where applicable:

Mine Surface Work

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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Hearing Conservation Program – As specified by MSHA a hearing conservation program is required if employees are exposed to noise levels above program action levels. Program training requirements are mandatory.

Respiratory Protection Program – As specified by MSHA a respiratory protection program is required where employees are to work in areas where respirators are required. Program training requirements are mandatory.

Working at Heights - Fall Protection Program – Contractors will be required to provide Nyrstar Tennessee Mines Representative's with a written fall protection program, which meets OSHA 1926 Fall Protection minimum standards. Employees will be trained to this program standard before commencing work. (Nyrstar Tennessee Mines requires contractors to follow the 100% tie off rule at all times when fall arrest systems are worn).

Job Specific Orientation and Hazard Avoidance – In addition to receiving general site orientation and hazard avoidance training each employee will be provided training in job specific orientation and hazard avoidance. As part of the job specific orientation, prior to beginning work each employee is to receive a tour of his/her specific work location.

Emergency Procedures – In addition to receiving site general emergency procedures instruction each employee will be provided training in job specific emergency procedures where applicable.

First Aid Training – As prescribed by MSHA, first aid trained personnel are required to be provided before work commences.

Electrical Safety – Employees shall be trained in the recognition and avoidance of electrical hazards.

Isolation - Lock-Out Tag-out Program – A program compliant with Nyrstar and MSHA shall be provided. Employees shall receive required program training.

Hot Work – A hot work permit program and procedure will be provided. Employees will be trained to the program and procedures. Nyrstar Tennessee Mines uses the FM Global Hot Work System.

Confined Space Entry – A confined space entry program and procedure will be provided. Employees will be trained to the program and procedures.

Personal Protective Equipment Program – Job specific personal protective equipment needs are to be evaluated and determined before work commences. (MSHA and Nyrstar Tennessee Mines) Employees will be provided with adequate training before commencing work.

Note – (PPE includes, but is not limited to hard hats, eye protection, hearing protection, hand protection, Steel-toed Boots (minimum) and protective High Visibility clothing).

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
--

Hazardous Materials – Employees shall be provided training which will enable them to identify hazardous materials as well as safely handle and store them. Material safety data sheets will be provided for all hazardous materials brought to and used on site. Every employee will be given training in location and use of MSDS.

Fire Prevention – Employees shall be given basic prevention training, which will include;

- fire types and characteristics
- fire extinguisher types, location, and use
- fire evacuation procedure.

Task Training – Employees assigned to new work tasks shall not perform these tasks until minimum training requirements outlined in 30 CFR Part 48 are met. Training shall consist of, but not be limited to;

- supervised practice during non-production
- supervised practice during production
- health and safety aspects of tasks assigned
- safe work procedures
- mandatory health and safety standards pertinent to each task (MSHA 30 CFR 56 & or 57)

Mine Underground Work (If applicable)

All underground Contractors will be required to provide training on those items listed below. This training is in addition to the items listed above under Mine Surface Work, which must also be covered by all underground contractors.

Mine Gases & Self Rescue Breathing Apparatus – Employees will be given training for gases, which will / can be found underground. Employees will be given detailed training in the care and use of specific self-rescue devices provided by the contractor.

• Contractor is responsible for providing their employees with a self-rescuer that is a minimum 1 hour self-rescue device approved by MSHA and NIOSH.

Escape and Emergency Evacuation Plans – In addition to mine general escape and emergency evacuation training provided by the operator, the contractor will provide each underground employee with work area specific escape and evacuation training. This will include emergency medical supplies location training.

Explosives / Blasting – Employees will be given training in explosives identification, handling, transportation, and storage. Employees will be trained in blast guarding procedures. Employees conducting blasting operations are required to hold valid Tennessee State blasting certification as well as meet all ATF (Alcohol Tobacco & Firearms explosives regulations).

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

Transportation and Communication - Training to include instruction on the procedures in effect for riding on and in mine conveyances; the controls for the transportation of miners and materials; and the use of mine communication systems, warning signals and directional signs.

Ground Control – Employees will be given basic ground control training, which will include;

- Ground type identification
- Identification of ground control methods
- Scaling methods and procedures (to include physical instruction and supervised scaling practice)

Records and Certificate – It is the contractors' responsibility to ensure that the training provided by the contractor is documented (5000-23) and a copy of this documentation is supplied to Nyrstar Tennessee Mines Safety Representative. Training records shall contain the following:

- The name of the contractor
- The name and job position of the trainer
- The name of the trainee(s) who received the training
- The methods of training used (classroom, supervised nonproductive, supervised productive etc.
- The type of training conducted (e.g. task or equipment type etc.)
- An outline indicating content of the training provided (e.g. health and safety aspects, hazard recognition and avoidance, safe work procedures etc.)
- It is **required** that the contractor company have a **binder** on site and available for all required paperwork required by Nyrstar TN Mines and MSHA.

11.2 Contractors' Safety Manual

The Contractor Safety Manual will be provided in advance of commencement of work on the contract. The contractors' management will ensure that all workers on the site understand the policies and procedures described in this manual. Any contractor concerns should be addressed at the Pre-Job meeting or Safety training and induction.

12. Duties and Responsibilities

This section describes duties and responsibilities of:

- Nyrstar Tennessee Mines
- The Contractor

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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- Contractor Safety Manager
- Contractor Site Supervisors and/or foremen
- Contractor personnel.

12.1 Duties of Nyrstar Tennessee Mines (NTM);

Nyrstar Tennessee Mines shall:

- Site Coordination Ascertain whether each contractor is coordinating his work with the work of other contractors in order to minimize congestion and the associated risk to the safety of the workers. **Note:** This is achieved primarily through the scheduling of the work and the convening of regular area co-ordination meetings for the affected contractors. Communication Establish who the Contractor's Site Representative and Safety Manager will be, because all contacts will be made with these persons. Safetv Coordinate the activities of the work site between Coordination two or more contractors. Coordinate appropriate safety procedures as lockout, excavation, demolition, overhead power line permits, etc. as well as de-energizing systems and decontaminating and disposal of plant facilities and equipment.
- Approve, the Safety Manager designated by the Contractor. *Note:* Nyrstar Tennessee Mines reserves the right to reject the Contractor's candidate.
 - Hold a pre-job meeting and walk through with the Contractor's Safety Manager and Site Representative to review the contractor's knowledge of the safety requirements for the work site.
 - Nyrstar contract owner **will inspect all** equipment and tools that are brought on site by the contractor.
- Safety• Conduct audits to verify that all non-NyrstarAudits/Records• Tennessee personnel entering the Site area are

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

	receiving adequate safety and health training/induction pertinent to the mine and specific to the Work Site.
	 Conduct regular safety audits to determine if each contractor is complying with the requirements of their Health and Safety program and the applicable Regulations.
	 Maintain a log of observations, conversations, and action taken on the work site. This log is in addition to the formal inspections and audits that may be done.
	 Ensure contractors keep records of all safety documentation required by the regulations.
	 Verify whether adequate central first aid facilities and personnel are provided. (Note: the contractor, as required, shall provide First aid kits).
Site Services	 Determine whether adequate hygiene facilities are provided and maintained.
	 Confirm whether a central library of Material Safety Data Sheets (MSDS) is maintained.
Safety Meetings	 Ascertain whether regular Mine Safety and Health Administration (MSHA) meetings are convened, in accordance with the Regulations, to review health and safety practices and accident trends to determine if additional procedures are required.
	 Hold a pre-job meeting with the contractor, prior to commencing site work, to review the site safety requirements.
	 Participate at the MSHA meetings where appropriate.
Hazard Identification	 Determine that Contractor's supervision is informed of any non-obvious safety, environmental and health hazards associated with the work, including those areas adjacent to the Work Site and that the Contractor conveys this information to its employees and subcontractors.

	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
--	---	---------------------------	----------------------------

- Emergency Awareness
 Inform the Contractor of the required response by his employees to emergency alarms, what the alarms sound like, what the alarms signify (the type of hazard), and where to muster.
- Identify connect points for all services, steam, water, electrical, etc. and define restrictions relating to the use of these services.
- Access / Egress
 Limit as necessary the entry of Nyrstar Tennessee Mines Operations personnel onto the Contractor's Work Site. Specify under what conditions Nyrstar Tennessee Mines Operations personnel may enter the Work Site.
- Identify boundaries of the Contractor's Work Site and restrict his employees and subcontractors to those areas only. Specify which conditions the Contractor or his employees and subcontractors may leave the designated Work Site.
- Identify and document any Nyrstar equipment the Contractor has been authorized to use and any restrictions placed on its use. Part of this documentation should include a pre-loan/rental inspection.
 - A Services Agreement must be signed by the Contractor and Nyrstar Tennessee Mines Representative for all Nyrstar Tennessee Mines equipment loaned or rented to Contractor. This agreement must stipulate that the Contractor indemnifies Nyrstar Tennessee Mines against all claims arising out of use of the equipment by the contractor.

12.2 Duties of the Contractor

Independent Contractor

The Contractor is an Independent Contractor and accepts total responsibility for project safety for all work areas under its control as per MSHA.

Contractor Site Representative

The Contractor acknowledges that performance of the work may be hazardous. The Contractor shall carefully train and instruct all their employees and their subcontractor's employees on potential dangers on the Nyrstar Tennessee Mines property.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

The contractor shall provide all safety equipment as may be necessary to prevent injury to its employees and subcontractors, and to prevent damage to property or the environment. The Contractor's Site Representative is responsible for ensuring that the Contractor complies fully with MSHA 30 CFR all of the requirements of this Health and Safety Manual.

• It is required that the contractor company have a **binder** on site and available for all required paperwork required by Nyrstar TN Mines and MSHA.

The Contractor shall:

- Health and Safety Program
 Submit a copy of their health and safety manual, for review by Nyrstar Tennessee Mines Representative, prior to commencing site work.
 - Administer an effective safety program.
 - Review their health and safety manual and ensure there is no conflict between it and the requirements of this safety manual and relevant regulation.
- Understand who Nyrstar Tennessee Mines Representative will be, because all contacts will be made with that person.
 - Inform Nyrstar Tennessee Mines Representative of any work that may affect the safety of Nyrstar Tennessee Mines employees or property or other contractors or third parties.
 - If working underground and radios are required, the contractor **will provide** such radios with the ETN frequencies. Frequencies will be provided before coming to site by the Nyrstar Contractor Owner.
 - Conduct site inspections to detect and correct hazardous conditions, safety violations and unsafe work practices. All inspections to be documented in writing and made available to Nyrstar Tennessee Mines Representative upon request.
 - Cease all activities in the area of an identified health or safety hazard until it is resolved.
- Coordinate appropriate safety procedures as lockout, excavation, demolition, overhead power line permits, etc. as well as de-energizing systems and decontaminating and disposal of plant facilities and equipment.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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- Safety Manager
 Assign an approved qualified Safety Manager on site whose duties shall include management and coordination of the contractor's health and safety program. Note: Nyrstar Tennessee Mines reserves the right to refuse the contractor's candidate.
 - Contractor shall keep accurate records on site of employee occupational injuries, illnesses, incidents and other documentation required by MSHA 30 CFR and Nyrstar Tennessee Mines Contractor health and safety program. This information will be provided to Nyrstar Tennessee Mines Representative and Nyrstar Tennessee Mines upon request.
 - Contractor shall keep records on site of all employee health and safety training, including for his subcontractors. This shall specifically include records of MSHA training (form 5000-23).
 - Contractor shall ensure that all employees and subcontractor employees carry MSHA records of training (form 5000-23) on their person at all times when on site.
 - Ensure all Contractor personnel are familiar with the regulations and safe work procedures relative to the work performed and agree to abide by them as a condition of employment at the Nyrstar Tennessee Mines work site.
 - The contractor will ensure that their personnel are in compliance with Nyrstar East Tennessee mine "Fit for Duty" policies that include; the drug policy, Alcohol policy and the Fit for Duty Policy.
 - The contractor will follow the 30 CFR 57.20001 Intoxicating Beverages and Narcotics and Nyrstar policy. The examples of narcotics include; but are not limited to, OxyContin, Morphine, Suboxone/Methadone, Cocaine, etc.
 - Contractor will work with the Nyrstar **contract owner** and ensure an **inspection** of all equipment and tools that are brought on site by the contractor.
 - Ensure that new or transferred employees receive the required safety training and induction as per MSHA 30 CFR Part 48 requirements and those of this safety manual.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	---------------------------	----------------------------

- Ensure that Material Safety Data Sheets are provided for all hazardous materials either brought on site or used on site by the contractor and that the workers are properly trained in the safe handling procedures for these products.
 - Ensure that all employees have current MSHA Workplace Hazardous Communications (HazCom) training.
- Ensure that all supervisors are adequately trained (documented) so that all work under their supervision is performed in a safe manner.
 - Qualified
Workers• Permit only competent MSHA compliant personnel to work on
the job site.
 - Ensure that all employees are equipped with and trained in the use of all necessary personal protective equipment required by the regulations.
- Inform supervisors, employees and subcontractors of any safety, environmental and health hazards associated with the work, including those areas adjacent to the work site.
 - Ensure that overlapping hazards are identified and communicated.
 - Understand connection points for all services; steam, water, electrical, etc. and follow the restrictions outlined by Nyrstar Tennessee Mines relating to the use of these services.
 - Take all necessary steps to protect their workers, Nyrstar Awareness • Tennessee Mines personnel and third parties from potential injuries or illnesses resulting from work.
 - Ascertain if the contractor's accident prevention program is fully implemented.
 - Ensure that all employees are made aware of the importance placed on a safe work environment.
 - Use behavioural observation to determine the employees' ability to safely perform their assigned tasks.
 - Inspections Ensure that regular site safety inspections are conducted.
- Inform the employees of the required response to emergency alarms, what the alarms sound like, what the alarms signify (the type of hazard), and where to muster.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

- Provide employees with a list of emergency telephone numbers, and ensure they are informed of First Aid and Rescue procedures that will be used at the work site.
- Provide Nyrstar Tennessee Mines with the current addresses and telephone numbers of the Site Representative and Safety Manager and a designate for after-hours, emergency contact.
- Access / Egress
 Limit as necessary the entry of non-project personnel onto the Contractor's Work Site. Specify under what conditions Nyrstar Tennessee Mine's Operations personnel may enter and leave the Work Site.
 - Ensure that all personnel who have not received the training prescribed in this manual and who enter onto the site on a temporary basis (not more than five days) are continuously accompanied by an employee of the contractor who has received the training prescribed in this manual.
 - Ensure that all unaccompanied personnel who enter onto the work site are adequately trained in accordance with MSHA regulations and the requirements of this safety manual.
- Site Boundaries
 Confine contractor's employees, subcontractors, and all equipment and vehicles to access roads, gates, and designated work sites. Identify boundaries of the Contractor's Work Site and restrict employees and subcontractors to those areas only.
- Hold regular "tailgate" safety meetings with their workers. Safety Huddles
 Hold regular "tailgate" safety meetings with their workers. Minutes of these meetings shall be stored on site and forwarded to Nyrstar Tennessee Mines upon request. The frequency of these meetings shall be agreed upon by Nyrstar Tennessee Mines and the Contractor at the pre-job meeting.
 - Use tools and equipment that are properly maintained and appropriate for the tasks involved. They shall meet all applicable standards, regulations and Nyrstar Tennessee Mines requirements. Nyrstar Tennessee Mines Representative has the right to refuse or restrict the use of certain tools or chemicals on the work site.

	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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- PPE
 Ensure that all their employees are provided with the required personal protection equipment (PPE) and are trained in its use. Contractor is responsible for providing their employees with a self-rescuer that is a minimum 1 hour self-rescue device approved by MSHA and NIOSH.
- Ensure that the appropriate resources and equipment are allocated to immediately correct all identified unsafe practices and conditions.
 - Obtain all necessary clearances from Nyrstar Tennessee Mines Representative before starting work. These shall include, but not limited to Hot Work permits, demolition permits and excavation permits, and confined space entry permits.
 - Keep the work site free of safety and health hazards and maintain acceptable levels of housekeeping.
- Accident/Incident Reporting
 Immediately report all incidents and/or near misses to Nyrstar Tennessee Mines safety representative. Failure to communicate a SHE incident and/or near miss shall be considered a serious safety breach and action shall be taken.
 - Immediately report all cases of "Right to Refuse Dangerous Work" to Nyrstar Tennessee Mines safety representative.
- Report the arrival of a MSHA Inspector to Nyrstar Tennessee Mines Representative as soon as it is practical.
 - Forward copies of all inspection reports and any orders to Nyrstar Tennessee Mines Safety Representative.

12.3 Duties of the Contractor Safety Manager

The Contractors Safety Manager is responsible for ensuring that the Contractor's and Nyrstar Tennessee Mine's applicable safety and health standards and all other regulations are followed. He/she will advise Contractor management, supervisors and personnel of relevant Nyrstar Tennessee Mines and MSHA safety standards and health and safety regulations. The Contractor Safety Manager reports to the Independent Contractor. He / She shall have the necessary qualifications to manage the site safety program elements including, but not limited to the following:

- coordinate and supervise the project safety program;
- inform the employer and workers of hazards created;

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	---------------------------	----------------------------

- ensure that the hazards are addressed throughout the duration of the work activities;
- upon request, prepare and conduct Contractor Safety Training and Orientation;
- carry out daily inspections on the job site, and maintain daily records;
- halt a construction activity that is not being conducted in accordance with the regulations;
- prepare and provide weekly summary reports of all incidents and accidents to the Nyrstar Tennessee Mines safety representative.
- assist supervisors in the preparation of incident/accident reports;
- deal directly with those involved in "imminent danger" situations;
- monitor Crew Safety Meetings and Tailgate Meetings / Tool Box Discussion / Safety Huddles.
- take minutes at the Safety Meetings;
- maintain good relations with regulatory agencies;
- ensure that all State and Federal reporting requirements are met;
- ensure that all State, Federal and required Nyrstar Tennessee Mines records are maintained and readily available on site.

Contractor Safety Manager	•	Where the contractor employs more than 20 employees at any time, the contract exceeds 500 man days, or the work is considered a high risk project as defined in section 5.2.2.1 in the Nyrster Corporate Contractor
		section 5.2.2.1 in the Nyrstar Corporate Contractor
		Standard, the only function of the Contractor Safety
		Manager shall be specific accountability for site safety.

12.4 Duties of Contractor Supervisors

The Contractor Supervisors shall:

Training and	٠	ensure workers are properly trained for the tasks they
Education		are required to carry out and follow proper safe work
		procedures;

- inform workers of potential dangers in the workplace and advise them on control measures to ensure that the potential for occupational injuries, and incidents is minimized;
- ensure workers are wearing the required personal protective equipment;

NTM CT-005 Contractor Health & Safety Program Art NOVED 51. William Hait		NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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- ensure that appropriate tools, equipment and materials are available and used in the proper manner and for the purpose they were designed;
- provide a job specific orientation briefing to all new employees;
- ensure that material safety data sheets (MSDS) for all controlled products on the site are readily available;
- ensure that workers are trained and know the potential hazards of the controlled products they work with or may become exposed to and how to handle these products;
- Site conduct regular safety inspections of their work areas;
 - ensure that safe working conditions are provided by correcting, without undue delay, all identified unsafe practices and conditions;
 - ensure that regular housekeeping practices are implemented;
- ensure that all their workers comply with all health and safety policies and procedures and the applicable regulations;
 - arrange regular "tool box" meetings to discuss job specific safety concerns;
 - investigate all accidents and "near miss" incidents involving contractor personnel and equipment as required by the regulations, generating the required reports, and taking the required corrective action.
 - Notify Nyrstar Tennessee Mines safety representatives of all incidents/accidents as soon as possible;
 - within 24 hours of an accident or incident, provide Nyrstar Tennessee Mines safety representative with a copy of the accident investigation, clearly outlining causes and corrective actions;
 - The contractor will ensure that their personnel are in compliance with Nyrstar East Tennessee mine "Fit for Duty" policies that include; the drug policy, Alcohol policy and the Fit for Duty Policy.
 - The contractor will follow the 30 CFR 57.20001 Intoxicating Beverages and Narcotics and Nyrstar

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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policy. The examples of narcotics include; but are not limited to, OxyContin, Morphine, Suboxone/Methadone, Cocaine, etc.

- ensure that all their workers are aware of the importance placed on a safe work environment;
 - use behavioural observation to determine the employees' ability to safely perform their assigned tasks;
 - ensure that injured workers are looked after promptly and all appropriate paperwork is completed without delay;

12.5 Duties of Contractor Personnel

Working safely is everyone's responsibility. All personnel are responsible for following the safety rules and identifying/reporting unsafe conditions or acts. Contractor personnel are required to follow the safety direction of their supervisor and actively participate in the Site Safety Program.

Workers shall:

Compliance •	understand and comply with all applicable regulations, standards and Nyrstar Tennessee Mines requirements; follow safe work practices at all times; think before acting and abstain from horseplay;		
•	wear all required personnel protective equipment;		
•	attend regular "tailgate" / Tool Box Talks		
•	perform daily workplace and equipment pre-shift examinations and record.		
Site •	report all unsafe conditions and acts to their supervisor;		
•	take immediate corrective action, when necessary, to eliminate potential hazards to personnel, equipment, buildings, or the site;		
•	follow good housekeeping practices;		
First Aid •	report all work-related injuries and health problems to their Supervisor;		
Safety Awareness •	refuse to perform a particular task or operate any tool, appliance, or equipment if they have reasonable		

NTM CT-00	5 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

grounds to believe that to do so would create an undue hazard to the health or safety of any person;

- operate machinery and equipment only if qualified and authorized to do so;
- use the appropriate tools and equipment, in the way and for the purpose they were designed;
- remove from service all defective or malfunctioning tools or equipment, and notify the Supervisor or employer of the actions taken;
- endorse and actively support their Employer's Health and Safety Program;
- be fit for duty and free of influence of drugs or alcohol.
- are in compliance with Nyrstar East Tennessee mine "Fit for Duty" policies that include; the drug policy, Alcohol policy and the Fit for Duty Policy.
- follow the 30 CFR standard 57.20001 Intoxicating Beverages and Narcotics and Nyrstar policy. The examples of narcotics include; but are not limited to, OxyContin, Morphine, Suboxone/Methadone, Cocaine, etc.

13 Compliance with Standards

13.1 Protective Garments & Body Protection

The personal clothing of a worker must be of a type and in a condition that will not expose the worker to any unnecessary or avoidable hazards. Tank tops, cut-off T-shirts and shorts are not acceptable. Depending on the type of work, other personal protective clothing/equipment may be required. **High visibility reflective** clothing must be worn at all times while on Nyrstar Tennessee mine properties in areas identified as industrial work zones.

13.2 Fall Protection – Working at Heights

The contractor will ensure that all reasonable measures are taken to protect its employees from injury. The prevention of falls shall be given high priority including the provision of safety equipment and the development of fall protection plans. The contractor must demonstrate that it has taken reasonable steps to eliminate the fall hazard before implementing a fall protection system. Before an employee is exposed to a fall hazard, he must be trained in the identification of fall hazards, use and limitations of the fall protection system and the procedures to be followed.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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The contractor must inform Nyrstar Tennessee Mines Representative of the type of fall protection they will use while on site.

Per Nyrstar policy an inventory of all working at heights equipment shall be kept along with an inspection record of the quarterly inspections. This record will be maintained while working on Nyrstar properties.

Where it is impracticable to eliminate a fall hazards, the appropriate fall protection system shall be implemented in accordance with MSHA/OHSA regulations.

A copy of the plan shall be forwarded to the Nyrstar Tennessee Mines safety representative prior to work commencing. The contractor shall have a copy of the plan on site and available for review at any time.

13.3 Hazardous Materials and Substances – HazCom

The essential elements in handling hazardous material are recognition, evaluation, and control. Each area has site-specific hazards. Persons entering or working in close proximity to these areas must be aware of these hazards and know how to protect themselves.

30 CFR Part 47 Hazardous Communications (Hazcom)

Hazcom was developed to inform workers about the possible hazards of the materials they work with. With this information they can protect themselves and respond to emergencies.

Responsibilities

It is Nyrstar Tennessee Mines safety representative's responsibilities to ensure that all Nyrstar Tennessee Mines product MSDS's pertinent to the contractor's site are discussed. The Contractor Site Representative must discuss the site hazards with employees in training sessions, safety meetings and during safety contacts. The Contractor shall show employees where they can find the Material Safety Data Sheets. Personnel should refer to the MSDS whenever they have any questions regarding the safe handling of any controlled product.

All controlled/hazardous products that are brought on site by the contractor must be properly labeled and current MSDS's shall be available at the work site. A copy of each MSDS must also be provided to Nyrstar Tennessee Mines upon request.

Training

It is the responsibility of the Contractor to ensure all employees and Sub-Contractors employees are trained in, and comply with Hazcom legislation. All personnel who have an exposure to hazardous products must be aware of the hazards and proper handling procedures.

Labels

Pay close attention to labels on containers, piping, systems, etc.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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When transferring a controlled product to another container, label the container as per MSHA requirements.

Maintain all shipping container labels intact on incoming products or chemicals. Temporary storage containers or tanks shall be labeled with the appropriate information.

13.4 Hearing Protection

Hearing Protection to meet or exceed MSHA requirements for noise exposure. Hearing protection shall be worn in posted areas or when operating or working near noisy equipment such as heavy mobile equipment, jack hammers, large fans, or saws.

Hearing protection devices are of two types: those inserted in the ear (ear plugs), and those, which cover the ear (ear muffs). Either one may be worn provided they provide the required level of protection. When noise levels are identified to be 105dBa or above, dual hearing protection will be required. Muffs must be of the type that can be used in conjunction with head protection either attached to the hardhat or around the neck styles.

13.5 Meetings and Documentation

The Contractor shall allow time for employee orientation, scheduled safety meetings and for incident/accident investigation. Sufficient staff will be provided by the Contractor to gather and provide to Nyrstar Tennessee Mines Safety Representative any statistics and other information as may be requested regarding the Contractor's health, safety and environmental practices and record this data.

Site Health and Safety Committee Meeting

A Health and Safety Committee shall be established. Each meeting will run on a regular basis in a timely and organized manner with an agenda including the following items:

- Old Business
- New Business
- Action Required and Completion Date
- Person Responsible for Action Required

Meeting minutes shall be kept on site and provided to Nyrstar Tennessee Mines Safety Representative upon request.

Special Meeting

Special meetings may be called if an incident/accident occurs, a hazardous situation arises, work conditions change or other necessities arise.

13.6 Overhead Power Line Work Restrictions

An "Overhead Power line Restricted Area Permit" is required for any work to be done within 25 feet of an electrical overhead power line.

The restricted area above the elevation of the conductors is any area within 25 feet measured horizontally from the nearest conductor, regardless of the vertical clearance available.

NTM CT-005 Contractor Health & Safety Program AI	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
--	---------------------------	----------------------------

The permit is to be completed by Nyrstar Tennessee Mine's Electrical Representative in consultation with the work supervisor. The Nyrstar Tennessee Mines Electrical Representative will define the permit requirements and any required supplementary instructions. The contractor will ensure that all employees are informed of the permit requirements and that the permit is posted on the job site.

When work is to be carried out within ten feet of high voltage overhead conductors a request form shall be completed and signed by the appropriate contractor and Nyrstar Tennessee Mines representatives.

All power line contacts must be reported immediately to the Nyrstar Tennessee Mines Safety Representative regardless whether injury or damage has resulted. A complete incident investigation shall be carried out. The conductors and equipment involved must be thoroughly inspected.

Safety Headgear	• Hard hats shall be worn at all times while on the work site. They must meet the requirements listed in MSHA/ANSI.
	• Hard hats must be worn with the brim to the front and have appropriate suspension. Hard hats that are chipped, cracked, painted, or otherwise damaged in any way, shall be replaced. Hardhat suspension shall be replaced if required due to deterioration or damage.
Hand Protection	• In addition to the general purpose gloves, more specific technical gloves are required for specific tasks, based on an appropriate risk analysis. Gloves appropriate to the task will be worn at all times, unless operating equipment with enclosed cabs or if the task requires fine dexterity.
Footwear	• Approved footwear (MSHA/ANSI) shall be worn at all times while on the work site. Sneakers or open toed shoes are not allowed in the field, in shop areas or other areas of the mines/mill. Open toed shoe are not allowed in office areas.
Eye Protection	 Approved safety glasses or prescription glasses with side shields shall be worn on the contractor's job site. Specific tasks such as grinding, burning, welding, or laser operations require special protective eyewear. Regular safety glasses are <u>not</u> acceptable for these types of activities and will be worn in conjunction with the appropriate protection based on the task.

13.7 Personal Protective Equipment

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	---------------------------	----------------------------

	•	Appropriate goggles will be worn whenever:
		 hazardous material may spray, drip or splash;
		 overhead work presents the possibility of foreign material falling or dripping onto the face;
		 using high-pressure spray washing equipment;
Face Protection	•	Face shields may be required in addition to safety glasses or goggles to protect eyes and face from the impact of flying objects or chemical splashes.
	•	Clear plastic face shields are mandatory when operating portable grinders or mini-grinders.
	•	The use of safety glasses or goggles and welders face shields is mandatory during welding operations.
Contact Lenses	•	All employees with the exception of office workers are prohibited from wearing contact lenses on Nyrstar Tennessee Mine site property.
Welding/Burning	•	Welders will wear appropriate eye protection for welding/burning (ultraviolet light), and foreign particles. Safety glasses must be worn in conjunction with a welding hood.
	•	Welders shall wear welding hoods that attach to a hard hat system such as a Jackson/MSA. Wearing welding hoods without head protection is prohibited.

13.8 Respiratory Protection

The Contractor shall ensure that all personnel are provided appropriate respiratory protection and have received training in its use including its limitations and maintenance.

Respiratory protection shall be selected and worn when:

- There is a danger of an air-borne contaminant exceeding the permissible concentrations for occupational exposure limits;
- the atmosphere contains, or may contain less than 19.5 percent oxygen;
- potential hazard level is unknown.

The types of respiratory protection that may be required are:

- Half mask or full face mask cartridge respirators;
- Supplied Air Breathing Apparatus (SABA);
- Self-Contained Breathing Apparatus (SCBA).

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	---------------------------	----------------------------

Each Contractor Site Representative shall be required to have a record of all their employees' Respirator Fit Tests. At no time shall the testing interval exceed one year. All personnel must be clean-shaven where the respiratory equipment forms a seal with the face.

Only approved respiratory protection shall be used and all respiratory equipment shall be cleaned and inspected after each use.

13.9 Security

Only authorized personnel are allowed on Nyrstar Tennessee Mines property. Contract employees are restricted to designated work areas and to common access routes that do not interfere with the work of Nyrstar Tennessee Mines employees. Any person or entity may be excluded from the site if in Nyrstar Tennessee's opinion there is the potential for an unsafe or environmentally hazardous condition or practice to exist. **Form ETN-CT-008** Contractor Employee Weekly Schedule will be filled out each week with the names of the personnel that will be working on the mine sites the next week.

13.10 Vehicle Identification

For purposes of Safety and Security, all contractor vehicles on "in plant" Nyrstar Tennessee Mines property must be identified with placards or signage.

Placards may be magnetic or vinyl decals. Minimum size is 10" x 16", with two inch lettering identifying the contractor's name.

Signage must be on both sides of the vehicle.

If a contractor has more than 1 unit entering Nyrstar Tennessee Mines property, each unit shall be numbered 1, 2, 3... etc. these numbers will be four inches in size.

All vehicles entering and exiting Nyrstar Tennessee Mines property shall be maintained in a clean manner with the vehicle identification visible.

13.11 Visitors

Employees of and/or contractors are not permitted to tour friends or relatives through any job site without prior approval of the Nyrstar Tennessee Mines. Contractors and contractor personnel are restricted to those work areas specified in their contract.

13.12 On-Site Security

The contractor is responsible for securing his tools and materials. All thefts are to be reported to the Nyrstar Tennessee Mines Safety Representative who will assist in notifying the appropriate local authority.

13.13 Firearms

Firearms and/or components of firearms are not permitted on the property.

13.14 Cameras

Taking photographs of Nyrstar Tennessee Mines installations, manufacturing processes, worksites, procedures or equipment is prohibited. Contractors, contractor personnel or visitors will not be allowed to carry cameras or other photographic equipment while on the

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property unless permitted by Nyrstar Tennessee Mines Policy exceptions are noted as follows:

- Appointed Nyrstar Tennessee Mines /Contractor photographers
- Employees with senior management approval who intend to use the photographs for Company purposes.

13.15 Union Representatives for Outside Contractors

Should any union member(s) representing workers for an outside contractor show up at the Main Gate and request to view the Nyrstar Tennessee Mines work site, the following policy shall be followed:

The Union member must remain at the security gate until collected by the Contractor.

The contractor will personally come to the security gate and escort the Rep(s) to the work site where he will remain with him for the duration of the visit, and will deliver him back to the security gate upon completion of the visit.

Under no circumstances are Union Reps allowed onto the property unescorted.

If the Contractor is not on the property, the Union Rep(s) will not be allowed to view the site.

13.16 Signs

Suitable safeguards and/or warning signs shall indicate any work activity that may constitute a hazard to personnel. Construction and hazardous areas shall be clearly marked. Contractors must obtain written approval before removal of any Nyrstar Tennessee Mines signs.

13.17 Substance Abuse

Use of alcohol or illicit drugs on the work site is strictly forbidden. Any person found in possession of or under the influence of alcohol or drugs will be removed from the work site immediately. See paragraph **13.23** Contractor Personnel Conduct.

Contractors are required to carry out pre-employment drug testing as well as random drug testing. Contractor's Drug Testing and Return to Work policies are subject to the approval of Nyrstar Tennessee Mines Representative's. Contractors are required to maintain copies of drug test results on site and to make these available to Nyrstar Tennessee Mines Representative's upon request.

Nyrstar Tennessee Mines reserves the right to carry out random, post-accident or incident drug testing as required.

The contractor will ensure that their personnel are in compliance with Nyrstar East Tennessee mine "Fit for Duty" policies that include; the drug policy, Alcohol policy and the Fit for Duty Policy.

The contractor will follow the 30 CFR 57.20001 Intoxicating Beverages and Narcotics and Nyrstar policy. The examples of narcotics include; but are not limited to, OxyContin, Morphine, Suboxone/Methadone, Cocaine, etc.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

13.18 Temporary Buildings

Temporary buildings for contractors shall be of approved construction. The construction and location of such buildings/builders shall be agreed upon in consultation with Nyrstar Tennessee Mines Representative.

13.19 Transportation of Dangerous Goods

All Contractors transporting dangerous goods onto or from Nyrstar Tennessee Mines property must comply with the Transportation of Dangerous Goods (TDG) regulations. The main regulatory requirements are:

- complete documentation;
- Labeling and marking of all goods;
- placarding of vehicle(s) used for transporting.
- Contractor is responsible for TDG training.

13.20 Vehicle Safety

All Contractors' vehicles on the site must be in safe operating condition and operated only by authorized personnel with valid operating licenses for the type/class of vehicle/equipment operated. MSHA requires that task training be completed for light vehicles on site, which requires a 5000-23 form to be completed once the training is completed. All vehicles and mobile equipment shall have seat belts, which must be worn while in motion, meeting all governmental vehicle standards. All vehicles must be properly insured before driving onto the site. Vehicles must be equipped with strobe lights, reflective material and whip mounted flags mounted on the vehicles whether working on the surface or underground. Documentation shall be provided as per terms of the contract.

Materials Handling

Materials and equipment, including compressed gas cylinders, being transported shall be secured to prevent inadvertent movement while the vehicle is in motion.

Speed Limits, Signs, & Crossings

- Posted speed limit signs shall be obeyed by all personnel.
- All traffic control signs shall be obeyed.

Passengers

Operators shall not transport personnel in pickup truck boxes, on flat deck truck beds, cranes, front-end loaders buckets, forklift trucks, dump truck boxes, or similar equipment. Passengers can only be transported in vehicles equipped with rollover protection and seat belts. The number of seat belts provided in the vehicle governs the number of people who can be transported. All personnel are expected to wear their seal belt while the vehicle is in motion.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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Vehicle Parking

Vehicle parking is very limited and contractors are requested to minimize the number of vehicles they require on site. Contractor employee vehicles are permitted to park only in the designated parking lot areas. The contractor is responsible for transporting workers to and from the work site. While parking on the work site it is required that the vehicles will have the wheels chocked against movement.

13.21 Waste Disposal

Waste contaminants such as lubrication oils, solvents, diesel fuel, etc. shall be stored in suitable containers away from watercourses or sewers. In the event of a spill of hazardous material the contractor shall:

- Take immediate action to contain the spill and isolate the source;
- Report the spill to the Nyrstar Tennessee Mines Safety or Environmental Representative.
- Contractor's shall not discharge or direct discharges into Nyrstar Tennessee Mines effluent system.
- Contractors will be responsible for the proper disposal of all wastes including "special wastes".
- Contractors may not remove materials for salvage, resale or reuse without the permission of Nyrstar Tennessee Mines.

13.22 Environmental Protection

Contractors shall comply fully with all State and Federal environmental laws and regulations as well as the Storm Water Pollution Prevention Plan for the site as approved by the Department of Ecology.

Contractors shall provide secure spill containment equal to at least 110% of the capacity of any stored substance that may be harmful to the environment, for all stored substances with a volume of 5 gallons or greater.

Contractors shall provide containment dams or other means to ensure that polluted or contaminated water is contained on the site and not discharged from the site.

Contractors shall ensure that no hazardous or polluted substances are discharged into surface or underground watercourses on or adjacent to the site.

Contractors shall ensure that no hazardous or polluted substances, soil or gravel are tracked onto roads leaving the site by vehicles and/or equipment associated with the work under the Contractor's control.

13.23 Contractor Personnel Conduct

NTM CT-005 Contractor Health & Safety Program APPROVED B	Villiam Hart DATE RELEASED: Feb 1, 2023
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Contract personnel shall abide by Nyrstar Tennessee Mines expectations at all times. For those that do not follow the expectations, the offending contract personnel may be asked to **leave the property**. There are different levels of infractions that will lead to a different level of sanction, from 1 month to a permanent ban from the properties.

While working on Nyrstar properties you are viewed by the nearby communities as being part of the mines personnel, as such you are to conduct yourself accordingly. Behaviors/conduct that reflects badly upon Nyrstar Tennessee mines will not be tolerated and dealt with accordingly.

Permanent Ban:

- Violation of Nyrstar's drug and alcohol policies.
- Disregarding site rules and refusing to comply when approached by Nyrstar supervision. Not following the Nyrstar's Golden/Lifesaving Rules.
- Repeated violations of Nyrstar policy after counselling.
- Disruptive, abusive behavior towards Nyrstar employees.
- Behavior/conduct in the surrounding communities that reflects badly on Nyrstar.
- A permanent ban excludes the offending party(s) from being offered employment by Nyrstar Tennessee Mines in the future, unless approved by site general manager.
- The ETN CT-013 Contractor Personnel Discipline Form shall be completed and copies forwarded to the Contractor, Nyrstar HR and HSEC departments for future reference.

1 month Ban:

• Third occurrence of not wearing the appropriate PPE while working on Nyrstar Tennessee mine properties.

14 Safe Work Practices

The Contractor shall be responsible for providing safe work areas and conditions at the site.

14.1 Asbestos

Special precautions and procedures are required for work with asbestos.

No asbestos shall be removed by any contractor, from any area within the mine site, unless a Safe Work Plan implemented by the contractor and reviewed by the Nyrstar Tennessee Mines Safety Representative is in place.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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Note: Whenever a material is encountered that may contain asbestos, stop the job and notify the Nyrstar Tennessee Mines Safety Representative who will notify the Nyrstar Environmental department so they can provide instructions to the contractor on how to proceed.

14.2 Welding and Burning

General

The Contractor Site Representative shall ensure that the burning and welding regulations are followed. Contractor employees shall have a thorough knowledge and understanding of the Fire/Safety regulations.

The contractor is responsible to provide the required number, type and size of fire extinguishers as defined in the MSHA (Mine Safety & Health Administration) 30 CFR (Code of Federal Regulations) parts 56 & 57 firefighting equipment. The contractor is responsible for ensuring all required firefighting equipment complies with the inspection criteria identified in 30 CFR parts 56 & 57, section 4201.

The contractor shall provide curtains, shields, or any other specialized equipment to shield flames and sparks from combustibles and other workers.

Use of a Hot Work permit is mandatory in areas not specifically addressed in the Nyrstar Hot Work Procedure.

The closing of any valve on the fire system requires an FM Global impairment lockout notification (Red Tag System) authorized by the Nyrstar Tennessee Mines Safety Representative.

Hot Work Permits

In areas designated by the Nyrstar Tennessee Mines Representative, a Hot Work Permit procedure will be provided by Nyrstar Tennessee Mines Representative and followed by the contractor. As specified on the permit, the contractor will be responsible for providing fire watch for 60 minutes after work, including any coffee or lunch breaks. The contractor will also be responsible for monitoring each hot work area for (4) four hours after each job is completed.

Welding and Burning

Welders shall use protective screens to protect other workers from welding flash, sparks, grinding particles, and other airborne contaminants created by the welding and grinding process.

Welders shall use air movers or other effective means to remove air contaminants created by the welding process, when those contaminants affect the wellbeing of the welder or other workers.

Welders shall wear respiratory equipment in accordance with MSHA.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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When welding above the floor elevation or where wall openings could be a hazard, welders shall ensure all sparks; slag and cuttings are contained at the welding level by the use of asbestos free welding blankets or other effective means.

Welders shall carry a rod stub container to prevent the discharge of rod stubs to the floor.

No welding shall be carried out above other workers where the welding process could create a hazard to those workers below.

Fire Protection

The area where welding is to be carried out shall be checked by the supervisor for combustible and explosive conditions.

Welding and cutting units shall have a fire extinguisher located at, and assigned to, that unit or bank of units.

Welders shall have a fire extinguisher readily available where welding or burning is being done.

No welding shall be done near flammable materials such as petroleum products, fuel storage and fueling stations, solvents, paints or other high hazard materials without the appropriate precautions described in MSHA.

The contractor is required to use approved metal containers for the transfer and storage of flammable liquids. Plastic Containers used to store or transport flammable liquids are not allowed. An accident investigation report shall be completed and provided to the Nyrstar Tennessee Mines Safety Representative upon request after each accidental fire occurrence.

Storage and Handling

Pressurized cylinders shall be stored in the upright position and secured against falling over. Gauges and hoses shall be removed from pressurized cylinders when not in use. The cylinders shall be capped and secured in the upright position.

All pressurized cylinders shall be:

- immediately removed from the job site when empty to the empty cylinder storage area;
- stored in an area located outside of the buildings;
- transported and stored in the upright position, capped and secured;
- hoisted in an approved hoisting cage and all cylinders shall be capped and secured;

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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14.3 Confined Space Entry

In addition to this section, refer to the Nyrstar Tennessee Mines: CONFINED SPACE PROCEDURE. The contractor shall meet all requirements of the Confined Space requirements in the MSHA regulations. A confined space is any space, which has limited means of entry and exit and may be subject to developing an oxygen deficient, flammable or toxic atmosphere. Some of the typical confined spaces at Nyrstar Tennessee Mines locations include pump rooms, tanks, vessels, manifolds, sumps, excavations, trenches and vaults. Any of these confined spaces have potential for the presence or development of the following hazards:

- toxic gases or liquids;
- lack of oxygen;
- danger for an explosion or fire;
- physical hazards;

Contractors are responsible for ensuring that their crews have been properly trained in confined space entry and safe work procedures. All Contractors shall have appropriate training to understand what personal protective equipment is required and emergency response requirements including site-specific procedures.

Special precautions shall be taken before entering any confined space or hazardous area.

No worker shall enter a tank, vessel, tunnel, sewer, or other confined space in which a harmful atmosphere exists or may develop until:

- tests to determine the nature and quantity of harmful vapors, gases, fumes, mists, dusts, and oxygen levels, have been made and recorded;
- written work procedures have been established, posted and are understood by the worker (these procedures shall include emergency procedures);
- cleaning and ventilation renders the level of harmful substances in the work area safe.

Where tests indicate the presence of harmful substances and it is not practical to provide a safe breathing atmosphere:

- the worker entering a confined space shall wear an approved respirator and personal protective equipment;
- the concentrations of flammable substances shall be maintained below 20 per cent of the lower explosive limit of that substance or substances as determined by repeated testing;
- all sources of ignition shall be eliminated or controlled.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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14.4 Equipment Tools and Machinery

All equipment will be in good operating condition. Equipment that does not meet Nyrstar Tennessee Mines will be repaired or replaced by the Contractor. Equipment shall thereafter be regularly inspected and maintained in good condition by the Contractor meeting the requirements of all-applicable legislation, regulation and standards. Contractors will not be allowed to use Nyrstar Tennessee Mines equipment or tools unless prior approval is received.

Inspection may cover general appearance of equipment, tools/tanks, cable condition, exhaust system, guards on moving equipment, obvious gas/oil leaks, hydraulic leaks, oil-soaked items, vehicle lighting, and reverse warning systems.

Contractors are responsible for the safe operating condition of the tools and equipment used on site. Contractors are also responsible for ensuring that qualified personnel in the way use the equipment, tools, and machinery and for the purpose it was designed for.

Contractors shall at all times on Nyrstar Tennessee Mines property follow the Mine Safety and Health Regulations Section/MSHA in relation to Ground Fault Circuit Interrupters. The Company may develop a program for electrical equipment.

Flexible power cords (extension cords) shall conform to the requirements of the Electrical Code (1), which indicates that cords shall be suitable for extra hard usage.

Nyrstar Tennessee Mines requires that cords have a minimum rating of SOW and 600 volts.

14.5 Excavations - Trenching and Shoring

All excavations shall be performed as per MSHA Regulations and Nyrstar Tennessee Mines procedures. An Excavation Permit, which is issued before the start of work, is required if:

- ground must be excavated (skin broken) by use of mechanical or hand implements;
- wall(s) or floor(s) of a building are broken through using mechanical or hand implements.
- If the wall or floor can be visually inspected and services identified, a clearance may not be required.

All underground utilities such as pipes, cables, and conduits must be located, marked, and protected. Excavating shall only commence upon receipt of authorization from Nyrstar Tennessee Mines representative.

No worker shall enter any excavation over four feet in depth unless:

• the sides of the excavation are sloped to a safe angle; or,

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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- the sides have been supported by the use of sheet piling, or shoring and bracing, meeting the minimum standards contained in the governing occupational health and safety regulations; or
- workers are protected by other equally effective means. (Such as a trench box or other engineered means.)

All trench support systems must be inspected daily (as a minimum) and must be maintained in fully effective condition.

Where excavation walls are sloped as a substitute for shoring, the walls must be sloped at angles, dependent upon soil conditions, which will provide stable faces and meet the required regulations.

Barricades shall be installed around any excavation or trench constituting a potential hazard to workers or the public.

14.6 Fire Protection and Prevention

Contractors will provide or arrange for adequate fire protection as agreed to in their contract with Nyrstar Tennessee Mines

Fire Extinguisher

Appropriate fire extinguishers shall be readily available in the immediate area whenever welding, burning or cutting is performed.

Hot Work Permits

Hot Work Permits shall be used in accordance with Nyrstar Tennessee Mines Safety Procedures. Nyrstar Tennessee Mines uses FM Global Hot Work Permit System.

Flammable Material Storage

Contractors shall not bring any flammable material storage containers larger than five gallons onto the site without approval of Nyrstar Tennessee Mines Representative. The Nyrstar Tennessee Mines Representative and the Environmental Coordinator will approve and designate all flammable liquid bulk storage areas. Warning signs shall be posted near these areas and the contents of each container shall be identified with the appropriate Labeling. Provisions for spill containment shall be in accordance with standards that meet the Fire Code and the governing Environmental Agency.

Solid combustible materials and equipment stored in combustible packing or crating shall be stored in areas designated by Nyrstar Tennessee Mines Representative. Combustible material shall not be stored in areas where ignition would represent a threat to operating plants, structures or works.

Fire Protection Systems

NTM CT-005 Contractor Health & Safety Program APP	PROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	-------------------------	----------------------------

Existing fire protection systems, (e.g. sprinkler systems, detection/ suppression systems, etc.) shall not be taken out of service, even temporarily, for any reason without first obtaining approval from Nyrstar Tennessee Mines

Fire Prevention

Fire prevention on the project requires the co-operation of Contractor personnel. At each work site, there shall be a sufficient number of dry chemical fire extinguishers, in operating condition, to provide reasonable protection as dictated by the work activity and applicable regulations.

Contractor personnel shall:

- be familiar with the use of fire extinguishers;
- be aware of the location of the fire alarms, fire extinguishers, and other fire protection equipment nearest their work area;
- be familiar with the limitations and proper use of the available fire extinguishers and the type of fire on which each kind of extinguisher should be used;
- keep fire exits, evacuation routes, alarms, and fire-fighting equipment free of obstruction at all times.

14.7 Housekeeping and Material Storage

- Work areas and walkways, shall be kept clean and free from tripping and slipping hazards, such as ice, snow, materials or equipment, at all times.
- No materials or equipment shall impede the access to or exit from the work areas or electrical disconnects.
- If unobstructed walkways are not possible to maintain due to restricted work areas, alternate routes must be established and approved by an authorized Nyrstar Tennessee Mines representative.
- Material storage areas are to be maintained in a neat and orderly manner.
- All hazardous materials shall be stored in approved labeled containers in designated areas and in a manner that minimizes potential for the development or addition to fire or other hazards.
- Combustible materials shall be stored in designated areas away from ignition sources.
- Thorough site cleanup may be required, as determined by a Nyrstar Tennessee Mines representative during and/or upon completion of the contract.
- All debris shall be contained and removed daily.

14.8 Lockout / De-Energization

If the unexpected startup of machinery or release of a hazardous energy source could cause injury, the energy source must be isolated and effectively controlled. Personal lockout is the use of personal locks to secure the control devices that govern the release

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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of hazardous energy. Lockout provides personal protection by ensuring a zero energy state during installation and maintenance work. Hazardous energy has the potential to harm workers. It could be electrical, mechanical, hydraulic, pneumatic, chemical, or thermal.

Only properly trained employees may work on equipment requiring lockout. They must be trained in the objectives and procedures of lockout in accordance with Nyrstar Tennessee Mines procedures (Isolation / Lockout Procedures) and the MSHA regulations.

A Nyrstar Tennessee Mines authorized employee shall lock out all equipment under the control of Nyrstar Tennessee Mines by application of an Operations/Plant lock. The contractor without approval of Nyrstar Tennessee Mines cannot lock out plant equipment.

When machinery or equipment is shutdown for maintenance or repairs, no work shall be carried out until:

- all points necessary to ensure worker safety have been locked out and the equipment to be worked on has been de-energized;
- lockout procedures have been noted on the work permit;

Whenever personal locks are removed from a control device and the work is not complete (i.e. end of shift), a systems lock (contractor lock) must be applied before the last personal lock is removed.

The contractor must provide their employees with good quality key locks. Combination locks are not acceptable as per the MSHA regulations.

At some Nyrstar Tennessee Mines work sites, the Contractor may be required to use a Group lockout Box system, which is covered in the Contractor Safety Orientation.

14.9 Safe Work Permits

The following permits may be required in addition to the NTM SAF-224 ETN Safe Work Permit:

- Overhead Power line Restricted Area Permit
- Excavation, Demolition and Backfill Clearance
- Hot Work Welding and Burning Permit
- Confined Space Entry Permit
- Lifting Permit

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

The originator and the receiver shall sign the permit. Each space on the permit must be filled before issue.

The Contractor Supervisor or Foreman must ensure that all workers fully understand and comply with the conditions shown on the Safe Work Permit. The Safe Work Permit is valid only for the work and the particular area it was written for. A new permit is required before undertaking any work not specified on the permit or when moving from one area to another.

A bulletin board should be set up at the construction site with all applicable permits, plans, procedures and MSDS's posted in one location.

Any concerns regarding Safe Work Permits can be directed to the person who issued the permit, or Nyrstar Tennessee Mines Safety Representative.

14.10 Scaffolding

All scaffolding shall be installed, inspected, maintained, and repaired in accordance with the manufacturer's specifications, applicable codes and the Mine Safety and Health regulations having jurisdiction.

All planking and other wood components shall be free of visible defects, unpainted and structurally sound. Before commencing work on scaffolding, it shall be inspected and tagged by a qualified Contractor's representative. The inspections and use of the scaffolding must be in compliance with Nyrstar's TS207 Work at Heights policy.

14.11 Lifting and Rigging

The Nyrstar Tennessee Mines Safety Representative reserves the right to require the Contractor to develop lifting and rigging plans, have these approved by certified professional engineers, and submit copies to the Nyrstar Tennessee Mines Safety Representative for his records, for any lifts or rigging involving:

- The use of more than one crane;
- Unconventional use of cranes, chain blocks, winches or tuggers;
- The combined use of cranes, chain blocks, winches or tuggers;
- Anchoring of chain blocks, winches or tuggers to structural members, beams, roof bolts, eye bolts, etc.
- Loads in excess of 1 ton.

This excludes loading and unloading of materials and equipment using cranes or other equipment designed for such use.

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15 Incident Response

Emergency Preparedness and Response

TO BE CREATED ON SITE

First Aid and Medical Treatment (Emergency Ph: _____)

Contractor will provide first aid for the site unless otherwise stated in the contract. The contractor must ensure that all workers understand the First Aid reporting requirements, location, and contact information.

Site Evacuation Procedure

TO BE CREATED ON SITE

Emergency Procedure for Fire

TO BE CREATED ON SITE

16 MSHA Inspections

Purpose

To establish the policy for all managers to follow if an MSHA Compliance inspection will be conducted.

Overview

Department of Labor – Mine Safety and Health Administration is authorized to conduct workplace inspections to determine whether employers/employees are complying with standards issued by the Act for safe and healthy workplaces. Inspections are usually conducted without advance notice and can be conducted for one or more of the following reasons"

- Imminent Danger Situations Any condition where there is reasonable danger that a danger exists that can be expected to immediately cause death or serious harm.
- Catastrophes and Fatal Accidents
- Employee Complaints
- Programmed Inspections Based on injury rates, previous citation history, and employee exposure to toxic substances or random computerized selection.

This policy details the phases of an MSHA compliance inspection, the response and attitude of management to an inspection and steps to insure completion of the appropriate follow-up corrective action.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	---------------------------	----------------------------

Policy

Nyrstar Tennessee Mines policy is to demonstrate "good faith" effort to comply with all MSHA standards and any health and safety issues raised during an MSHA compliance inspection.

Management is responsible for implementing this policy and correcting all health and safety deficiencies revealed during compliance inspections. The Safety and Health Manager will provide technical assistance and coordination of corrective action, as required.

Admitting an MSHA Inspector

If an MSHA inspector requests to conduct an inspection, the senior management member is to ask to see the officer's credentials. An MSHA inspector carries either U.S. or the state's Department of Labor credentials bearing their photograph and a serial number. In every case, verify the authenticity of the compliance inspector's identification by calling the nearest MSHA office.

Note: DO NOT REFUSE THE MINE INSPECTOR ADMITTANCE.

The senior management member is to contact the Safety and Health Manager or designee immediately.

MSHA Facts

An MSHA Inspection is:

Authorized representative of the Secretary of Health

They shall make frequent inspections to ensure Health and Safety for workers

No advanced notices shall be provided to any person

The Secretary of Health, Education, and Welfare shall have a right of entry to, upon, or through any mine.

There are no time limits specifying how long an inspector may remain on the premises.

Nyrstar Tennessee Mines or any independent contractor may contest (appeal), in writing any part of the citation within a suitable timeframe in accordance to MSHA Regulation

An inspection report /citation must be posted in the work place in accordance to MSHA requirements following its receipt or until the condition is corrected.

Management will ask for clarification about any point(s) an inspector raises that they don't understand.

Management and employees will not admit to violating any safety standard.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

If Nyrstar Tennessee Mines contests (appeals) an alleged violation; copies of the appeal will be posted at the work site.

Inspection Procedure

Before inspecting the premises, the MSHA Inspector will conduct an opening meeting at which they will explain:

- The reason for the inspection (for example. employee or individual complaint)
- Purpose of the visit
- Scope of the inspection
- MSHA Standards that apply

Preambles to MSHA Standards

• Reporting of Fatality or Multiple Hospitalization Incidents.

Senior Management must arrange for the following to attend a Mine inspection:

- The Mine safety manager or designee of Nyrstar Tennessee Mines.
- Other Personnel, as directed

Management must request copies of all applicable safety and health standards as well as a copy of any employee complaint.

The Walk around Inspection

After the initial meeting, the MSHA Inspector will go through the facility to inspect for safety and health hazards. At a minimum, the MSHA Inspector will likely ask for documentation of the following:

- Compliance with the hazard communication standard.
- Compliance with the lockout/tag out standard.
- Record keeping for employee training
- The employee written safety and health management program

When senior management members and other Nyrstar Tennessee Mines employees accompany an MSHA Inspector on an inspection, they should be respectful while firmly standing up for Nyrstar Tennessee Mines rights and viewpoints. The conduct of Nyrstar Tennessee Mines personnel shall be in accordance with the following guidelines:

- Do not physically interfere with the MSHA Inspector when they are making the inspection
- Do not give false or misleading information.
- Accompany the MSHA Inspector at all times during the inspection.

	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
--	---	---------------------------	----------------------------

- Answers to an MSHA Inspector's questions are to be responsive to the question asked. <u>Do not offer any information beyond the scope of the question</u>. Avoid making any statement that could be construed as an admission of a violation of any recognized health standard.
- Do not discuss with the MSHA Inspector any previous safety inspections.
- If the MSHA Inspector wants to take photographs, senior management must request copies of the photographs. Senior management will also take photographs of the area from the same and different angle.
- Watch and take notes regarding all activities of the MSHA Inspector. Notes should be detailed and should include such pertinent information as to the name(s) of the MSHA Inspector(s), time of arrival, activities of MSHA Inspector, amount of time spent at each location, comments about violations and potential citations, who was interviewed, what was said, etc.
- Immediately correct minor but apparent safety problems in order to help establish Nyrstar Tennessee Mines "good faith" effort to comply with all MSHA health and safety standards.
- The MSHA Inspector cannot and will not act in a consultative capacity. If they see or if Nyrstar Tennessee Mines personnel points out a violation, the MSHA Inspector must issue a citation.

Closing Inspection Discussions

After the walk around inspection, a closing conference is held with the MSHA Inspector, senior management, and any employee representative. The MSHA Inspector will discuss all unsafe and unhealthy situations observed and will identify all applicable sections of the standards, which may have been violated. Management will insure that all violations are understood. When appropriate, Management will produce records to show compliance efforts and fully explain any difficulties that will be encountered in the correction of safety hazards. Management and employees will not admit violation or indicate how long it will take to correct a potential violation.

Post Inspection Activities

Time limits to correct violations generally range from 5 to 30 days, unless an extension is requested. Time limits will be given in person at the closing conference or mailed within 30 days in a written report of the inspection findings. Follow-up action will be documented in writing, by senior management, listing specific action steps, the individual accountable, and the target date for completion. Management is responsible for completing all corrective action.

The Safety and Health Manager will retain MSHA inspection reports, Nyrstar Tennessee Mines response, and all correspondence to and from MSHA permanently.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2

Questions an MSHA Inspector May Ask

Administrative Interview

Do you have a written Hazard Communication Plan?

- Requires employers to have a written plan, which describes how the training, labeling, MSDS management and other requirements of "Right-to-Know" will be met. More citations and fines are given for this than anything else.
- Do you have a complete written inventory (list) of hazardous materials?
- Requires employers maintain a current list of all hazardous materials used in the workplace. This list must be accessible to employees.

Has a specific person been assigned responsibility for your safety program?

Other regulations require that you assign responsibility for various aspects of the safety program. Some states specifically require that employers name a person with overall safety responsibility.

Do you have a formal disciplinary policy relating to safety?

Various sections require employers enforce safety rules. Employees may not decide on their own when to follow the rules.

Do employees ever complain of headaches, nausea, dizziness or skin problems?

- All MSHA standards require that employers evaluate workplace hazards and determine whether material use or employee complaints mean that there is any over-exposure to unsafe conditions. These are typical symptoms of over-exposure.
 - a. Do employees wear respirators or dust masks?
 - b. If "Yes": Do you have written respirator procedures?

Requires that if any employee uses a respirator, including a dust mask, written procedures must cover use, fit testing, cleaning and maintenance of the respirator.

c. Do you have records showing fit testing of respirators and training?

Requires employers to test the fit of each respirator on each employee and train the employee to check and properly use the respirator.

Do you have written training records?

• Virtually all other MSHA regulations require written training records, which document date, subject, attendees and trainer.

Do you have more than 10 employees?

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- If "Yes": Do you have a written Emergency Contingency Plan?
- The requirements for an emergency contingency plan for those who employ more than 10 at any one time during the year.

Can you reasonably anticipate that any employees will be exposed to human blood this year because of their jobs?

Have you assigned responsibility for first aid to an employee?

- If "Yes": Do you have written Blood borne Pathogen Exposure Control Plan?
- Have employees been trained in protective equipment and procedures?
- Requires that employers develop an Exposure Control Plan, train employees, keep records, and offer Hepatitis B vaccinations if it can be reasonably anticipated that one or more employees could be exposed to human blood or blood products as a result of doing their assigned duties. If you have assigned first aid responsibilities to an employee you are required to have a Blood borne Pathogen Program. Special waste management and use of approved disinfectants are also required. The key is "reasonable anticipation". Good Samaritan acts are not covered.

Janitorial & Chemical Storage Area Overview

- Is the area neat and clean, without spills on the floor?
- Requires that all work places be clean, orderly and sanitary.

Are there any containers without legible labels?

- Do all secondary container labels list the product, the hazards and the manufacturer?
- Requires that all containers of hazardous materials be labeled. The manufacturer's label is fine if legible. If materials are moved from the original to a "secondary" container, it must be labeled.
- The label must include the name of the material, a description of the hazard and the manufacturer's name. Just the name is not enough.

Is there an MSDS on hand for each hazardous material?

Are MSDS's accessible to all employees at all times?

Pick a product. Ask to see the MSDS. Could an employee have found it in 4-5 minutes?

The Standard requires that employers have an MSDS for each hazardous material.

Employees must have access to MSDS's at all times during the work shift and be able to find a specific one in less than 5 minutes without asking for access to the collection.

General Work Areas Overview

Is the fire extinguisher tag marked for monthly inspections and service in the last year?

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023

- Requires that all portable fire extinguishers be visually inspected monthly and serviced annually. If the tag is not marked it is difficult to prove inspections.
- Is the area clean and uncluttered?
- Requires that all work places be clean, orderly and sanitary.
- Are oily rags kept anywhere but in metal cans with closed lids?
- Requires employers to identify and correct fire hazards. Oily rags should be kept in a closed metal container.
- Is coffee, drinks or food kept near any hazardous materials?

Requires that no employee be allowed to have food or beverages in an area where they could be contaminated with toxic or infectious materials.

• Are there any unlabeled containers?

The standard requires that all containers of hazardous materials be labeled. The manufacturer's label is fine if legible. If materials are moved from the original to a "secondary" container, it must be labeled. The label must include the name of the material, a description of the hazard and the manufacturer's name. Just the name is not enough.

• Are any respirators stored, which are not in bags or cabinets?

The standard requires that respirators be stored and maintained in a way that they will be cleaned, protected and ready for use. Respirators left in the open may absorb contaminants and become unusable.

• Are gloves, goggles or safety glasses clean and in good repair?

The standard requires that safety equipment be maintained in clean and sanitary condition and that it be used only if in good repair. Broken or dirty equipment raises questions in an inspector's mind and leads to a more intensive inspection.

• Are there extension cords across aisles or walkways?

The standard requires that all work places be clean, orderly and sanitary. Cords across aisles present a slip and fall hazard as well as a potential electrical hazard.

• Look at ladders. Are there broken steps or parts in bad repair?

Requires employers to "inspect ladders frequently and those which have developed defects shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use"."

• Are there any broken or missing electrical switch or outlet covers?

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
---	---------------------------	----------------------------

Requires that pull boxes, junction boxes and fittings have plates or covers. Broken plates and covers do not provide adequate protection.

Employee Area Overview

- Is the MSHA Poster or state equivalent posted?
- Are emergency telephone numbers posted by telephones?
- Is an evacuation route map posted?
- Is there a fully stocked first aid kit?

The standard requires that there be a first aid kit stocked with supplies appropriate to the situation. It must be continuously stocked for any emergency.

- Are lunches, snacks or drinks stored in a cabinet or refrigerator with chemicals?
- Requires that no employee be allowed to have food or beverages in an area where it could be contaminated with toxic or infectious materials.

Employee Interviews

MSHA uses "performance based" standards for its enforcement of safety regulations. The best program on paper will mean nothing if your employees cannot do the right thing or do not know where to get information. Whether your employees can answer questions correctly (or not) is the test MSHA inspectors use to evaluate your compliance with MSHA rules.

MSHA Record keeping and Posting Requirements

Purpose

To establish the policy and procedures regarding Nyrstar Tennessee Mines requirements for compliance with MSHA record keeping and posting guidelines for occupational injuries and illnesses.

Policy

All locations are to post the "Job Safety and Health Protection" poster in prominent places in the workplace.

MSHA requires that employers maintain a record of certain occupational injuries that occur at each business establishment. MSHA Log and Summary of Occupational Injuries and Illnesses at the end of each year

Record Retention

All forms shall be kept on file for a minimum of 1 year following the year to which relate.

	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
--	---	---------------------------	----------------------------

Common MSHA Violations

- Failing to provide information about the Hazard Communication standard and the actual hazards of the chemical that are present.
- Not having a Hazard Communication Program.
- Not having a written fire prevention program.
- Injury Log hasn't been properly maintained or is missing.
- Not having an MSDS for every hazardous chemical in use.
- Not properly labeling all containers or groups of containers containing hazardous chemicals.
- Not marking exits or accesses to exits.
- Improper building design, construction, maintenance or occupancy of a building or structure containing employees.
- Fire extinguishers not located or mounted in an accessible and safe location or not provided.
- Failure to provide fire extinguisher training.
- Improper wiring is present in one of the following ways:
 - Unused openings and electrical boxes not closed.
 - Conductors entering boxes are not protected from abrasion
- Improperly using a flexible cord in one of the following ways:
 - Flexible cord smaller than a #12 was spliced
 - Solder used to splice a flexible cord
 - Used as a substitute for fixed wiring
 - Ran through holes in the ceiling and/or walls
 - Ran through doorways and/or windows
- Exposed or non-current carrying metal surfaces of fixed equipment are not grounded.
- Failing to provide electrical boxes and fittings with an approved cover, or failing to ground metal covers.
- Disconnects, circuit breakers, and other over-current devices aren't legibly and permanently labeled.
- Tongue guard on grinder is more than 1/4" from the edge of the stone.
- Missing or inadequate machine guarding.

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023	NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
--	---	---------------------------	----------------------------

- Work rest is missing or more than 1/8" from a grinding wheel.
- Not providing a suitable eyewash or shower.
- Persons without respirators performing tasks that require respirators.
- Written standard operating procedures governing the use and selection of respirators shall be established.
- Employers shall make conveniently available protectors suitable for the task to be performed. Protective eye, head, face, body, feet and hand equipment shall be provided when there is reasonable probability of injury.
- A Platform four feet or more from the ground is not provided with a standard railing (and toe board) where required.
- Broken or damaged ladders being used.
- Furniture, barrels, boxes, or other devices used in lieu of ladders.

17 Time Sheets and Invoicing

Contractors can't come on site without a valid Nyrstar Purchase Order unless in emergency circumstance approved by the Nyrstar General Manager or their deputy.

Nyrstar and Contractor will appoint a contract manager for every contract.

Invoice will only be paid if the following is supplied with the invoices:

- Each contractor employee needs to have a daily timesheet. Multiple contractor employees can be on one sheet.
- The timesheet needs to have the unequivocally hours worked written down.
- For contractors that have KPI based contracts, the payable metric must be on the time sheet and the sheet must reflect work done accurately.
- Each daily timesheet needs to be signed off by each contractor employee.
- Each daily timesheet must be presented to the Nyrstar Responsible daily to sign off and discuss SHE performance and issues, time worked and KPI's met for the day. Any challenge to the timesheet must be agreed upon by both parties and SHE issues have to be reported and addressed immediately. If an agreement is not met, the challenge will be escalated to the Nyrstar contract manager and the Contractor contract manager.
- All signed off timesheets must be attached to the invoices and send to the Nyrstar contract manager for vetting. Once approved the contractor can send the invoice to Nyrstar accounts payable.

 NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
	NTM CT-005 Contractor Health & Safety Program	NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart

18 Evaluation of Contractor SHE Performance

The Nyrstar Area / Installation Owner in which the Contract work is completed shall provide day-to-day monitoring of contractor SHE performance. Workplace inspections, shift meetings and other routine monitoring processes shall include contractors working in the area.

The SHE Department together with Procurement, the Nyrstar Contract Coordinator and the Third Party Owner are responsible for evaluating the contractor's compliance with contractual SHE obligations. For long-term contracts, formal contractor evaluations shall be completed on a yearly basis, at a minimum. The Third Party Owner shall set up immediate meetings with contractors to discuss under performance. If contractor performance does not conform to the SHE targets defined in the hiring period, the contractor shall be requested to present an action plan for improving then performance. Nyrstar will also ask the contractor to evaluate and give feedback on the Nyrstar SHE processes, procedures and practices on a yearly basis.

19 Audit and Review

Periodic audits will be performed by a safety representative and a qualified employee.

Any changes to this procedure will be initiated by the site Safety & Health Manager and endorsed by the site General Manager.

Initiated on 3-26-2017 by Brad Davenport

Initially Approved on 4/10/2017 by B. Hart

20 Accountabilities

All Nyrstar Tennessee Mines Site Managers are accountable for ensuring the effective implementation and communication of this standard in their area of responsibility.

NTM CT-005 Contractor Health & Safety Program	APPROVED BY: William Hart	DATE RELEASED: Feb 1, 2023
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NYRSTAR CONTRACTOR ACKNOWLEDGEMENT FORM

This form acts as a comprehensive signature acknowledgement for use with all Health & Safety requirements within this packet.

Please initial next to each requirement below to indicate acceptance:

"Place an "X" into the column that you are consenting"

l accept	I decline	Requirement Topic
		Section 5 - Requirements
		Section 10 - Pre-Job Meeting
		Section 11 - Safety Training and Induction
		Section 12 - Duties and responsibilities
		Section 13 - Compliance with Standards
		Section 14 - Safe Work Practices
		Section 15 - Incident Response
		Section 16 - MSHA Expectations
		Section 17 – Time Sheet and Invoicing

By signing below, you acknowledge receipt of the expectations as listed above. You further acknowledge that you have read, understand, and accept each responsibility in its entirety, and have indicated so by initialing above. You acknowledge that you have retained these requirements for your records.

Signature: _____

Title: _____

Date: /____/

Please return this acknowledgment form to via email to:

For East Tennessee Contracts:	For Middle Tennessee Contracts:
Dylyn Loveless	Brian Millington
Health & Safety Superintendent	HSEC Manager
Nyrstar Tennessee Mines	Nyrstar Tennessee Mines
2421 West Old Andrew Johnson Hwy	120 Zinc Mine Circle
Strawberry Plains, Tennessee 37871	Gordonsville, Tennessee 38563
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Dylyn.Loveless@nyrstar.com	Brian.millington@nyrstar.com

NTM CT-005 Contractor Health & Safety Program APPROVED BY: William Hart DATE RELEASED: Feb 1, 2023
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