

NORTH SIDE HSE MANUAL

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SECTION -1

HEALTH, SAFETY & ENVIRONMENT

1.1 Health, Safety & Environment

NS, accepts its responsibility to help protect human health, safety and the environment. This responsibility has been a core value of our businesses for a number of years and has been made possible through the leadership, dedication and teamwork of all employees.

This book is designed to provide you with up-to-date information to help you manage your daily HSE responsibilities.

If you have any questions or suggestions for improvement, please contact the NS Environmental, Health & Safety Manager.

1.1.1 HSE Standards

Maintaining outstanding Health, Safety and Environment (HSE) performance is a core value of NS. Our successful HSE performance has been made possible through the leadership and teamwork of all employees. Our HSE responsibilities are directed by our HSE Vision, Policy, Strategy and Management System, which guide our businesses in the development of their HSE processes.

1.1.2 HSE Vision

HSE Focus in all we do.

Increased business performance through excellent HSE awareness

1.1.3 HSE Policy

NS accepts our responsibility to protect the environment and the health and safety of our employees, their families, and the public. Health, safety and environmental performance are core values of the Company and will be managed as an integral part of our business to benefit employees, customers, neighbours and stockholders. All of NS employees are responsible for the Company's achievement of continuous and measurable improvement.

1.1.4 HSE Strategy

We will achieve our vision by:

- Conducting business in a manner that protects public and occupational health, the environment and employee safety.
- Striving to eliminate all accidents and environmental incidents.
- Making HSE considerations a priority in manufacturing existing products and planning for new products, facilities and processes.
- Complying with all HSE laws and regulations.
- Reducing emissions and waste and using energy and natural resources efficiently and intelligently.
- Working with our employees, suppliers, customers, contractors and partners to promote responsible management of products and processes.

- Encouraging constructive communication with our employees, suppliers, customers, neighbours and stockholders about managing health, safety, and environmental issues.

1.1.5 Core HSE Values and Beliefs

- Our goal is continuous improvement
- Risk management (hazard controls, behaviours) and pollution prevention are the focus
- All occupational injuries/illnesses and environmental incidents can be prevented
- Line management is responsible and accountable for HSE
- Employees are involved in the HSE programs and activities at all levels of the organization
- Working safely and with regards for the environment are conditions of employment
- HSE management and efficient production are equal

1.1.6 HSE Management System

The NS HSE Management System is based on the continual improvement process of the Plan-Do-Check-Act cycle utilized by such global standards as ISO 14001, for environmental management, and OHSAS 18001, for safety management. The management system is the basis for all site HSE process/program development and the Corporate HSE Audit program.

1.1.7 Mission Statement & Strategy

EHS Core Values & Policy



1.1.8 HSE Mission

NS accepts its responsibility to help protect human health, safety and the environment. This responsibility has been a core value of our businesses for a number of years and has been made possible through the leadership, dedication and teamwork of all employees.

Health, Safety and Environment (HSE) is an integral part of each of our jobs and is an important business responsibility of all employees. Our HSE performance is a vital concern of our customers, shareholders, employees and the communities in which we operate. In order to meet our responsibilities, we must:

- Continuously monitor employee health and safety
- Communicate and work with communities, local emergency response teams, medical facilities and fire departments
- Ensure the safety and protection of the environment during transportation, storage and waste disposal
- Maintain a cooperative working relationship with the government Responsibly serve our customers who want to operate and market environmentally safe products and protect their employees.

1.1.9 Strategy for Managing HSE



1.1.10 HEALTH, SAFETY AND ENVIRONMENT POLICY

Primary concern of North Side is the personnel safety and health of each employee. With strong HSE measures North Side believes that all accidents are preventable. The prevention of occupationally induced injuries and illness has priority over all operating productivity. North Side management is fully committed in achieving its policy objective and shall provide all necessary resources required to insure adequate safeguard and high HSE measures at workplace.

Adherence to our policies is a top priority, not only for managers and supervisors, but also for each employee. Each employee must understand that he is the manager of his own safety and the safety of his co-workers.

Awareness of personal safety, mandatory safety training and risk assessment are key elements in achieving zero accidents. North Side line manager shall keep consistent efforts to formulate and review work procedures in order to achieve our objectives.

North Side fully appreciates and recognizes the responsibility and obligation to protect and preserve the environment. All employees will be strictly directed to ensure damage to the environment is reduced to the minimum and shall restore fully if caused by unavoidable circumstances.

In order to achieve our objective, our HSE program shall include, but not limited to the following:

- Monitoring and control through HSE inspections and audit to recognize and eliminate any unsafe work conditions;
- Provision of all required safeguard to the maximum extent possible and practical. Fully following stringent code of manufacturer's recommendations with no deviation or short cuts.
- Imparting training to all employees and strictly adhering to the statutory regulations.

Dmitry Shubenok
Country Manager

A handwritten signature in blue ink, appearing to read 'Dmitry'.

1.2 Development of Annual Safety Programs

1.2.1 Scope

As part of the annual target setting process, it is necessary to develop a specific action plan outlining a program that can be followed to achieve the desired results. A well-designed annual program can exert an important influence on everybody within the organization and, at the same time, provide a detailed plan of attack that management can track throughout the year.

1.2.2 Procedures

The objectives of the annual safety program are to:

- provide a written action plan that focuses on the issues that have the greatest risk potential for causing incidents.
- ensure that regulatory and corporate policy requirements are met.
- help train employees to recognize hazardous situations and injury potential and remind employees to make decisions in favor of the safe practice.

The mechanics of establishing an annual safety program consist of the following steps:

1. Organize manpower
2. Analyse and determine needs
3. Develop a written action plan to address needs
4. Publicize the plan
5. Monitor the behavioral, injury, exposure, process and organizational trends during the year and be responsive to changes in needs and flexible enough to incorporate change.

NS has a variety of sites with employment ranging from 10-100. No matter what the size of the organization, however, the task of establishing an annual safety program should involve the participation of as many members of the organization as is possible and practical.

Step 1. Organize Manpower

Small Organization (< 100 employees) - In smaller sites, the Executive Safety Committee may be only two or three people or may even be a part of the management staff meetings. In these sites, both the approval and development of the annual safety program is handled by the Executive Safety Committee or equivalent. Usually the details of the plan are conducted by the location safety coordinator and other employees, depending on available manpower.

Step 2. Analyze and Determine Needs

The determination of the program needs involves the analysis of a wide range of information. It should include the following:

- A review of the data sources (incident reports, audits, employee interviews, procedures, etc.) to identify the key behaviors that have or potentially can cause incidents. These key behaviors will need to then be defined, communicated to employees and used to update the audit/observation process.

- A review of facility injuries and incidents for significant trends. This might include identifying a high incidence rate of injuries, involving one part of the body, or similar type equipment, or a high incidence rate of injuries on one shift, or a particular time of day. It might also include a particular type of injury such as back strain or laceration or show that injuries are occurring more often to inexperienced employees, or associated with a particular job class.
- Another source of input should be the results of perception surveys and audits conducted on site by the local management team or HSE Coordinator. The findings of these surveys and audits should be included in the annual safety program.
- An analysis of the regulatory requirements for the site should be determined and included in the annual safety program.
- Non-routine and unplanned events can cause injuries to occur. An analysis and actions should be established to address events/activities that could potentially impact safety and health performance. (e.g. - facility start-ups, personnel changes, labor contract negotiations, etc.).
- Some procedures which either effect many employees or are uniform site-wide need to be considered for periodic review. Examples include lock n' tag, confined space entry, emergency preparedness, etc.
- A review of the off-the-job injury performance might reveal that certain type injuries are occurring frequently or at a high severity of lost time. They should be included in the annual safety program.
- When identifying needs, consideration should always be given to the suggestions made by employees. Whether these be formally or informally presented suggestions, the personnel chartered with developing the annual program should consider them based both on their merit and on the frequency with which the suggestions are voiced.

Step 3. Develop a Written Action Plan to Address the Needs

Once the needs assessment has been completed it is necessary to develop a written action plan to ensure that the priority issues are addressed. The action plan should include a statement of the item to be completed, the person or persons responsible for the work and the target date for completion. Assignment for completing the action items should be included in departmental and individual objectives as warranted.

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-Responsibilities for Safety

-Need Analysis

Action Plan

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- Objectives
- Safety Audits
- Housekeeping
- Ergonomics

1.2.3 Responsibilities for Safety

Responsibilities

Employee protection and loss prevention are integral parts of every individual's job responsibility and each organization unit carries the primary responsibility within its functional authority.

A. Individual Employee

Each employee is responsible and accountable for being aware of and:

- Following all general and job-related safe work practices and procedures.
- Reinforcing safe behaviour.
- Correcting unsafe behaviour.
- Reporting unsafe work practices or conditions.
- Focusing in on safety basics, then building and improving on that.
- Recognize the need for safety improvement.
- Recognizing that the primary incentive of our Safety and Health Program is the protection of all employees.

Demonstrating a commitment to the safety philosophy that:

- all work-related injuries and illnesses can be prevented
- safety is the responsibility of all employees from top to bottom

B. Line Management Function (Line managers and supervisors)

The line organization is responsible and held accountable for its employee protection and loss prevention performance. To discharge this responsibility, it is necessary to provide the following:

- A safe and healthful working environment.
- Access Safety and Health training resources and assure completeness of the training to increase employee capability.
- Recognition communication and control of health hazards.
- Investigation to determine causes of accidents, injuries and industrial illness, and action to prevent recurrence.
- Operational integrity of industrial hygiene controls and training, as well as monitor and supervise the use of personal protective equipment.
- Regular audits of conditions and work practices in order to comply with Federal, State and Local codes, regulations and laws.
- Appropriate follow-up on recommendations arising from investigations and audits.
- Developing and communicating technical employee protection parameters relating to new materials and processes.
- All necessary safeguards in processes and facilities for engineering.
- Reviewing process hazards to assure safe installation and operations.
- Reinforcing safe behaviour.
- Correcting unsafe behaviour.
- Setting a good example for safe behavior.
- Periodically attending training sessions and conducting behavior audits.

C. Safety and Health Function

Safety and health personnel are responsible for the following:

- Providing expert advice and counsel from a safety, health and regulation compliance standpoint. Safety and Health Function (continued)
- Recommending policies, procedures and programs in all phases of safety, health and loss prevention.
- Maintaining and disseminating current knowledge and interpretation of safety and health laws and regulations, insurance requirements, codes and standards.
- Assisting in the review of proposed or revised installations for hazard identification and elimination of safeguarding.
- Assisting in the investigation of major accidents or losses.
- Collecting, analyzing and reporting of safety performance statistics and trends.
- Assisting and participating in audits as requested by management.
- Correcting unsafe behaviour.
- Reinforcing safe behaviour.
- Development and upkeep of safety data sheets and manuals.
- Development and implementation of an effective industrial hygiene program.
- Being an advisor to management to increase the commitment of all members of the organization to higher levels of performance.
- Serving as a liaison between local management and the Corporate Safety Staff.

D. Technology Department Function

The Technology organization is responsible for the following:

- Designing health/safety considerations into projects.
- Coordinating hazard evaluations of new projects.
- Coordinating hazard evaluations of existing hazardous operations.
- Assuring contractors working for the department receive the proper safety orientation and work safely.
- Providing technical assistance in resolving facility safety/health problems as they arise.
- Providing technical assistance to investigation of accidents and injuries to prevent recurrences.
- Soliciting employee input on designs/installations of new equipment or processes in their work area.

1.2.4 Action Plan

Action Steps Responsibility Completion Date (To be oriented on)

Focus the weekly audits on the key behaviors and procedures associated with the major causes of injury.	Scheduled auditors	weekly
Increase audits and training meetings in the Maintenance Department and on the 2nd and 3rd shifts related to key behaviors and major injury causes.	Scheduled auditors and line management	weekly
Develop a training schedule and conduct training as required by federal regulations	Safety Department and Maintenance Department	January and ongoing

1.2.5 Safety Audits

Safety audits have been proven to be a valuable component of the Safety Program at the site. Audits will be carried out by four major groups; Operations, Maintenance, Technical and Administration with the focus areas of these audits on equipment, procedures and behaviors.

Equipment Audits:

- Weekly audits will occur with a HSE supervisor, operator/mechanic with the focus on safety equipment, personal protective equipment, housekeeping items, etc.
- Monthly audits will occur with the manager, supervisor and operator/mechanic.
- Quarterly audits will occur with the department manager, supervisor and operator/mechanic.
- Work Permit System Audits will be conducted monthly by a rotation of the managers of the major groups with the assistance of the Safety and Training Coordinator and the hourly workforce.

Manager's One-on-One Audits will be conducted monthly with one of their subordinates. These audits can focus in on procedures or behavior-based items. The following managers are responsible for doing One-on-One Audits with a subordinate once per month:

- Facility Manager
- Senior Technologist
- Human Resources Manager
- Facility Engineer
- Maintenance Operations Manager

Monthly audits of selected complex procedures and systems will be completed by the Technical Department.


AUDIT TEAM: Group Leader:

Area Audited:

Auditor:

Date:

Area Representative:

					
HSE INSPECTION – (YEAR)					
S.no	Scope of Audit	Audit Conducted by	Location	Date	Remarks
1					
2					
3					
4					
5					

1.2.5.1 Housekeeping

It is the responsibility of line managers to set and maintain high standards of housekeeping by introducing procedures backed up by appropriate instruction, training and inspection programs.

Checklist:

- Line managers are committed to the principle that an untidy work area is an inefficient and unsafe work area.
- Line managers check the tidiness of their work area on daily walk-throughs.
- The senior managers on the site carry out regular housekeeping walk-throughs of the site.
- All cases where chemical materials are spilled in processing, storage or in transit are cleaned up immediately. An incident report may be required.
- All jobs must be cleaned up and inspected after completion. Ongoing jobs should be cleaned up on a daily basis.
- All line managers carry out regular documented housekeeping inspections - at least once a month.
- Contractors are supervised and monitored to ensure their housekeeping practices meet our standards.
- Housekeeping Policy is available to all employees.

1.2.5.2 Ergonomics

Ergonomics is a science that adapts the working environment to the employee, instead of the employee to the working environment. Ergonomics looks at the connections between the person, the machine, and the working conditions to make sure that human abilities and limitations have been considered. Because it is designed to "fit" the workplace to the employees, ergonomics is said to be flexible for each individual person; therefore, it can be applied in the office setting as well as the industrial setting. When applying ergonomics, the employee, the environment, and the task being performed are all taken into consideration.

An Ergonomics program will be to develop and support an Ergonomic Hazard Awareness Program. Some of the more important elements of this program include:

Training: The training session will provide information on the goal and general rules of ergonomics, as well as specific data on ergonomic risk factor identification, prevention, and control.

Early Reporting: Ergonomic hazard identification and control will be a priority performance objective for all workers.

Hazard Prevention and Control: In order to prevent and control hazards, the employees must be able to:

- identify ergonomic concerns in their work areas.
- perform a worksite analysis and attempt to define the source of the problem.
- develop solutions or discuss ways of addressing the problem.

Recordkeeping: Record reported hazards, injury and illness by department, job type, and worker characteristics. review records monthly to identify work areas, job types, or personnel factors with a high incidence of risk,

An effective Ergonomics Program will involve management, engineering, safety and occupational health, as well as production employees in a coordinated effort to address ergonomic problems.

Ergonomics Area Audit

Ergonomics Area Audit				
	1	2	3	4
Area audit:				
Jobs reviewed:				
Team Leader:				
Date:				
Auditor:				
Comment and Action Items				
Ergonomics Observations	Position of people		Lightning	
			Yes	No
Is there proper leg clearance?				
Does table and/or chair impinge thighs?				
Does foot control require excessive force?				
Are there sharp edges?				
Is there too much noise?				
Is there good ventilation?				
Is room temperature comfortable?				
Are personnel working in stressful positions or conditions?				
Comments:				

1.2.6 Annual Safety and Health Program Communications

Safety and Health Communications

Safety Program Communications will be conducted by each department.

- Operations/Services
- Maintenance/Services
- Technical
- Administrative

This approach will enable the departments to familiarize employees with the annual program and to focus on topics related to the safety and health of employees in each individual department. The monthly meeting will review such items as incidents, accidents and near-misses. Statistics will be reviewed. The Safety Department will be responsible for gathering the core information package to be used in these safety meetings. Behavior topics will be discussed and safety audit actions will be examined. The meeting will also contain a training initiative and each department will develop training topics for the year.

In addition to the monthly departmental safety programs, a series of facility-wide safety meetings will be conducted on the topics of:

- Hazardous Communications
- Electrical Safety
- Confined Space Entry
- Risk Register for Services Operations

Also, any other new or revised policy or procedure will be reviewed on a site-wide basis to ensure awareness.

1.3 NS HSE Knowledge and Skills Evaluation Form

Covering the functional areas of Occupational Safety, Health, Industrial Hygiene & Environmental

Purpose: To assist facility management in the development of the necessary skills needed by organization to manage HSE.

Person:

Full-time or Part-time HSE Responsibilities:

Job Title:

Category	Rating	Comments/Developmental Actions
Basic Skills and Knowledge. The following basic skills and knowledge skills and requirements are considered fundamental prerequisites:		
Interpersonal Skills		
Ability to influence others (Sell and defend ideas, programs, etc.)		
Negotiating Ability		
Ability to work effectively with all levels of the organization		
Effective Communication (Written, Oral)		
Able to function as a team member or leader		
Problem Solving Skills		
Ability to resolve issues and conflicts		
Can identify problems and develop solutions		
Able to solicit input from multiple functions/levels and obtain \ consensus for the best solution for solving the problem		
Computer Skills		
General understanding and application of standard computer programs (word, power point and excel)		
Has basic understanding and utilization of intranet and internet		
Administrative Skills		
Organization of files and records		
Monthly HSE Performance Report		
Regulatory Reporting Requirements (Local/National)		
Incident investigation – written reports		
Audit reports		
Tracking system for monitoring completion of action items		
Development of a written HSE Annual Action Plan		
Knowledge and Awareness – Knowledge and awareness of general HSE principles, requirements and programs are needed for the proper implementation and management of the HSE functions		
NS HSE Programs, Management Systems & Processes		
Programs		
Corporate HSE Policy, Core Values & Strategy		
Corporate HSE Manual		
Corporate Occupational Health Manual		
HSE Management Systems & Processes (Working knowledge of the following NS requirements)		
Occupational Health Standards		
Understanding of the requirements of the standards		
Able to develop site programs and implementation plans to meet the requirements		
Able to assess implementation efforts and develop corrective actions		
Understanding and application of the Substance Abuse Testing Program		
Regulatory Compliance		

Understand general industry HSE industry practices, codes, etc.		
Assess sites for compliance and develop action plans to address deficiencies		
Keep up-to-date on industry practices and government requirements		
NSTI Requirements for Regulatory Agency Actions		
Loss Prevention		
Understand NS's protocols for workers compensation and security		
Understand NS's financial and business measures		
Complete training programs on workers comp administration		
Administer workers comp program and interact with staff groups		
Understand and coordinate insurance inspections		
Field Service HSE Program Requirements		
Understands the requirements		
Able to develop programs and implementation plans to meet the requirements		
Able to assess implementation efforts and develop corrective actions		

1.3.1 Evaluation Protocol

1. The following functional rating scale can be used in evaluating the HSE skills and knowledge of site/division staff resources in the HSE functional areas:

Rating	Explanation
N/A	
1	Knowledge and skills are not required in this functional area. An explanation of the reasons must be included on the form.
2	Knowledge and skills need to be developed in this functional area; currently at an 'entry' level.
3	Knowledge and skills development plan has been developed and is in the process of being implemented.
4	Knowledge and skills are less than 50% of what is required in the functional area.
5	Knowledge and skills have been mostly (>80%) developed in this functional area.

2. The results of the evaluation can be used for professional development plans for HSE Professionals. The Corporate Director EHS can be consulted for assistance in identifying training or project assignments that will address the developmental areas.

1.4 Organization & Administration

1.4.1 Scope

To define the organizational placement of the Health, Safety and Environmental (HSE) function and the method employed by management to administer HSE-related activities.

1.4.2 Definition

The corporate level HSE function within NS includes all aspects of environmental, health, safety, industrial hygiene and product safety.

At the division/facility level, the HSE function may normally include safety, fire protection, industrial hygiene workers compensation administration, facility security, and environmental.

1.4.3 Organization

HSE functions within NS are found at the corporate, and the division/facility levels. In all cases, the function is considered a staff responsibility. The facilities normally employ a full-time HSE professional. Where a full-time HSE professional is not employed, it is assigned to a person in the human resources, environmental or technical department.

HSE Manager at the division/facility level reports organizationally to a wide range of functions including facility manager, environmental manager, human resources manager or technical manager.

1.4.4 Administration

HSE at the corporate level is not regulated or managed by an executive HSE committee or other formal body. Issues requiring executive approval are dealt with as they arise. Subjects or programs affecting all operating business groups are presented to the company Operating Committee for their consideration and direction.

At the division/facility level, the HSE activities are directed by HSE Committee (or similar name), which coordinates the HSE activities and addresses issues peculiar to that business.

1.5 Responsibilities. Line Organization

1.5.1 Scope

Provides general guidelines outlining the HSE responsibilities of each level of the organization and develops a clear understanding of how these responsibilities are integrated.

1.5.2 Definitions

In these statements, the titles used were selected on the basis of common usage within the organization. Where various levels do not exist, other levels may be used to carry out those responsibilities.

A. Managing Director - The general manager responsible for all business matters conducted within a core business group.

B. Team Leader - The individual responsible for an assigned area within a department or operation and who supervises and coordinates the activities of the employees.

C. HSE Supervisor/Manager - The person, usually a professional, who devotes full time to HSE and is charged with the responsibility of administering a site-wide HSE program.

D. CFO - The person, usually someone in another job function other than HSE, who spends less than 50% of their time on HSE-related activities and is charged with the responsibility of administering the HSE program.

E. Employees - Individuals who perform the day-to-day manufacturing, field service, administration actions critical to the success of the company. It includes individuals at all levels of the organization.

1.5.3 HSE Responsibilities

A. Managing Director

- The Managing Director is responsible and accountable for the Group's HSE performance.
- Develops strong positive-HSE culture among those direct reports by setting the example and holding them accountable for specific HSE objectives.
- Provides guidance to division managers.
- Establishes minimum acceptable HSE standards within the group.
- Provides for necessary staffing and funding of the HSE function within the group.
- Authorizes necessary major expenditures.
- Evaluates, approves and authorizes HSE-related projects developed by the corporate HSE function.
- Reviews and approves policies, procedures, and programs developed by corporate staff functions.
- Maintains working knowledge of areas of HSE that are regulated by governmental agencies.
- Keeps HSE in the forefront by including HSE in business discussions.
- Reviews HSE performance statistics and action plans and provides feedback to division managers.
- Reviews and acts upon major recommendations submitted by outside loss-prevention consultants.
- Makes HSE a part of facility tours by including specific remarks about observations made that correct and/or reinforces the desired behaviors.
- Reviews reports personally involving fatalities, significant environmental incidents, and major property losses.

B. Team Leader

- Makes daily safety observations of the work area and corrects unsafe behavior and reinforces safe behavior.

- Arranges for development of job safety analysis; reviews all job safety analysis; and submits to department manager for approval.
- Develops a workable housekeeping program, defining areas assigned to work teams; makes daily spot checks of an assigned work area; makes periodic housekeeping inspections, reporting results of inspection to department manager and indicating condition and corrective action.
- Ensures the indoctrination of new or transferred employees.
- Develops protective apparel requirements, according to occupation; and makes spot fields checks to determine compliance.
- Reports all injuries or illnesses of employees to department manager as soon as practical; reviews Accident Report with employees and, in case of injury, submits reports to department manager after taking corrective action.
- Makes thorough investigation of all accidents and serious incidents occurring to employees in assigned work area; makes personal inspection; and develops preliminary information.
- Conducts scheduled and assigned HSE training meetings.
- Participates on HSE committees as specified by facility policy.
- Reviews unsafe conditions and unsafe behavior and directs daily HSE activities to correct these causes.
- Instructs employees in HSE rules and regulations; records instruction; and always enforces all HSE rules and regulations.
- Makes daily inspections of assigned work area and takes immediate steps to correct unsafe or unsatisfactory conditions; reports to department manager those conditions which cannot be immediately corrected; instructs employees on housekeeping standards.
- Instructs each new employee personally on job HSE requirements in assigned work areas.
- Enforces the facility medical recommendations with respect to an employee's physical limitations; reports an employee's apparent physical limitations to department manager.
- Enforces wearing of protective equipment; makes spot checks to determine that protective apparel is being used; and makes periodic checks to appraise condition of equipment.
- Sees to it, in case of serious injury, that injured employee receives prompt medical attention; isolates area, as necessary; and immediately reports to the department manager the facts regarding employee's accident or illness and the action taken. In serious incident cases, the supervisor/foreman/lead person determines cause, takes immediate steps to correct condition, and isolates area, as necessary. Supervisor immediately reports facts and action taken to the department manager.
- Checks changes in operating practices, procedures and conditions at the start of each shift and before relieving the "on-duty" supervisor, noting facts related to HSE which have occurred since his last working period.
- Makes, at the start of each shift, an immediate check to determine absentees. If facility injury is claimed, an immediate investigation is instituted, and department manager notified.
- Makes daily spot checks and takes the necessary corrective action regarding housekeeping; unsafe behavior or practices; unsafe conditions, tools, ladders, wire rope, chains, pins, etc.; job procedures, and adherence to HSE rules.
- Instructs personally or provides on-the-job instruction in HSE and efficient performance of assigned jobs.
- Takes action on all employee HSE complaints and suggestions.
- Maintains HSE signs and bulletin boards in a clean and legible condition, in assigned area.

C. HSE Manager

- Provide overall coordination and guidance to the site HSE efforts.
- Develop programs that are designed to reduce exposure to loss via personal injury or illness, loss by fire, and comply with governmental regulations.
- Supervise and coordinate the efforts of the HSE department staff.
- Collaborate on a routine basis with the site manager in appraising the performance of all departments.
- Develop recommendations for improvement of procedures, practices and activities directly or indirectly involved in effective execution of HSE functions by site management.
- Advise and/or represent site management in all matters concerning compliance with federal and state HSE regulations.
- Audit the site from a regulatory and management system perspective and recommend actions to address deficiencies.
- Maintain membership in necessary outside HSE organizations.
- Participate in the review of all serious incidents, fatalities, and major disasters.
- Collaborate with the site manager in the development and preparation of HSE Committee Meeting agenda.
- Serve as a member of site committees for special HSE studies and program development.
- Consult with the Engineering Department on original plans; see that all plans and specifications for new or proposed changes in processes, equipment or methods are reviewed from compliance with HSE standards before being accepted.
- Function as liaison with insurance companies, Corporate HSE, local fire and rescue organizations, etc.
- Provides leadership to the site for the implementation of new technologies such as behavioral-based safety management concepts.
- Reinforces safe behavior and corrects unsafe behavior.

D. CFO

- Assist the MD in coordinating all HSE activities.
- Be constantly alert for unsafe conditions and bring such conditions to the attention of the supervisor without delay.
- Accompany outside inspectors representing insurance carriers of fire, casualty, and workers' compensation insurance.
- See that HSE promotional and reference literature, such as monthly handouts, are available.
- Be thoroughly familiar with company HSE standards and assist the facility manager in implementing them.
- Maintain injury and incident statistics.
- Assist the site manager in analyzing incident records, develop supervisory and employee educational programs and stimulate a high level of interest in HSE through various employee-involvement activities.
- Serves as the liaison between Corporate HSE and the facility.
- Provides leadership to the site for the implementation of new technologies such as behavioral-based safety management concepts.

E. Individual Employees

- Employees must assume a high level of responsibility to work safely and strive for an incident-free workplace by:
- Considering the consequences of their acts on their safety and that of fellow employees.
- Following all general and job related HSE work procedures and practices.
- Detecting, reporting and correcting unsafe work behavior or conditions.
- Applying HSE work practices both on and off the job.
- Making or suggesting enhancement to the jobs at hand to reduce or eliminate the risk or stresses associated with job performance.
- Reinforcing safe behaviour.

Working safely and with regard for the environment is a condition of employment and no employee should ever consciously perform an unsafe act.

SECTION - 2

NS HSE AUDIT

2.1 Introduction

North Side, hereinafter NS, has voluntarily elected to implement an aggressive internal audit program for reviewing Health, Safety and Environmental (HSE) programs and processes that, at a minimum, meets prevailing HSE auditing practices within industry. The term "audit" refers to a systematic, documented process to objectively collect and evaluate information in order to verify a site's HSE performance. The NS audit program is designed to help ensure that risks at NS operating units are reasonably minimized, liabilities are appropriately controlled, compliance with applicable regulations is achieved, and management systems are in place and functioning. The audit process will verify the existence of HSE management systems through employee interviews, review of documents, field observations, and verification testing to ensure that safe working conditions and management systems are in place and functioning as intended.

NS believes that protecting human resources is a core value and a key component in managing our business. This philosophy is embodied in the corporate policy on health, safety, and the environment (NS HSE Manual Reference No. 1.1. Our audit program is based on the Corporate Policy and Management System and is built around the corporation's Core HSE Values and Beliefs, which support our business strategies (NS HSE Manual Reference No. 1.1. In addition, the audit program provides direction for achieving compliance with NS's Management Systems and Criteria (NS HSE Manual Reference No. 2.1.

It is NS intent to conduct audits in a climate of mutual trust and respect, and in a way that fosters team work and ongoing improvement and verifies that corporate policy is implemented.

This document describes the basic framework of NS HSE Audit Program. It will be periodically reviewed and updated to incorporate lessons learned from our auditing experience, input from management, and changing developments in the field of HSE auditing.

2.2 Objectives

The objectives of NS HSE Audit program are to:

- verify compliance with NS Health, Safety and Environment Policy, Management System and Criteria, and applicable laws and regulations;
- help identify and prioritize HSE risks;
- increase awareness of company standards and regulations; and
- communicate audit findings and recommendations to appropriate levels of NS management.

2.3 Program Scope

Organizational

The organizational entities included within the scope of the audit program are as follows:

- all divisions/businesses within NS ; and
- all operating facilities (manufacturing, research and development, warehouses, service centers).

The program will cover NS worldwide operations.

Location

The location scope defines the boundaries of each audit and includes:

- all activities within the facility's property line;
- contractors working on an NS site who may have an impact on NS HSE performance; and
- off-site facilities (e.g., warehouses, distribution centers, service installation jobs, etc.) under the operating control of the facility being audited.

Functional

The functional scope identifies the topics to be included in the audit program, and they include the following:

- employee safety
- industrial hygiene
- workers' compensation management
- medical program
- security
- field service safety
- environmental
- product safety
- hazard control
- HSE education and training
- general HSE communications
- HSE procedures and rules
- audits and inspections
- incident investigations
- emergency planning
- behavioral based safety management
- annual action planning

2.4 Depth and Level Review

Each audit will cover topics identified under the functional scope. The audit team will review a representative sample of HSE activities at the audited facility in order to determine the facility's overall HSE performance.

The review period for each audit will cover activities from January 1 of the preceding year up to and including the last day of the audit.

2.5 Audit Standards

The standards for each audit will include:

- applicable federal/national, state/provincial, and local HSE laws and regulations
- company policies, standards, and procedures: NS Corporate Health, Safety and Environment Policy, HSE Management System and Criteria, Corporate HSE Manual
- good HSE management practices

2.6 Annual Audit Schedule

By December 1 of each year, the Corporate Director EHS will publish a preliminary audit schedule for the next calendar year. This schedule will be reviewed and approved by the affected line managers. Any requests for deviation from this schedule must be submitted to the Corporate Director EHS by December 15. The final list of scheduled audits will be published by January 15.

The Corporate Director EHS will coordinate the selection of team leaders and additional audit members to perform the audits identified in the annual schedule.

2.7 Timing and Frequency

NS sites will be audited according to a predetermined annual agenda, at least once every three (3) years. However, more frequent audits may be necessary at some locations where potential HSE risks, liabilities and compliance issues exist.

2.8 Organization and Staffing

Authority

NS Worldwide Health, Safety and Environment Policy grants authority to the Corporate Director EHS to implement and manage an internal audit program.

Technical Assistance and Support

After the final audit report is received by the site manager, technical assistance can be requested from the Corporate Director EHS to prepare action plans or follow-up on specific recommendations. The site will not incur audit team expenses if assistance from the Corporate Director EHS is requested, unless outside consultant services are retained or other special circumstances exist.

Audit Staffing

The audit team is staffed by both Corporate and professional HSE personnel from sites other than the one being audited. Audit team leaders will be either Corporate staff or field staff, who are highly skilled and experienced in auditing techniques.

A pool of HSE resources will be trained to accomplish the scope and achieve targeted goals of the audit program. Audit teams are composed of team members and a team leader. The size and composition of each team are subject to change depending on the size and complexity of operations and issues at the site. A minimum of two auditors will be assigned to each audit except for smaller operations.

Audit Program Coordinator

The Audit Program Coordinator (APC) is the Corporate Director EHS. Primary duties include:

- determining the scheduling, priority and scope of audit reviews;
- participating as a member of operating unit audits or as a team leader for corporate reviews;
- reviewing and editing audit reports;
- reviewing and tracking the progress of action plans developed by site management in response to findings/recommendations identified by the review team;
- preparing status reports and management summaries;
- providing for timely training of auditors;
- interacting with division management, site management, and other operating unit staff;
- incorporating new regulatory requirements and audit techniques into the Audit Program manuals and the training program; and
- implementing a quality assurance/quality control program to maintain high standards.

Organization and Staffing

Auditors used for conducting the audits will have the appropriate qualifications and training:

- technical training and experience appropriate to the work called for in the audit;
- an understanding of basic auditing theory and procedures and the experience to apply it to particular assignments;
- a working knowledge of the regulations, criteria, and standards appropriate to the scope of the audit; and
- general familiarity with the types of operations to be reviewed and the issues likely to be encountered within the audit scope.

Team Leader

Conducting HSE audits is a complex undertaking. The success of the program depends on an effective team leader with superior organizational, technical and communication skills. The team leader is responsible for:

Pre-Audit Activities

- send notification letter to site manager
- assign team member audit responsibilities
- schedule team meetings
- gather and distribute background information
- review appropriate federal, state, and local regulations and company policies and procedures
- modify protocol to reflect facility-specific requirements and information gained during review of background information
- review and revise audit plan and assigned duties as necessary
- determine and confirm arrangements with the team members and the facility (travel arrangements and hotel/travel reservations)
- prepare items for audit (form, supplies, protocols)

On-Site Activities

- lead opening meeting presentation
- serve as liaison between team and facility personnel to ensure that all team members are appropriately scheduled to meet with facility personnel
- solicit feedback from each team member on the status of work accomplished throughout the audit
- perform audit duties as determined by the audit plan
- review assigned protocol steps with each team member to ensure that all steps are covered appropriately
- document the rationale for changing the scope of the audit (if necessary)
- understand the context for and meaning of each finding reported by the team
- provide periodic feedback to facility personnel on the status of the audit and the findings of the team
- prepare the exit meeting discussion sheets listing all findings as summarized by the team
- ensure that all exit meeting discussion sheets are reviewed by each team member
- review all findings with key facility personnel prior to the exit meeting to ensure the accuracy of all findings
- lead presentation of exit meeting discussion
- summarize reporting schedule and format

Post-Audit Activities

- review all working papers to ensure that all topics were covered and that all findings are corroborated by working paper notes
- prepare draft report
- distribute draft report to appropriate personnel
- incorporate comments where appropriate into the final report

Team Member

Members of the HSE audit team are selected on the basis of their training, technical background, experience and knowledge of operating processes. They must also have demonstrated an ability to communicate in a clear manner. These members are responsible for:

Pre-Audit Activities

- make travel arrangements (if required)
- attend pre-audit team meeting (if required)
- prepare for the audit by reviewing appropriate federal, state, and local regulations, company policies and procedures, and available background information
- modify the protocol to reflect facility-specific requirements and information gained during review of background information

On-Site Activities

- perform duties assigned by the team leader during the audit
- serve as a resource for other audit team members during the audit

- report on progress to the team leader throughout the audit including any problems encountered
- share observations/concerns with other team members during the audit to ensure that each is addressed appropriately
- keep facility personnel apprised of findings as they are noted
- summarize all findings and report them to the team leader before the close-out meeting
- assist with preparing the exit meeting discussion sheets
- ensure that all findings noted in your working papers are presented on the exit meeting discussion sheets and accurately reflect the facts.
- contribute during the exit meeting when questions are raised about findings.

Post-Audit Activities

- review draft audit reports for: wording changes and suggested changes in placement of findings within the report
- provide input as necessary when findings in the draft report are challenged.

2.9 Legal Issues

The legal department is available for routine consulting during the audit process to the Audit Team Leader, senior site manager and/or both. The audit team members have the authority and accountability to stop any work in process, job or operation where there is a situation of "immanent danger." The Audit Team Leader will stop the work in progress and immediately notify the senior manager, and the legal department. The legal department will provide council to both managers relative to abatement, and language in describing the hazard. The legal department will receive a copy of the site's written response and action plan.

2.10 Methodology

HSE issues should be managed with the same intensity as other business issues, such as cost, productivity and quality. The HSE Audit Protocol will assess compliance against the Corporate Health, Safety and Environment Policy and Management System Criteria. The management system will give the audit team a comprehensive overview and status of the site's HSE programs, which may lead to a recommendation for a more specific audit protocol (e.g. Regulatory Compliance, Industrial Hygiene Strategy, etc.).

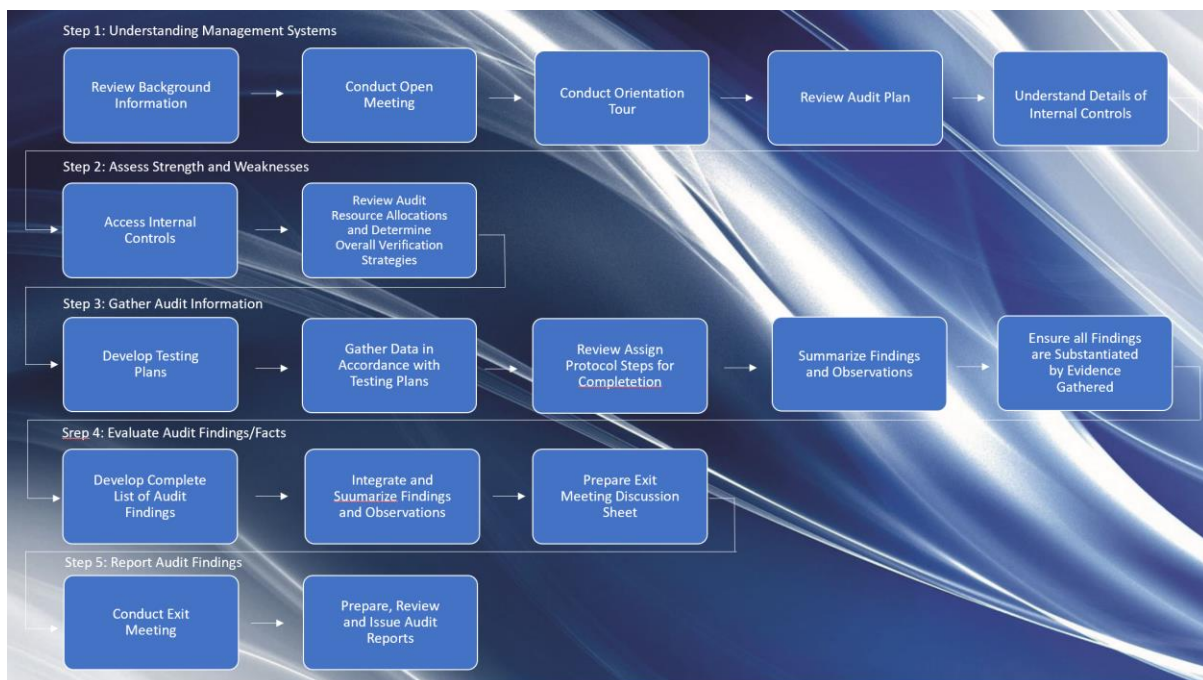
The audit program can accommodate requests from site, division or group managers to perform specific audit protocols that may help the site reach compliance with their overall HSE programs. The implementation and effectiveness of management systems is the responsibility of line management. Therefore, the primary client and contact for the audit process is the senior site manager (site manager, vice president, division manager, etc.) supported by the on-site functional staffs.

On occasion, the audit function may extend beyond NS operational boundaries to a third party, such as toller sites, vendors, suppliers or an acquisition candidate. This would be considered a special audit with specific objectives that may or may not include portions of the functional scope described above.

The audit process consists of four phases:

1. Pre-review Activities,
2. On-site Activities,
3. Post-review Activities and
4. Status and Reporting.

2.11 Key Audit Activities



Phase 1: Pre-Review Process

Careful preparation and planning are vital for a successful on-site evaluation. The necessary components for this preparation include interfacing with facility management, requesting advance information, formulating the review plan and making travel and accommodation arrangements.

Interfacing with Facility Management

At least six weeks prior to the date of the audit, the team leader will contact the facility manager in writing to confirm the date of the review, and other preliminary information, including: (Attachment 1 - Sample Audit Notification Letter)

- the purpose of the review;
- special audit protocols when appropriate;
- confirmation of the review date and estimated length of the on-site audit review;
- a proposed agenda for the audit team's activities while on-site;

- a request for advance information;
- a list of information to be available on-site when the audit begins;
- a specific request for the facility manager's participation in the audit process (e.g., opening and closing conferences, etc);
- a request for an office or conference room that the audit team can use as a base of operations; and
- travel and accommodation arrangements.

Audit Information

Advance information will help the team perform the audit efficiently and effectively. The advance records provide an insight into the site's operations and some of its internal control mechanisms. In addition, the team will need numerous documents available for their review once they are on-site.

(Attachment 2 - Advance Audit Information) and (Attachment 3 - List of Information to be Available On-site for the Audit Team Review)

Formulating the Audit Plan

The audit plan will be based on the information provided. This information will give the audit team a preliminary overview of programs and procedures already in place. The audit team will determine additional information needed, including:

- other documents, reports, or records to be examined during the on-site work;
- areas or operations to be viewed while on-site; and
- key personnel to be interviewed.

The audit team leader coordinates development of an audit plan for all on-site activities. A general plan is discussed with facility management (or designee) prior to the facility visit. Throughout the on-site process, this plan is continually evaluated and updated to ensure that the team addresses any new issues or concerns raised during the audit.

Phase 2 - On-Site Review Process

The on-site audit process is divided into five stages: 1) an opening conference, 2) a facility tour, 3) management system and program overview, 4) evaluation and update of the audit plan, and 5) closing conference.

Opening Conference

The opening conference with the site management team and employee representatives provides a good opportunity for exchanging information and setting the tone of the on-site review. The team leader will:

- review the purpose of the audit;
- introduce team members, their affiliation and their areas of expertise;
- review the proposed agenda and establish a schedule for interviews with key personnel and inspection of the facility;

- establish a schedule for daily updates with the facility manager (if applicable); and
- allow facility management to brief the audit team on products, business climate, management systems, culture and HSE plan and provide an overview of operations, areas of concerns and a safety orientation (safety equipment required while on-site, emergency exits, etc).

Facility Tour

After the opening conference, a brief orientation tour will be conducted. This tour helps familiarize the team with the operations. (Attachment #4 - Checklist for Facility Tour)

Program Overview with HSE Coordinator

Following the orientation tour, the review team will meet with the HSE coordinator(s) for an overview of the HSE program.

Evaluate HSE Performance

The audit team will evaluate HSE performance by gathering information to substantiate compliance or non-compliance with applicable HSE requirements and confirm the functioning of management system.

Management systems are those policies, programs and activities established by management to ensure the HSE of all employees.

The audit team will determine if the necessary HSE management systems are in place, and if they are compatible with corporate policies, operating standards and regulatory requirements. This phase of the audit allows team members to independently examine and verify information by reviewing pertinent records, reports and other documents, by interviewing key personnel, and inspecting the physical facility.

This process will help the audit team generate audit findings and observations based on factual information and prepare recommendations that will assist the site in meeting its program goals and objectives.

Evaluation and Update of the Audit Plan

Each auditor must control the on-site information gathering effort. This effort is driven by the audit plan, which may require changes to address new areas of concern. At the end of each day, the audit team will meet to discuss and summarize each auditor's findings or concerns. This meeting allows team members to exchange information and bring items of concern to the attention of the team leader. The team revises individual and group plans, as needed, and lists additional documents, interviews and inspections needed. The audit team leader will also provide a daily update to the facility manager.

The day before the scheduled closing conference, the team will meet to summarize its findings and prepare a detailed closing conference outline.

Closing Conference

After the field work is completed, a closing conference will be held with facility management. The tone of this conference should be one of open and positive communication to review the findings identified during the audit. A preliminary outline is prepared and will include:

- positive features of the HSE Process;
- specific findings (separated by topic and supported by field observations); and
- a listing of HSE findings and recommendations.

The closing conference agenda should allow sufficient time for a question and answer session to ensure that there is understanding and agreement on all issues.

If there are discrepancies and/or disputes identified during the closing conference, these issues should be discussed and resolved. If a suitable resolution can not be reached, the issue will be presented to the Division Manager and he/she will make the final decision, which will be honored by both parties.

Phase 3: Post-Review Process

The preliminary audit report will be modified to incorporate changes and clarifications discussed during the closing conference. Within 10 days of the closing conference, a preliminary report will be sent to the facility management for final review and agreement within 10 days of its receipt. After receiving agreement, the team leader will prepare the final report and issue it to the facility manager.

To reinforce the constructive tone of the audit process, all findings and recommendations will be discussed with facility management prior to publication of the final report.

Within 30 days of receiving the final report, the facility management must develop an action plan and time table for addressing the recommendations. The team leader will review the action plan and time table and either agree or initiate further dialogue within one week of receipt. Once the action plan is agreed upon, the team leader will forward the final audit report and action plan to:

- the Division Manager;
- the Corporate Director EHS;

Phase 4: Status and Reporting Activities

Once the action plan has been developed and distributed, the audit team's responsibilities are complete. However, there are several follow-up activities for the facility management group and team leader.

The audit team leader will transmit the audit working papers and report to the Corporate Director EHS for continued follow-up, including:

- coordinating follow-up by other HSE professional(s) to address items identified in the action plan; and
- reviewing bi-annually status reports until all action items have been addressed.

The facility manager is responsible for providing bi-annual updates on open action items until all recommendations are completed and fully implemented. Updates are provided to:

- the Division Manager/Functional Director;
- the Corporate Director EHS;

Quality Assurance

Quality assurance is necessary to maintain high standards and to accomplish the objectives of the Audit Program. Quality control and quality assurance require continuous evaluation of the program, including:

- period review of audit program objectives;
- determination by team members, at the conclusion of each audit, whether objectives of the audit were met and identification of areas needing improvement, including the process and protocols;
- periodic updates and revisions to the Audit Program;
- team leader oversight of field;
- protocols to guide the team in conducting audits on a consistent basis;
- trained and experienced auditors; and
- third-party evaluations, by consultants or an in-house team, which may include:
 - an examination of reports and working papers;
 - an independent assessment of on-site activities and protocols; and
 - a critique of the program's goals and objectives.

Attachment A - Sample Audit Notification Letter

This letter confirms (date) as the date for the HSE Management Systems Audit at the _____ site.

The audit team will consist of a Senior HSE Professional from Corporate and a field HSE Resource and/or a site representative from the line organization. The audit team for the facility will be:

1. Team Leader – (Name, Title)
2. Team Member – (Name, Title)

The audit is scheduled to take approximately ___ days with primary focus on the systems established to manage health, safety and environmental (HSE) programs at your facility. HSE Management Systems audits entail interviews with all levels of the organization (management and employees), reviews of written programs and procedures, and a physical inspection of the facility.

Upon arriving on-site, certain information and records will be requested on your HSE programs. This gives the audit team an opportunity to become familiar with the programs in place and thus helps prepare us to focus on our activities. A list of the information we would like to review is attached. If any of this information is not readily available, please do not create it specifically for us. In addition, during the audit, we would appreciate being provided with a conference room or empty office as a base of operations.

The audit team will be requesting time to discuss the facility existing HSE process with “key” managers, safety committees and hourly employees. To help facilitate this, I would appreciate it if you would put together a meeting schedule prior to our arrival.

To begin the audit, we would like to hold an opening conference with you and other senior members of your management team, if appropriate at (time) on (date). The opening conference gives us an opportunity to introduce the audit process, the tentative agenda for the week, and ourselves.

During the opening conference we would like a member of the management team to provide us with an overview of your operations as well as some idea about the business climate. Following the opening conference, we will take a brief tour of the site.

After the tour, we will continue the review by spending some time with the individual(s) primarily responsible for the day-to-day HSE programs. Activities for subsequent days will follow the agenda.

At the end of our audit, a closing conference will be held to go over the audit findings. A preliminary draft report of our findings will be discussed and left with you. The draft report will highlight the facility present status as they relate to the HSE management systems, audit recommendations and the audit score sheet. In some cases, it may be possible to leave a draft final report with the site if all issues and/or questions are resolved during the closing conference. However, in situations where further clarification is needed, a draft final report will be issued to the facility within 10 days of the closing conference.

Once a draft final report has been issued, the facility will be responsible for responding to the draft final report within 10 days of receiving it. The Audit Team Leader will issue a final report after receiving comments from the draft final report within 10 days. The facility will have 30 days to develop an action plan to address the recommendations in the final report. After all reports are completed (final report and action plans), the facility must forward reports to their manufacturing and/or division manager and the Corporate Director EHS in Russia.

Bi-annually, the Corporate Director EHS will electronically send a copy of all of open recommendations asking the facility to update their status. After completing this task, the facility HSE Coordinator will be responsible for returning it to the Corporate Director EHS. Bi-annual updates will continue until all of audit recommendations are closed.

I hope this gives you a flavor for the audit process and the actions that follow. If you have any questions concerning this notification letter, please feel free to call me at _____. I look forward to seeing you on _____.

Best regards,

(Audit Team Leader)

Enclosures

Attachment B - Advance Audit Information

General Information			
Facility Name:			
Address:			
Country:			
	Name	Phone	
Facility Manager			
Environmental Contact			
Type of facility (service, manufacturing, etc):			
Major product or service:			
Date when operation began:		Previous Owner:	
Own Lease	Property size:	Previous Use of building/property:	
Number of employees:			
	Full time:	Part time:	Contract or temp:
Hours and days of operation:			
What operations occur at this facility?			
Is there any PCB-containing equipment (e.g. transformers, capacitors, light ballasts) present onsite? Yes/No			
If yes, where?			
Is there any asbestos or asbestos-containing material onsite? Yes/No			
If yes, where?			
What quantity of equipment/tools is stored on-site:			
Number:		Comments:	

Attachment C - List of Information to be Available On-site for the Audit Team Review Checklist

A general description of tools/equipment, including the new and used	√
Organization charts (engineering, human resources and HSE)	√
Facility layout	
Most recent HSE action plans and performance objectives for current year	√
Emergency Plans	√
Regulatory citations, penalties, Notices of Violations (previous three years)	√
Incident investigation program & reports	√
Training documentation (topics, summary of training, attendees)	√
Self-audits (inspections) performed in six months prior to visit	√
Workers' compensation expenditures for the last three years	√
Incident trend cause analysis	√
Recent community complaint history plus follow-up actions (twelve months)	√
Equipment preventative maintenance records	√
Policy and procedure manual	√
Contractor and visitor safety program	√
Copies of all current environmental permits, licenses & registrations, if any	N/A
Copies of any current consent/administrative orders, compliance schedules or other agreements with environmental agencies, if any	N/A

Checklist for Office Tour

Inappropriate equipment/tools storage	No
Inappropriate equipment/tools handling and maintenance	No
Evidence of equipment/tools damage	No
Inappropriate equipment/tools labeling	No
Proper permits or signage posted	Yes
Cracked or damage floors	No
Lack of good housekeeping	No
Unpermitted installation or modification of process equipment/tools	No
Inappropriate employee activity	No

SECTION - 3

HEALTH, SAFETY & ENVIRONMENTAL (HSE) MANAGEMENT SYSTEM AUDIT QUESTIONS

3.1. Management System Element: Management Commitment & Direction				<u>POINTS</u>	
Plan-do	Yes	No	Comments	Available	Achieved
1. Has the facility adopted the Corporate HSE Policy?				10	
2. Has the policy been communicated to all employees?				10	
3. Do employees understand the policy and its contents?				10	
4. Do employees feel the policy is practiced and that HSE has equal priority to other business activities? (e.g. –operation, quality, costs, etc.)				10	
5. Are adequate resources provided for HSE?				10	
6. Is HSE integrated into all aspects of the business?				10	
7. Is management held accountable for HSE (e.g., MRAs and objectives) and do objectives include key actions versus primarily statistical measures?				10	
8. Is management visibly involved in HSE and actively participate in the HSE process (e.g., audits, investigations, meetings, observations, etc.)?				10	
9. Do all levels of management respond to HSE issues in a timely manner?				10	
10. Is there an organization for HSE (e.g., committee structure)?				10	
11. Does it provide for special subcommittees/working groups or forums?				10	
12. Do the committees and/or subcommittees have annual objectives?				10	
13. Do they meet regularly and publish minutes of their meetings?				10	
14. Are all levels of the organization involved in the committee structure?				10	
15. Is the physical condition of the facility and hazard control reflective of high standards?				10	
16. Are standards/work practices/procedures consistently applied and reinforced?				10	
			TOTALS	160	

3.2. Management System Element: Employee Roles & Responsibilities				<u>POINTS</u>	
Performance Criteria	Yes	No	Comments	Available	Achieved
1. Do employees feel that they are responsible for their own safety and the safety of their co-workers?				10	
2. Do employees regularly correct at-risk behavior and reinforce safe behavior when they observe it?				10	
3. Do employees take actions to minimize waste, prevent pollution and clean up/report spills?				10	
4. Are employees given the opportunity to and actively participate in the HSE process?				10	
5. Do employees have input into the development of HSE rules, policies and annual programs?				10	
6. Do employees follow HSE rules, procedures and display high standards?				10	
7. Has the facility assigned an individual (s) as the HSE Coordinator?				10	
8. Has the individual (s) role and responsibilities been clearly defined?				10	
9. Does the individual (s) have good credibility?				10	
10. Is the individual (s) technically competent?				10	
11. Does the individual (s) have specific developmental needs?				10	
12. Is there an action plan in place to address developmental needs?				10	
13. Is the individual (s) assigned to manage the HSE program knowledgeable on NS HSE requirements & applicable laws & regulations?				10	
			TOTALS	130	

3.3. Management System Element: Hazard Control & Risk Management				POINTS	
Performance Criteria	Yes	No	Comment	Available	Achieve
1. Is the engineering function knowledgeable of applicable HSE codes and regulatory requirements?				10	
2. Are specific hazards adequately controlled?				10	
3. Has a risk assessment been conducted to select appropriate personal protective equipment (PPE)?				10	
4. Have employees been instructed in the proper selection, use, limitations and maintenance of PPE?				10	
5. Is PPE being used and maintained?				10	
6. Has a quantitative inventory been developed of wastes generated and releases to the air, water and land?				10	
7. Has an inventory been established that identifies activities, products and services that have aspects that interact with the environment?				10	
8. Does the inventory include abnormal as well as normal operations, start-up and shutdown activities, use of raw materials and natural resources, aesthetic aspects (noise, glare, etc.) and past activities?				10	
9. Do hazard reviews conducted prior to new process introduction and/or significant modifications assess the environmental impact of releases, regulatory requirements, etc.?				10	
10. Have past practices been evaluated to address potential environmental issues?				10	
11. Has an action plan been developed to address and control environmental risks?				10	
12. Has a written strategy been developed to implement the NS Industrial Hygiene Protocol?				10	
13. Has sufficient personal and area IH monitoring been conducted to adequately profile worker's exposures?				10	
14. Have engineering, administrative and PPE controls been put in place to control exposures?				10	
15. Is housekeeping kept at a high standard?				10	
16. Has a written strategy been developed to implement the Safety Standard?				10	
17. Is a management of change procedure in place?				10	

18. Does the planning process for new facility and/or processes include a review of potential HSE aspects?				10	
19. Does the design of new facilities and/or processes incorporate appropriate measures to prevent pollution and protect the environment?				10	
20. Are HSE issues addressed during reviews of all new designs and facility modifications?				10	
21. When shutting down and decommissioning equipment or operating units, has the business considered HSE impacts and liability, and maximized the salvage value of company assets?				10	
22. Are hazardous materials data sheets available to employees?				10	
23. Does the facility conduct regular assessments on the equipment/tools used to determine whether improvements can be made to the way equipment/tools are stored, handled and maintained?				10	
24. Are periodic assessments conducted to determine whether there are more suitable alternatives available that reduce hazards to human health or the environment?				10	
25. Are equipment and tools stored and handled in a manner that protects the environment?				10	
26. Have environmental impacts been considered in the development of safe work procedures?				10	
			TOTALS	260	

3.4. Management System Element: Laws & Regulations	Yes	No	Comment	Available	Achieve
1. Has the facility management identified and complies with all laws & regulations, ordinances & other legal requirements relevant to its activities and operations?				10	
2. Are all required permits, licenses, approvals, etc. maintained in current and operable status?				10	
3. Does the business have a mechanism for tracking changes in potentially applicable laws and regulations?				10	
4. Does the organization have access to up-to-date legal and other requirements?				10	

5. Are records available that document compliance with applicable laws & regulations?				10	
			TOTALS	50	

POINTS					
3.5. Management System Element: Education & Training	Yes	No	Comments	Available	Achieve
1. Is a formal HSE training program in place for all employees at the site (managers, technical, staff & office, temporary, new employees, service & contractors)?				10	
2. Are employees aware of the NS HSE policy, standards, compliance requirements and potential HSE risks?				10	
3. Are HSE meetings used for training?				10	
4. Are training records documented?				10	
5. Is training adequate when non-routine jobs are performed?				10	
6. Have all NS and government required training topics been identified and training conducted?				10	
7. Are employees transferred into different jobs adequately trained on hazards and their HSE responsibilities?				10	
8. Are methods in place to verify training effectiveness (e.g., testing, supervisory observation, evaluation checklists, etc.)?				10	
9. Is an HSE orientation program in place for new hires, contractors and visitors?				10	
			TOTALS	90	

				<u>POINTS</u>	
3.6. Management System Element: HSE Communications	Yes	No	Comments	Available	Achieved
1. Are HSE issues, activities, programs, etc. regularly communicated?				10	
2. <u>Are the available modes of communication effective?</u>				10	
3. Does the facility regularly (at least annually) communicate HSE objectives, targets, improvements & responsibilities to all employees?				10	
4. Are HSE topics included in staff meetings and management reports?				10	
5. Are signs, banners and incentive programs used to communicate HSE?				10	
6. <u>Are HSE meetings routinely conducted?</u>				10	
7. Are HSE meetings well planned?				10	
8. Do employees get adequate feedback on HSE issues, suggestions or audits?				10	
9. Has a procedure been established to manage/communicate/respond to external interested parties' issues/concerns or inquires on the hazards of operations and hazardous materials handled?				10	
10. Does the facility personnel interact with neighbors and appropriate local agencies & authorities to minimize risk posed by the operations?				10	
11. Does the facility management maintain a positive relationship with the community in which it operates?				10	
			TOTALS	110	

3.7. Management System Element: Rules & Procedures				<u>POINTS</u>	
Performance Criteria	Yes	No		Available	Achiev
1. Are appropriate rules and procedures in place (e.g., control of energy, hot work, confined space entry, hazard communication, etc.)?				10	
2. Are they up-to-date and available to all employees?				10	
3. Do employees help write and review the site's HSE rules and procedures?				10	
4. Are rules and procedures periodically reviewed and updated with employees and the results documented?				10	
5. Are rules and procedures understood, followed and uniformly enforced?				10	
6. Do departments have HSE rules and procedures specific to exposures in their areas?				10	
			TOTALS	60	

3.8. Management System Element: Emergency Planning & Medical Surveillance	Yes	No	Comments	Available	Achiev
1. Has an assessment been made to identify potential emergency situations (e.g., natural, injury/illness, fire, environmental release, community impact, etc.)?				10	
2. Has a written plan been developed to address these situations?				10	
3. Have appropriate emergency equipment and/or facilities been provided and are maintained in working order?				10	
4. Does the facility review and revise, as necessary, its emergency plans on a periodic basis and after the occurrence of accidents or emergency situations?				10	
5. Have all employees been trained on emergency evacuation procedures?				10	
6. Are employees responsible for responding to emergencies properly trained?				10	

7. Are annual drills held to ensure that employees know how to evacuate or respond to emergency situations?				10	
8. Has the emergency plan been coordinated with the community's plan?				10	
9. Have local fire and emergency personnel visited the site and participated in drills?				10	
10. Has a medical surveillance program been implemented that meets applicable NS and regulatory requirements?				10	
11. Does the site have a "light duty" return-to-work program?				10	
12. Does the site have arrangements with a local clinic/physician to treat occupational injuries, illnesses, physical exams, etc.?				10	
13. Does the facility have a random testing program for substance abuse that meets NS standards?				10	
			TOTALS	130	

3.9. Management System Element: Documents & Records			<u>POINTS</u>		
Performance Criteria	Yes	No	Comments	Available	Achiev
1. Has the site developed an HSE management system sufficient to comply with NS policy, standards and procedures?				10	
2. Are HSE records maintained in conformance with applicable regulatory requirements and with the NS Records Retention Policy?				10	
3. Are documents organized and maintained so they can be located, reviewed and checked for their retention status and compliance with regulatory requirements?				10	
4. Are documents periodically reviewed, revised as necessary, and approved for adequacy by authorized personnel?				10	

5. Are obsolete documents promptly removed from all points of use, or otherwise assured against unintended use?				10	
6. Are any obsolete documents retained for legal and/or knowledge preservation purposes suitably identified?				10	
			TOTALS	60	

POINTS					
3.10. Management System Element: Equipment/Tools Safety	Yes	No	Comments	Available	Achieved
1. Does the facility/business have a process in place to evaluate new and existing equipment/tools design and hazards?				10	
2. Does the process evaluate HSE regulatory and labeling requirements?				10	
3. Does the process evaluate HSE risks during the pre-design stage?				10	
4. Once a equipment/tools has been manufactured/assembled is a hazard assessment conducted?				10	
5. Once a equipment/tools has been manufactured/assembled/changed are manuals updated, safety training provided for users and/or service and maintenance personnel?				10	
6. Is job training provided for employees who have been assigned responsibilities for product risk assessment and regulatory compliance?				10	
7. Are equipment/tools related incidents reported and investigated?				10	
8. Is there a equipment/tools management of change process in place?				10	
			TOTALS	80	

3.11 Management System Element: Security & Travel Safety	POINTS				
Performance Criteria	Yes	No	Comments	Available	Achieved
1. Has a facility security coordinator been assigned?				10	

2. Is an effective program in place to recognize, provide notification of and investigate security incidents including IT incidents?				10	
3. Within the past three years, has the existing program been evaluated by either the company Director or a consultant approved by the Director with corrective actions identified and implemented?				10	
4. Have background checks been done for all NS permanent and part-time employees in accordance with NS standards? (This requirement is not applicable if prohibited by local laws or union contracts)				10	
5. Does the facility have an effective substance abuse program that covers employees and contractors who are working full time? (This requirement is not applicable if prohibited by local laws or union contracts)				10	
6. Does the facility have an effective workplace violence prevention and response plan that covers employees and others working in the facility?				10	
7. Have employees and contractors been educated not to divulge critical and sensitive information and has the unit taken steps to mark and protect that information?				10	
8. Is there a formal program to ensure that employees are aware of the unit's security procedures, the rationale for these procedures, and actions expected from the employees?				10	
9. Is there a current Emergency Response Plan? Has it been tested in the past 2 years?				10	
10. Is there a formal program to ensure that contractors are aware of security procedures, and the responses expected from the contractors?				10	
11. Are any NS equipment/tools stored offsite that represent terrorist targets (e.g., rail cars on tracks outside the site, tank trucks)?				10	
12. Does the facility have a program for ensuring that health issues, including immunizations, are addressed for employees who travel/work at international sites?				10	
13. Do employees who drive on company business receive defensive driving training?				10	
14. Is the facility aware of and regularly use the Corporate HSE Manual, Policies, Code of Conduct, Journey Management Program etc to review travel safety guidelines, travel bans or advisories, country profiles, etc.?				10	
15. Are contact persons established for persons who travel internationally and/or to remote areas?				10	
16. Are important phone contact numbers given to key personnel (supervisor) at the home base?				10	
			TOTALS	160	

3.12 Management System Element: Audits & Inspections				<u>POINTS</u>	
Performance Criteria	Yes	No	Comments	Available	Achie
1. Is a formal written audit and inspection program in place?				10	
2. Do all levels of the organization participate in the audit and inspection program?				10	
3. Are audits and inspections planned on a periodic basis and in is conformance to the audit schedule reviewed?				10	
4. Do audits and inspections focus on both conditions and behavior?				10	
5. Do audits and inspections cover all areas, shifts and employees?				10	
6. Do the audits and inspections require feedback to persons being observed?				10	
7. Is there a system in place to document closure to audit recommendations?				10	
8. Is there a formal behavioral observation program in <u>place</u> ?				10	
9. Does the behavioral observation meet the requirements of the Process? (e.g., committee, champion, observation datasheet, % safe measurement, action planning, communication of data, regular update of key behaviors)				10	
10. Are fire and emergency equipment regularly inspected and records maintained?				10	
11. Is environmental monitoring equipment calibrated and maintained and records of these activities maintained?				10	
12. Is there a formal preventative maintenance (PM) program in place critical operating equipment (e.g., fire and rescue, slings/chains, cranes and hoists, fork trucks, bores/lathes/bending machines, etc.)?				10	
13. Does the preventative maintenance program include regular inspections of pollution prevention equipment?				10	
14. Are the results of the PM program documented?				10	
			TOTALS	140	

3.13. Management System Element: Incident Investigation & Reporting			<u>POINTS</u>		
Performance Criteria	Yes	No	Comments	Available	Achie
1. Are all employees (NS, contractors, visitors, etc.) encouraged to report all incidents including recordables, near miss, first air, environmental releases/spills, etc.?				10	
2. Is there a written procedure for investigating incidents?				10	
3. Are all incidents investigated?				10	
4. Are significant incident investigations communicated to all employees (e.g., facility specific, lessons learned from other sites, etc.)?				10	
5. Are incident investigation reports analyzed to identify trends, targets, and specific causes?				10	
6. Are incident investigation reports used to update the facility behavioral observation checklist?				10	
7. Is there a system in place to identify, implement, track and document incident investigation corrective actions?				10	
			TOTALS	70	

3.14. Management System Element: Process Assessment & Improvement			<u>POINTS</u>		
Performance Criteria	Yes	No	Comments	Available	Achie
1. Is the overall HSE program evaluated on an annual basis by the site management team and/or Corporate HSE Audit Team?				10	
2. Did the evaluation focus on the NS HSEMS, regulatory requirements, high risk activities and major causes of incidents?				10	
3. Was a report generated which identifies findings and recommendations for improvement?				10	
4. Was the report used to develop a facility annual action plan?				10	

5. Were all levels of the organization given an opportunity to have input into the development of the annual action plan?				10	
6. Are facility goal and objectives documented for reductions in injury/illness, effluent discharge, waste generation and risk management costs?				10	
7. Does the facility show continual improvement in these areas?				10	
8. Is the annual action plan and goals/objectives communicated to all employees?				10	
9. Is the annual HSE program monitored for progress to objectives during the year and modifications made as necessary throughout the year?				10	
			TOTALS	90	

3.15 Equipment/Tools Facility Pre-Audit Questionnaires

General Information			
Facility Name:			
Address:			
Country:			
	Name	Phone	
Facility Manager			
Environmental Contact			
Type of facility (service, manufacturing, etc):			
Major product or service:			
Date when operation began:		Previous Owner:	
Own Lease	Property size:	Previous Use of building/property:	
Number of employees:			
	Full time:	Part time:	Contract or temp:
Hours and days of operation:			
What operations occur at this facility?			
Is there any PCB-containing equipment (e.g. transformers, capacitors, light ballasts) present onsite? Yes/No			
If yes, where?			
Is there any asbestos or asbestos-containing material onsite? Yes/No			
If yes, where?			
What quantity of equipment/tools is stored onsite:			
Number:		Comments:	
Solid and Hazardous Waste and Hazardous Materials			
Waste/byproduct	General	Recycler	Other
Batteries			
Metal parts			
How much hazardous waste do you generate?			
Large quantity		> 2200 lbs./mnth	
Small quantity		> 220 lbs. < 2200 lbs./mnth	
Conditionally exempt small quantity		0-220 lbs./mnth	
Do you know what happens to the wastes you send to offsite facilities? Yes/No/NA			

SECTION - 4

ENVIRONMENTAL PROCEDURES

4.1 Environmental Due Diligence Procedure

Introduction and Overview

The nature of NS business does not require any acquiring, transferring and leasing real property in the course of carrying out its business activities. Due to the NS nature of service NS may not be held liable for cleanup of site contamination as it is not the owner or operator at a site. Cleanup work is the responsibility of the owner or operator at the site may range from identifying, removing, and cleaning up limited soil and groundwater contamination to engaging in full-scope site cleanup of multiple hazardous waste sources, adjacent soils, underlying groundwater, and contaminated surface waters and sediments. In some cases, the contamination and associated liability may extend far beyond the site boundaries affecting neighboring properties and nearby natural resources. NS is responsible to follow the owner, operator or contractor/subcontractor (such as wireline, slickline companies NS might work with) instructions in this matter.

4.2 Environmental Management Guide

4.2.1 Introduction

The Environmental Management Guidance Manual for NS, NS equipment operation is designed to help facility personnel better understand their responsibility for good environmental management. Its purpose is to improve environmental performance by assisting in the development and implementation of site-specific environmental management programs to ensure regulatory requirements and prevent pollution. It is important to understand that for the environmental program to be fully responsive, the information provided here must be supplemented by knowledge of state and local regulations.

4.2.2 Pollution Prevention and Waste Minimization

Pollution prevention and waste minimization are terms that refer to practices that reduce or eliminate the amount and/or toxicity of pollutants that would have been released into the environment prior to recycling, treatment, or disposal. Pollution prevention applies to all types of waste, releases to air, water, and land.

Some common pollution prevention practices include equipment or process modification, preventive maintenance, substitution with less toxic materials, inventory control procedures, and improved housekeeping.

4.2.3 Universal Waste Management

The Universal Waste Rule does not affect facilities that generate less than 100 kg (220 lbs.) of universal waste per calendar month. Universal wastes include batteries, agricultural pesticides, thermostats, and lamps.

One type of universal waste found in NS operations is:

Lithium batteries found in common item as electronic equipment. Non-Hazardous batteries (alkaline and spent lead acid batteries that are reclaimed) are excluded.

The handlers of universal waste complies with the following requirements:

- All universal waste must be managed in a way that will prevent a release to the surrounding environment. Storage containers must be in good shape.
- The collection/storage container or the individual item must be labeled with the type of universal waste (batteries, lamps, etc.) and the words "Universal Waste";
- The facility receiving the universal waste must be authorized;

4.2.4 Waste Management

Waste products generated will be disposed of in an appropriate manner. All waste (such as metals, paper, glass and plastic) will be segregated and stored separately. It is responsibility of every employee to deposit waste in the appropriately label container. It is the responsibility of supervisor and management to training employees on the environmental management system.

4.2.5 Roles and Responsibilities

Roles and responsibilities will be listed for key persons who support the environment management system and will be communicated to said personnel.

4.2.6 Communication

The company ensures that all relevant documentation such as Policies, procedures, guidelines, disposal plans etc. will be available at the facility and key locations of the operations. These will be detailed and adequately controlled.

SECTION - 5

HSE PERFORMANCE MEASUREMENT AND REPORTING

5.1 Guidance for Recording and Measuring Occupational Injury and Illness Experience

5.1.1 Introduction

The purpose of these guidelines is to assist NS locations in determining: a) if an injury or illness is recordable, b) how an injury or illness is to be classified if it is recordable and c) how the injury or illness is to be entered on the applicable record forms. These guidelines are independent of the requirements for Worker's Compensation.

The objective is to assure accurate, consistent and uniform reporting of occupational injury and illness statistics, which will:

- Develop a true representation of location, division, group and corporate safety performance.
- Encourage use of safety performance data for evaluating overall performance of line management.
- Provide reliable data for comparison of NS's safety performance within the various locations and with that of peer companies and industries.
- Provide a statistical basis for empirical goal setting.

NS's goal is the prevention of all occupational injuries. When an injury does occur, the first concern is to provide the employee the best medical treatment available. Only after this priority should the classification of an injury or illness be considered.

5.1.2 Definitions

Work Environment – includes establishments and other locations where one or more employees are working or are present as a condition of employment.

Occupational Injury – is any work-related wound or damage to the body resulting from an event in the work environment. Examples include cut, puncture, lacerations, abrasion, fracture, bruise, contusion, chipped tooth, amputation, insect bite, electrocution, or a thermal, chemical, electrical or radiation burn. Sprain and strain injuries to muscles, joints, and connective tissues are classified as injuries when they result from a slip, trip, fall or other similar accidents.

Occupational Illness – any work-related illness resulting from exposure in the work environment. Examples include musculoskeletal disorders (MSDs) that are not caused by a slip, trip, motor vehicle accident, fall or other similar accident; skin diseases or disorders caused by work exposure to chemicals, facilities, or other substances; respiratory conditions associated with breathing hazardous biological agents, chemicals, dust gases, vapors, or fumes at work; poisoning evidenced by abnormal concentrations of toxic substances in the blood, other tissues, other bodily fluids, or the breath that are caused by the ingestion or absorption of toxic substances into the body; noise-induced hearing loss – a change in hearing threshold relative to the baseline audiogram of an average of 10 dB or more in either ear at 2000, 3000 and 4000 hertz; and other occupational illnesses.

First Aid Treatment – is treatment that is limited to visits to a doctor or health care professional solely for observation or counseling; diagnostic procedures, including administering prescription medications that are used solely for diagnostic purposes; and any procedure that can be labeled as first aid. The following examples are normally considered first aid: using non-prescription medications at non-prescription strength; administering tetanus immunizations; cleaning, flushing or soaking wounds on the skin surface; using wound coverings, such as bandages, Band-Aids, gauze pads, etc., or using SteriStrips or butterfly bandages; using hot or cold therapy; using any totally non-rigid means of support such as elastic bandages, wraps, non-rigid back belts, etc.; using temporary immobilization devices while transporting an accident victim (splints, slings, neck collars or back boards); drilling a fingernail or toenail to relieve pressure, or draining fluids from a blister; using eye patches; using simple irrigation or a cotton swab to remove foreign bodies not embedded in or adhered to the eye; using irrigation, tweezers, cotton swab or other simple means to remove splinters or foreign material from areas other than the eye; using finger guards; using massages; or drinking fluids to relieve heat stress.

Medical Treatment – is treatment, other than first aid, and includes managing and caring for a patient for the purpose of combating disease and disorder.

Recordable Cases – an injury or illnesses that is work related and is a new case and results in the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness. It also is considered recordable if it involves a significant injury or illness diagnosed by a physician or other licensed health care professional, even if it does not result in death, days away from work, restricted work or job transfer, medical treatment beyond first aid, or loss of consciousness.

Restricted Case – is a recordable injury or illness where an employer or health care professional keeps, or recommends keeping, an employee from doing routine functions of his or her job or from working a full workday that the employee would have been scheduled to work before the injury or illness occurred.

Routine functions – are those activities the employee regularly performs at least once per week.

Lost Workday Case – is a recordable injury or illness where an employer or health care professional keeps, or recommends keeping, an employee off work.

Pre-Existing Condition – is a preexisting condition that resulted solely from a non-work-related event or exposure that occurred outside the work environment.

Potentially Infectious Material – human bodily fluids, tissues and organs and other materials infected with the HIV or hepatitis B (HBV) virus such as laboratory cultures or tissues from experimental animals.

5.1.3 Measurement of Performance

Incidence Rate

The primary safety performance measurement in NS is the incidence rate. The following is the formula used to calculate incidence rate:

Incident Rate = (# of Recordable or Lost Workday injuries/illnesses or lost workdays) X
(200,000 hrs) (actual hours worked at the site)

Example – If a site worked 147,870 hours and sustained 4 recordable injuries.

Incident Rate = 4 X 200,000 hours = 5,41

147,870 hours

1. Total Recordable Incidence Rate – the total number of entries Log (columns G + H + I = J) multiplied by 200,000 hours and divided by the site's actual hours of exposure.
2. Lost Workday Cases (with actual day away from work) Incidence Rate –the total of all entries on the Log (column H) multiplied by 200,000 hours and divided by the site's actual hours of exposure.
3. Severity Incidence Rate – the total of actual day lost entered on the Log (column L) multiplied by 200,000 hours and divided by the site's actual hours of exposure.

Exposure Hours

The basis for calculating injury and illness incidence rates is the total number of hours worked at the location during the month being reported. Total hours should be taken from payroll or time-keeping records.

The total number of employee hours worked by all persons includes those in R&D, maintenance, clerical, administrative sales/service and all other activities.

When accurate hours-worked figures cannot be obtained in this way, estimated hours may be used. The estimate is made by using the total number of employees on the payroll on the last working day of the month as the "average number of daily employees" and multiplying by 171.

Hours paid, but not worked (such as sick leave, holidays, vacations) shall not be included in injury/illness rate calculations.

Hours worked by temporary NS employees and contract workers under the direct NS supervision should be counted in the exposure hours for the month.

Injuries & Illnesses

The material in this section is designed to assist in determining if an injury or illness is recordable. A work-related injury/illness that requires medical treatment is a recordable, whereas a work-related injury that requires only first aid is not.

Determination as to whether the injury/illness should be considered work-related is based upon evidence that the injury/illness did result from the work activity or environment of employment. If found to be so, the injury shall be considered work-related and is recordable.

Preponderance of Evidence – the evidence to be considered in determining whether or not the reported injury/illness should be considered work-related should include, but not necessary be limited to:

- Facts resulting from investigation of the injured/ill employee's work activities and working environment to which the injury might be related.
- Statements of the injured employee, fellow employees, witnesses and supervisors.
- Medical reports.
- Facts concerning the injured employee's work activity for other employers, and other off-the-job activities, injuries and illnesses.

Written documentation must be kept to substantiate decisions.

Non-Recordable versus Recordable Injuries and Illnesses.

Injuries and/or Illnesses That Occur in the Work Environment, but are not Recordable:

Although it is presumed that injuries that occur in the work environment are work-related, the following are examples where injuries and/or illnesses occurred in the work environment, but are **not recordable**:

- At the time of the injury or illness, the employee was present in the work environment as a member of the general public rather than as an employee.
- The injury or illness involves signs or symptoms of preexisting conditions that surface at work but result solely from non-work-related event or exposure that occurs outside the work environment.
- The injury or illness results solely from voluntary participation in a wellness program or in a medical fitness, or recreational activity such a blood donation, physical examination, flu shot, exercise class, racquetball or baseball.
- The injury or illness is solely the result of employee eating, drinking, or preparing food or drink for personal consumption (whether bought on the employer's premises or brought in). For example, if the employee is injured by choking on a sandwich while in the employer's establishment, the case is not considered work-related. **Note:** If the employee is made ill by ingesting food contaminated by workplace contaminants (such as lead) or gets food poisoning from food supplied from food supplied by the employer, the case would be considered work-related.
- The injury or illness is solely the result of an employee doing personal tasks (unrelated to their employment) at the establishment outside of the employee's assigned working hours.
- The injury or illness is solely the result of personal grooming, self-medication for a non-work-related condition, or is intentionally self-inflicted.
- The injury or illness is caused by a motor vehicle accident and occurs on a company parking lot or company access road while the employee is commuting to or from work.

- The illness is the common cold or flu (**Note:** contagious diseases such as tuberculosis, brucellosis, hepatitis A, or plague are considered work-related if the employee is infected at work).
- The illness is a mental illness. Mental illness will not be considered work-related unless the employee voluntarily provides employer with an opinion from a physician or other licensed health care professional with appropriate training and experience (psychiatrist, psychologist, psychiatric nurse practitioner, etc.) stating that the employee has a mental illness that is work-related.
- Injuries and illnesses that occur while an employee is on travel status are work-related if, at the time of the injury or illness, the employee is engaged in work activities in the interest of the employer. The following type travel related injuries and illnesses are not recordable:

When a traveling employee checks into a hotel, motel, or into other temporary residence, they establish a "home away from home". When this happens, they are considered to have left the work environment. When the employee begins work each day they re-enter the work environment. If the employee is reporting each day to a fixed worksite, then an injury or illness sustained while traveling to and from work would not be recordable.

Injuries and illnesses are not considered work-related if they occur while the employee is on a personal detour from a reasonably direct route of travel (e.g., has taken a side trip for personal reasons).

- Injuries and illnesses that occur while an employee is working at home are considered work-related if the employee is performing work for pay or compensation and the injury or illness is directly related to the performance of the work. If the injury or illness is the result of an event or exposure to a hazard in the general home environment or setting then it is not recordable (e.g. – an employee trips on the family dog when rushing to answer a work phone call, or an employee is electrocuted while working at home because of faulty wiring.).

Recordable Injuries and Illnesses:

The following injuries and illnesses are considered recordable if they are work-related and are a new case and meets one or more of the following criteria:

- Results in an occupational death
- Results in days away from work
- Results in restricted work or transfer to another job
- Results in medical treatment beyond first aid treatment
- Results in loss of consciousness
- Is a significant injury or illness diagnosed by a physician or other licensed health care professional
- Preexisting conditions that are significantly aggravated by an event or exposure in the work environment.
- Using wound closing devices such as sutures, staples, etc.
- Physical therapy or chiropractic treatment

- Skin diseases or disorders involving the worker's skin that are caused by work exposure to chemicals, plants or other substances. Examples include: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne; friction blisters, chrome ulcers; inflammation of the skin.
- Occupational Injuries – such as a cut, fracture, sprain or amputation that results from a work accident or from an exposure involving an event in the work environment.
- Occupational Illness – is any abnormal condition or disorder other than one resulting from an occupational injury caused by exposure to environmental factors associated with employment. Includes: acute and chronic illnesses or diseases caused by inhalation, absorption, ingestion or direct contact.

The following lists typical examples for each category of occupational illnesses and disorders that should be used to classify recordable illnesses, and is not to be considered as the complete listing for each category:

- Occupational Skin Diseases or Disorders such as: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants, oil acne, chrome ulcers, chemical burns or inflammations, etc.
- Dust Diseases of the Lungs (Pneumoconiosis) such as: Silicosis, asbestosis.
- Respiratory Conditions Due to Toxic Agents such as: Pneumonitis, pharyngitis, rhinitis or acute congestion due to chemicals, dust, gases or fumes; farmer's lung, etc.
- Poisoning (Systemic Effects of Toxic Materials) such as: Poisoning by lead, mercury, cadmium, arsenic, or other metals; poisoning by carbon monoxide, hydrogen sulfide or other gases; poisoning by benzol, carbon tetrachloride, or other organic solvents; poisoning by insecticide sprays such as parathion, lead arsenate, poisoning by other chemicals such as formaldehyde, plastics and resins; etc.
- Disorders Due to Physical Agents (other than toxic materials such as: Heat stroke, sunstroke, heat exhaustion and other effects of environmental heat, freezing, frostbite and effects of exposure to low temperatures; caisson disease, effects of ionizing radiation (isotopes, x-rays, radium); effects of nonionizing radiation (welding flash, ultra-violet rays, microwaves, sunburn); etc.
- Disorders Associated with Repeated Trauma such as: Noise-induced hearing loss, synovitis, tenosynovitis and bursitis; Raynaud's phenomena; and other conditions due to repeated motion, vibration or pressure.

First Aid Treatment:

- Non-Prescription Medication – using a non-prescription medication at nonprescription strength.
- Tetanus Immunizations – administering tetanus immunizations.
- Cleaning, Flushing or Soaking Wounds – cleaning, flushing or soaking wounds on the surface of the skin.
- Wound Coverings – using wound coverings such as bandages, Band-Aids, gauze pads, etc., or using butterfly bandages or Steri-Strips.
- Hot and Cold Therapy – using hot and cold therapy.
- Non-Rigid Means of Support – using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc.

- Temporary Immobilization Devices – using temporary immobilization devices while transporting an accident victim (e.g. – splints, slings, neck collars, back boards, etc.).
- Drilling a Fingernail or Toenail – drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister.
- Eye Patches – using eye patches.
- Foreign Bodies of the Eye – removing foreign bodies from the eye using only irrigation or a cotton swab.
- Splinters and Foreign Material (Other Than the Eye) – removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means.
- Finger Guards – using finger guards.
- Massages – using massages.
- Drinking Fluids – drinking fluids for relief of heat stress.
- Visits to a Physician – visits to a physician or other licensed health care professional solely for observation or counseling.
- Diagnostic Procedures – the conduct of diagnostic procedures, such as x-rays and blood tests, including the administration of prescription medications used solely for diagnostic purposes (e.g., eye drops to dilate pupils).

5.2 Reporting and Recording of Occupational Injury and Illness Information

5.2.1 Reporting

Monthly Report – all sites are required to submit by the 5th working day of the month to Corporate SHRS, a copy of the site monthly injury and illness statistical performance. The specific reporting information and forms are detailed in section 2.2 of the Corporate Safety Manual.

Internal (NS) Reporting of Serious Injuries/Illnesses – if a fatal injury or illness, or the hospitalization of 3 or more employees, the site manager shall immediately notify the following persons:

- Corporate Director
- General Manager
- Group Manager.

5.2.2 Recording

Recording Days of Restricted Activity, Job Transfer and Lost Workdays – the following guidelines should be used to record restricted activity and lost workdays on the NS monthly report:

- Days of restricted activity or job transfer and/or lost workdays begins on the first day after the injury or illness. The day on which the injury or illness occurred is not counted.
- Once the count of days begins, all calendar versus work days are counted, regardless if the employee was scheduled to work or not. This includes weekends, holidays, etc.

- There is a limit on the number of days restricted or transferred and/or lost workdays that are counted. A site is not required to keep track of the number of calendar days away from work if the injury or illness resulted in more than 180 calendar days away from work and/or days of job transfer or restriction.
- If an employee leaves the company for some reason unrelated to the injury or illness, such as for retirement, a site closing or takes another job, then the site can stop counting the days of restriction, transfer or lost workdays.
- If an employee leaves the company because of the injury or illness then the site should estimate the number of days away, restriction or transfer.
- If the job transfer or restriction becomes permanent, then the count of days of transfer or restriction stops on the day the permanent change takes place. If the change occurs immediately the site must at least count 1 day of restriction or transfer.
- If the case occurs in one year but results in days away, restriction or transfer during the next calendar year, the site counts the injury or illness on the year which it occurred. The number of days are first estimated at the end of the year and then modified when the employee returns unrestricted to their job or reaches the 180 calendar day cap.
- When there is a difference in opinion between physicians or other licensed health care providers, then the site can choose which recommendation to take based on the one that is the most authoritative (best documented, best reasoned, or most authoritative) and record the case based upon that recommendation.

5.2.3 Documentation

Documentation of occupational injury and illness information is an essential process for proper recording and good case management. Each site should establish a documentation and case management process for managing occupational injuries and illnesses. The following minimum practices should be established:

- All potential occupational injuries and illnesses should be thoroughly investigated and results documented. This is especially true for cases that are considered suspect or non-work-related. This information will be useful in documenting whether an injury or illness should be recorded.

5.3 Monthly HSE Report

Scope

The purpose of the Monthly HSE Report is to provide a statistical measurement tool for local, division, and group management to determine progress toward objectives; make industry comparisons; and provide a measurement base for consideration in recognition programs, both internal and external.

Procedure

Monthly HSE report form is introduced in Incident Investigation and Reporting Requirement Section. This form is to be completed each month by the HSE Coordinator and sent to the Corporate EHS Director by the fifth working day following the report period.

Distribution

The facility HSE Coordinator is responsible for distributing the report as follows:

- One copy – Corporate EHS Director (Russia)
- One copy - General Manager
- One copy - facility Manager

Other Reports

A copy of any lost workday injury/illness investigation reports must be attached for each lost workday injury reported during the month.

These individual facility reports will be consolidated each month by Corporate EHS Director to produce an overall company performance report.

Instructions

- **Exposure Hours:** Enter the total number of hours worked at the location during the month and year to date. The total number of employee hours worked by all persons includes those in operating production, maintenance, transportation, clerical, administration and all other facilities.
- **Recordable Injuries and Illnesses:** Enter the total number of all occupational deaths, non-fatal injuries, illnesses suffered by an employee which arises out of an in the course of employment.
- **Total Recordable Incident Rate:** the total of line two multiplied by 200,000 and divided by the hours of exposure. (Record to the nearest tenth.)
- **Lost Workday Cases:** Enter the number of cases where an employee actually missed a regularly scheduled shift he was scheduled to work because of an occupational injury or illness.
- **Lost Workday Incident Rate:** Enter the number of line 4 multiplied by 200,000 and divided by the hours of exposure. (Record to the nearest tenth).
- **Number of Days Lost:** Enter the total number of days actually missed by all employees because of occupational injury or illness; the number of days should not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.
- **Incident Rate of Lost Workdays:** The total of actual days lost multiplied by 200,000 and divided by actual hours of exposure. (Record to nearest whole number)
- **Fatal Injuries/Illnesses:** Record only occupational related cases.
- **Number of Restricted Activity Cases:** Enter the number of cases where the employee is at work but is restricted from performing all the duties of his regularly assigned job because of occupational injury or illness.
- **Days of Restricted Activity:** Enter the total number of days which because of injury/illness an employee was assigned to another job on a temporary basis, worked at a permanent job less than full-time or worked at a permanently assigned job but could not perform all the duties connected with it.
- **Total Recordable Injuries:** Enter the total number of recordable injuries.

- Total Recordable Illnesses: Enter the total number of recordable illnesses. The sum of lines eleven and twelve should be the same as line two.
- Near Miss Incidents: Enter the total number of the near miss incidents that occurred.
- Environmental Incidents: Enter the total number of environmental incidents that occurred.
- Automobile Incidents: Enter the total number of automobile incidents that occurred.
- Record the date of occurrence of the last reported injury or illness that involved days away from work.
- Record the total number of hours worked since the last injury/illness involving days away from work.
- Respond "yes" if Regulatory (state, federal, country regulatory agency) enforcement personnel visited your establishment this month to conduct a random inspection, in response to an employee complaint, to investigate a fatality, to conduct an industrial hygiene study, environmental, etc.
- Respond "yes" if your facility experienced a single incident of property damage or business interruption estimated to be in excess of \$1,000.00

5.4 Incident Investigation and Reporting Requirement

5.4.1 Scope

Monthly HSE Report			
Reporting Division:			
Location:			
	Month	Year-to-date	
1. Exposure hours			
2. Number of recordable injuries/illnesses			
3. Total recordable incident rate			
4. Number of lost workday cases*			
5. Lost workday incident rate			
6. Number of lost workdays			
7. Incident rate of lost workdays			
8. Fatal injuries			
9. Number of restricted activity cases			
10. Number of days of restricted activity			
11. Total recordable injuries			
12. Total recordable illnesses			
13. Number of near miss incidents			
14. Number of environmental incidents			
15. Number of automobile incidents			
16. Date of last lost workday injury/illness			
17. Cumulative hours since last lost workday injury/illness			
18. Did your facility have a Regulatory agency inspection this month? Yes/No This year? Yes/No			
19. Did your facility experience a single incident involving over \$1000 property damage this month (fire, explosion, collision, etc)? Yes/No			
Prepared by:		Date:	

This report is due by the 5th working day of the month following the reporting period.

To implement an incident investigation program that focuses on serious (environmental, product, automobile, recordable injuries and illnesses), near miss and minor incidents.

5.4.2 Purpose

The purpose of incident investigations is to determine the "root cause(s)" of an incident, so that corrective action can be taken to eliminate or control specific hazards. Through the investigation of incidents, we are able to analyze and learn about causes, which in turn will give us a better control of incidents.

General

Incident defined: All incidents should be reported. Those with serious potential should be selected for further investigation. A serious or serious potential incident is one that either results or could reasonably result in:

- An injury or illness involving lost or restricted work activity, including contract employees and visitors
- A significant spill or release of chemical or product
- Significant damage to buildings or equipment/tools
- Off-facility impact

First aid cases are also investigated and reported; though not as rigorously as above type incidents.

5.4.3 Incident Investigation Process

The incident investigation process contains 5 steps:

1. Gather Information
2. Determine Causes (direct and indirect)
3. Corrective Action(s)
4. Communication
5. Follow-Up

Step 1 - Gather Information

Before beginning this process, it is very important to have the correct people involve to perform an investigation, they should include: 1) supervisor, 2) injured or involved employee(s), 3) witnesses, 4) union safety representative, if appropriate and 5) other resources, if necessary. The initial investigation should take place at the scene. The investigating team will be able to examine the scene and visually see what took place. It is critical to document what was said and observed.

Step 2 - Determining Causes (Direct and Indirect)

As the investigation team gathers information for an incident, it is important to investigate the behaviors involved in an incident. Remember, between 90 and 96% of all injuries that occur in industry are related to employee behavior. Behaviors fall into two categories direct or indirect. Direct causes are usually easily identified, and in most cases the incident investigation stops here. However, indirect causes require more effort in surfacing and is usually an indication breakdown in a management system (i.e. procedures not being up-to-date, taking shortcuts to get a job task completed, etc.). To better illustrate direct and indirect here is an example: An employee was running to the lunch room and slipped on an oil spot that was on the floor and injured himself. Most investigations would identify the employee running and the oil as the direct cause to the incident and in most cases, the investigation would stop here. However, you have not identified the "root cause" of the incident.

Step 3 - Corrective Actions

Once the investigation team completes the investigation and generates a report that identifies how the incident occurred, direct and indirect causes, the next step is to identify corrective actions that will address the incident. Corrective actions that require little time to execute should be done immediately. However, situations where the corrective action is more involved (i.e. ordering material, AFE, etc.), the recommendation should involve a short- and long-range plan. These recommendations should be tracked to ensure closure.

Step 4 - Communication

Once the incident investigation report has been completed and corrective actions identified. It is important to communicate the incident report with the entire facility and in some cases, within the division, group or corporation when a serious injury (i.e. more that \$1,000.00) occurred. The purpose of communicating and sharing incident investigations is that another department, group or division my have the potential for the same incident to occur. Also, the name of the injured employee should be removed when communicating incident reports. Remember, the purpose of an incident investigation is not to place blame, but to identify recommendations that will eliminate the incident from occurring again.

Step 5 - Follow-Up

The final step (follow-up) is where a lot of incident investigation program fail. Once an investigation has been completed and corrective actions identified most investigations stop here. The reason for this is that we fail to monitor corrective actions and they fall through the cracks. It is vital to the incident investigation process to develop a tracking system that will give you the capability to see what corrective items have not been completed. By having a monitoring system that tracks closure will ensure a successful investigation program. Each facility location should analyze their incident history for trends and guidance in determining future corrective actions.

5.4.4 Reporting Requirements

Any time an NS location encounters a Lost Workday Injury or a serious environmental incident, they are to send a copy of the investigation report to the Corporate EHS Director

located in Russia. The Corporate EHS Director in many cases will send a corporate wide communication concerning the incident, and ask facility locations to audit their facility for the same potential hazards identified in the investigation report.

Other Requirements

Injuries

If a fatal injury, illness or hospitalization of three or more employees, the facility manager will immediately notify the following persons and agency:

- Corporate EHS Director
- Manager
- Managing Director

Environmental

If an environmental incident occurs that is required to be reported to local, state and/or federal agencies please notify the following persons:

- Corporate EHS Director
- Managing Director
- Group Manager
- Appropriate local, state and/or federal agency

Attachment D – Incident Investigation Form

INCIDENT INVESTIGATION FORM																																														
1. Location of Incident																																														
Site Address:																																														
Supervisor:																																														
2. Details of the incident being investigated				Incident Report Number: <input style="width: 150px;" type="text"/>																																										
Name of Injured Person (If Applicable):				Date of Incident:																																										
Name of person who reported Incident:				Date of Report:																																										
3. Details of the Incident Investigation																																														
Name of person completing this form:				Date Completed:																																										
Telephone Number:				Email address:																																										
Is this form being completed as part of an 'onsite' investigation? Yes/No			Names of Investigations Team:																																											
Have any witnesses been interviewed as part of the incident investigation? Yes/NO			Names of witnesses interviewed:																																											
4. Description of Events																																														
Describe the sequence of events that lead to the incident:																																														
Describe the Sequence of events following the incident:																																														
Describe the task being performed at the time of the incident:																																														
5. Risk Rating of Incident & Likelihood of Reoccurrence																																														
Using the Two Variable Risk Matrix (Right): -Rate the consequences (Severity) of the incident -Rate the likelihood of the incident occurring or reoccurring -Circle the resultant risk rating on the Risk Matrix		<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2" style="background-color: #002060; color: white;">Likelihood Label</th> <th colspan="5" style="background-color: #002060; color: white;">Consequences (Severity) Label</th> </tr> <tr> <th style="background-color: #d9e1f2;">Negligible(I)</th> <th style="background-color: #d9e1f2;">Significant(II)</th> <th style="background-color: #d9e1f2;">Moderate (III)</th> <th style="background-color: #d9e1f2;">Major (IV)</th> <th style="background-color: #d9e1f2;">Catastrophe (V)</th> </tr> </thead> <tbody> <tr> <td style="background-color: #002060; color: white;">Almost Certain (A)</td> <td style="background-color: #ffff00;">medium</td> <td style="background-color: #ff0000;">High</td> <td style="background-color: #ff0000;">High</td> <td style="background-color: #ff0000;">Very High</td> <td style="background-color: #ff0000;">Very High</td> </tr> <tr> <td style="background-color: #002060; color: white;">Likely (B)</td> <td style="background-color: #ffff00;">medium</td> <td style="background-color: #ffff00;">medium</td> <td style="background-color: #ff0000;">High</td> <td style="background-color: #ff0000;">High</td> <td style="background-color: #ff0000;">Very High</td> </tr> <tr> <td style="background-color: #002060; color: white;">Possible (C)</td> <td style="background-color: #90ee90;">Low</td> <td style="background-color: #ffff00;">medium</td> <td style="background-color: #ff0000;">High</td> <td style="background-color: #ff0000;">High</td> <td style="background-color: #ff0000;">High</td> </tr> <tr> <td style="background-color: #002060; color: white;">Unlikely (D)</td> <td style="background-color: #90ee90;">Low</td> <td style="background-color: #90ee90;">Low</td> <td style="background-color: #ffff00;">medium</td> <td style="background-color: #ffff00;">medium</td> <td style="background-color: #ff0000;">High</td> </tr> <tr> <td style="background-color: #002060; color: white;">Rare (E)</td> <td style="background-color: #90ee90;">Low</td> <td style="background-color: #90ee90;">Low</td> <td style="background-color: #ffff00;">medium</td> <td style="background-color: #ffff00;">medium</td> <td style="background-color: #ff0000;">High</td> </tr> </tbody> </table>				Likelihood Label	Consequences (Severity) Label					Negligible(I)	Significant(II)	Moderate (III)	Major (IV)	Catastrophe (V)	Almost Certain (A)	medium	High	High	Very High	Very High	Likely (B)	medium	medium	High	High	Very High	Possible (C)	Low	medium	High	High	High	Unlikely (D)	Low	Low	medium	medium	High	Rare (E)	Low	Low	medium	medium	High
Likelihood Label	Consequences (Severity) Label																																													
	Negligible(I)	Significant(II)	Moderate (III)	Major (IV)	Catastrophe (V)																																									
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Possible (C)	Low	medium	High	High	High																																									
Unlikely (D)	Low	Low	medium	medium	High																																									
Rare (E)	Low	Low	medium	medium	High																																									

INCIDENT INVESTIGATION FORM - PAGE 2 of 2

5.1. Identify the behavioural causes of the Incident

Did any of the following behaviours contribute to the cause of the incident? (choose and tick)

Performing task without authority	<input type="checkbox"/>	Distracting, teasing or abusing a person	<input type="checkbox"/>
Performing task at unsafe speed	<input type="checkbox"/>	Using unsafe or tagged out equipment	<input type="checkbox"/>
Performing task while affected by drugs/alcohol	<input type="checkbox"/>	Using equipment in an unsafe manner	<input type="checkbox"/>
Performing task with improper work technique	<input type="checkbox"/>	Unsafe placement of equipment or objects	<input type="checkbox"/>
Performing task <u>without PPE</u>	<input type="checkbox"/>	Unsafe manual handling technique	<input type="checkbox"/>
Performing task <u>without correct PPE</u>	<input type="checkbox"/>	Unsafe Position or Posture	<input type="checkbox"/>
Failure to warn of hazard	<input type="checkbox"/>	Unsafe acts of others	<input type="checkbox"/>
Failure to secure hazardous item	<input type="checkbox"/>	Other (specify):	<input type="checkbox"/>
Making safety device inoperable	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>

What are the management systems (procedural) deficiencies that led to the unsafe behaviours? (Choose and tick)

Inadequate Standard Operating Procedure/Policies	<input type="checkbox"/>	Inadequate workplace inspection	<input type="checkbox"/>
Inadequate Supervision	<input type="checkbox"/>	Inadequate equipment provided	<input type="checkbox"/>
Inadequate Hazard Identification	<input type="checkbox"/>	Inadequate design or construction of workplace	<input type="checkbox"/>
Inadequate assessment of risk	<input type="checkbox"/>	Inadequate task or process design	<input type="checkbox"/>
Inadequate provision of PPE	<input type="checkbox"/>	Unrealistic scheduling	<input type="checkbox"/>
Inadequate Operator training	<input type="checkbox"/>	Other (Specify):	<input type="checkbox"/>
Inadequate supervisor training	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>

5.2. Identify the Physical causes of the incident

Did any of the following conditions contribute to the cause of the incident? (Choose and tick)

Inadequate or absent guarding	<input type="checkbox"/>	Inadequate fire or explosion risk control	<input type="checkbox"/>
Poor workstation design or layout	<input type="checkbox"/>	Inadequate noise control	<input type="checkbox"/>
Poor condition of equipment or objects	<input type="checkbox"/>	Inadequate ventilation	<input type="checkbox"/>
Equipment or objects with unsafe design	<input type="checkbox"/>	Inadequate temperature control	<input type="checkbox"/>
Unsafe storage or equipment or objects (housekeeping)	<input type="checkbox"/>	Inadequate fall protection	<input type="checkbox"/>
Unsafe walking surfaces	<input type="checkbox"/>	Inadequate signage or warning systems	<input type="checkbox"/>
Unsafe lighting or glare	<input type="checkbox"/>	Inadequately controlled use of chemicals/substances	<input type="checkbox"/>
Unsafe clothing or shoes	<input type="checkbox"/>	Other (specify):	<input type="checkbox"/>
Unsafe task or process	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>

What are the management systems (procedural) deficiencies that led to the unsafe conditions (Choose and tick)

Inadequate Standard Operating Procedure/Policies	<input type="checkbox"/>	Inadequate workplace inspection	<input type="checkbox"/>
Inadequate Supervision	<input type="checkbox"/>	Inadequate equipment provided	<input type="checkbox"/>
Inadequate Hazard Identification	<input type="checkbox"/>	Inadequate design or construction of workplace	<input type="checkbox"/>
Inadequate assessment of risk	<input type="checkbox"/>	Inadequate task or process design	<input type="checkbox"/>
Inadequate provision of PPE	<input type="checkbox"/>	Unrealistic scheduling	<input type="checkbox"/>
Inadequate Operator training	<input type="checkbox"/>	Other (Specify):	<input type="checkbox"/>
Inadequate supervisor training	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>

INCIDENT INVESTIGATION FORM - PAGE 3 of 3	
6. Planned actions to prevent or reduce risk of re-occurrence	
Planned actions to be taken to prevent or reduce risk of re-occurrence. <i>Planned actions should address the identified causes of the incident.</i>	
¹ Elimination Control <input type="checkbox"/> ² Substitution Control <input type="checkbox"/> ³ Engineering Control <input type="checkbox"/> ⁴ Administrative Control <input type="checkbox"/> ⁵ PPE <input type="checkbox"/>	
Detail the actions	

SECTION - 6

REGULATORY COMPLIANCE

6.1 Admittance of Governmental EHS Regulatory Agencies to NS Facilities

Scope

To communicate corporate policy relating to the admittance of governmental EHS enforcement agencies, without a search warrant, into NS operating establishments.

Policy

It is our policy to admit to our facilities those compliance officers who bear proper credentials, whether they have a search warrant or not. We believe that the legal mechanism is the place to take issue with any citations or penalties which may arise.

Procedure

Questions regarding this policy should be directed to the Corporate HSE Director and/or law Department located in Russia.

6.2 Regulatory Agency Inspection Guide and Reporting Requirements

Scope

It is important to keep foremost in your mind that EPA and OPAL are enforcement agencies. When a compliance officer comes into the facility his intent is to check the physical conditions that exist against the regulatory standards and issue citations and penalties for those items that are not considered satisfactory. Remember, the objective of the compliance officer is enforcement as opposed to consultation. It is also worthwhile to remember that many EHS standards are subject to interpretation by the compliance officer and the Area Director, and many are not as definite as you might think.

What To Do Before Inspection

- a) Inspect your facility frequently against applicable and new EHS standards, document these inspections and the corrective action taken. Pay particular attention to housekeeping, identification of electrical panels, life support systems, permits and written inspection records.
- b) Establish a file in which to keep all ad hoc EHS-related activities.
- c) Your Corporate Director EHS must be notified when the regulatory inspector arrives.
- d) Decide who is to be the management representative during the inspection. If you have a full-time EHS Manager, this individual should be the management representative. If not, the management representative should be an individual, normally a facility engineer, completely familiar with the facility, the EHS standards, past voluntary corrective action and future abatement activities. During very long inspections the management representative may have to be rotated.
- e) The management representative should also be familiar with the "Compliance Operations Manual."

- f) Compile a list of union stewards (by name and trade) that represent the various labor organizations in the facility. Independent facilities should have a current list of those persons on the facility EHS Committee. If an EHS Committee does not exist, the compliance officer should be made aware of this.
- g) Establish the availability of a camera to be used during the inspection.
- h) Equipment needed during the inspection:
 - A camera with a flash attachment, (if intrinsically safe or the area)
 - Several “Defective - Do Not Use” tags or “Caution” tags
 - A clip board with paper or a portable Dictaphone (if intrinsically safe for the area.)

During The Opening Conference

- a) Ask for the compliance officer’s credentials; if there is any doubt, contact the Area Office to verify.
- b) If the compliance officer is accompanied by a non-governmental person have that person sign a form.
- c) Convey to the compliance office our interest in safety and the welfare of our employees.
- d) Supply any and all records requested by the compliance officer except those that are considered proprietary.
- e) Assume that the compliance officer knows his profession and treat him accordingly.
- f) Establish the reason for his visit:
 - Random selection
 - Target industry
 - Employee complaint

If employee complaint, request a copy of the written complaint.

- g) Be cooperative, but do not offer any information not requested at this time.

During The Inspection

- Be cooperative.
- Take copious notes of everything the compliance officer mentions or questions during the inspection. (This will be the only written record you will have prior to receiving the official citations).
- Take photographs of everything the compliance officer photographs, or anything the compliance officer points out that you question.
- Where possible, keep notes of comments made to compliance officer by employees (both positive and negative).
- Take immediate corrective action on obvious alleged violations pointed out by the compliance officer.
- Questionable items pointed out such as those subject to interpretation should be questioned during the inspection.
- When possible, take simultaneous measurements of noise, air contaminants, etc., with NS instrumentation similar or identical to that used by the compliance officer.

The Closing Conference

- The facility manager and his/her direct reports should be present at the closing conference, as well as the management representative who accompanied the compliance officer. Under the Act the employee representative is not required to attend the closing conference. He or she can request a separate conference. Although this is a decision the local management will have to make, it is recommended that the employee representative not be invited to attend the closing conference. Reasons for this area: a) to allow for open and candid discussion between the management and the compliance officer; and b) to avoid misinterpretation on the part of the employee representative in that not all items or areas of discussion will result in citations.
- Take detailed notes on items the compliance officer mentions as being deficient. If the inspection is the result of a complaint, establish whether the compliance officer feels that the complaint was justified or not. Get a commitment.
- Brief the compliance officer on your voluntary compliance program including EHS policy statement, self-inspection, EHS committees, training, awareness programs, machine guarding programs, etc.
- Encourage the compliance officer to set reasonable abatement periods on any alleged violations he may be contemplating, e.g., items he mentions requiring the ordering of equipment or installation of equipment should be pointed out specifically.

Immediately Following The Closing Conference

- Notify the Corporate Director EHS, by telephone of the closing conference date and time.
- Abate or correct items mentioned by compliance officer that are obvious violations of the standards.
- Complete the Report of Regulatory Agency Inspection or write a narrative report and send it to the Corporate Director EHS in Russia. For a delayed closing conference an interim report should be sent.

When You Receive The Citation

- Post the citations at or near the alleged violation for three days or until the condition is abated, whichever is the longer period of time.
- Time is important in making up your mind whether you want to contest the violation, the penalty, abatement period, or all three.
- Send copies of citations and penalties to the Corporate Director EHS.
- Abate any and all alleged violations within the time period allowed. If you cannot meet the abatement dates, immediately file a written request for an extension of the abatement period for those items.
- All contests of alleged violations or informal discussions are to be originated through the Corporate Director EHS.

Attachment E. Regulatory Agency Inspection Guide and Reporting Requirements Form

Report of Regulatory Agency					
Inspection Division and Site Location:					
Site Area:		Date:		Time:	
Names and addresses of compliance officer(s):					
Reasons for the inspection (routines, complaint, ect.):					
If complaint, were you given written copy?		Yes		No	
Duration of the inspection:					
Areas Inspected:					
What measurements were taken (e.g. air sampling for toxic vapors, water sampling, noise, etc.)?					
Were simultaneous measurements made, using NS instrumentation?		Yes		No	
What type of violations were found (non-serious, serious, etc.)					
Conditions which might warrant contesting and reasons					
Corrective action contemplated to abate alleged violations					
Was an employee representative pre-inspection conference held?		Yes		No	
What documents were provided the compliance officer as an example of “good faith”?					

Did the officer request to see any NS EHS records of occupational hazard measurements (e.g. noise, air, water, etc.)?	Yes	No
Did an employee representative accompany the officer on the inspection?	Yes	No
How was the employee representative chosen?		
What company representative(s) accompanied the officer on the inspection?		
Did the officer seem professionally competent and well versed in the various EHS rules and regulations applicable to your operation?	Yes	No
Were photographs taken?	Yes	No
Were simultaneous NS photographs taken?	Yes	No
Comments on the closing conference		
Signed:		
Title:		
Date:		
Note: A copy of this form should be sent to the attention of the Corporate Director EHS immediately upon completion of the inspection.		

Attachment F. To: Visitors to NS Facilities

Site Visit Agreement for Non-Governmental Person Accompanying Compliance Officials

In order to provide uniform protection for proprietary information embodied in NS facilities, all non-governmental officials who request access to NS facilities, in connection with inspection for compliance with OPAL, are required to enter into an agreement with NS, similar to that binding public officers and employees, with respect to NS proprietary information.

By your signature below, you agree not to publish, divulge, disclose, or make known in any manner or to any extent not authorized by law any information coming to you in the course of your inspection of NS premises, or by reasons of any examination or investigation made by, or return, report, or record made to or filed with, the governmental agency on whose behalf you are acting, which information concerns or relates to the trade secrets, processes, operation, style of work, or apparatus, or to the identity, confidential statistical data, amount or source of any income, profit, losses, or expenditures of NS ; or permit any such information to be seen or examined by any person except as provided by law.

NS by (NS Representatives):

Agreed to and accepted

Date:

Person accompanying Compliance Officer:

Notes:

6.3 Compliance with Government Agencies

Scope

This policy applies to all establishments within NS.

Policy

It is the policy of NS to comply with all EHS regulations that will further the safety and health of employees, protect the environment and safeguard the assets of the corporation. Present-day regulations are, in some cases, confusing, ambiguous, contradictory and difficult to apply with 100 percent certainty.

Should the management of any establishment receive alleged violations and proposed penalties from a regulatory agency and feels that the facility has been wrongly cited, it is our policy to exhaust the channels provided to us under the law to vacate or correct the situation. This will include formal contest if local management deems it necessary.

Responsibility

The senior manager at each location is responsible for compliance with EHS regulations.

SECTION - 7

RECOGNITION AND AWARD PROGRAMS

7.1 NS Corporate Safety Award Program

7.1.1 Safety Awards

Division, Business and Site

The NS Safety Award Plan is designed to recognize line organizations and individual facilities whose safety performance is judged to be outstanding. This plan is not intended to replace individual site employee recognition programs.

7.1.2 Definitions

- Lost Workday Incident Rate – The incident rate of lost workdays cases which involves actual days away from work.
- Lost workday case – An injury or illness that requires an employee to actually miss his/her next scheduled shift.
- Division – The core business groups as aligned through the organization including non-US operations. They include PESD, ETMD, APSD, FSSD, & FPSD.
- Total Percentage of Improvement – The total percentage improvement of incident rates of total recordable (excluding fatalities) and lost workday cases.
- Incident Rates – As established by the Bureau of Labor Statistics formula that employs 200,000-hours base.

7.1.3 The Plan

NS Corporate Safety Award Plan consists of three (3) awards:

1. The Safety Award of Excellence– Presented each year to the outstanding division.
2. The Group Manager’s Safety Award – Presented to the outstanding business.
3. Safety Achievement Award – Presented as earned to individual sites.

1. Safety Award of Excellence

Purpose: To recognize outstanding safety achievement at the division level.

Eligibility: The five (5) core divisions of the company.

Administration: This section of the award plan will be administered by the EHS Director.

When: Presented annually by the CEO to the Division whose overall performance has been judged on the criteria listed below. The award will be presented at a time determined by the CEO to the winning division.

Criteria:

- No occupational fatality within the division.

- No single property damage incidents involving losses of \$100,000 or more, (including business interruption) excluding those involving natural disaster (i.e. – tornado, hurricane, flood) or otherwise resulting from circumstances beyond NS control.
- The highest total percentage of improvement in total recordable and lost workday case incident rates over the three years of continuous improvement. A division will be awarded an improvement of 100% if no lost workday or recordable cases occur during the year.

2. Group Manager's Safety Award

Purpose: To recognize outstanding business level safety achievement and leadership within a division.

Eligibility: Each business within the individual divisions.

Administration: This section of the award plan will be administered by the Corporate Director EHS.

How:

Each group manager will select the best business within the group based upon the criteria below.

When: Presented at a time and place determined by the Group Manager to the winning business.

Criteria:

- No occupational fatality within the business
- No single property damage incidents involving losses of \$100,000 or more, (including business interruption) excluding those involving natural disaster (i.e. – tornado, hurricane, flood) or otherwise resulting from circumstances beyond NS s control.
- The highest total percentage of improvement in total recordable and lost workday case incident rates over the three years of continuous improvement. A business will be awarded an improvement of 100% if no lost workday or recordable cases occur during the year.

3. Safety Achievement Award

Purpose: To recognize individual NS sites who meet required safety performance criteria listed below.

Eligibility: Every NS establishment that accrues at least twenty thousand hours of exposure during the calendar year. Any awards earned will be presented to the senior manager of the operation.

Administration: This section of the award plan will be administered by the Corporate EHS Director.

When: Presented by the division manager to the facility manager at the appropriate time following achievement of the award.

The Award: Safety Achievement Flag. Should a site earn an award in two or more successive years or achieve additional increments of 1 million exposure hours during the same year, flag will be reissued with an appropriate number of stars for each year or increment of exposure hours. When one of the criteria is not met, the successive year for the facility will start over.

Criteria:

- Work 1 calendar year without lost workday case involving days away from work or
- Work 1 million hours of exposure without a lost workday case with days away from work or
- Reduce the lost workday and Recordable case incident rate to at least 50% of the previous years year-end performance or
- Display a 3-year track record of continued improvement over the previous years accident experience. (Lost Workday and Recordable Case Incident Rate) and
- Did not have an occupational fatality during the award period.

Attachment G. NS Environmental Award of Excellence Nomination Form

Submitted by:		Date:	
Facility:		Division:	
Type of Project (check all that apply):	<input type="checkbox"/> Source Reduction <input type="checkbox"/> Reuse/Recycle <input type="checkbox"/> Process Change <input type="checkbox"/> Treatment <input type="checkbox"/> Material Change	<input type="checkbox"/> Improvements in Maintenance/Housekeeping <input type="checkbox"/> Certification or other recognition from outside sources <input type="checkbox"/> Energy resources reduction <input type="checkbox"/> Other	
Brief Project/Program Description:			
Project Summary:			
Date of Completion/Achievement			
Waste substance minimized:			
Volume Reduction (quantity):		Percentage (%):	

SECTION - 8

HEALTH AND SAFETY

8.1 Visitor Safety

Scope

To ensure that all visitors, customers and tour groups are made aware of facility Safety Rules and Policies that affect them and that they are fully protected (safety glasses, gloves, etc.) before going into the facility operating areas.

Responsibilities

- All employees acting as an escort or point of contact for visitors, tour groups or customers will be responsible for assuring that each visitor has been provided with the proper badge, necessary safety equipment, facility safety rules and policies and emergency instructions.
- The NS host shall not permit visitors to go unescorted through facility operating areas, unless they have authorization and approval from the NS host.
- Designated employees such as receptionist or security officers, are responsible for assuring that all visitors are properly cleared, received the proper badge, safety equipment and direction to the proper NS host.
- The Safety Coordinator is responsible for:
 1. Instructing and counseling facility guards on compliance with the above-mentioned rule.
 2. Upon request, counseling visitors about safety rules and possible hazards pertaining to the facility areas they are authorized to visit.

8.2 Office Safety Practices

Scope

To the casual observer, most office and clerical areas appear to be virtually hazard-free. Most office employees feel quite safe and secure in their work and take it for granted that the chances of being injured are very remote. When considered from only a statistical standpoint, most offices are, indeed, a relatively safer place to work. However, office employees must not become complacent and lulled into a false sense of security. Many office and clerical employees suffer injuries on the job. Many of the hazards found in offices are partly concealed, and some are not easily detected. Just as serious an injury can occur in an office as in a facility. Therefore, it is important to include office and clerical employees, to some degree, in the overall safety effort.

Injuries in offices, like injuries in the facility, can be classified as being caused by either unsafe acts or unsafe conditions. Unsafe acts account for over 90% of injuries in offices also.

Two broad classes of office accidents are the most frequent causes of injuries. These are FALLS and MATERIAL HANDLING injuries, which include virtually all injuries to hands and fingers, stemming from handling. Falls are the most serious and severe. Material handling injuries are the most frequent.

Personal Appraisal

All office and clerical personnel should conduct a personal safety appraisal by reviewing the items listed below. In addition, they should be involved in a periodic safety meeting and safety audit of their respective area in order that preventative measures are taken to prevent office injuries.

- NEVER tilt back in a straight chair or lean excessively backward in a swivel chair.
- Clean up spills on the floor when they are observed. A common cause of office accidents is a wet spot on the floor left by someone spilling coffee, water, etc.
- Care should be exercised in handling office equipment that has sharp edges, such as pins, thumb tacks, razor blades, scissors and even pencils. Store and use them properly.
- Report all injuries to supervision and get proper medical treatment. Even paper cuts are painful, slow in healing, and can become infected.
- When walking in hallways and around blind corners, walk to the right side to prevent bumping accidents. In addition, be aware of doors opening as you walk.
- Use the handles on file and desk drawers. One of the leading causes of finger injuries is having them caught in file or desk drawers.
- Know the escape route in case of an emergency. In addition, know the location of, and how to use, a fire extinguisher. Keep exits clear and not blocked with boxes, chairs, etc.
- Open drawers on desks and file cabinets create a serious tripping and bumping hazard. They should be kept closed when not being used.
- A telephone or electric cord, stretched across the floor where people walk, is a tripping hazard. Keep these areas clear or tape the cords to the floor.
- Do not lift something that you are incapable of lifting. Proper training is required to lift and move items properly.
- Care should be taken when wearing loose-fitting jewelry that can get caught in equipment. Loose-fitting jewelry, such as necklaces, bracelets, chains and some large finger rings, should not be worn while performing certain jobs.
- Do not use your fingers for purposes other than they were intended, e.g., as a staple remover, screw-driver, etc.
- Unstable objects, such as a swivel chair, are not safe substitutes for a ladder. Use proper ladders when required.
- Serious accidents can occur by removing guards from equipment. always Follow facility lock-out and guarding rules.
- Electrical hazards, such as loose wires, sparks, excessive heat, smoking equipment, should be reported immediately. Do not tamper with electrical equipment.
- Observe good housekeeping practices in the office. It is one of the principal reasons for poor safety performance in offices.
- Some accidents in offices are caused by running, resulting in tripping, sliding, bumping, turning an ankle, and other injuries that usually accompany the footrace.
- HORSEPLAY is not permitted in the office. It has led to serious injuries.
- Do not throw anything on steps. Even a piece of paper or a paper clip can create a slipping hazard.
- File cabinets can easily topple over. Place the heaviest load in the lower drawers. Open only one file drawer at a time. Have them fastened together, if possible.

Training Aid

The following has been developed as a training aid, valuable in arousing safety awareness in office personnel.

Below is a picture of what should be immediately recognized as a very typical office scene. People are engaged in UNSAFE ACTS and there are numerous UNSAFE CONDITIONS, most of them the result of someone's previous UNSAFE ACT. From what has been reviewed in this section, and from past experience in "spotting" safety hazards, see how many UNSAFE ACTS and UNSAFE CONDITIONS can be found. Mark an (X) or a check mark (V) on each hazard. When finished, turn to the next page and check findings with the hazards listed, and rate from the scoring table.

Unsafe Acts		Unsafe Conditions									
<div><div><input type="checkbox"/> Man running through doorway.</div><div><input type="checkbox"/> Man walking toward door but not looking where he is going.</div><div><input type="checkbox"/> Lady reading paper while walking.</div><div><input type="checkbox"/> Man leaning back, tilting straight chair.</div><div><input type="checkbox"/> Man standing on box on chair to repair blind.</div><div><input type="checkbox"/> Man applying first aid to himself.</div><div><input type="checkbox"/> Lady (part of leg showing, on far left) wearing high heels.</div><div><input type="checkbox"/> Lady (high heels) walking into puddle of liquid.</div></div>		<div><div><input type="checkbox"/> Open desk drawer, left.</div><div><input type="checkbox"/> Open desk drawer, right.</div><div><input type="checkbox"/> Liquid spill on floor, left.</div><div><input type="checkbox"/> Burning cigarette on edge of desk, lower left.</div><div><input type="checkbox"/> Scissors open on desk with points extending out.</div><div><input type="checkbox"/> Bottle, box on windowsill.</div><div><input type="checkbox"/> Top drawer open file cabinet.</div><div><input type="checkbox"/> Electric outlet on floor.</div><div><input type="checkbox"/> Electric cord across floor.</div><div><input type="checkbox"/> Broken bottle in wastebasket.</div><div><input type="checkbox"/> Wastebaskets full, overflowing.</div><div><input type="checkbox"/> Material piled on top of file cabinets.</div><div><input type="checkbox"/> Electric fan on desk.</div><div><input type="checkbox"/> Rag extending out of desk drawer.</div><div><input type="checkbox"/> Desk cluttered.</div></div>									
<table><tr><th>Number Found</th><th>Your Rating</th></tr><tr><td>Above 20</td><td>Superior</td></tr><tr><td>17 to 20</td><td>Good</td></tr><tr><td>Below 17</td><td>Fair</td></tr></table>		Number Found	Your Rating	Above 20	Superior	17 to 20	Good	Below 17	Fair		
Number Found	Your Rating										
Above 20	Superior										
17 to 20	Good										
Below 17	Fair										

8.3 Job Safety Analysis

Scope

A job-safety analysis is a way to study a job in order to identify the hazards or potential hazards associated with each step of the job, or to prevent such hazards. The first logical step toward getting employees to work safely is to develop written safe-job procedures. The way to accomplish this is by a job-safety analysis to identify the basic steps of a job, spot the major hazards in each step and determine what must be done to avoid these hazards.

Definition

A job, for the purpose of the job-safety analysis, is a number of steps or operations performed in a definite sequence to complete a work assignment. The job being analyzed should be limited in scope to that done by only one person at a time. Manually performed jobs are good subjects for analysis. The jobs with frequent and/or severe-injury experience and those with a severe-injury potential should be analyzed first. If job-safety analyses are made of the jobs with the worst accident records, and the analyses are used to identify and teach the hazards of the job, the number of accidents can be reduced immediately.

Basic Steps

A. There are four basic steps in a job-safety analysis:

1. Determine the job to be analyzed. Determining which jobs are to be analyzed should be determined by the degree of hazard or potential hazard of the job. The selection of jobs to be analyzed and their priority should be determined by a central committee, such as a supervisors' committee or the safety department. There are four considerations to make in selection of a job for analysis and in deciding priorities.

- Past Loss Record - Past experience may clearly indicate jobs with a history of severe or frequent safety losses. Accident-data analysis will provide the necessary data to prove the need for analysis of these jobs.
- Job Injury Severity - Those jobs that have produced disabling injuries should be given priority over jobs that have produced minor injuries. A large number of disabling injuries probably means something is basically wrong with the job conditions or the way it is being performed. In addition, consider experiences in terms of their potential loss. The potential loss of a particular accident may have been major, though the actual loss may have been quite minor.
- Probability of Recurrence - Both actual and potential losses should be considered in terms of how often they can be expected to happen. Consider what can be lost, how much can be lost and how often it can be expected to happen in any job.
- The Unknown or Unfamiliar - Whenever a new job is created or changes are made in an old one, there will be unknown or unfamiliar risks to be considered. Such jobs have no past experience as a guide nor is the potential for accidents always appreciated, because supervisors lack experience with them.

2. Break the Job Down into Steps. Any job consists of a number of steps or operations performed in a certain order. To analyze a job, you must break it down into the basic steps in the proper sequence to identify hazards and potential accidents. A job step is a logical segment of the operation when something happens to advance the work. There are several characteristics about the steps in a job breakdown: they tell only what is done, not how or in what order. The breakdown of a job should not be too general but should have enough steps to accurately describe the work.

3. Identify the Hazards or Potential Accidents. Each step in a job must be studied for hazards and potential accidents. The goal is to identify all hazards, whether they be the result of an unsafe act or an unsafe condition. All hazards should be recorded as potential accidents. One of the best methods to identify potential hazards is job observation--actually watching the steps as they are being performed. Potential accidents that are spotted are recorded on the Job-Safety Analysis form. Determining these key areas requires close attention and observation; therefore, no effort should be made to develop any problem solutions simultaneously. The idea is to concentrate on identifying the accidents that might reasonably be expected to occur unless special precautions are taken.

There are five steps in doing a job breakdown by observation:

- Select the proper worker for observation.
- Brief on the purpose of the JSA.
- Observe the job and write the breakdown.
- Check the breakdown with the person who was observed.
- Record each step in the job breakdown.

There will be times when it is not practical to do a job analysis by observation. When this is the case, the discussion method can be used. The first thing to do is to select group participants.

This group should include experienced workers who perform the job and supervisors/team leader. Care must be taken to concentrate strictly on what is done. The job is broken down in the same manner as by observation, except that, rather than watch the job as it is done, you listen while it is described.

4. Recommended Safety-Job Procedure. Once all the potential accidents have been identified and recorded, the next step is to develop a solution for each potential hazard. This step guarantees maximum solution for each potential hazard. This step guarantees maximum job safety by eliminating any conditions conducive to potential losses. These solutions may be any one of the following:

- A Job-Procedure Solution - This solution outlines exactly what a worker is to do, or not to do, to avoid a potential loss or accident.
- A Job-Environment Solution - This solution involves changing some part of the job environment to avoid potential accidents. These changes may involve such things as tools, equipment, guarding, work height, etc.

- A Method-Change Solution - This solution is usually a combination procedure-and-environment solution that changes the entire method of performing the job and generally results in an improved method.
- A Reduced-Frequency Solution - This solution reduces the number of times a job must be done, thereby reducing the cost, effort and potential for loss.

Management Involvement. For job-safety analysis to be accepted and operated properly, the involvement of higher management is an absolute necessity. Unless top management at the facility expresses a genuine interest in the program, it will become a sporadic and tedious chore, little used and even less useful.

If the job-safety analysis can be identified with a specific work center or station, the JSA will be posted at the work center station in a plastic bag so employees can readily refer to it. If the JSA cannot be identified with a specific work center or station, a copy will be filed by the supervisor/team leader. All copies of JSA's will be maintained in the Safety Department.

The form on the following page is used for the effective reporting of a job analysis. It is designed for a minimum of writing. The description of the hazard involved, injury type, and action taken can be readily made by using one of the terms listed below.

Descriptive Terms

Injury Type		How Injury Can Occur	
Amputation	Chemical	Machinery failure	
Bruise	Clothing	Molten metal	
Burn	Collision	Moving metal	
Concussion	Control failure	Overload	
Contamination	Corrosion	Oxygen lack	
Cut	Cutting Edge	Procedure fault	
Fracture	Drowning	Protection failure	
Freeze	Electricity	Protection lack	
Pinch	Equipment failure	Slip	
Puncture	Explosion	Space	
Radiation exposure	Fall	Spill	
Inhalation	Falling object	Steam	
Scrap	Fumes, etc.	Structural failure	
Shock	Fire	Defective tool	
Sprain	Flying object	Wring tool	
Strain	Heat	Trip	
Tear	Inadequate light	Limited visibility	
Other	Location fault	Weight	
Action Taken			
Area barricaded		Procedure change requested	
Hazard removed		Procedure change made	
Hazard corrected		Present equipment adequate	
Hazard guarded		Protective clothing provided	
Hazard safety striped		Protective equipment provided	
Hazard publicized		Repair order written	
Oral instruction given		Sign provided	
Present procedure adequate		Warning system installed	

Attachment H. JOB SAFETY ANALYSIS FORM					
Job description		Location		Operator/Supervisor	
		Date		Prepared by	
PPE required		SoE N		Safety dept	
Sequence of Basic Job Steps		Potential Accidents or Hazards		Safe Job Procedure	
				Approved by	
				HSE Rep Reviewed	

SECTION - 9

FIRE PROTECTION

9.1 Fire Protection and NS

Scope

Applies to all facilities owned and rented by NS.

Purpose

To outline minimum fire protection activities.

Philosophy

NS believes that an active, well-defined program of fire protection is essential to adequately protect company assets, customers and human resources. Depending upon facility size and exposure, the extent of fire protection facilities and organizational structure may require a full-time fire chief. On the other hand, at smaller locations, fire protection responsibilities may be assigned to the safety coordinator or as a collateral supervisory responsibility. While less time may be required to discharge this responsibility at a smaller location, it is no less vital a function.

Procedure

Fire protection programs should consist of the following elements:

- **Maintenance, Inspection and Test Program.** The high degree of readiness and reliability required of fire protection equipment demands a comprehensive and meticulously executed maintenance, inspection and test program.
- **Fire Protection Equipment Impairments.** When it becomes necessary to take fire protection systems out of service for repair, expansion, etc., it is mandatory that Factory Mutual Protection Consultants be notified.
- **Outside Assistance.** While some facilities must be entirely self-sufficient for fire protection, most can call upon a public fire department or a mutual aid agreement with nearby facilities. Frequent contact must be made with these organizations to confirm their response capabilities.

Where a facility is largely dependent upon public fire protection, such as during non-operating hours, measure must be taken to familiarize fire department officers with facility layout, principle hazards and fire protection facilities.

9.2 Reporting of Hostile Fires

Scope

This procedure applies to hostile fires that result in property damage. All hostile fires, no matter how small, should be investigated in order to prevent a recurrence.

Purpose

To develop loss experience data upon which preventative measures can be based.

Procedures

1. Investigation. Fires should be investigated thoroughly by the appropriate personnel (i.e. Safety, Incident Commander, Loss Control Manager, etc. The investigation should be as complete and accurate as possible and include specific preventive measures. NOTE: Fires, explosions and similar incidents which do not result in a significant financial loss should also be investigated since they contribute valuable data.

2. Reporting. Copies of the completed investigation report forms for losses exceeding \$25000 must be distributed to:

- Local Management
- Director EHS

Although optional, it is encouraged that copies of the completed investigation for losses exceeding \$1,000 be sent to the Corporate Director EHS in order to develop loss experience data, develop preventative measures and exchange information with other facilities.

3. Responsibility. The Safety Coordinator (or Incident Commander) should assure that the investigation includes recommendations to prevent recurrence of such a fire and all necessary reporting requirements.

9.3 Fire Protection for Computers and Computer Rooms

Scope

The strategic importance placed upon electronic computer/data processing equipment by NS is vitally tied to uninterrupted operation of the system. Consequently, the partial or complete loss of this equipment could temporarily paralyze an entire operation.

Present information indicates that sustained temperatures in excess of approximately 140°F will cause malfunctioning of component parts within electronic computer/data processing equipment and temperatures of between 300°F to 500°F will cause extensive damage to particular units and usually requires their replacement. Smoke and particles generated by fire can also adversely affect electronic computer/data processing operations. Often, the major cost in disruption of the computer operation is from business interruption rather than from the actual monetary loss represented by the equipment itself, although the latter may run into millions of dollars.

Building Requirements

- The computer area should be housed in a fire-resistive or non-combustible and sprinkled building if at all possible.
- When the portion of a non-fire-resistive structure housing a computer area is a separate fire division, only that portion of the structure housing the computer area is required to be protected.
- Location of Computer Area:
 1. The electronic computer area should be located to minimize exposure to fire, water, corrosive fumes and smoke exposure from adjoining areas and activities.
 2. The computer room should not be located above, below or adjacent to areas or other structures where hazardous processes are located, unless adequate protective features are provided.
 3. Many computer and data processing installations have become prime targets for sabotage and arson. The location and construction should be designed to minimize the possibility of penetration by an explosive or incendiary device. It is essential that access be restricted to only those persons absolutely necessary to the operation of the equipment. A control/access system of admittance through positive identification should be maintained at all times.
- Computer Room Construction. The computer system should be housed in a room of non-combustible construction. All materials, including walls, floors, partitions, finish, acoustical treatment, raised floors, raised floor supports suspended ceilings and other construction involved in the computer room, should have a flame-spread rating of 25 or less. Floor covering materials, such as asphalt, rubber or vinyl floor tiles, linoleum, high-pressure plastic laminates or carpeting, may be used to cover any exposed floors.
- Protection of Computer Rooms and Equipment. If the construction of a computer room contains any combustible material other than that permitted within this section, or if the computer housing or structure is built all or in part of combustible material, then the computer room should be protected by an automatic sprinkler system.
- Automatic Fire Detection. Automatic fire-detection equipment capable of detecting fire in the incipient stage should be installed. The equipment used shall be listed products of combustion and/or smoke detection types. Each installation should be engineered for the specific area to be protected, giving due consideration to air currents and patterns within the space.
- Portable Fire Extinguishers. Approved (listed) portable carbon dioxide or Halon 1301 extinguishers should be provided and maintained for electrical fires. Approved (listed) plain-water-type Class A extinguishers should be provided and maintained for ordinary combustible materials such as paper, plastics, etc.

Building Construction Requirements

Training

- Designated persons working within the computer area should be thoroughly trained in how to use each of the available types of manually operated fire-fighting equipment.

- All hand-type extinguishing equipment should be plainly marked to indicate the type of fire for which it is intended. Use the sample Computer Center Checklist to ensure that the computer complex is adequately protected.

Fire Protection For Computers and Computer Rooms

1.	The floor the computer is located.		
		Yes	No
2.	Is the computer room protected from hazardous processes or severe exterior exposures?		
3.	Is the computer room separated from other parts of the building by one-hour fire walls and Class B fire doors?		
4.	Is the computer rooms sprinkled?		
5.	Are raised floor cables non-combustible to avoid combustible concealed space and reduce fire load?		
6.	Materials and equipment permitted in computer room: a) Only actual electronic equipment. b) All furniture metal (including waste containers). c) Is paper stock limited to a one-day's supply and stored in totally enclosed metal cabinets?		
7.	Have automatic fire or smoke detectors been installed? Heat, smoke ionization type? a) Beneath raised floor b) Computer room c) Tape storage room		
8.	Portable fire extinguishers: a) Adequate Class A for ordinary combustibles b) Reporting Criteria obsolete or adequate CO2 If type II equipment, there should be one-half pound of CO2 for each cubic foot of cabinet volume if enclosed in a cabinet.		
9.	Automatic CO2 or Halon 1301 extinguishing system. Room flooding or spot equipment protection.		
10.	Are personnel trained in the use of fire fighting equipment and emergency procedures?		
11.	Are vital (irreplaceable) tapes duplicated and is the copy stored in a separate building?		
12.	a) Are vital (irreplaceable) and important or expensive to reproduce tapes and records within computer room stored in one-hour fire-resistive record containers? b) Are other tapes within computer room in metal files or cabinets?		

13.	a) Are tapes and records outside the computer room stored in a cutoff fire-resistive room with at least a two-hour rating? b) Unnecessary materials have been removed from this room.		
14.	Separate air conditioning system for computer room. Fire dampers or smoke detectors provided?		
15.	Emergency shutoff next to each exit from computer room to readily disconnect power to all electronic equipment and to the air conditioning system.		

9.4 Fire Extinguisher Selection and Use

Scope

Because there are so many potential sources of fire and explosion in an industrial setting, solutions are not simple. Management must examine its premises and processes thoroughly and repeatedly, correcting threatening situations as soon as they are identified. In addition, adequate fire protection equipment must be provided.

There are a number of fire codes and standards which apply to industry's various problems. Particular guidance for any manager may be sought from manufacturers of fire protection equipment and systems, local municipal firefighting professionals, Factory Mutual Insurance Company and other fire protection agencies whose services may be secured on a consulting or staff basis.

A. Types of Extinguishers. The types of fire extinguishers are available on location. Whenever more than one "Yes" appears, it means that the extinguishers are rated for those types of fires. For example, a carbon dioxide extinguisher would be marked "BC", meaning it could be used on fires involving both flammable liquids and electrical equipment.

B. Number of Extinguishers Required. The following suggestions should be followed for the size and placement of portable fire extinguishers:

1. Class A Hazards (Wood, Paper, Trash, Cloth)

Basic Minimum Extinguisher Rating for Area Specified	Maximum Travel Distances to Extinguishers	Areas to be Protected per Extinguisher		
		Light Hazard	Ordinary Hazard	Extra Hazard
1A	75 ft.	3000 sq. ft.	Not permitted	Not permitted
2A	75 ft.	6000 sq. ft.	3000 sq. ft.	Not permitted
3A	75 ft.	9000 sq. ft.	4500 sq. ft.	3000 sq. ft.
4A	75 ft.	11250 sq. ft.	6000 sq. ft.	4000 sq. ft.
6A	75 ft.	11250 sq. ft.	9000 sq. ft.	6000 sq. ft.

2. Class B Hazards (Flammable Liquids, Gasoline, Oil, Paints, Grease, etc., less than one-fourth inch in depth).

Type of Hazard	Basic Minimum Extinguisher Rating	Maximum Travel Distance to Extinguishers
Light	5B	30 ft.
	10B	50ft.
Ordinary	10B	30ft.
	20B	50 ft.
Extra	20B	30 ft.
	40B	50 ft.

3. Class C Hazards (Charged Electrical Equipment)

Live electrical fires require certain types of extinguishing agents (i.e. CO₂, powder, hylon). If the power can be turned off the fire hazard is reclassified as a class A or B. However, certain types of electrical equipment, such as a capacitor retains its electrical charge even if electricity is shut off.

4. Class D Hazards (Combustible Metals)

Distribution of portable fire extinguishers for Class D hazards, such as combustible metal powders, flakes or shavings, are required in the work area so that the maximum travel distance is 75 feet or less in any direction.

C. Requirements for Portable Extinguishers

- Extinguishers must be fully charged and kept in their designated areas.
- Extinguishers must be clearly marked as to their intended use and be unobscured from view.
- The top must not be more than five feet above the floor if the extinguisher weighs less than 40 pounds. The top must not be more than three and one-half feet above the floor if the extinguisher weighs more than 40 pounds.
- Extinguishers must be inspected monthly to insure they are in proper operating condition. Fill in this information on the tag attached to the extinguisher.
- Extinguishers shall be thoroughly examined and/or recharged or repaired as needed at regular intervals, not more than one year apart.
- Extinguishers must be hydrostatically tested at the specified interval (consult vendor).

9.5. Inspection and Maintenance of Fire Protection Equipment

Scope

Fire protection equipment serves an important role in the preservation of life and property. This equipment has been installed within your facility to control the spread of fire. To be effective, however, the equipment must be kept in good working order. Regular inspections should be made to check all firefighting equipment, particularly extinguishers, the sprinkler system, and other protection for special hazards.

Automatic Sprinklers

To maintain the sprinkler system at the highest point of efficiency is of utmost importance. A serious fire loss in a sprinkled property is unlikely if the system is properly maintained. Sprinkler piping and valves should be inspected to see that sprinkler heads are not obstructed and must have at least 18" of clearance in all directions, and to assure that valve seals have not been broken. Post indicator and underground valves should be turned with a wrench and all should be plainly marked to show the direction in which they turn to open. Check gravity tanks in cold weather to see that the heating system is functioning properly. The level of gravity tanks should be verified by visual examination or should be overflowed. Two-inch drain valves should be opened quarterly at all sprinkler risers. Document the pressures and make sure that the pressures return to normal after the valve is closed. All Post Indicator Valves (PIV's) must be exercised during this time period to prevent the turning mechanism from freezing up.

Dry Pipe Systems

Air test valves on dry pipe systems must be checked for excessive priming water. If found, it should be drained down to the test valve. Air pressures should be noted to see that they are kept above the minimum requirement. If pressure is found to be low, steps should be taken to restore it. The electric and water motor gongs on all systems should be tested annually.

Wet Pipe Systems

Wet pipe alarms should be operated from the inspector's test valve at the top of the system at least every two years.

Hand Extinguishers

Fire extinguishers and fire pails should be examined to make certain that they are in place, readily accessible for instant use, and in proper operating condition. Soda acid, foam, and dry chemical extinguishers must be fully charged. Soda acid extinguishers with soldered shells must be removed from service. The seals on carbon dioxide-type extinguishers should be examined to make sure they are not broken.

Dates on tags attached to extinguishers should be noted carefully to assure maintenance inspections and hydrostatic testing.

SECTION - 10

ELECTRICAL SAFETY

Scope

To provide a general overview of electrical safety. Not all acceptable safety measures are contained in this procedure.

General Electrical Guidelines

- Electrical equipment shall be free from recognized hazards that are likely to cause death or serious physical harm to employees. Safety of equipment shall be determined using the following considerations:
 - a) Listed or labeled equipment shall be used or installed in accordance with any instructions included in the listing or labeling.
 - b) Conductors shall be spliced or joined with splicing devices suitable for the use or by brazing, welding, or soldering with a fusible metal or alloy.
 - c) All splices and joints and the free ends of conductors shall be covered with an insulation equivalent to that of the conductors or with an insulating device suitable for the purpose.
 - d) Parts of electric equipment which in ordinary operation produce arcs, sparks, flames, or molten metal shall be enclosed or separated and isolated from all combustible material.
- Electrical equipment may not be used unless the manufacturer's name, trademark, or other descriptive marking by which the organization responsible for the product may be identified is placed on the equipment. Other markings shall be provided giving voltage, current, wattage, or other ratings as necessary. The marking shall be of sufficient durability to withstand the environment involved.
- Each disconnecting means for motors and appliances shall be legibly marked to indicate its purpose, unless located and arranged so the purpose is evident.
- Each service, feeder, and branch circuit, at its disconnecting means or over-current device, shall be legibly marked to indicate its purpose, unless located and arranged so the purpose is evident.

600 Volts, Nominal or Less

- Sufficient access and working space shall be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment.
- The dimension of the working space in the direction of access to live parts operating at 600 volts or less and likely to require examination, adjustment, servicing, or maintenance while alive may not be less than indicated in Table S-1. In addition to the dimensions shown in Table S-1, workspace may not be less than 30 inches wide in front of the electric equipment. Distances shall be measured from the live parts if they are exposed, or from the enclosure front or opening if the live parts are enclosed. Concrete, brick, or tile walls are considered to be grounded. Working space is not required in back of assemblies such as dead-front switchboards or motor control centers where there are no renewable or adjustable parts such as fuses or switches on the back and where all connections are accessible from locations other than the back.

Table S-1 Working Clearances			
	Minimum clear distance for condition 2*		
Nominal voltage to ground	A	B	C
0-150	1* 3 ft	1* 3 ft	3 ft
151-600	1* 3 ft	3 ½ ft	4 ft

1* Minimum clear distances may be 2 feet 6 inches for installations built prior to April 16, 1981.

2* Conditions A, B and C are as follows: A) exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by suitable wood or other insulating material. Insulated wire or insulated busbars operating at not over 300 volts are not considered live parts; B) exposed live parts on one side and grounded parts on the other side, C) exposed live parts on both sides of the workspace with the operation between.

Notes:

- Working space may not be used for storage. When normally enclosed live parts are exposed for inspection or servicing, the working space, if in a passageway or general open space, shall be suitably guarded.
- At least one entrance of sufficient area shall be provided to give access to the working space about electric equipment.
- Where there are live parts normally exposed on the front of switchboards or motor control centers, the working space in front of such equipment may not be less than 3 feet.
- Illumination shall be provided for all working spaces about service equipment, switchboards, panel boards, and motor control centers installed indoors.
- The minimum headroom of working spaces about service equipment, switchboards, panel-boards, or motor control centers shall be 6 feet 3 inches.
NOTE: As used in this section a motor control center is an assembly of one or more enclosed sections having a common power bus and principally containing motor control units.
- Except as required or permitted, live parts of electric equipment operating at 50 volts or more shall be guarded against accidental contact by approved cabinets or other forms of approved enclosures, or by any of the following means:
 1. By location in a room, vault, or similar enclosure that is accessible only to qualified persons.
 2. By suitable permanent, substantial partitions or screens so arranged that only qualified persons will have access to the space within reach of the live parts. Any openings in such partitions or screens shall be so sized and located that persons are not likely to come into accidental contact with the live parts or to bring conducting objects into contact with them.
 3. By location on a suitable balcony, gallery, or platform so elevated and arranged as to exclude unqualified persons.
 4. By elevation of 8 feet or more above the floor or other working surface.

- In locations where electric equipment would be exposed to physical damage, enclosures or guards shall be so arranged and of such strength as to prevent such damage.
- Entrances to rooms and other guarded locations containing exposed live parts shall be marked with conspicuous warning signs forbidding unqualified persons to enter.

Over 600 Volts, Nominal

- Enclosure for electrical installations. Electrical installations in a vault, room, closet or in an area surrounded by a wall, screen, or fence, access to which is controlled by lock and key or other approved means, are considered to be accessible to qualified persons only.
- A wall, screen, or fence less than 8 feet in height is not considered to prevent access unless it has other features that provide a degree of isolation equivalent to an 8 foot fence.
- The entrances to all buildings, rooms, or enclosures containing exposed live parts or exposed conductors operating at over 600 volts, nominal, shall be kept locked or shall be under the observation of a qualified person at all times.
- Electrical installations having exposed live parts shall be accessible to qualified persons.
- Electrical installations that are open to unqualified persons shall be made with metal-enclosed equipment or shall be enclosed in a vault or in an area, access to which is controlled by a lock.
- If metal-enclosed equipment is installed so that the bottom of the enclosure is less than 8 feet above the floor, the door or cover shall be kept locked.
- Metal-enclosed switchgear, unit substations, transformers, pull boxes, connection boxes, and other similar associated equipment shall be marked with appropriate caution signs. If equipment is exposed to physical damage from vehicular traffic, suitable guards shall be provided to prevent such damage.
- Ventilating or similar openings in metal-enclosed equipment shall be designed so that foreign objects inserted through these openings will be deflected from energized parts.
- Sufficient space shall be provided and maintained about electric equipment to permit ready and safe operation and maintenance of such equipment.
- Where energized parts are exposed, the minimum clear workspace may not be less than 6 feet 6 inches high (measured vertically from the floor or platform), or less than 3 feet wide (measured parallel to the equipment).
- The depth shall be as required in Table S-2. The workspace shall be adequate to permit at least a 90-degree opening of doors or hinged panels.
- The minimum clear working space in front of electric equipment such as switchboards, control panels, switches, circuit breakers, motor controllers, relays, and similar equipment may not be less than specified in Table S-2.
- Distances shall be measured from the live parts if they are exposed, or from the enclosure front or opening if the live parts are enclosed.
- Working space is not required in back of equipment such as deadfront switchboards or control assemblies where there are no renewable or adjustable parts (such as fuses or switches) on the back and where all connections are accessible from locations other than the back. Where rear access is required to work on deenergized parts on the back of enclosed equipment, a minimum working space of 30 inches horizontally shall be provided.

Table S-2 Minimum Depth of Clear Working Space in Front of Electric Equipment			
	Conditions 2a*		
Nominal voltage to ground	A	B	C
601 – 2500	3 ft	4 ft	5 ft
2501-9000	4 ft	5 ft	6 ft
9001-25000	5 ft	6 ft	9 ft
25001-75kV 1a*	6 ft	8 ft	10 ft
Above 75kV 1a*	8 ft	10 ft	12 ft

1a* Minimum depth of clear working space in front of electric equipment with a nominal voltage to ground above 25000 volts may be the same as for 25000 volts under Conditions A, B and C for installations built prior to April 16, 1981.

2a* Conditions A, B and C are as follows: A) exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by suitable wood or other insulating materials. Insulated wire or insulated busbars operating at not over 300 volts are not considered live parts; B) exposed live parts on one side and grounded parts on the other side. Concrete, brick or tile walls will be considered as grounded surfaces; C) exposed live parts on both sides of the workspace not guarded as provided in Condition A with the operator between.

- Elevation of unguarded live parts. Unguarded live parts above working space shall be maintained at elevations not less than specified in Table S-3

Table S-3 – Elevation of Unguarded Energized Parts Above Working Space	
Nominal voltage between phases	Minimum elevation
601-7500	*8 feet 6 inches
7501-35000	9 feet
Over 35kV	9 feet + 0.37 inches kV above 35kV
*Note – Minimum elevation may be 8 feet 0 inches for installations built prior to April 16, 1981 if the nominal voltage between phases is in the range of 601-6600 volts.	

- At least one entrance not less than 24 inches wide and 6 feet 6 inches high shall be provided to give access to the working space about electric equipment.
- Switchboard and control panels exceeding 48 inches in width, there shall be one entrance at each end of such board where practicable.
- Where bare energized parts at any voltage or insulated energized parts above 600 volts are located adjacent to such entrance, they shall be suitably guarded.
- Permanent ladders or stairways shall be provided to give safe access to the working space around electric equipment installed on platforms, balconies, mezzanine floors, or roof spaces.

NS HSE ACTION PLAN

NS HSE HANDBOOK

NS HSE HANDBOOK

Book Name	HSE Handbook	Last Edited 01 May 2019
Book No	HSE-NS -05	Chapter No 1
Chapter Name	Planning	

1. Planning

1.0 Planning

1.1 Basic HSE Rules

1.2 Emergency Preparedness

1.2.1 Emergency Communication

1.2.2 Emergency Communication – Informing Immediate Supervisor or Journey Manager or NS Office

1.2.3 Emergency Communication – Informing Contract Holder

1.2.4 Emergency Communication – Informing NS Senior Management

1.3 Local Emergency Procedures

1.3.1 Training in Local Emergency Procedures

1.3.2 Emergency Exercises

1.4 Motivation and Communication

1.4.1 HSE Meetings

1.4.2 Safety Alerts – Originating from NS

1.4.3 Contract Specific HSE Posters

1.4.4 HSE Performance Boards

1.4.5 HSE Award Scheme

Appendices

1A – Emergency Exercise

1B – Schedule HSE Meetings

1.0 Planning

1.1 Basic HSE Rules

Basic HSE rules shall be covered in NS Induction Training Course.
Participants shall receive an Induction Package for their retention.

1.2 Emergency Preparedness.

1.2.1 Emergency Communication.

Through the NS Induction Training Course, all employees shall be informed of the Emergency Number and receive practice making emergency calls. This will cover:

Call Emergency Number Inform the Operator as follows:

- The nature of the emergency.
- The emergency location.
- Your name, location and phone number.
- Whether an Ambulance required.
- Whether the Fire Brigade is required.
- Stay by the phone unless instructed otherwise by the Operator.

Remain calm.

Speak slowly and clearly.

Obey any instructions given by the Operator.

1.2.2 Emergency Communication – Informing Immediate Supervisor or Journey Manager or NS Office.

- The nature of the emergency.
- The emergency location.
- Your name, location and telephone number.
- Whether you have contacted Emergency Number.
- Is an Ambulance required – did you tell Emergency Number.
- Is Fire Brigade required – did you tell Emergency Number.
- Stay by the phone unless instructed otherwise.

1.2.3 Emergency Communication – Informing Contract Holder.

- The nature of the emergency.
- The emergency location.
- Confirm that Emergency Number has already been called.
- Confirm whether an Ambulance was required and requested.
- Confirm whether the Fire Brigade was required and requested.
- Agree the details with regard to mobilization of any Site Emergency Response Team.
- Agree the next action.
- Continue as advised.

1.2.4 Emergency Communication – Informing NS Senior Management.

- The nature of the emergency.
- The emergency location.
- Confirm that Emergency Number has already been called.
- Confirm whether an Ambulance was required and requested.
- Confirm whether the Fire Brigade was required and requested.
- Confirm that Contract Representative / Contract Holder has been informed.
- State the action/s agreed with Contract Representative / Contract Holder.
- Continue as advised.

1.3 Local Emergency Procedures.

On all of its facilities, and facilities temporarily under its custodianship, NS shall have in place local emergency procedures, inclusive of the following:

1. Assembly Areas – In safe locations and identified by approved signboards.
2. Emergency Alarms – Which may be rotary manual or air driven sirens.
3. Personnel trained and designated for Emergency Roles.
4. Designated and trained deputies for Emergency Role Holders.
5. Local Emergency Instructions, posted – which shall, where applicable, include the following:
 - Evacuation Instructions.
 - Action to take upon hearing a fire alarm.
 - Action to take upon finding a fire.
 - Action to take upon hearing a gas alarm (Facility Alarm / H2S Monitor Alarm).
 - Location of Assembly Areas.
 - Location and use of Alarm Call Points.
 - Location and use of Emergency Telephones.
 - Location and use of Fire Exits.

1.3.1 Training in Local Emergency Procedures.

The NS Induction Training Course includes a work site module, during which all employees shall receive training in local emergency procedures specific to their work location.

1.3.2 Emergency Exercises.

NS shall have in place an Emergency Exercise Schedule applicable to Worksites, Workshops, Administration Areas and, where applicable, Residential Camps. The emergency exercise schedule is shown as Appendix 1A.

The objectives of emergency exercises shall be as follows:

- to provide a training opportunity for Emergency Role Holders.
- to provide a training opportunity for Deputies of Emergency Role Holders.
- to provide a training opportunity for Work Crews.
- to evaluate the response of Emergency Role Holders, their Deputies and Work Crews.
- to evaluate the Emergency Procedures.

- to provide a practice opportunity for the Emergency Services.
- to evaluate the response of Emergency Services.

All NS emergency exercises shall involve:

- potential scenarios that are contract specific.
- trained observers.
- Exercise specific Observers Checklists.
- formal de-brief.
- recorded follow-up and closeout of Learning Points.

1.4 Motivation and Communication.

In order to communicate HSE issues throughout the organization NS and its subcontractors shall maintain an effective communication structure, as follows:

1.4.1 HSE Meetings.

NS shall maintain a schedule of quarterly, monthly, weekly and daily HSE meetings. The meeting hierarchy shall include the facility for input to, and feedback from NS business meetings and contract meetings. Attendance at all meetings shall be recorded and, with the exception of daily toolbox talks, shall be minuted. Special work stoppage toolbox talks shall be minuted. The HSE meeting structure, objectives and standards is shown as Appendix 1B.

1.4.2 Safety Alerts – Originating from NS

Where applicable NS will generate Safety Alerts. In house they will be treated as in 1.3.2 above. A copy of each NS Safety Alert shall be forwarded to the Contract Holder.

1.4.4 Contract Specific HSE Posters.

On a monthly basis NS shall publish A4 sized Contract specific posters. These shall be predominantly pictorial, with minimal use of script. Where script is used it shall, by necessity, be in English only and explanation shall take place through a common language toolbox talk.

1.4.5 HSE Performance Boards.


HSE performance boards shall be displayed at all NS locations. These shall show the location and NS corporate man-days worked safely.


1.4.6 HSE Award Scheme.













NS shall operate an HSE Award Scheme that shall, in order to foster peer influence, be work group related. Additionally, as absenteeism and lateness can introduce hazards through short handedness the scheme shall be linked to attendance and timekeeping as well as HSE performance.

No	Action (A)	Completion Date	Action Owner
A.1.1	Prepare and issue an emergency exercise schedule.	Annually Q4	HSE Advisor
A.1.2	Maintain HSE Meeting Schedules.	As Scheduled	Line Managers
A.1.3	Produce/disseminate NS Safety Alerts.	As Required	HSE Advisor/Line M
A.1.4	Produce/disseminate NS HSE Posters.	Monthly	HSE Advisor
A.1.5	Maintain Facility HSE Performance Boards.	As Required	Line Manager

Scheduled: 

Completed: 

Outstanding: 

Exercise No	Emergency Exercise	Applicable Month											
		J	F	M	A	M	J	J	A	S	O	N	D
E-01	Road Traffic Accident.												
E-02	Serious Personal Injury in an Industrial Situation.												
E-03	Man Lost (Driver - during a managed journey).												
E-04	Fire in an Industrial Situation.												
E-05	Gas Escape.												
E-06	Lifting Incident.												
E-07	Road Traffic Accident.												
E-08	Serious Personal Injury in an Industrial Situation.												
E-09	Man Lost (Driver - during a managed journey).												
E-10	Fire in an Industrial Situation.												
E-11	Gas Escape.												
E-12	Lifting Incident.												

NS HSE HANDBOOK		
Book Name	HSE Handbook	Last Edited 01 May 2019
Book No	HSE-NS -05	Chapter No 2
Chapter Name	Implementation and Monitoring	

02. Implementation and Monitoring

2.0 Implementation and Monitoring

2.1 Implementation

2.1.1 Line Management

2.1.2 HSE Advisors

2.1.3 Incidents and Accidents

2.2 Monitoring

2.0 Implementation and Monitoring

2.1 Implementation

2.1.1 Line Management.

Through job descriptions, employment contracts, tasks & targets and performance indicators NS management line shall be fully aware that HSE is a line management responsibility, as such, all levels of line management shall be held accountable, and shall hold their subordinates accountable, for their HSE performance.

2.1.2 HSE Advisors.

Within NS the role of HSE advisors shall be facilitating and advisory in content Whilst HSE advisors shall not hold operational line management responsibility they shall provide the operational line with service's that enable the operational line to maintain, and continually improve, HSE performance.

2.1.3 Incidents and Accidents.

Where applicable, investigations shall be led by the Contract Holder Incident Owner assisted by the applicable NS Line Manager and HSE Adviser. Where invited to do so, the appropriate NS operational manager and HSE adviser shall participate in the applicable Contract Holder Incident Review Committee.

Health, Safety and Environmental Near Misses shall be investigated, reported and recorded. Corrective actions shall be identified, implemented and followed up. Where there may be benefits to others, the learning points will be communicated laterally within NS and to the Contract Holder.

2.2 Monitoring.

Within NS, monitoring shall be an on-going process as defined in 1.5 above Proactive and Reactive Target Setting and Performance Feedback.

No.	Action (A)	Completion Date	Action Owner
A.2.1	Ensure that accidents and incidents are administered as in 2.1.3 above.	Upon occurrence	General Manager
A.2.2	Ensure that Near Misses are administered as in 2.1.3 above.	Upon occurrence	Line M/HSE Advisor

NS HSE HANDBOOK		
Book Name	HSE Handbook	Last Edited 01 May 2019
Book No	HSE-NS -05	Chapter No 3
Chapter Name	HSE Audit and Inspection	

03. HSE Audit and Inspection

3.0 HSE Audit and Inspection

3.1 Audit Hierarchy

3.2 Objectives –NS Internal Audits and Inspections

3.3 Objectives –NS Audit of existing Subcontractors, Vendors and Suppliers

3.4 Objectives –NS Audit of potential Subcontractors, Vendors and Suppliers

3.5 Scope and Frequency

3.5.1 Through its Audit Plan NS shall execute HSE audits as follows:

3.5.2 Through its Audit Plan NS shall execute HSE Inspections as follows:

3.6 Audits and Inspections Initiated by Events

3.7 Audit Protocols

Appendices

3A Audit Plans

3.0 HSE Audit and Inspection.

3.1 Audit Hierarchy.

- Audits and Inspections executed by Contract Holder.
- Independent Audits and Inspections by other Authorities, e.g. Government, QM Adjudicators.
- NS Internal Audits and Inspections.
- NS Audit and Inspection of existing and prospective Subcontractors, Vendors and Suppliers.

3.2 Objectives –NS Internal Audits and Inspections.

- To determine whether activities and facilities conform to planned arrangements and good practice.
- To determine the effective functioning of the HSE MS in fulfilling NS HSE Policy, objectives and performance criteria.
- To determine compliance with relevant contractual requirements.
- To identify areas for improvement which may offer progressively better HSE management.

3.3 Objectives –NS Audit of existing Subcontractors, Vendors and Suppliers.

- To determine whether the subcontractor, vendor or suppliers HSE MS elements and activities conform to planned arrangements, and are implemented effectively by the Audit.
- To determine the effective functioning of the Subcontractors, Vendor or Suppliers HSE MS in fulfilling the HSE Policy, objectives and performance criteria.
- To determine compliance with relevant contractual requirements.
- To identify areas for improvement which may offer progressively better HSE management.

3.4 Objectives —NS Audit of potential Subcontractors, Vendors and Suppliers.

- To assess the potential subcontractor, vendor or suppliers management and resources, inclusive of HSE management and resources, to determine whether the applicant can meet NS requirements and expectations.

3.5 Scope and Frequency.

3.5.1 Through its Audit Plan NS shall execute HSE audits as follows:

(Audit plan is shown as Appendix A)

- Annually – Audit all facilities against the ten elements of the HSE MS.
- Monthly — Audit of defined facilities and / or activities.

3.5.2 Through its Audit Plan NS shall execute HSE Inspections as follows:

- Upon rig-up / set up at a new location.
- Monthly Inspection of defined facilities and / or activities.

3.6 Audits and Inspections Initiated by Events.

Where an event, or an identified trend indicates slippage against HSE requirements NS shall initiate an audit or inspection, whichever is appropriate. Such audits or inspections shall be executed as their necessity becomes evident and shall be recorded retrospectively in the Audit Plan.

3.7 Audit Protocols

The following protocols shall be integral to NS Audit Process:

- The allocation of resources to support the auditing process.
- Audit Team requirements, specifically:
 - Adequate independence from the activities audited to enable objective and impartial judgment.
 - The necessary expertise in the relevant disciplines.
- Methodology for conducting and documenting audits.
- Procedures for reporting audit findings in a controlled manner.
- A system for tracking implementation and status of audit recommendations.
- A system for the distribution and control of audit reports.

No.	Action (A)	Completion Date	Action Owner
A.3.1	Produce and Introduce an annual Audit Plan.	Q4 – Annually	HSE Advisor
A.3.2	Facilitate audits.	On going	HSE Advisor
A.3.3	Execute audits as appointed.	As Planned	Auditors

NS HSE HANDBOOK		
Book Name	HSE Handbook	Last Edited 01 May 2019
Book No	HSE-NS -05	Chapter No 4
Chapter Name	Management Review	

4. Management Review

4.0 Management Review

4.1 Review Panel Frequency and Scope

4.2 Records of Management Review

4.3 Dissemination of Review Findings

4.0 Management Review.

4.1 Review Panel, Frequency and Scope.

A panel of senior management appointed and led by the General Manager shall, annually, review the HSE Management System and its performance, in order to ensure continuing suitability and effectiveness. This review shall, specifically, but not exclusively, address the following:

- The possible need for changes to the HSE Policy and its Objectives.
- Resource allocation for HSE MS implementation and maintenance.
- Sites and/or situations on the basis of evaluated hazards, risks and emergency planning.

4.2 Records of Management Review.

For control purposes and in order to facilitate the implementation of any consequential changes, the review proceedings shall be recorded. Records shall include:

- Description of the required changes.
- Identification of Action Owners, Action Parties and Actions.
- Time/Quality related targets for implementation.

4.3 Dissemination of Review Findings.

Dissemination of Review Findings shall take place as follows:

- Communication to the Workforce through scheduled HSE meetings.
- Public display through internal Notice Boards.
- Communication to Subcontractors, Vendors and Suppliers through amended documentation.
- Communication to Client through amended documentation.

No	Action (A)	Completion Date	Action Owner
A.4.1	Appoint Management Review Team.	Q4 Annually	General Manager
A.4.2	Execute management review and publish finding.	Q4 Annually	Review Team
A.4.3	Disseminate review findings and implement actions.	Q4 Annually	Action Owners


NS HSE HANDBOOK		
Book Name	HSE Handbook	Last Edited 01 May 2019
Book No	HSE-NS -05	Chapter No 5
Chapter Name	Forms	


5. Forms


Appendix A













Audit Plan

Execution:	By Audit Team as appointed.
Scope:	Specific to Audit Checklist.
Report Preparation:	By Audit Team Leader.
Report Circulation:	Applicable Management Line
CAR Close-out:	Action Owners.
CAR Follow-up:	Audit Team Leader.

Scheduled: 

Completed: 


Outstanding: 


Audit No	Audit Area	Applicable Month											
		J	F	M	A	M	J	J	A	S	O	N	D
A-01	NS-All 10 Elements of the HSE Management System.												
A-02	Subcontractors-All 10 Elements of the HSE Management												
A-03	Leadership and Commitment.												
A-04	Policy and Strategic Objectives.												
A-05	Organization and Responsibilities.												
A-06	Manpower Resources and Competence Assurance.												
A-07	Hazards and Effects Management Process.												
A-08	Planning.												
A-09	Standards, Procedures and Document Control.												
A-10	Implementation and Monitoring.												
A-11	Audit and Inspection Process.												
A-12	Management Review.												


Appendix A

Audit Plan

Inspector:	HSE Advisor to the below Timetable. Line Supervisor at each New Location.
Report Preparation:	Applicable Inspector.
Report Circulation:	Applicable Management Line.
CAR Close-out:	Action Owners.
CAR Follow-up:	Applicable Inspector.

Scheduled: 

Completed: 


Outstanding: 


Audit No	Audit Area	Applicable Month											
		J	F	M	A	M	J	J	A	S	O	N	D
	Inspection Area.												
B-01	First Aid Kits												
B-02	Assembly Areas												
B-03	Ladders and Steps												
B-04	Fire Extinguishers												
B-05	Gas/Fire/Evacuation Alarms												
B-06	Emergency Instruction Signs												
B-07	Training Courses												
B-08	Car Inspection												
B-09	Journey Management												


Appendix A

Audit Plan

Inspector:	HSE Advisor.
Report Preparation:	HSEA Advisor.
Report Circulation:	Applicable Management Line
CAR Close-out:	Action Owners.
CAR Follow-up:	Applicable Inspector.

Scheduled: 

Completed: 

Outstanding: 

Audit No	Audit Area	Applicable Month											
		J	F	M	A	M	J	J	A	S	O	N	D
	Inspection Area.												
C-01	PPE												
C-02	Drinker Water Facilities												
C-03	Hand Tools												
C-04	Portable Electrical Extensions												
C-05	Safety Signs												
C-06	Workplace Housekeeping												
C-07	Fire Precautions and Prevention												