

Risk and Work Configuration Management as a Function of Integrated Safety Management

National Security Technologies, LLC¹

Michele L. Kelly, NSTec, kellyml@nv.doe.gov, (702) 295-7600

Lana K. Buehrer, NSTec, buehrelk@nv.doe.gov, (702) 295-2575

Fran Lemieux, NSTec, lemieufh@nv.doe.gov, (702) 295-0737

Abstract:

I. Introduction

National Security Technologies, LLC (NSTec), has established a work management program and corresponding electronic Facilities and Operations Management Information System (e-FOM) to implement Integrated Safety Management (ISM). The management of work scopes, the identification of hazards, and the establishment of implementing controls are reviewed and approved through electronic signatures. Through the execution of the program and the implementation of the electronic system, NSTec staff work within controls and utilize feedback and improvement process. The *Integrated Work*

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Control Manual further implements the five functions of ISM at the Activity level. By adding the Risk and Work Configuration Management program, NSTec establishes risk acceptance (business and physical) for liabilities within the performance direction and work management processes.

Requirements, roles, and responsibilities are specifically identified in the program while e-FOM provides the interface and establishes the flowdown from the Safety Chain to work and facilities management processes to company work-related directives, and finally to Subject Matter Expert concurrence. The Program establishes, within the defined management structure, management levels for risk identification, risk mitigation (controls), and risk acceptance (business and physical) within the Safety Chain of Responsibility. The Program also implements Integrated Safeguards and Security Management within the NSTec Safety Chain of Responsibility.

Once all information has been entered into e-FOM, approved, and captured as data, the information becomes searchable and sortable by hazard, location, organization, mitigating controls, etc.

II. Implementation

The basic principles of the Risk and Work Configuration Management Program include:

- Develop companywide performance documents that identify levels of risk acceptance through the Safety Chain.
- Provide performance direction processes from senior management through line management to the worker.
- Implement a business system, incorporating an electronic work management process:
 - Electronic signature approval process
 - Elimination of inefficient time expenditure during document reviews
 - Elimination of paper
 - Automation of process, precluding creative writing with selectable answers
 - Simplification of document development
 - Capture of all work-related information in a searchable database
 - Calculation of overall facility hazard category and integrated risk, using Military Standard 882 (phase II) and DOE-STD-1027-92
- Provide clear chain-of-command as a management structure, linked to risk acceptance.
- Provide clear understanding of each role within the management structure.
- Implement management compliance requirements through specific documents and directives.
- Uses a graded approach for both business and physical risk acceptance within the management structure.

A. Risk Management

All NSTec work involves business and/or physical risks. Risk controls are performed in accordance with the requirements and management approvals documented in e-FOM. The e-FOM is tailored commensurate with the function, scope, characteristics, complexity, risks, hazards, and other factors, including levels of quality rigor, applicable to the facility or operational-support processes being performed. The e-FOM encompasses all NSTec-managed facilities, infrastructure, and work processes. The e-FOM defines management of facilities, areas, and processes within a specified safety/security envelope where all work is performed. Facility and process safety/security envelopes are reviewed and approved by management during the e-FOM input process. The specific details unique to each safety/security envelope will be further defined in the *e-FOM Online User Manual*.

Risk and Work Configuration Management, in combination with e-FOM, also implements the NNSA/NSO Real Estate Operations Permit (REOP) process. e-FOM provides the same electronic review, approval, and tracking processes for the U.S. Department of Energy National Nuclear Security Administration Nevada Site Office (NNSA/NSO) that it performs for NSTec. The purpose and objective of the REOP process ensures the following:

- Work is performed under the purview of NNSA/NSO (including the National Weapons Laboratories and Work for Others).
- Work is well defined.
- Work has well-defined geographical boundaries.
- Work has identified the hazards.
- Work has established and implemented controls to mitigate those hazards.
- Work is properly authorized.
- Work is effectively managed.

B. Work Management

Work management effectively implements the requirements of the Safety Chain of Responsibility from NNSA/NSO Manager through the NSTec President or Chief Operating Officer and Line Management to the worker. This Program establishes a risk-based graded approach for work authorization and management. *Risk and Work Configuration Management* is implemented by the management structure through the development and documentation within e-FOM. E-FOM requires identification and approval of facility/process scopes of work (SOWs), identified risks and/or hazards, implemented controls, levels of quality rigor, and work approvals of facility operational requirements/activities within the facility safety envelope.

A General Employee Safety (GES) concept is incorporated into risk management and establishes the safety envelope for low-hazard office or administrative work. The work scope of NSTec Senior Managers and their staffs is within the GES envelope and does not require further controls or e-FOM entries. When Senior Management travels to locations that present a hazard(s), controls and mitigation are the responsibility of the applicable Operations and Facility Managers. GES is essential to all employees and includes elements that apply company-wide. Technical instructions and work packages are additional and activity-specific documentation.

GES is defined as common daily tasks that are general in nature. Generally, these tasks are associated with office work, but not limited to office workers, e.g., driving a vehicle (such as a car or small truck), the hazards of required company travel, and other miscellaneous low-hazard tasks. An online NSTec GES metric shows common tasks and the associated administrative controls that must be put into practice and that employees must be informed of. Each employee must understand there are hazards associated with all work; consequently, they must be vigilant at all times. The matrix on the following page represents the work management process. Line managers must evaluate all work to determine GES applicability. The concept of GES had not previously been used with the Nevada Test Site Management and Operating (NTS M&O) contract requirements.

Safety Chain	Risk and Work Configuration Management			Work Acceptance	
	Work Approval	Work Assignment	Work Authorization		
NSTec President/Chief Operating Officer	Approve Work (Performance Direction) from NSO. Accept business and identified physical risk from within their responsible orgs.	Assign Work			} e-FOM
Senior Line Managers					
Directors					
Division Managers					
Line Managers					
Department Managers	Identify physical and related business risk, then feed up to Senior Line Managers		Prepare Work Authorization	Approve Work Authorization	
Section Managers					
Workers					Implement Authorized Work
			} e-FOM		

C. Work Control

NSTec activity-level work consists of any job, task, or sub-task² performed in the field where hazards are present that are associated with either the work or the work environment (regardless of who is performing the work or the organization with which they are affiliated).

Though integrated, the work control process was developed to establish the requirements and controls necessary to implement the ISM and Quality Assurance (QA) requirements into a single integrated work control process for activity-level work performed by, or on behalf of, properties and projects managed by NSTec. The *Integrated Work Control Manual (IWCM)* was based upon the guidance provided in the *NNSA/NSO Guide for Activity Level Work Planning and Control Processes*, dated January 2006.

The IWCM implements the five core functions and seven guiding principles of ISM. This process applies to all NSTec employees and personnel performing work on behalf of NSTec. This Process also provides the requirements on how subcontracted work must be controlled.

The definition of activity-level work excludes common hazards of the workforce associated with an office environment or with the daily commute. This is defined within the e-FOM process as the GES matrix.

III. Procedure

NSTec Senior Line Managers have the following responsibilities within this program:

- Accept performance direction from the NNSA/NSO
- Delegate work authorization approval to subordinate line managers
- Approve SOWs within e-FOM for both business and physical risks
- Approve Line Managers’ identified risks, hazards, and mitigation controls for physical risks

² For example, any activity, step, or action that is part of an instruction, procedure, process, sequence of steps, or evolution.

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NSTec Line Managers have the following responsibilities within this program:

- Edit and approval authority within e-FOM for applicable SOWs and associated risks/mitigations
- Identify risks and/or hazards
- Determine and implement controls and levels of quality rigor
- Perform work within controls
- Implement a continuous feedback and improvement process
- Ensure compliance with customer deliverables and due dates to minimize business risks
- Comply with safety/security envelopes

NSTec Facility Managers have the following responsibilities within this program:

- Establish facility safety/security envelopes
- Edit and approval authority within e-FOM for facility-related risks/mitigations
- Approve tenant and non-tenant work scopes and associated risks/mitigations within e-FOM

NSTec Environment, Safety, Health, and Quality (ESH&Q) Division has the following responsibilities within this program:

- Process safety envelopes
- Review and approve specific facility- and process-related risks and/or hazards and mitigations as identified within e-FOM
- Establish risk-based quality requirements for activities and services

NSTec Safeguards and Security Department has the responsibility to review and approve security envelopes identified within e-FOM.

A. Performance Documents and Traceable Standards

The Program establishes compliance with traceable standards to ensure safety, reduce errors, and increase efficiency. The Program is further implemented and integrated with the NSTec directives management processes.

The implementation of performance documents ensures that the core functions of ISM are integrated into work activities. Traceable standards must provide a clear flowdown path from Prime Contract standards through company directives to organizational performance documents. As a newly created system, e-FOM standards can be traced manually; however as a mature system, the traceability will occur electronically.

B. Feedback and Continuous Improvement

To ensure risk and work programmatic requirements and e-FOM software capabilities improve with the continuing evolution of company requirements, a *Feedback and Continuous Improvement Process* has been established. Programmatic presentations and discussion groups have been, are currently, and will continue to be, solicited from both Senior and Line Management. Alpha and beta testing are performed by Line and Facilities Management prior to and following initial production and all subsequent upgrades and improvements. Feedback is also solicited from the NSTec Corporate Information Officer when pushing initial applications through staging and production.

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ISM Core Function 5, *Feedback and Continuous Improvement*, requires that processes be established to identify and implement process improvements and efficiencies. Items, services, and processes that do not meet established requirements must be identified, controlled, and corrected to prevent or significantly reduce, the chance of recurrence. Quality performance objectives, performance measures, and commitments that are obligated by the Prime Contract are implemented through NSTec's *Quality Assurance Requirements Document*. The core function, *Feedback and Continuous Improvement*, is directly tied to the guiding principles *Line Management Responsibility for Safety, Clear Roles and Responsibilities*, and *Competence Commensurate with Responsibilities*.

IV. Conclusion

All NSTec work activities are authorized by NNSA/NSO and NSTec managers.

The REOP is the principal method by which NNSA/NSO implements safety management principles and functions. Specifically, the REOP is NNSA/NSO's authorizing document for NSTec work and the means by which a safety/security envelope is established for that work. The requirements addressed in this plan integrate the REOP requirements and NSTec risk and work configuration management. The *REOP*, *Hazard Analysis*, and *National Environmental Policy Act Environmental Evaluation Checklist* will automatically be generated from the identification of hazards and risks within the e-FOM.

As described within this document, work planning and work approvals are implemented through the work management process. The *Risk and Work Configuration Management Program*, through the management structure and document hierarchy, establishes specific roles and responsibilities to ensure that all work scopes, identified risks and/or hazards, implemented controls, and levels of quality (ISM) are properly documented, approved, and managed. Work management also effectively implements the requirements of the Safety Chain of Responsibility from the NNSA/NSO Manager through the NSTec President or Chief Operating Officer and Line Management to the worker. Work is also approved by the Facility Manager, who ensures work is within an established safety/security envelope, coordinated, and deconflicted with an established real property boundary. All work performed in NSTec-managed facilities will be compatible with the respective facility safety/security envelope, as defined in e-FOM.

The NSTec Department/Section Manager, who is providing a product or service in a facility that is not managed by NSTec, must define the safety/security envelope and communicate the identified hazards and controls through the approved work scope and work-control process to the appropriate facility manager where the work is to be performed.

The entire process described within this abstract will be entered, reviewed, and approved by both Line and Facilities Management within e-FOM and in accordance with the NSTec *Risk and Work Configuration Management* requirements.