



ABSTRACT
Best Management Practice
ISM Program Improvement Subgroup (PIsg)

Best Management Practice: The Integrated Safety Management System (ISMS) Software is a tool used by managers at Sandia to assist in their implementation of ISM. The tool currently has two major modules: Primary Hazard Screening (PHS) module and the Hazards Analysis (HA) module. The primary focus of the PHS is to document the identification and control of hazards, identify required training, establish the type of facility, and determine a hazard classification of an operation. If the hazard classification of the operation is higher than ‘standard industrial hazards’ then a hazards analysis using the HA module is required. The HA is a modified Failure Modes and Effect Analysis (FMEA) performed for each low hazard identified by the PHS. ISMS Software replaces the previous fractional methods of hazard data collection, and is a solution to the general unavailability of hazard-related data to ES&H professionals, other corporate entities, and DOE. ISMS Software is accessed through Sandia’s internal web.

1. **Why the best practice is used:** SNL needed a process that would quickly and easily determine if a facility or project activity contained only standard industrial hazards and therefore requires minimal safety documentation, or if non-standard industrial hazards existed which would require more extensive analysis and documentation.
2. **What are the benefits of the best practice:**
 - Consistency in determining hazard classification of facilities across the laboratory.
 - Identification of required training for line organizations based on hazards.
 - Accessibility to the software from remote locations (New Mexico, California, Nevada) over the SNL intranet.
 - Centralization of corporate hazards for management and analysis purposes.
 - New drivers (e.g. DOE orders, regulations, etc) can be easily implemented into the PHS question set.
 - Users can develop ‘What-if’ scenarios for potential changes to current or new operations.
3. **What problems/issues were associated with the best practice:** As with any corporate process (especially an ES&H requirement imposed on line organizations) the user must be convinced of the ‘value-added’ to their operation. However, after the usefulness of the process had been established, many other requirements such as identification of quality assessment requirements, programmatic requirements, roll up of hazards, integration with other processes have been requested. Careful corporate management of the process is required to ensure only ‘value-added’ changes from the user’s perspective are implemented. Additionally, it was necessary to integrate specific ES&H working groups (i.e. Electrical Safety Committee, IH Working Group, etc.) into the development of the question set to ensure consistency and accuracy. As part of ISM, use of the ISMS Software program and refinement of the ISM process is ongoing through constant feedback and improvement.
4. **How success of the best practice was measured:** Shortly after corporate implementation of ISMS Software, a working group of ES&H professionals and line organization personnel met to discuss the value of all ES&H requirements and processes. ISMS Software was declared a cornerstone of how SNL should implement ISM at Sandia. Since then, the software and the process has gone through numerous audits and assessments to ensure SNL continues to meet the intent of ISM in a value-added way to line organizations. As noted above, ISMS Software is in a continual feedback and improvement loop.
5. **Description of process experience using the best practice:** All operations at SNL are required to be bounded by a PHS document. The SNL line organization accesses the ISMS Software over the SNL intranet using their browser and a thin WinFrame client. The user creates a PHS document by answering a series of questions about their operation in the PHS module. Based on how the questions are answered, the software identifies the user’s hazards, determines a hazard classification, determines required training, and specifies sections of the SNL *ES&H Manual* that are applicable to the operation. If the hazard classification of the operation is ‘Office’ or ‘Standard Industrial Hazard’ then no other corporate level document is required for the authorization basis. All other hazard classifications require a hazards analysis (HA) of the hazards identified by the PHS. In this case, the user will use the HA module to import the hazards from the PHS and then perform a modified FMEA (source, condition, cause, consequence, controls, and adequacy) to analyze the hazards. The HA is a qualitative analysis that sufficiently documents the analysis of the hazards to ensure they are mitigated to an acceptable level of risk. All PHS and HA documents are technically reviewed by an ES&H coordinator (with assistance, if necessary, from appropriate subject matter experts) to ensure completeness and technical accuracy of the documents. ISMS Software answers the line managers’ need for a software tool to Know, Understand, Manage, and Document their hazards.