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GUIDE TO GOOD PRACTICES FOR OPERATIONS ORGANIZATION AND ADMINISTRATION

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Guide to Good Practices for Operations Organization and Administration

Page/Section	Change
p. viii / Definitions	The following sentence was added. "Technical Safety Requirements consist of safety limits, operating limits, surveillance requirements, administrative controls, use and application of instructions, and the basis thereof."
p. 1 / Introduction	The following sentence was added. "This standard should be used in conjunction with principles of the Integrated Safety Management System as incorporated in DOE G 450.4-1, *Integrated Safety Management System Guide*."
p. 21 / Supplemental Resources	The following resource was added. DOE G 450.4-1, *Integrated Safety Management System Guide.*
Concluding Material	Preparing Activity was changed to EH-31.

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FOREWORD

The purpose of this Guide to Good Practices is to provide Department of Energy (DOE) contractors with information that can be used to validate and/or modify existing programs relative to Conduct of Operations. This Guide to Good Practices is part of a series of guides designed to enhance the guidelines set forth in DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities.*

KEYWORDS

Facility
Operations Supervisor
Technical Safety Requirements

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DEFINITIONS

Facility	Any equipment, structure, system, process, or activity that fulfills a specific purpose.
Root Cause	The cause that, if corrected, would prevent recurrence of this and similar occurrences.
Operations Supervisor	The individual having authority and responsibility for operational control of a facility, process, experiment, or other project.
Safety Analysis	A documented process which provides systematic identification of hazards within a given DOE operation (or for a given job in the case of job safety analysis); describes and analyzes the adequacy of measures taken to eliminate, control, or mitigate identified hazards; and analyzes and evaluates potential accidents and their associated risks.
Safety Analysis Report	A report which documents the adequacy of the safety analysis for a facility to ensure that the facility can be constructed, operated, maintained, shutdown, and decommissioned safely and in compliance with applicable laws and regulations.
Technical Safety Requirements	Those requirements that define the conditions, safe boundaries, and the management or administrative controls necessary to ensure the safe operation of a nuclear facility and to reduce the potential risk to the public and facility workers from uncontrolled releases of radioactive materials or from radiation exposure due to inadvertent criticality. Technical Safety Requirements consist of safety limits, operating limits, surveillance requirements, administrative controls, use and application of instructions, and the basis thereof.

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GUIDE TO GOOD PRACTICES FOR OPERATIONS ORGANIZATION AND ADMINISTRATION

1. INTRODUCTION

This Guide to Good Practices is written to enhance understanding of, and provide direction for, Operations Organization and Administration, Chapter I of Department of Energy (DOE) Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*. The practices in this guide should be considered when planning or reviewing operations organization and administration programs. Contractors are advised to adopt procedures that meet the intent of DOE Order 5480.19. This standard should be used in conjunction with principles of the Integrated Safety Management System as incorporated in DOE G 450.4-1, *Integrated Safety Management System Guide*.

"Operations Organization and Administration" is an element of an effective Conduct of Operations program. The complexity and array of activities performed in DOE facilities dictate the necessity for well-defined standards and requirements for safe and efficient operations.

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2. OBJECTIVE

The objective and criteria are derived from DOE Order 5480.19. They are intended to aid each facility in meeting the intent of the order.

The organization and administration of facility operations ensures that a high level of performance in operations is achieved through effective implementation and control of operations activities.

Criteria:

a. Written operating standards are established.

b. Sufficient human and material resources are provided to accomplish assigned tasks.

c. A program to monitor operating performance is implemented to improve facility operations by identifying and resolving operational problems.

d. Safety, environmental, and operating goals are established for measuring operating effectiveness and improving operating performance.

e. Personnel are held accountable for operating performance.

f. Supervisory and management training is provided.

g. Safety planning guidance is established for all operational activities.

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3. DISCUSSION

Operational excellence is the main goal of DOE and DOE facilities; protecting the environment and improving safety and productivity complement this goal. A facility's organization must be properly directed to ensure that all three elements are effectively addressed. Establishing policies and setting goals to achieve a safe, environmentally conscious, and efficient operating facility are essential to focus this direction. These policies and goals are an effective method of communicating direction to all personnel.

The organization and administration of facility operations should clearly define the process for providing and supporting safe, reliable, and efficient conduct of all facility activities. Emphasis must be placed on teamwork to ensure this occurs. A clear understanding by personnel of their authorities, responsibilities, accountabilities, and interfaces is essential to proper functioning of the organizational team. The organizational structure must be clearly defined, and the administrative controls implementing the structure must be formally documented to achieve this understanding.

Management must emphasize performance standards and individual accountability in adhering to policies and accomplishing goals. When personnel are aware of the performance standards required to meet the goals, they will be more inclined to acknowledge their accountability. In addition, personnel must be allowed the opportunity to supply input to the policies, goals, and standards so that they have a sense of ownership of the facility. Given this opportunity, personnel will more willingly support standards and accept accountability.

Personnel must have the resources needed to perform their jobs. Restricting or delaying resources will only hinder operational effectiveness and may result in adverse consequences. Because personnel are one of the resources required to operate a facility, a plan to retain sufficient personnel to safely and efficiently operate the facility must be developed.

To ensure that resources are being properly used and operating activities are directed towards goals, management must monitor operations. Monitoring facility operating

performance is the best way to measure the facility's effectiveness in accomplishing goals. Monitoring activities such as audits, reviews, tours, and self-assessments are part of the checks and balances needed in an effective operating program to ensure that management obtains a clear picture of facility operations. Touring also allows management to interface with facility personnel and reinforce policies and goals. Audits, reviews, investigations, and self-assessments supply information for facility performance reports. These reports provide evidence of the operating performance of the facility. Facility performance reports enable tracking and trending of performance indicators and can be used to adjust goals. When operating problems or undesirable performance trends are noted during monitoring, corrective actions must be developed and implemented to redirect performance. Followup monitoring activities allow management to verify the effectiveness of the corrective actions.

In order to effectively monitor operations and manage resources, managers must be trained. A management development program will enhance the skills and knowledge of upcoming managers and supervisors. This is especially true of first-line supervisors because they usually have no previous management experience, but must possess the proper attributes to handle their responsibilities.

Management must strive to develop and maintain a proper safety attitude in all facility personnel. A comprehensive safety program must include planning for safety. If safety planning accompanies work planning, safety issues will be confronted before actual work is started. Planning will minimize work holdups and operating schedule delays that result from correcting safety issues. Personnel must also be trained in safe operating practices and the need to identify potential personnel hazards at their work stations. Management monitoring of performance, stressing safety and planning for safety, will reinforce this attitude.

4. GOOD PRACTICES

4.1 Policies

Written policies should ensure consistency in the organization and administration of facility activities. Facility-wide policies should be developed for activities that affect the entire facility or when they apply to multiple organizations (departments) within the facility. Policies for activities specific to an organization should be developed at the organization level.

Policies should be written in a consistent format for effective development and implementation. The required format (e.g., procedures, checklists, and other definitive documentation) should be clearly defined. Policy documentation should contain a description of the controls necessary to implement the policy and should specify when and how changes may be made to the policy. Policies should be easily understood and should adequately address the subject matter. Therefore, standard names for facility work groups, positions, locations, systems, and equipment should be established. Lower-tier policies should be consistent with those at the facility level to ensure continuity. Policies that are no longer needed, or have been superseded, should be canceled and removed from use.

Personnel should clearly understand their authorities, responsibilities, and accountabilities associated with policies. In addition, personnel should understand their interfaces with other organizations, especially during back-shifts and weekends (e.g., engineering, maintenance, security). Therefore, these items should be clearly defined. Once policies have been established, personnel should be instructed on their purpose, the benefits of following them, and the consequences of not following them.

4.2 Goals

As a standard policy, facility management should develop goals that support established DOE and corporate goals. Operating, environmental, and safety goals should be used as motivators for improvement. The purpose is not simply to meet a numerical goal; rather, the purpose is to improve operating performance. Goals should be used as a management tool for involving cognizant groups or individuals in improving operating performance and for measuring operating effectiveness. Goals that focus on areas that need improvement and that promote excellence in facility operations can be used by management to establish facility priorities and monitor progress. Goals should be realistic yet challenging. Easily achievable goals should be avoided. All goals should be coordinated among the various levels of management to ensure that they are consistent and mutually supportive and that they reflect the overall mission of the facility.

In addition, goals should be:

- Measurable, allowing specific measurement of progress and clear determination of achievement

- Limited in number so that employees can effectively focus their efforts

- Controlled by the individual or group responsible for their accomplishment

- Clearly communicated, understood, and supported by all members of the responsible organization

- Composed of input from all levels in the organization responsible for achieving the goals.

When the performance of support groups (those not reporting to the operations supervisor) directly affects facility activities, the operations supervisor should review the

goals of the support groups to ensure that they are consistent with, and complementary to, those developed by operations line management.

Where appropriate, action plans (policies) should be developed for achieving goals. The action plans should specify the actions and responsibilities of each individual contributing to achieving the goal. Milestones should be established to track progress.

Management should periodically review progress toward accomplishing goals. Formal reviews should be conducted and results communicated to facility personnel. If results show a significant variance from the desired progress in achieving goals, management should review the action plan to ensure that it is adequate and being effectively executed and that allocated resources are sufficient. Based on the results of the review, changes to goals should be considered if conditions have changed since the time the goals were established and the impact of the revised goals has been assessed on the overall performance of the facility.

Operational goals should be established in areas such as:

- Preventing unavailability of safety systems
- Preventing personnel error
- Maintaining exposure as low as reasonably achievable (ALARA)
- Preventing lost facility capability (e.g., lowered output, less effective)
- Preventing unscheduled facility shutdowns
- Maximizing the timely completion of scheduled surveillances
- Minimizing the amount of overtime
- Maintaining complete staffing and training of shift positions

- Minimizing or preventing waste, as appropriate

- Minimizing the number of lighted annunciators and out-of-specification parameters.

Management should foster a working environment that encourages individual performance and teamwork to achieve its goals. Management should also encourage an atmosphere conducive to constructive criticism and feedback. They should respond to feedback and communicate the actions taken as a result of the feedback to encourage continued participation.

4.3 Accountability

All DOE facility personnel shall be held accountable for their operating performance. Management should ensure that all personnel understand the requirements for their assigned work stations and that individuals will be held accountable for their actions or inactions. Personnel should be instructed on the benefits of proper operating performance and the possible consequences of inappropriate operating performance.

A well-defined accountability program should define the requirements for handling operating performance problems. Personnel involved in any infraction of operating practices should be counseled on the deviation. Those involved in significant or frequent violations of operating practices should be counseled, retrained, and disciplined, as appropriate.

Personnel should be held accountable for achieving their assigned goals. They should also be recognized for achieving goals and for actions performed in support of goals. Accountability and recognition should be administered in conjunction with the personnel performance appraisal system. Supervisor performance appraisals and promotions should include an assessment of operating performance.

4.3.1 Performance Standards

Performance standards should serve as the basis for accountable behavior. Personnel performance should be compared to performance standards to ensure consistency of accountability. Performance standards should be fostered by leadership example within the organization. Management should communicate new or revised performance standards to all personnel so that everyone understands and supports the standards. Benefits for exceeding performance standards should also be communicated.

Facility management should establish high performance standards for all activities. Management's expectations for the level of performance should be clearly defined in management policies, procedures, and directives. Management should require uniform adherence to these high standards, with safe, reliable facility operation being the primary goal. Management's day-to-day interactions with the work force should reinforce these performance level expectations. Facility activities should be conducted in a professional and businesslike manner.

Performance standards should be developed to ensure that:

- The professional conduct expected of personnel is specified and followed so that personnel performance coincides with the expectations of DOE and facility management

- Control area activities are conducted in a manner that achieves safe and reliable facility operation

- Normal and emergency communications are highly reliable, clear, and provide accurate transmission of information within the facility

- Facility operation by personnel under instruction is carefully supervised and controlled to avoid mistakes by unqualified personnel and to ensure that training time is used effectively

- An established and thorough review process exists so that all significant aspects of abnormal events are identified, investigated, and resolved

- Appropriate DOE personnel and other agencies receive timely notifications to ensure that the facility is responsive to public health and safety concerns

- Facility configuration is properly maintained by methods that control equipment and system status

- The lockout/tagout program provides protection to personnel and equipment, and aids in the control of equipment and system status

- The independent verification program ensures the reliability of designated operations and safety functions and aids in the control of equipment and system status

- The logkeeping program provides an accurate history of facility operations and aids in controlling equipment and system status

- Systematically performed turnovers provide on-coming personnel with an accurate status of their work stations

- Personnel understand unique processes and coordinate activities with process support personnel

- The required reading program enhances personnel awareness of important information relevant to their job assignments

- Operations management communicate, in writing, short-term information and administrative instructions to personnel in a timely fashion

- Operations procedures that direct the operation of the facility within its design bases are effectively used to support safe operation of the facility

- The operator aid program ensures that operator aids are current, correct, and useful

- The equipment and piping labeling program ensures that facility personnel are able to positively identify the equipment they operate.

Additional performance standards that enhance facility safety, quality, environmental protection, and production should be developed to support the mission of the facility.

4.4 Facility Resources

The operations supervisor should be responsible for identifying to DOE and corporate management the resources required for safe, reliable facility operation. The operations supervisor should also be responsible for providing lower-level managers with the resources to accomplish assigned tasks. The resources provided should include:

- Sufficient personnel to limit overtime

- Adequate permanent work areas to conduct facility activities

- Necessary spare parts and equipment to operate and maintain the facility

- Technical services in areas such as maintenance planning, engineering support, nuclear safety reviews, and interfacing with regulatory agencies

- Administrative services, including contract administration, budget and cost control, and personnel administration

- Personnel, facilities, and materials for training.

If a lack of resources compromises the ability to operate safely and efficiently within environmental, safety, and health requirements, the cognizant manager should take the necessary action(s) to correct the problem.

4.4.1 Human Resources

The facility should be staffed by competent personnel. A facility staffing plan, tied to the company's long-range goals, should be developed to anticipate future personnel needs. The plan should be reviewed periodically and updated to verify adequacy. Elements of this long-range plan should include anticipated changes in staffing levels, potential succession plans for key management positions, job rotation for developing professional and managerial experience, and a forecast of personnel needs, considering losses resulting from attrition. The long-range staffing plan should allow sufficient time for individuals to turn over job responsibilities and maintain continuity in performance.

Hiring should be regulated so that newly hired personnel meet the established minimum standards. The human resource group should emphasize retaining and developing employees. Personnel should understand management policies and goals concerning career progression, management and professional development activities, performance appraisals, and the compensation and reward system. Human resource policies and programs should be effectively communicated to all personnel and monitored periodically to determine their effectiveness. Managerial, supervisory, and technical skills should be developed through training, project assignments, and rotating job activities. Personnel performance should be evaluated through regular performance appraisals, and promotions should be based on performance and ability. Policies should be written to identify and deal with behavioral problems, including drug and alcohol abuse.

4.4.2 Material Resources

The facility should have sufficient material resources to conduct operations. Management should ensure that consumable materials (e.g., administrative supplies, oils, chemicals) are replenished to support facility operations and that nonconsumable materials (e.g., repair parts, new equipment) are available to minimize the impact on facility operations. In addition, management should ensure that all safety equipment required to perform operations (e.g., hearing protectors, chemical spill kits, eyewash stations, respiratory protection equipment) is available and ready for use.

4.5 Monitoring Operating Performance

Policies should be established to monitor operating performance with the primary goal of improving operations. To accomplish this, managers should be knowledgeable of

personnel performance, facility activities, and facility conditions within their areas of responsibility. Managers should be actively involved with the work activities under their cognizance to assess performance and reinforce management standards. Monitoring of facility activities should ensure that they are conducted according to appropriate standards, policies, and procedures, and that problems are promptly identified and corrected. There should be a high degree of management involvement and observation in day-to-day facility activities; a manager's routine should include frequent tours of the work place, including discussions with personnel. Monitoring by management should also include a program for monitoring facility performance through reporting and trending selected parameters. The monitoring program should provide operational data that are trended, analyzed, and forwarded to appropriate levels of upper management.

Managers and supervisors should clearly understand their responsibilities for setting a professional example and should monitor and correct problems related to failures to adhere to facility policies and procedures.

4.5.1 Management Tours

Each manager should plan periodic tours of facility areas as part of the manager's routine. Some of the criteria for establishing periodicity should include the risk associated with operations and the amount of operational activities occurring (i.e., tours of warehouses may be conducted less frequently than tours of production lines). Monitoring should include actual observations of work in progress. The practice of scheduling blocks of time for conducting such observations has proven effective.

Management tours should cover all areas, including hazardous and unmanned areas within the specific manager's purview. Tours should occur during all operating shifts. Besides observing personnel performing their specific jobs, managers should observe safety conditions and practices, radiological conditions and practices, material conditions, and housekeeping to ensure that expected standards are maintained. Before conducting a tour, managers may review lessons learned from in-house and industry operating experience so they can check to see if similar conditions or circumstances exist at their facility.

Deficiencies noted during tours should be documented and provided to responsible managers and supervisors for correction. If items are corrected during the tour, they should also be documented for information purposes. Followup tours should be carried out to ensure that timely and effective corrective action has occurred.

Routine activities that should be monitored include:

- Operational evolutions or work in progress to observe radiological protection and safety practices, procedural compliance, work habits, teamwork, and communications

- Shift turnovers in the control area and other work locations to observe formality, thoroughness, and continuity of activities

- Planning and scheduling

- Training activities (e.g., classroom, simulator, and on-the-job), including content, methods, and control.

Some non-routine activities that should be monitored include:

- Implementing new or revised procedures

- Coordinating actions in different locations, such as fire or other emergency preparedness drills for the facility

- Completion of maintenance activities or work by other areas for material condition, housekeeping, and cleanliness.

Management may assign other groups, such as quality assurance, to periodically monitor, audit, review and assess operating performance. These activities can assist managers and supervisors in identifying good and bad practices and correcting problems.

In addition to tours, other processes should be used to provide management with accurate information regarding facility performance, such as audits, reviews, investigations, and self-assessments. Details on investigations are contained in DOE Order 5480.19, Chapter VI, "Investigation of Abnormal Events."

The data obtained from the tours should be measurable. This information will be used to assess facility performance and to identify areas requiring management attention. Overall indicators used for facility performance, indicators to measure progress in achieving goals, and specific indicators for monitoring current performance problems and performance in specific functional areas should be selected. The data should be presented to indicate

trends, allow comparisons of actual versus expected results, and, where appropriate, show corrective actions and the results of these actions. Performance reports are a good way of presenting this information.

Performance reports should be issued regularly. Updating reports monthly has been most effective. Specific performance indicators should be analyzed for trends and early initiation of corrective action. A graphic format is preferable to compare actual results, facility goals, and overall industry progress over time. A management summary that highlights and explains reasons for undesirable trends (including problem areas, needed improvements, and actions taken to effect improvement) enhances the usefulness of the reports.

Responsibilities should be assigned for collecting and analyzing data for each indicator. A coordinator should be assigned responsibility for developing, producing, and distributing the report. Reports should be tailored to the particular needs of the appropriate recipient (e.g., contractor management, DOE representatives, and Federal, state, and local agency representatives).

Guidelines should be developed to determine which performance indicators apply to each level of management. For example, the operations supervisor's report could provide general performance indicators, other selected indicators, and an executive summary section noting unusual results and significant trends. A brief explanation of the causes of adverse trends and the corrective actions to be taken should also be provided. Reports to other managers should provide the information in the operation supervisor's report and other selected indicators applicable to their areas of responsibility.

Periodic reports addressing the status of programs and action items should also be developed. An integrated management information system may be used to provide the information for these reports. Items near completion should be monitored to ensure that due dates will be met. When items become overdue, they should be reviewed, appropriate actions taken, and the items rescheduled. Closeout methods should be streamlined to prevent completed items from being carried forward.

4.5.2 Management Assessment of Operating Performance

Management should assess good, as well as, bad operating performance. An assessment of good performance and positive trends should be evaluated to establish better operating practices throughout the facility. In addition, good

performance should be rewarded with positive feedback. An assessment of positive trends may lead to changing goals or accelerating existing goals.

Operating problems should be evaluated and corrective actions should be taken to improve the performance of operations. Undesirable performance trends noted either during management's monitoring tours or in reports should be assessed to determine root cause(s). Corrective actions can then be developed and implemented.

4.5.2.1 Corrective Actions

Corrective actions should address root causes instead of symptoms. Corrective action should be developed by appropriate personnel, including those tasked with implementing the actions. Facility line management should approve corrective actions and ensure implementation in a timely manner. Input from organizations, such as quality assurance, should be considered when determining actions in response to deficient conditions identified by these organizations. Management should track corrective actions to completion.

Appropriate managers and supervisors should be held accountable for timely and effective implementation of corrective actions. Delays in completing approved corrective actions should be reported to the manager who assigned the actions. An escalation process will provide attention from higher levels of management to problem areas for which corrective action continues to be ineffective.

4.5.2.2 Followup on Effectiveness of Corrective Actions

Followup on the effectiveness of corrective actions is an integral part of management's monitoring program. Followup monitoring should determine if the immediate condition has been corrected and the root cause(s) eliminated. This may require monitoring the immediate corrective actions, followed by subsequent monitoring to determine whether recurrence of the condition has been eliminated. Depending upon the results of followup monitoring, the item can be closed or new corrective actions formulated.

4.6 Management Training

Management training and professional development should be conducted to ensure the facility is staffed by highly capable and experienced individuals. This training should enhance the managerial and technical skills of facility personnel, such as written and oral communications and specialized technical subjects. The unique needs for each level of management and for each individual should be considered in the management development program.

Management should assess the management needs of the facility and define job prerequisites, including necessary training, experience, professional certifications, and skills development. Criteria should be established for selecting personnel to participate in management development. The training and job rotation assignments that constitute management development activities should be defined and communicated to participating personnel. Adequate resources should be available to support the training and career-broadening assignments necessary for developing personnel.

A major goal of the management development effort should be to have qualified personnel in the facility organization ready to be promoted to the next level of management.

4.7 Planning for Safety

Facility management and personnel should assume direct responsibility for conducting activities and functions in a manner that emphasizes safety and minimizes the potential for challenges to safety limits and personnel exposure. When unexpected conditions that are outside the scope of normal conditions arise, personnel should always exercise conservative judgment and obtain management guidance, as appropriate, before proceeding.

4.7.1 Planning

Each facility should have guidelines that describe safety planning requirements for all operational activities. These guidelines should explain the role of safety analysis reports (SARs), job safety analyses (JSAs), and the handling of safety matters. Operational activities should be reviewed to ensure that they address safety planning. This review may be conducted by a formal safety review committee, which will ensure that all aspects of safety, including local, state, and Federal requirements, are properly addressed. The accompanying documentation should identify personnel protective equipment, system alignments, and operator qualifications needed for safe operation.

Safety planning should occur as part of the work planning process. If SARs and JSAs exist, they should be used in planning. If an SAR or JSA does not exist, performing one or both may be useful to determine the safety and health risks present at the facility or for a given job. These two tools will help when determining safety and health risks for existing, new, or modified facility operations.

4.7.2 Training

All operations personnel should understand safety planning requirements. Therefore, all personnel should be trained to incorporate safety planning into their job routines. Training should include a discussion of the importance of safety planning, methods of safety planning, and the requirements.

SUPPLEMENTAL RESOURCES

The following sources provide additional information pertaining to topics discussed in this Guide to Good Practices:

DOE Order 5480.19, *Conduct of Operations Requirements for DOE Facilities*, Chapter VI, "Investigation of Abnormal Events."

DOE G 450.4-1, *Integrated Safety Management System Guide*.

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CONCLUDING MATERIAL

Review Activities:

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