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THE ROCKY FLATS PLANT INDEPENDENT SAFETY REVIEW SYSTEM:  
AN IMPLEMENTATION OF DOE 5480.5, 5480.6, AND 5482.1B

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This summary provides an overview of the Independent Safety Review (ISR) system that has been installed through Operational Safety Requirements (OSR) at the Rocky Flats Plant (RFP) to implement the requirements of DOE 5480.5, Safety of Nuclear Facilities, DOE 5480.6, Safety of DOE-Owned Nuclear Reactors, and DOE 5482.1B, Environment, Safety and Health Appraisal Program. The DOE Orders outline an ISR system that must function in an advisory capacity to management, be clearly defined, technically competent, and auditable. The RFP ISR system was initiated about two years ago in preparation for resumption of operations at RFP as a means of training plant personnel and instilling a new safety culture.

The DOE Orders outline an ISR system that must function in an advisory capacity to management, be clearly defined, technically competent, and auditable. The primary purpose of the system is to provide "an independent determination of whether a proposed activity involves an unreviewed safety question, violation of a Criticality Safety Limit, Operational Safety Requirement, or any matter for which (DOE) approval is required."

In January, 1990, EG&G began managing RFP for the DOE. Missing from the safety culture, procedures, and infrastructure of the facility was an independent safety review system. Senior DOE, EG&G, and consulting personnel familiar with commercial industry practice and standards formulated an ISR system guided by two main principles: (1) that there must be peer accountability among upper middle line management; and (2) that an operations review committee of knowledgeable personnel would perform safety reviews as a focal point for teaching and instilling the new safety culture among all plant personnel. Guidance in ANSI/ANS-3.2-1988, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants, refers to a Plant Safety Review Committee and a Corporate Safety Review Committee. This two-tier ISR system generally implemented in the commercial nuclear industry was adapted to RFP.

The primary elements of the RFP ISR system are the Senior Review Board, the Operations Review Committees, and the Independent and Commitment Review (ICR) organization which manages the process. Operations Review Committees (ORC) consisting of senior technical personnel were formed to advise facility operations managers on a day-to-day basis. A Senior Review Board (SRB) comprised of senior management was formed to oversee the ORCs and advise the General Manager on broader issues. OSRs for the buildings in which operations were to resume were revised to include the ISR system in the Administrative Controls Section. Procedures to implement the ISR system at RFP were developed and issued in December, 1990. Committee members were identified and trained. The process began well in advance of operating the first building because the system was deemed necessary to resuming operations safely.

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#### SENIOR REVIEW BOARD

The SRB is required by the OSRs and governed by established plant procedures. It is composed of the highest level of management in the company that reports directly to the General Manager. Organizations represented include Facility Operations, Engineering, Safety Safeguards and Security, and Performance-Based Training among others. Members external to EG&G may be designated by the General Manager. The purpose of the SRB is to provide oversight of the operation of the ISR system and perform appraisals of numerous activities including proposed changes to plant safety policy, facility operational compliance with the aforementioned DOE orders, and implementation of the ISR system. This is done through annual and triennial appraisals. The SRB advises the General Manager on these matters, on implementation of Final Safety Analysis Reports (FSAR) and OSRs, and on the safety of workers, the public, and the environment.

Subcommittees may be used to assist the SRB. Currently the Nuclear Criticality Safety Committee provides annual appraisals of all operations involving fissile material. An Independent Radiological Oversight Committee is being reconstituted.

#### OPERATIONS REVIEW COMMITTEES

The focal point of the ISR is the Operations Review Committee. Its main mission is to independently determine whether a proposed activity involves an unreviewed safety question. Five committees have been established to review a specific facility or a type of operation consisting of several similar facilities. A Site ORC has also been established to review multi-facility (or multi-ORC) procedures and programs. All committees advise line management as required by the OSRs and established procedures. Specific items requiring review are: proposed facility modifications or experiments having safety significance; administrative, operating, maintenance, testing, quality assurance and emergency procedures; OSRs, FSARs, and RFP Standards; criticality safety operating limits; and incidents or accidents involving significant safety problems and selected occurrence reports. The ORC membership consists of trained and qualified senior staff from operations and support organizations representing an interdisciplinary mix of expertise. To ensure that safety considerations are treated in the depth and breadth necessary to identify potential hazards and to evaluate the risks, the ORC may request assistance from subcommittees or technical specialists.

#### INDEPENDENT AND COMMITMENT REVIEW

The ICR organization provides the ORC chairmen and technical review and administrative support staff for the ORCs and the SRB. ICR also assures consistency amongst the various ORCs, verifies program implementation and provides oversight of training and qualifications of ORC members.

#### EVALUATION

An assessment of the RFP ISR system based on criteria within the DOE Orders, commercial nuclear industry guidance, and best management practices, indicates that an excellent basis for plant-wide review has been established. Weaknesses in management oversight of the system, training of the members of and presenters to the ORC, and administration of the system are being addressed.

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