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CHAPTER 12  
CONDUCT OF OPERATIONS

12.1 ORGANIZATION AND RESPONSIBILITY

Operation and maintenance of the Indian Point Unit 2 facility is the responsibility of the Entergy Nuclear organization. The management organization and functional responsibilities as they relate to the operation and maintenance of the Indian Point facility are discussed in Section 1.10.3 and in the Quality Assurance Program Manual (QAPM).

12.1.1 Facility Staff

The corporate officer with direct responsibility for the plant shall be responsible for overall facility activities and shall delegate in writing the succession to this responsibility during his absence.

The General Manager, Plant Operations is responsible for overall unit safe operation and has control over those onsite activities necessary for safe operation and maintenance of the plant.

The facility organization, duty shift composition, control room occupancy, and other requirements for reactor operational and refueling personnel are in accordance with the Technical Specifications.

A fire brigade is maintained on the site at all times. The organization, operation and training of the fire brigade is discussed in the document under separate cover entitled, "IPEC Fire Protection Program Plan."

12.1.2 Facility Staff Qualifications

Each member of the facility staff meets or exceeds the minimum qualifications of ANSI / ANS-3.1-1978 as discussed in the Quality Assurance Program Manual.

TABLE 12.1-1  
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12.1 FIGURES

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Figure 12.1-1	Deleted
Figure 12.1-2	Deleted

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## 12.2 TRAINING

A retraining and replacement training program for the facility staff is maintained under the direction of the Nuclear Training Manager and meets or exceeds the requirements and recommendations of Section 5.5 of ANSI / ANS-3.1-1978, 10 CFR Part 55 and the requirements of the Technical Specifications.

Other areas of operator training are included in the overall plant training program. These specific areas are the training or retraining of plant personnel on specific procedures in accordance with the TMI Lessons Learned implementation schedule and the modification of reactor operator qualifications relating to experience and training. Details of these additional areas of training are included in References 1 and 2.

The training program for the fire brigade is described in the document under separate cover entitled, "IPEC Fire Protection Program Plan."

An emergency plan training program is maintained to cover licensee and non-licensee individuals or groups assigned to the various functional areas of emergency activity.

Radiation protection training is given to personnel requiring unescorted access to controlled areas of the plant.

The initial and requalification training programs for reactor operators and senior reactor operators include instruction in heat transfer, fluid flow, thermodynamics, and mitigation of accidents involving a degraded core as required by NUREG-0737.

Operating personnel from the General Manager, Plant Operations through the operations chain to the reactor operators and Shift Technical Advisors receive training in the use of installed systems to control or mitigate accidents that severely damage the core as required by NUREG-0737.

Training requirements for the security force are set forth in the "Security Force Training and Qualification Plan, Indian Point Units 1 and 2."

### REFERENCES FOR SECTION 12.2

1. Letter from P. Zarakas, Con Edison, to H Denton, NRC, Subject: Actions Taken To Comply With 30 Day Requirement in the NRC Confirmatory Order of February 11, 1980, dated March 11, 1981.
2. Letter from J. D. O'Toole, Con Edison, to D. G. Eisenhut, NRC, Subject: RC Interim Staffing Criteria, dated January 7, 1981.

## 12.3 WRITTEN PROCEDURES

Written procedures and administrative policies are established, implemented, and maintained in accordance with the Quality Assurance Program Manual (QAPM).

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12.3.1 Emergency Operating Procedures

Emergency operating procedures (EOPs) in use at Indian Point 2 were systematically developed through a program, which included phases of validation, verification, training and operator feedback. This program met the requirements of NUREG-0737 and utilized the guidance of NUREG-0899, NRC Standard Review Plan 13.5.2, and the Westinghouse Owners Group (WOG) Emergency Response Guidelines. These generic WOG Emergency Response Guidelines were evaluated by the NRC in a December 26, 1985 Supplemental Safety Evaluation Report<sup>1</sup>. The resulting EOPs are symptom oriented and based upon acceptable technical guidelines derived from approved analyses of transients and accidents. Implementation of the procedure development program included analyses of the operator's tasks to identify the instrumentation and controls necessary for the operator to perform the functions specified in the technical guidelines. A writer's guide ensured a consistent method of preparing EOPs to satisfy objectives of being usable, accurate, complete, readable and acceptable to control room personnel. Validation and verification assured they are technically correct and usable, follow the writer's guide, correspond to the control room and plant hardware, and are compatible with the minimum number, qualifications, training and experience of the operating staff. The training and operator feedback phases resulted in the understanding by the operators of the philosophy behind the approach to the EOPs, their mitigative strategy and technical bases. These phases also ensured that the operators are capable of executing the EOPs under expected conditions. EOP training program includes guidance against misuse or misapplication of the EOPs during normal operating events.

In accordance with NRC Generic Letter 82-33, Supplement 1 to NUREG-0737 and NUREG-0899, each licensee is required to have plant specific Procedures Generation Package (PGP) for preparing, implementing and maintaining upgraded Emergency Operating Procedures (EOPs). The PGP is to embody the programmatic elements of the EOP maintenance program including plant specific technical guidelines, a writer's guide, the verification and validation programs, the EOP training program, and maintenance of the EOPs consistent with updated generic WOG Emergency Response Guidelines. Con Edison described the Indian Point Unit No. 2 PGP processes and procedures in submittals to the NRC<sup>2,3</sup>. The NRC provided their review and recommendations by NRC Safety Evaluation dated October 16, 1989<sup>4</sup>.

REFERENCES FOR SECTION 12.3

1. Letter from T. Novak (NRC) to D. Butterfield (WOG) dated December 26, 1985 forwarding "Supplemental Safety Evaluation Report by the Office of Nuclear Reactor Regulation in the Matter of Westinghouse Owners Group Emergency Response Guidelines".
2. Letter from J. O'Toole (Con Edison) to D. Eisenhut (NRC), dated June 4, 1984
3. Letter from M. Selman (Con Edison) to Document Control Desk (NRC), dated February 11, 1987
4. Letter from D. Brinkman (NRC) to S. Bram (Con Edison) dated October 16, 1989 forwarding "Safety Evaluation Regarding the Procedures Generation Package for Indian Point Unit 2 (TAC No. 44309)."

## 12.4 RECORDS

Records concerning facility operations are maintained in the form of logbooks, charts, and other such internal reports as may be needed to document pertinent operating conditions. The principal logs to be maintained are those in the central control room, in the senior watch supervisor's office, by the shift chemist, and by the shift health physics technician. These logs include descriptions of the operating conditions that exist at the time, descriptions of significant operational efforts accomplished during the shift, and such operating events or circumstances as are deemed pertinent to maintain proper continuity of knowledge and understanding of such matters as responsibility in those areas is passed on from shift to shift.

A record of radiation safety conditions, internal and environmental, is maintained in the form of appropriate log entries, and continuous recording chart information in those functional systems and areas provided with radiation survey instruments. In addition, Radiation Work Permit survey information provides the necessary record of radiation exposure conditions prior to job commencement. Actual personnel radiation exposure information is maintained. Records of controlled radiation releases to the environment are maintained by the station chemical and health physics groups, and all necessary information describing specific radioactivity concentrations, total volumes released, along with any dilution requirements, are entered on the Radioactive Waste Release Permit prepared for each release.

All abnormal occurrences that occur during the course of facility operations are recorded in the senior watch supervisor's logbook and, where appropriate, in the logbooks maintained by the licensed operator in the main control room, the shift chemist, and the shift health physics technician.

Plant modification records (e.g., procedures, drawings, specifications) are maintained on file.

Detailed records of total uranium, U-235, Pu-239, and Pu-241 for all fuel in use or in storage are maintained. Records of fuel transfers are maintained via proper execution of NRC forms. Specific locations for all fuel assemblies in the reactor core or in the fuel storage pools are maintained on appropriate core or fuel storage pool arrangement drawings.

Record maintenance and retention is in accordance with the requirements of the Quality Assurance Program Manual (QAPM). Records are maintained on paper, microfilm/aperture cards, or optical disk storage media. Procedures for maintenance of optical disk records comply with the guidance of NRC Generic Letter 88-18 "Plant Record Storage on Optical Disks."

## 12.5 REVIEW AND AUDIT OF OPERATIONS

Matters such as design changes to the facility which require a license amendment, changes to operating procedures, or changes to the Technical Specifications, are conducted in accordance with the requirements of 10 CFR 50 and the Quality Assurance Program Manual (QAPM). To assist in this function, Entergy has chartered two committees specifically for the review of safety-related items. These committees (i.e., the On-Site Safety Review Committee and the Safety Review Committee) function in accordance with the requirements of the Quality Assurance Program Manual (QAPM).

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A continuing review of facility operations is performed by the station operating staff and at the executive level.

12.5.1 On-Site Safety Review Committee (OSRC)

The On-Site Safety Review Committee functions to advise on all matters related to nuclear safety in accordance with the requirements of the Quality Assurance Program Manual (QAPM).

12.5.2 Safety Review Committee (SRC)

The Safety Review Committee functions to provide independent review and audit of designated activities and plant operations in accordance with the requirements of the Quality Assurance Program Manual (QAPM).

12.5.3 Qualification of Inspection, Examination, Testing, and Audit Personnel

Entergy's commitments and exceptions related to the qualification of inspection, examination, testing, and audit personnel are described in the Quality Assurance Program Manual (QAPM).

REFERENCES FOR SECTION 12.5

1. Letter from Con Edison to NRC, Subject: Con Edison Response to Generic Letter 81-01, dated July 31, 1981.
2. Letter from S.A. Varga, NRC, to J.D. O'Toole, Con Edison, Subject: NRC Review of Con Edison's Response to Generic Letter 81-01, dated September 27, 1982.

12.6 PLANT SECURITY

The program for ensuring the physical security of the Indian Point Unit 2 station has been reviewed by the NRC and found acceptable. The fully implemented security plan provides the protection needed to meet the general performance requirements of 10 CFR 73.55(a) and the objectives of the specific requirements of 10 CFR 73.55, paragraphs (b) through (k), without impairing the ability to operate the plant safely. The approved plant security program, titled "Indian Point, Physical Security, Training and Qualification, Safeguards Contingency Plan, and Independent Spent Fuel Storage installation Security Program", is addressed in the facility operating license. The approved security plan documents and the NRC Security Plan Evaluation Report have been withheld from public disclosure pursuant to 10 CFR 2.390(d).

Access to Indian Point Unit 1, 2 and 3 areas for all persons is controlled under approved procedures administered by the Station Security Department.

REFERENCES FOR SECTION 12.6

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12.7 EMERGENCY PREPAREDNESS

12.7.1 Emergency Plan

In accordance with 10 CFR 50.54(q), the Indian Point Energy Center (IPEC) Emergency Plan (Plan) outlines the basis for response actions that would be implemented in an emergency. Detailed Plan implementing procedures are maintained separately and used to guide those responsible for implementing emergency actions. This plan documents the methods by which IPEC's Emergency Preparedness Program meets the criteria set forth in 10 CFR 50.47(b) and Appendix E.

12.7.2 Emergency Response Facilities

The emergency response facilities concept is part of the implementation plan for Supplement 1 to NUREG-0737, "Requirements for Emergency Response Capability," as requested by Generic Letter 82-33.

The Emergency Operations Facility provides for the management of overall emergency response, coordination of radiological and environmental assessments, and determination of recommended public protective actions. An alternate Emergency Operations Facility is located outside of the 10-mile emergency planning zone.

The Joint Information Center is a separate facility located at the Hudson Valley Transportation Management Center in Hawthorne, N.Y. The Joint information Center will be used for information dissemination to the public via the news media.

The Technical Support Center is an onsite facility located adjacent to the control room that would provide plant management and technical support to the reactor operating personnel located in the control room during emergency conditions.

The Operations Support Center is an onsite area, separate from the control room and the Technical Support Center, where support personnel would assemble in an emergency.

In developing the facilities, NRC guidance in regard to facilities, location, space requirements, environmental control, radiological monitoring, reliable communications, site status data, records, and staffing was taken into consideration.

The emergency response facilities became fully functional on March 8, 1983. Their functional capability was initially demonstrated on March 9, 1983, at a full-scale Federal Emergency Management Agency exercise.

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