

Enclosure (2)

SHIFT TECHNICAL ADVISOR PROGRAM:

MAINE YANKEE ATOMIC POWER COMPANY

8101120253

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SECTION 1

Duties and Responsibilities of Shift Technical Advisor

A. Discussion.

The NRC's Lessons Learned Task Force recognized the need to provide additional technical personnel to support the plant operating staff in response to off-normal events and for ongoing evaluation of operating experience. The Shift Technical Advisor (STA) will be tasked with fulfilling this need for technical support in accident assessment. The principal role of the STA will be to provide independent, objective, technical evaluation of all phases of plant operation with a dedicated concern for the safety of the plant.

B. Duties.

1. During assigned tour of duty be cognizant of plant and equipment status by conducting routine and special inspections of the plant facility and plant activities noting any off-normal or deleterious conditions that should be corrected and as appropriate, advise the applicable supervisor.

2. Maintain qualifications as a Shift Technical Advisor in accordance with the Maine Yankee Shift Technical Advisor Program.

3. Maintain independence from normal commercial plant operations as necessary to make objective evaluations of plant operations and to advise or assist plant supervision in correcting conditions that may compromise the safety of operations.

4. Be readily available either off-site or on-site, capable of being in the Control Room within 10 minutes of notification by the plant operating staff.

C. Responsibilities.

1. Provide advice and recommendations to the Plant Shift Superintendent regarding plant status and activities as they relate to plant safety.

2. Act in an assessment function during off-normal conditions to provide recognition of unusual situations and provide advice for dealing with the conditions to assure the safety of the plant.

3. Perform periodic random review of the status of the plant and safety systems.

4. Perform an early review of the planned activities for the upcoming shift to ascertain whether special considerations or precautions are warranted and make appropriate recommendations to the Plant Shift Superintendent.

5. During emergencies be observant of critical parameters, ascertain that there is adequate core cooling including availability of a heat sink for the coolant system, and in the event that critical parameters become unavailable, perform calculations or through other means determine approximate values for the parameters in question.

6. Make a qualitative assessment of plant parameters during and following an accident in order to ascertain whether core damage has occurred.

7. Investigate the cause(s) of abnormal or unusual events occurring on assigned shift and assess any adverse affects therefrom. Recommend changes to procedures or equipment as necessary to prevent recurrence.

8. Fulfill responsibilities assigned by the Plant Emergency Plan.

9. Monitor key parameters and safety system status and assist the Plant Shift Superintendent in determining corrective actions whenever degraded conditions exist.

SECTION 2

Qualification and Requalification Requirements for the position of Shift Technical Advisor at Maine Yankee Atomic Power Company.

A. General.

The individual who provides advanced technical assistance to the operating shift complement during normal and abnormal operating conditions must be competent to do so. This competence entails:

1. An indepth understanding of nuclear plant equipment, systems, and operating practices.
2. Well developed analytical skills and the ability to make sound judgement under stressful conditions.
3. Dependability, stability, and trustworthiness.

B. Selection Criteria.

Any candidate for entry into the Shift Technical Advisor Qualification Program must meet the following standards:

1. MEDICAL: The candidate must meet the standards established for reactor operators.
2. TRUSTWORTHINESS: Meet all requirements of the Maine Yankee security plan for unescorted access to the plant.
3. EXPERIENCE: Six (6) months of Nuclear Power Experience.
4. EDUCATION: Possess a Bachelor Degree or equivalent in a scientific or engineering discipline.

C. Initial Qualification.

To demonstrate competence to perform the duties of a Shift Technical Advisor, an individual, in addition to satisfying the selection criteria, shall possess, upon certification, the following qualifications and have satisfactorily completed the following training:

1. EXPERIENCE: A total of nine (9) or more months of nuclear power plant experience of which six (6) months shall be at the Maine Yankee Atomic Power Plant.

2. EDUCATION: Additional college level coursework necessary to meet the generally accepted engineering/academic standards for nuclear power plant personnel in the following areas:

- a. Mechanics
- b. Reactor Theory
- c. Thermal Sciences
- d. Electrical Sciences
- e. Nuclear Instrumentation and Control
- f. Nuclear Radiation Protection and Health Physics

3. TRAINING:

Completed the Shift Technical Advisor Qualification Program outlined in Section 3.

4. CERTIFICATION: The competency of each candidate to provide advanced technical assistance to the operating shift complement to insure personnel, environment, and plant safety during normal and abnormal operating conditions shall be certified by the Manager of Operations prior to the appointment as a Shift Technical Advisor.

D. Annual Requalification Requirements.

In order to retain certification as a Shift Technical Advisor an individual must demonstrate to the Manager of Operations his/her continued competency by satisfactory completion of the annual requalification program.

Individuals previously qualified but not functioning as a Shift Technical Advisor for six (6) months or longer will undergo training adequate to re-establish qualification prior to reassuming the responsibilities of the position.

SECTION 3

Shift Technical Advisor Qualification Program

The Shift Technical Advisor Qualification Program will consist of college level fundamentals and plant specific training.

A. College level fundamentals.

Each candidate entering the Qualification Program will be interviewed and their college transcript reviewed for coursework which corresponds with the education requirements outlined in Section 2.C.2. Based upon this interview, an individual program will be developed utilizing one or a combination of inhouse resources, on campus studies, videotapes, contractor and correspondence courses to complete the required fundamental coursework.

B. Plant Specific Training.

This training will be two to four months duration based upon the plant experiences of the candidate and will cover the following topics:

1. Plant Systems
2. Technical Specifications and Administrative Limits
3. General, Emergency, and Casualty Procedures
4. Transient and Accident Analysis
5. Applied Fundamentals (plant specific)
6. Management/Supervisory Skills
7. Simulator Training - exercises on a simulator of normal and abnormal events, transients, emergencies, and the expected role of the Shift Technical Advisor in these events. A list of typical events to be covered is shown as Attachment A.

SECTION 4

Annual Shift Technical Advisor Requalification Program

A. The annual retraining course shall consist of a three part program as outlined below:

1. Accident assessment - a review of transient and accident analysis with emphasis on the role of the Shift Technical Advisor in accident assessment. Selected industry events, Licensee Event Reports, and Plant Information Reports that could have led to more serious incidents will be analyzed as case studies.

2. Fundamentals Review - a review of topics from the initial qualification program.

3. Simulator exercises - a review on a simulator of normal and abnormal evolutions, transients, emergencies and the expected role of the Shift Technical Advisors in these events. A list of typical events to be covered is shown as Attachment A.

B. The retraining efforts shall consist of training equivalent to forty (40) hours per year for the preplanned lectures and exercises and forty hours of training at a simulator facility every two years.

Attachment A

PWR Simulator Typical Exercises

Reactor and Plant Startup
Load Changes at Power
Shutdown to Cold Condition
Demonstration of Steam Generator Level Manual Control
Load Rejections of Greater than 10%
Failure of Rod Control System
Failure of Automatic Steam Generator Level Controls

Failure of Pressurizer Level and Pressur Automatic Controls
Turbine Trip from Full Power
Reactor Trip from Full Power
Loss of Normal Feedwater at Full Power
Failure Open of Power Operated Relief Valve
Stuck Open Pressurizer Safety Valve
Loss of Reactor Coolant Pumps at Full Power and Demonstration of Natural Circulation
Failure Open of One or More Turbine Bypass Valves While at a) Full Power
b) Hot Standby
Loss of All Feedwater (normal and emergency)
Loss of Reactor Coolant (small and DBA)
Steam Generator Tube Rupture (small and large)
Loss of RHR Shutdown Cooling with the RCS Temperature 200° to 300°F
Inadvertent Safety Injection While at Power
Loss of Offsite Electrical Power
Loss of One Train of Onsite Electrical Power