PROPOSED CHANGES TO THE TECHNICAL SPECIFICATIONS

The following changes are proposed to bring continuity to the time interval between surveillance checks and the minimum qualifications for the Radiological Control Officer.

pg. 20 item 4.2.c.1	Change 14 months to 15 months
pg. 20 item 4.2.c.2	Change 14 months to 15 months
pg. 21 item 4.2.d	Change 7 months to 7½ months
pg. 21 item 4.2.e	Change 14 months to 15 months
pg. 23 item 4.4.b	Change 7 months to 7½ months
pg. 23 item 4.4.c	Change 7 months to 7½ months
pg. 23 item 4.4.d	Change 14 months to 15 months
pg. 29 item 6.1.5	Change the last sentence to the following:

Minimum qualifications for the Radiological Control Officer (RCO) is a bachelor's degree or the equivalent in a science or engineering subject, including some formal training in radiation protection. The RCO should have at least five years of professional experience in applied radiation protection. A master's degree may be considered equivalent to one year of professional experience, and a doctor's degree equivalent to two years of professional experience where course work related to radiation protection is involved. At least three years of this professional experience should be in applied radiation protection work in a nuclear facility dealing with radiological problems.

4.2 Reactor Safety System

Applicability

This specification applies to the surveillance of the reactor safety system.

Objective

The objective is to assure that the reactor safety system is operable as required by Specification 3.2.

Specification

a. A channel test of each of the reactor safety system channels listed in Table III shall be performed prior to each reactor startup following a shutdown in excess of 8 hours or if they have been repaired or de-energized.

TABLE III.

SAFETY SYSTEM CHANNELS CHECKED AFTER PROLONGED SHUTDOWN

Log Count Rate (startup channel)

Log N-Period

Linear Level

Safety Channel

b. A channel check of each of the reactor safety system measuring channels in use or on scale shall be performed approximately every four hours when the reactor is in operation.

c. A channel calibration of the reactor safety channels shall be performed as follows:

1. An electronic calibration will be performed at intervals not to exceed 15 months.
2. A power calibration by foil activation will be performed at intervals not to exceed 15 months.

d. The operation of the radiation monitoring equipment shall be verified

daily during periods when the reactor is in operation. Calibration of these monitors shall be performed at intervals not to exceed 7½ months

e. Shim-safety rod drop times will be measured annually, but at intervals not to exceed 15 months. These drop times shall also be measured prior to operation following maintance which could affect the drop time or cause movement of the shim-safety rod control assembly.

Bases

A test of the safety system channels prior to each startup will assure their operability, and annual calibration will detect any long-term drift that is not detected by normal intercomparison of channels. The channel check of the neutron flux level channel will assure that changes in core-to-detector geometry or operating conditions will not cause undetected changes in the response of the measuring channels.

Area monitors will sound an alarm when they sense they are not operating correctly. In addition, the operator routinely records the readings of these monitors and will be aware of any reading which indicates loss of function.

The area monitoring system employed at the PUR-1 has exhibited very good stability over its lifetime, and semi-annual calibration is considered adequate to correct long-term drift.

The measured drop times of the shim-safety rods have been consistent for 14 years since the PUR-1 was built. An annual check of this parameter is considered adequate to detect operation with materially changed drop times. Binding or rubbing caused by rod misalignment could result from maintenance; therefore, drop times will be checked after such maintenance.

4.4 Containment

Applicability

This specification applies to the surveillance requirements for maintaining the integrity of the reactor room and fuel clad.

Objective

The objective is to assure that the integrity of the fuel containment is maintained.

Specification

a. The negative pressure of the reactor room will be recorded weekly.

b. Operation of the inlet and outlet dampers shall be checked at intervals not to exceed 7½ months.

c. Operation of the air conditioner shall be checked at intervals not to exceed 7½ months.

d. Representative fuel plates shall be inspected at intervals not to exceed 15 months.

Bases

Specification a, b, and c check the integrity of the reactor room, and d the integrity of the fuel clad. Based upon past experience these intervals have been shown to be adequate for insuring the operation of the systems affecting the integrity of the reactor room and fuel clad.

4.5 Experiments

Applicability

This specification applies to the surveillance of limitations on experiments.

Objective

The objective is to assure that the radioactive material content of experiments does not exceed the limits of parts f and g of specification 3.5.

may be fulfilled by related academic or technical training on a one-for-one time basis.

c. Licensed Operator - At the time of appointment to the active position, an operator shall have a high school diploma or equivalent.

d. Operator Trainee - An operator trainee shall have all the qualifications to become a licensed operator except for possessing an operator's license.

6.1.5 A Radiological Control Officer who is organizationally independent of the PUR-1 operations group shall advise the Reactor Supervisor in matters concerning radiological safety. Minimum qualifications for the Radiological Control Officer (RCO) is a bachelor's degree or the equivalent in a science or engineering subject, including some formal training in radiation protection. The RCO should have at least five years of professional experience in applied radiation protection. A master's degree may be considered equivalent to one year of professional experience, and a doctor's degree equivalent to two years of professional experience where course work related to radiation protection is involved. At least three years of this professional experience should be in applied radiation protection work in a nuclear facility dealing with radiological problems.

6.1.6 A licensed operator (LO) or licensed senior operator (LSO) pursuant to 10 CFR 55 shall be present at the controls unless the reactor is shut down as defined in these specifications. During training operations an unlicensed operator may operate the controls but only under the direct supervision of an LO or an LSO.

6.1.7 An LSO shall be present or readily available on call at any time that the reactor is operating.

6.1.8 The identity of, and method for rapidly contacting, the licensed senior operator on duty shall be known to the reactor operator at any time that the reactor is operating.

6.1.9 The presence of an LSO shall be required at the reactor facility during recovery from unplanned or unscheduled shutdowns except in instances which result from the following:

a. A verified electrical power failure or interruption exclusive of internal power supply failures or interruption of the reactor instrumentation, control, and safety systems;

b. Accidental manipulation of equipment in a manner which does not affect the safety of the reactor;

c. A verified practice or evacuation of the building initiated by persons exclusive of the reactor.

The LSO shall be notified of the shutdown and shall determine its cause. If due to one of the enumerated reasons above, he shall decide if his presence is necessary for a subsequent start up.

6.1.10 The presence of an LSO at the reactor facility is unnecessary for the initial daily start up, provided the core remains unchanged from the previous run.

6.1.11 The minimum crew for operating the reactor shall consist of 2 (two) persons, one of which must be a licensed member of the PUR-1 operations group. The unlicensed crew member must be instructed as to how to shut down the reactor in the event of an emergency.

6.1.12 During fuel changes and movement of large bulk experiments, an LSO will be present in the reactor room.

6.1.13 The Reactor Supervisor or his designated alternate shall be responsible for the facility retraining and replacement training program.