

ATTACHMENT A

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2.0 LIMITING CONDITIONS FOR OPERATION

2.12 Control Room Systems

Applicability

Applies to the control room air conditioning and filtering systems.

Objective

To limit the environmental conditions in the control rooms, under normal and post DBA conditions.

Specifications

- (1) If the control room air temperature reaches 120°F, immediate action shall be taken to reduce this temperature. If the temperature cannot be reduced to below 120°F in four hours, the reactor will be placed in a hot shutdown condition.
- (2) A thermometer must be in the control room at all times.
- (3) All areas of the plant which have safety related instrumentation will be observed during hot functional testing to determine local temperatures and monitored during operation if normal plant ventilation is not available.
- (4) From and after the date that the control room air treatment system is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days unless such circuit is sooner made operable. If these conditions cannot be met, the reactor shall be placed in cold shutdown condition within 24 hours.

Basis

The reactor protective system and the engineered safeguards system were designed for and the instrumentation was tested at 120°F. Therefore, if the temperature of the control room exceeds 120°F, the reactor will be shutdown and the conditions corrected to preclude failure of components in an untested environment.

If the control room air treatment system is found to be inoperable, there is no immediate threat to the control room and reactor operation may continue for a limited period of time while repairs are being made. If the system cannot be repaired within seven (7) days, the reactor is shutdown and brought to cold shutdown within 24 hours.

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- (2) A thermometer must be in the control room at all times.
- (3) All areas of the plant which have safety related instrumentation will be observed during hot functional testing to determine local temperatures and monitored during operation if normal plant ventilation is not available.
- (4) From and after the date that the control room filtered air treatment system is made or found to be inoperable for any reason, reactor operation is permissible only during the succeeding seven days unless such circuit is sooner made operable. If these conditions cannot be met, the reactor shall be placed in cold shutdown condition within 24 hours.
- * (5) For one time only, from and after the date that the control room filtered air treatment system is made inoperable for new system tie-ins, reactor operation is permissible only during the succeeding twenty-five days. If these conditions cannot be met, the reactor shall be placed in cold shutdown condition within 24 hours.
- * This LCO is valid for one use only, upon notification of the NRC that we have entered this LCO.

Basis

The reactor protective system and the engineered safeguards system were designed for and the instrumentation was tested at 120°F. Therefore, if the temperature of the control room exceeds 120°F, the reactor will be shutdown and the conditions corrected to preclude failure of components in an untested environment.

If the control room filtered air treatment system is found to be inoperable, there is no immediate threat to the control room and reactor operation may continue for a limited period of time while repairs are being made. If the system cannot be made operable within seven (7) days (* 25 days for item 5), the reactor is shutdown and brought to cold shutdown within 24 hours.

ATTACHMENT B

Discussion
Justification and No Significant
Hazards Consideration

The proposed change to Technical Specifications Section 2.12, page 2-59 is required to allow final tie-ins of the new control room air treatment system under modification MR-FC-87-20. This is a request for a one time only change to the Limiting Conditions for Operation (LCO).

The Omaha Public Power District is currently completing modifications of the Control Room Air Treatment System at the Fort Calhoun Station. These modifications will bring the Fort Calhoun Station into compliance with NUREG 0737, Item III.D.3.4. To complete the modification, the existing charcoal filter must be removed from service for a period of time estimated to be fourteen to fifteen days to allow final connection of the new redundant filter trains. Significant efforts have been made to reduce this interval including prefabrication, 24 hour work coverage, and scheduling to maximize use of manpower.

The current Technical Specifications (TS's) allow for continued reactor operation for a period of seven days if the existing filter unit is found or made to be inoperable. This allows time for corrective action in the event of inoperability. This proposed temporary change will modify the LCO time limit from 7 days to 25 days to allow for the above described final tie-ins, including a 10 day margin for unforeseen problems. Conditions for exiting the modified LCO include successful completion of duct leak testing, acceptance testing of one filter unit, functional testing of dampers and instrumentation, and plant operability acceptance of one filter unit.

Only one new filter unit will be made operable during the modified LCO to reduce the amount of required work which, in turn, reduces the LCO duration. One new filter unit will have greater iodine removal efficiency (99 percent) than the existing filter unit (90 percent) and thus, will not reduce the margin of safety of the system. The second new filter unit will be made operable following electrical tie ins and functional testing to be completed after exiting the modified LCO. This is necessary since installation of new control wiring in the existing control panels requires rendering the associated air conditioning unit inoperable. One control panel is taken out of service at a time to allow continued Control Room air conditioning capability. All tie-in duct work will be installed after entering the modified LCO, which will connect both filter trains into the system, however only one filter unit will be made operable. The second filter unit will remain isolated via bubble tight isolation dampers until functional testing and then isolated again until plant operability acceptance. Functional testing of the second filter unit will not degrade, or render the operating new filter unit inoperable.

No Significant Hazards Consideration

This proposed amendment does not involve a significant hazard consideration because the operation of Fort Calhoun Station in accordance with this amendment would not:

1. Involve a significant increase in the probability or consequence of an accident previously evaluated.

Rendering the existing filter unit inoperable and operating the reactor for 25 days while final tie-ins and acceptance tests of one of the new filter units are completed will not impact the probability of any accident previously evaluated. The Technical Specifications allow an outage of 7 days for the control room air treatment system. These allowed outages could result in many weeks of system down time in a year time period. These TS's requirements do not limit risk since they do not restrict total system outage time. The proposed 25 day continuous system outage, therefore, presents no more risk than several TS's limited outages totaling 25 days. Replacing the existing single filter unit with higher efficiency redundant units will improve the reliability such that the potential future outages are reduced and a net improvement in safety is realized.

Source term data extracted from control room operator dose calculations were used as a basis for determining the appropriate compensatory measures to be taken when the existing filter unit is rendered inoperable. Specifically, the data used was the radioiodine concentrations in the containment building which are totally independent of the control room air treatment system.

This data shows that the radioiodine concentrations in the containment building become negligible approximately eight hours following initiation of a large break LOCA. The concentrations decline due to radioactive decay and the containment recirculation filtration system. In addition, the pressure spike following the break, which is the driving force for the containment leakage, will have decayed to almost atmospheric pressure.

Since the control room will be operating in the 100 percent internal recirculation mode during the period when the existing filter is disabled, no credit is taken for positive pressure, envelope integrity, or control room air filtration. Therefore, the only protection would be that afforded by SCBA's.

During the time when the existing filter is disabled, the control room iodine monitor (RM-065) will be operated continuously. In addition, a back-up Particulate, Iodine and Noble Gas (PING) monitor will be placed in the control room for use should RM-065 fail or if it becomes necessary to change out the sample canister in RM-065. Thus, the control room atmosphere will be constantly monitored for radioiodine precluding the possibility of an undetected increase in radioiodine.

Should RM-065 or the PING monitor alarm, operating instruction OI-PAP-9 ("Procedure for Post Accident Monitoring of Radioiodine in Occupied Areas") will be implemented to determine the actual radioiodine concentration in the control room. This is an existing plant procedure which utilizes a Stabilized Assay Meter (SAM-2) monitor located in the TSC. A trained SAM-2 operator (Shift HP) is always on site should the need arise to implement OI-PAP-9. OI-PAP-9 is included in emergency plan training for Chemistry and Health Physics technicians.

RM-065 is a continuous air monitor which utilizes a sample cartridge to collect radioiodine. This monitor is equipped with a NaI detector, single channel analyzer, and a rate meter. The monitor detects an increased count rate due to radioiodine buildup in the sample canister and alarms at a rate of rise of 1190 CPM in a one hour period which corresponds to approximately 25 percent of one MPC. RM-065 is calibrated once per cycle and was last calibrated January 23, 1989.

The PING monitor is also a continuous air monitor that operates on the same principle as RM-065. Calibration of the PING monitor will be verified and it will be placed in the control room envelope prior to entering the LCO.

The SAM-2 monitor is used to determine iodine concentration in a silver zeolite canister. The sample canister is placed in a RADeCo air sampler and allowed to collect a sample for 70 seconds. The canister is then removed and counted with the SAM-2. This process takes approximately 20-30 minutes to complete.

Calibration and availability of the SAM-2 will be verified prior to disabling the existing control room filter unit. The SAM-2, RADeCo sampler, and sample canisters are stored in the TSC, where the counting operation would take place.

There are six SCBAs available in the control room for the five essential operators. Operability of these SCBAs is verified monthly per an existing plant surveillance test. There is a total of 73 SCBAs on site, 26 of which are stored in the respiratory protection trailer near the warehouse. There are currently 30 operator hours of air available on the turbine deck. With the filter unit disabled, a total of 8 hours of air for 5 operators requires 40 operator hours of air to be available. Thirty additional operator hours of air will be added to the turbine deck storage area during the time the extended LCO is entered. This will be completed as part of modification MR-FC-87-20. In addition, all essential operations personnel will be respirator qualified or prohibited from shift duty during the LCO period.

A random polling of the operators indicated that they felt comfortable with communications capability with SCBAs. This capability is also exercised as part of fire brigade training.

To ensure that all prerequisites to the LCO outlined herein are completed, a checklist will be prepared and submitted to the Plant Review Committee (PRC) for approval. Also, caution tags will be placed on all control room entry doors and RM-065 to ensure they remain functional for the entire duration of the LCO.

Other surveillance tests have been reviewed for impact on, or interference with this modified LCO and the work performed under the modification MR-FC-87-20. It has been determined that there are no required surveillance tests restrained by plant operating conditions dictated by this modified LCO or modification MR-FC-87-20.

The Toxic Gas Monitors will be out of service for work performed under MR-FC-87-20 and other unrelated calibration testing. The Technical Specification requirement of placing the control room in the 100 percent internal recirculation mode will be met. The toxic gas monitors will be placed in service prior to exiting the LCO to facilitate flow balancing of the new filtration system.

Therefore, it can be concluded that existing plant procedures and equipment, coupled with the special administrative controls, will provide sufficient compensatory measures to prohibit increasing the consequences of an accident for the control room operators as well as the general public.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated.

When the existing filter unit is disabled for final installation of the new filter units, no other safety related equipment will be degraded. Therefore, the only mechanism for creating a new or different kind of accident will be the action of disabling the filter unit. The existing filter unit is relied upon to mitigate the consequences of design basis accidents so as to maintain the control room in a habitable condition. Therefore, only the consequences of the existing design basis accidents for the control room are affected, which have been shown to not increase.

3. Involve a significant reduction in a margin of safety.

It has been shown in Item 1, above, that if the TS's LCO time limit is extended to 25 days for one time only, there would be adequate compensatory actions in place to protect the operators from radioiodine following a design basis accident. Should an accident occur during a standard seven day LCO, or the proposed modified 25 day LCO, the conditions or scenario of the accident would be identical.

The extended period exposes the plant operators to 18 more days of power operation, during which an accident could occur, however, control room habitability would be closely scrutinized during this time. In addition, the consequences of the loss of control room filter capability are reduced due to the installation of redundant 99 percent efficient units in place of the existing single 90 percent efficient unit. If the final tie-ins of the new filter units were not made until the 1990 refueling outage, the station would operate for approximately three months with the existing single lesser capacity filter train.

Therefore, based on the above considerations, Omaha Public Power District has determined that this change does not involve a significant hazards consideration.