



LOUISIANA
POWER & LIGHT

317 BARONNE STREET • P. O. BOX 60340
NEW ORLEANS, LOUISIANA 70160 • (504) 595-3100

March 21, 1989

W3P88-1258
A4.05
QA

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Technical Specification Change Request NPF-38-95

Gentlemen:

Please find attached proposed Technical Specification change request NPF-38-95 which divides Technical Specification 3/4.7.6 into four Specifications: 3/4.7.6.1 and 3/4.7.6.2 for the "Control Room Emergency Air Filtration System;" 3.7.6.3, "Control Room Air Temperature," and 3.7.6.4, "Control Room Isolation and Pressurization."

The proposed change clarifies the operability criteria for the various HVAC components servicing the Control Room. This change results from discussions with members of your staff concerning a revision to the bases of 3/4.7.6. The bases revision for 3/4.7.6 was approved on August 9, 1988.

Should you have any questions or comments on this matter, please feel free to contact Steven Farkas at (504) 464-3383.

Very truly yours,

R.P. Barkhurst
Vice President -- Nuclear

JGD:SEF:ssf

Attachments: NPF-38-95
Filing Fee, LP&L Check - \$150.00

cc: R.D. Martin, J.A. Calvo, D.L. Wigginton, NRC Resident Inspectors
Office, E.L. Blake, W.M. Stevenson, Administrator Nuclear Energy
Division (State of Louisiana), American Nuclear Insurers

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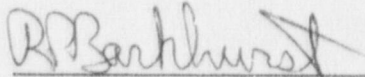
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of)
)
Louisiana Power & Light Company) Docket No. 50-382
Waterford 3 Steam Electric Station)

AFFIDAVIT

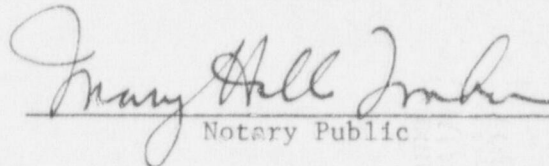
R.P. Barkhurst, being duly sworn, hereby deposes and says that he is Vice President -- Nuclear of Louisiana Power & Light Company; that he is duly authorized to sign and file with the Nuclear Regulatory Commission the attached Technical Specification Change Request NPF-38-95; that he is familiar with the content thereof; and that the matters set forth therein are true and correct to the best of his knowledge, information and belief.



R.P. Barkhurst
Vice President -- Nuclear

STATE OF LOUISIANA)) ss
PARISH OF ORLEANS)

Subscribed and sworn to before me, a Notary Public in and for the Parish and State above named this 21st day of March, 1989.



Notary Public

My Commission expires life.

DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGE NPF-38-95

This document justifies dividing Technical Specification 3/4.7.6, Control Room Air Conditioning System into separate specifications for the Control Room Air Conditioning System and the Control Room ESF Filtration System.

Existing Specifications

See Attachment A

Proposed Specifications

See Attachment B

Description

The proposed technical specification described here distinguishes between the independent functions of Control Room air conditioning and emergency air filtration. The specialized specifications accomplish the LCO and Surveillance revisions requested by the NRC in the approved temporary Bases 3/4.7.6 change (re W3P88-0907 dated March 28, 1988).

The Air Conditioning System, and the Emergency Filtration Units (S-8) are both designed and installed such that they can be operated together or separately as the situation dictates. The Air Conditioning System components are designed to cool and/or heat the Control Room Envelope while the Emergency Filtration Units are designed to remove radioactivity from the Control Room Envelope air. Unlike the majority of nuclear plants, Waterford Control Room Air Conditioning and Emergency Filtration Units are not functionally dependent on each other.

The HVAC system design allows a Control Room Air Handling Unit and Emergency Filtration Unit in opposite trains to be credited for system operability. In addition, the heating coils in each Control Room Air Conditioning ductwork only provide personnel comfort during normal operation (re FSAR 9.4.1.2.1). During emergency conditions, low temperatures in the service areas are of no concern; therefore, the heaters provide no safety function and are not required for system operability.

The functional design of the Control Room ventilation systems is based on the following (re: FSAR 6.4.1.1):

1. The Control Room environment is suitable for continuous occupancy during normal operation and extended occupancy throughout the duration of any one of the postulated accidents discussed in FSAR Chapter 15.

2. The radiation exposure to Control Room personnel, throughout the duration of any one of the postulated accidents discussed in FSAR Chapter 15, does not exceed the limits of General Design Criterion 19 of Appendix A to 10 CFR Part 50.
3. The Control Room Air Conditioning System is capable of automatic (SIAS and high radiation signal) and manual transfer from its normal operating mode to the pressurized or isolated modes, as necessary.
4. The Control Room ESF Filtration Units automatically start on a SIAS or high radiation signal (re: FSAR 6.4.3.3).
5. During a toxic gas emergency, the Control Room Air Conditioning System is automatically transferred to the emergency operation mode (re: FSAR 6.4.3.3). The toxic gas signal overrides the actions of either a SIAS or high radiation. No outside air is drawn into the Control Room Envelope during the toxic chemical emergency.
6. In the event of a fire in the Computer Room underfloor, the supply and return dampers D-62 and D-63 in the ducts serving the Computer Room are closed to prevent the spread of fire to other spaces in the Control Room Envelope. The Control Room can be purged of smoke using damper alignment and exhaust fan E-34.

According to FSAR 6.4.2.3, the Control Room Envelope leakage analysis showed a gross leakage rate of less than 0.06 volume changes per hour. Therefore, gross leakage is verified by periodic testing as described in Regulatory Guide 1.95 (dated February 1975). The Control Room Emergency Filtration system has provisions to filter air, drive moisture out of the charcoal filters, and meets Regulatory Guide 1.52 (dated June 1973) requirements (re: SRP 6.5.1.II; FSAR 6.5.1.1).

The Control Room Air Conditioning System consists of two full capacity redundant air handling units, designated AH-12 (3A-SA) and AH-12 (3B-SB), a Computer Room supplementary air handling unit designated AH-31(3), two toilet exhaust fans, each with 100 percent capacity, designated E-34 (3A-SA) and E-34 (3B-SB), and a Conference Room and Kitchen exhaust fan designated E-42(3) (re: FSAR 6.4.2.2). The Chilled Water System supplies the cooling coils in the AH-12 units. The AH-31(3) unit does not have a safety-related function.

Each AH-12 filter/cooler/fan-unit operates one-at-a-time, as chosen by the plant operator. An AH-12 chilled-water coil cools the drawn inlet air to approximately 55°F. Then, non-safety-related heaters, in the ductwork serving Control Room Envelope rooms, add enough heat to the air stream to keep the individual rooms between 70 and 75°F. Although 70-75°F defines the normal AH-12 control band, it is unnecessarily restrictive as an LCO. Further research revealed that, generally, Ebasco specified Control Room equipment for a temperature range of 45-120°F (e.g., LOU 1564.415, LOU 1564.415K, and LOU 1564.422). Also, we found during initial Technical Specification development that other plants (e.g., St. Lucie, SONGS) use 110-120°F as a high temperature specification for their equipment. As a result, a value of 110°F was chosen for the plant shutdown ACTION STATEMENT which provides a 10°F margin from the high end of the Control Room equipment design specification.

Maximum outside air make-up flow happens in the normal ventilation mode; however, it comprises only about 10% of an AH-12's air flow. Physics of this system shows outside air temperature has little affect on the AH-12's cooling coil heat load. Therefore, an AH-12's ability to maintain Control Room normal temperature, while in the normal ventilation mode, assures an AH-12's capability during emergency situations.

The Core Protection Calculator (CPC) micro-computers, relative to other Control Room electronics, may be sensitive to high room temperature, and corresponding administrative controls might seem to belong in any Control Room HVAC specification. However, instrumentation Surveillance 4.3.1.6 requires a CPC CHANNEL FUNCTIONAL TEST after a CPC Cabinet-Temperature Alarm. No further administrative controls are required.

Separately, two full capacity, redundant ESF air filtration units S-8 (3A-SA) and S-8 (3B-SB) assure radionuclide filtration following a design basis accident (re: FSAR 6.4.2.2). No cooling coils are provided in the S-8 units. S-8 heating coils assure proper charcoal filter operation.

The current single specification attempts to cover all HVAC trains associated with the Control Room Envelope. The Control Room Air Conditioning System, considered by the present specification, ensures that (1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system; and (2) the Control Room remains habitable for operations personnel during and following all credible accident conditions. This system, in conjunction with Control Room design provisions limits the radiation exposure to personnel occupying the Control Room to five REM or less -- whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criterion 19 or Appendix A, 10 CFR Part 50.

On January 9, 1988, LP&L removed the inlet damper to Control Room Ventilation Emergency Filtration Train A from service for maintenance. This necessitated declaring Train A inoperable. Later that day, LP&L removed Essential Chiller B from service due to a damaged start switch. The chillers provide cooling water to the Air Conditioning System components for temperature control of the Control Room Envelope. The S-8 units do not use the chillers. Plant operators, after reviewing the equipment out-of-service log and Technical Specification 3.7.6, entered Technical Specification 3.0.3. Their decision was based on an inoperable Train A, S-8 unit, and an inoperable Train B, Air Conditioning System unit, i.e., Control Room personnel interpreted the definition of operability as requiring an operable Air Conditioning System and S-8 units in a single air processing train. As a result, a plant shutdown started. Conditions improved and the 3.0.3 action stopped before the plant completely shutdown.

The revised Technical Specifications for Control Room Air Conditioning System components, Control Room temperature, and emergency filtration clarifies the OPERABILITY requirements for both systems and reduce the number of unwarranted transients due to entries into Specification 3.0.3. The safety function provided by both the Air Conditioning System and S-8

units is unchanged. Specifications are tailored to each function. The four new Technical Specifications follow the prescription of Combustion Engineering Standard Technical Specification 3/4.7.7 where applicable. Because the function and design of the two air units remains unchanged by this Technical Specification addition, the same amount of protection as previously existed is provided.

One Technical Specification (3/4.7.6.1) exclusively addresses the S-8 units during MODES 1 through 4. New Specification 3/4.7.6.1 will be modelled on Combustion Engineering - Standard Technical Specification (CE-STC) 3/4.7.7. Because of the relatively low radiological accident consequences in MODES 5 and 6 compared to MODES 1 through 4, new Specification 3/4.7.6.2 requires only one operable S-8 unit. The third Technical Specification (3/4.7.6.3) only covers the Control Room temperature. New Specification 3/4.7.6.3 uses specifications pertinent to only the Air Conditioning System from old Specification 3/4.7.6. There is no CE-STC for Air Conditioning Systems alone. To address component inoperabilities, the fourth Specification (3/4.7.6.4) provides limitations and actions to maintain the ability to pressurize the Control Room Envelope.

Proposed Specification 3/4.7.6.3 balances the desire for reasonable Control Room temperatures against the effort required to repair one or both air conditioning trains. An additional restriction implements a plant shutdown when both air conditioning trains are declared inoperable with a coincident high temperature. Specification 3/4.7.12 covers the chilled water sent to the AH-12 units.

During an emergency, both S-8 units are started to provide filtration and adsorption of outside air and Control Room Envelope recirculated air (re: FSAR 5.4.3.3). Conditions after a LOCA form the bases of the former requirement for two operable S-8 units during all operating modes. Because DBA LOCAs cannot occur during COLD SHUTDOWN and REFUELING, new Specification 3/4.7.6.2 requires only one OPERABLE S-8 unit to guard against fuel handling and radioactive waste system accidents. Dosages received in the Control Room after a LOCA were calculated to be orders of magnitude higher than other accidents involving radiation releases to the environment (re FSAR Table 15.6-18, 15.7-2, 15.7-4, 15.7-5, 15.7-7).

Bases changes are also included to support the proposed Technical Specification changes.

Safety Analysis

The proposed change described above shall be deemed to involve a significant hazards consideration if there is a positive finding in any of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of any accident previously evaluated?

Response: No.

The limiting accidents that the Air Conditioning System guards against are:

- ° all Chapter 15 scenarios involving release of radiation to the environment outside of containment by isolating outside air supplies;
- ° toxic gas releases by isolating outside air supplies;
- ° smoke resulting from Control Room Envelope fires.

The limiting accidents that the ESF Control Room Filtration System guards against are: all Chapter 15 scenarios involving release of radiation to the environment outside of containment by filtering recirculated air.

The probability and consequences of any of the limiting accidents listed above are unchanged by the specialization of the plant Technical Specifications. One OPERABLE Emergency Filtration unit (S-8) can adequately provide Control Room personnel protection during limiting accidents coincident with a COLD SHUTDOWN or REFUELING. Functional changes are not required in either air system by this Technical Specification change.

Therefore, the proposed change will not involve a significant increase in the probability or consequences of any accident previously evaluated.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The new Technical Specifications retain the current LCOs and surveillances applicable to each air system for the Control Room Envelope.

The specialized Technical Specifications do not change the plant response to Chapter 15 postulated radiation releases during power operations, toxic gas releases, and Control Room Envelope smoke. Lower radiological source terms allow a relaxation to an LCO that calls for only one Emergency Filtration train during MODE 5 and MODE 6.

Therefore, the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

Response: No.

The safety margin related to Control Room Envelope air systems are: (1) the ambient air temperature does not exceed the allowable temperature for continuous duty rating for the equipment and instrumentation cooled by this system by maintaining a temperature of 75°F in summer, and a temperature of 70°F in winter in the Control Room by either Air Conditioning System train (re: FSAR 6.4.6.1); and, (2) the Control Room will remain habitable for operations personnel during and following all credible accident conditions.

This Technical Specification change does not modify the equipment installed in the plant; and therefore, the existing margins of safety are maintained.

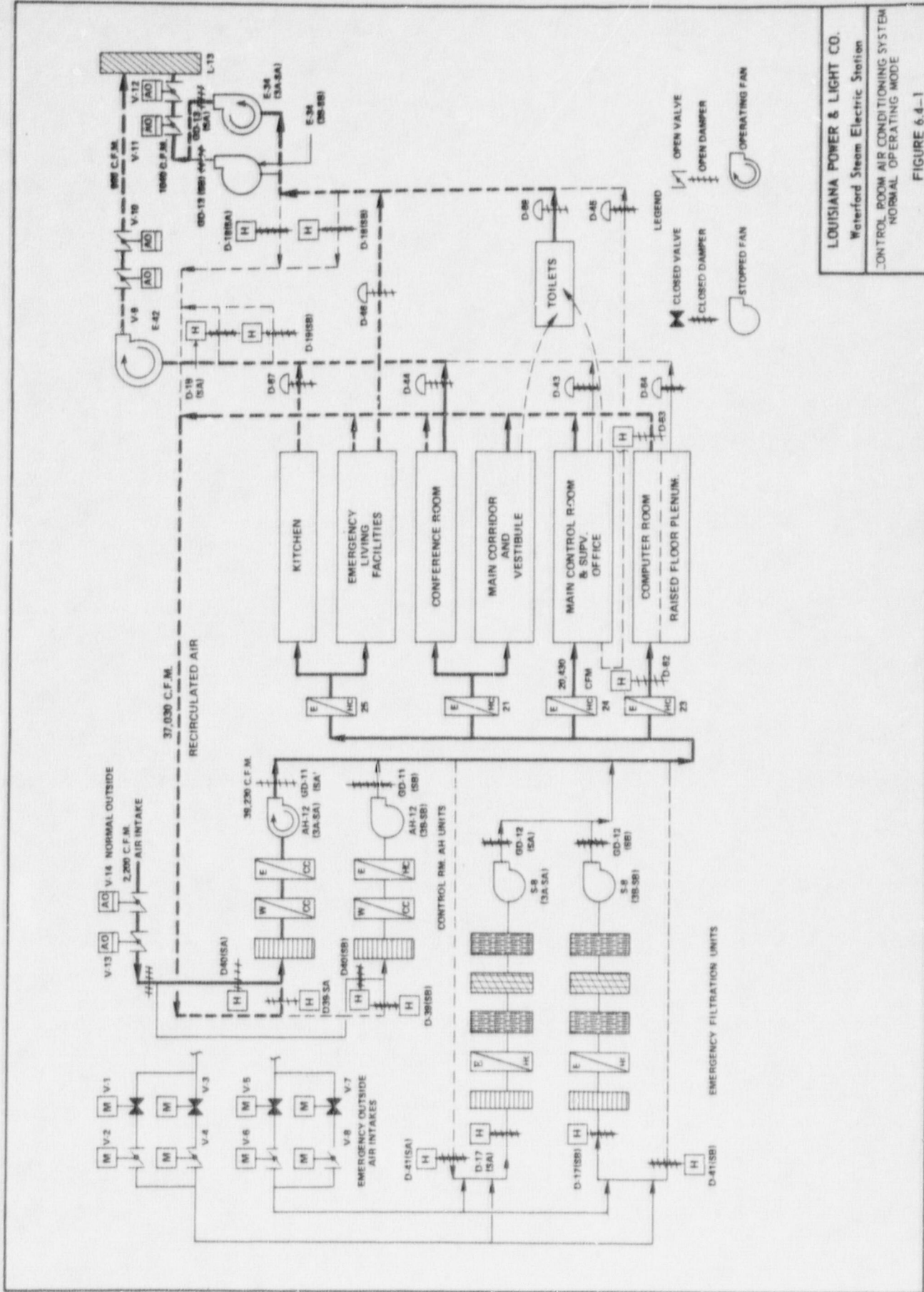
The Commission has provided guidance concerning the application of standards for determining whether a significant hazards consideration exists by providing certain examples (48 FR 14870) of amendments that are considered not likely to involve significant hazards considerations.

- (ii) A change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications; for example, a more stringent surveillance requirement.

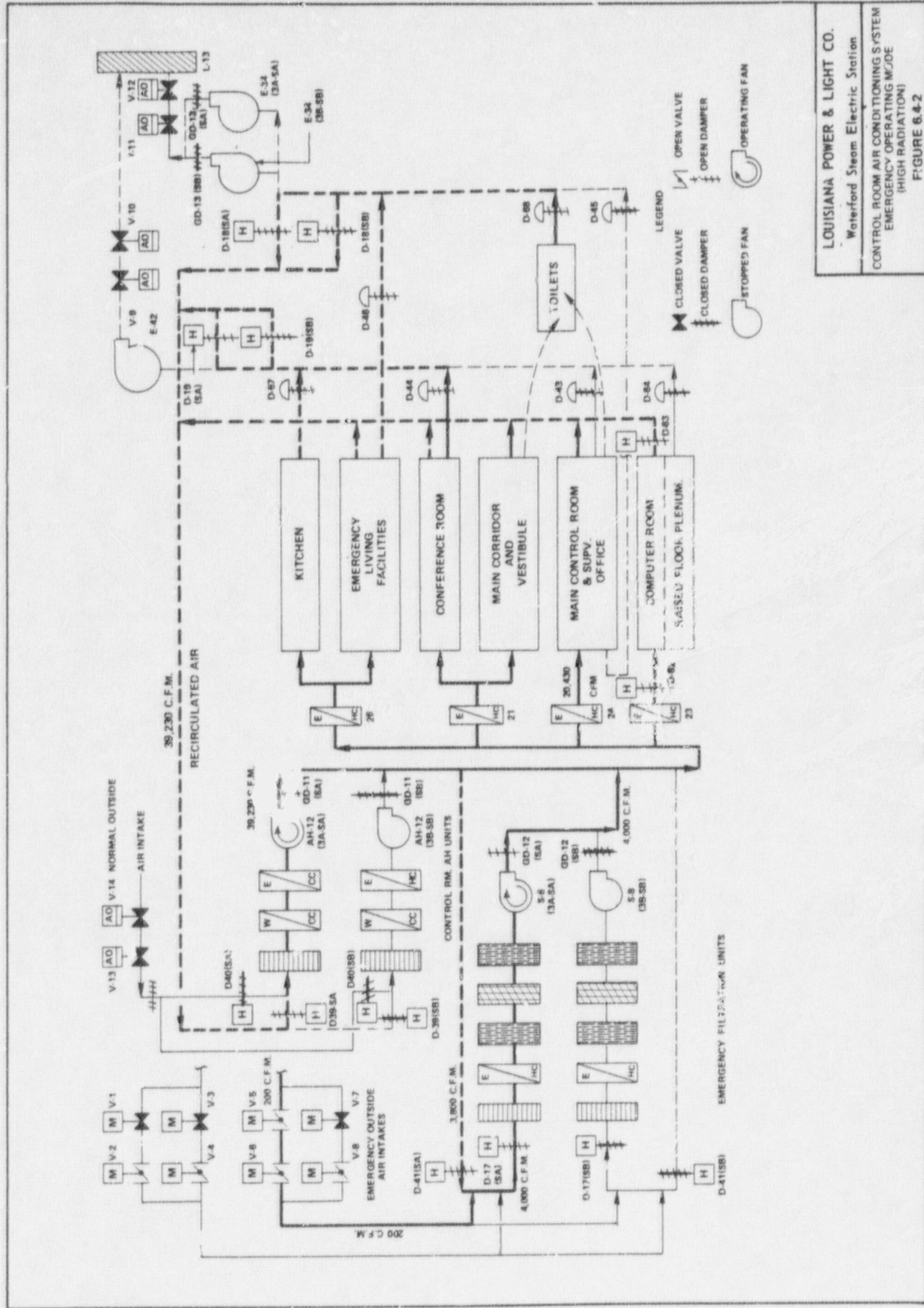
Because the proposed change adds separate non-standard Specifications for the Control Room Air Conditioning System, but because the plant configuration remains consistent with the acceptance criteria specified in the SRP 6.4 and 6.5 and STS 3/4.7.7, it is similar to Example (ii).

Safety and Significant Hazards Determination

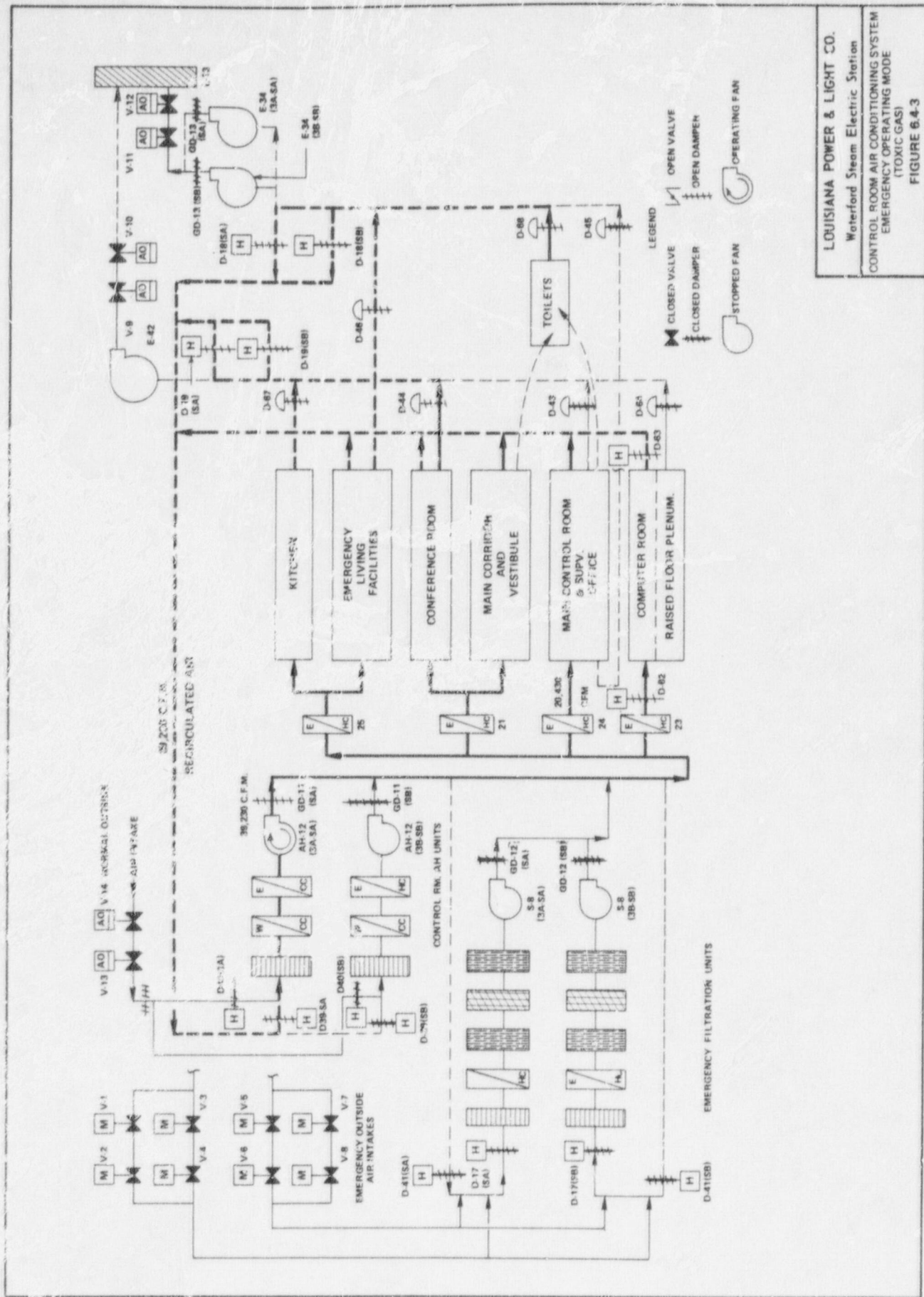
Based on the above Safety Analysis, it is concluded that: (1) the proposed change does not constitute a significant hazards consideration as defined by 10 CFR 50.92; and (2) there is a reasonable assurance that the health and safety of the public will not be endangered by the proposed change, and (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.



LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 CONTROL ROOM AIR CONDITIONING SYSTEM
 NORMAL OPERATING MODE
 FIGURE 6.4-1



LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 CONTROL ROOM AIR CONDITIONING SYSTEM
 EMERGENCY OPERATING MODE
 (HIGH RADIATION)
 FIGURE 6-4-2



LOUISIANA POWER & LIGHT CO.
 Waterford Steam Electric Station
 CONTROL ROOM AIR CONDITIONING SYSTEM
 EMERGENCY OPERATING MODE
 (TOXIC GAS)
 FIGURE 6.4.3

ATTACHMENT A

NPF-38-95