December 9, 2003

L-PI-03-114
Generic Letter 2003-01

U S Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
DOCKET NOS. 50-282 AND 50-306
LICENSE NOS. DPR-42 AND DPR-60
SUBJECT: Response to Generic Letter 2003-01, "Control Room Habitability"

The subject Generic Letter requested that certain information be provided to the Nuclear Regulatory Commission within 180 days of June 12, 2003. The attachment to this letter provides the requested information.

This letter contains new commitments. They are the italicized statements in the attachment and are repeated below:

Prairie Island is currently in the process of re-performing the survey of off-site chemicals. This new survey will be complete by July 2004.

Prairie Island does commit to submit to the NRC proposed changes to the Technical Specifications that will capture the intent of the current TSTF and final NRC position within six months following the approval of the TSTF-448, Rev. 1, for adoption.

Prairie Island is committing to perform tracer gas testing in 2004.

Please contact Jack Leveille (651-388-1121) if you have any questions related to this letter.

Joseph M. Solymossy
Site Vice President, Prairie Island Nuclear Generating Plant

CC Regional Administrator, USNRC, Region III
Project Manager, Prairie Island Nuclear Generating Plant, USNRC, NRR
NRC Resident Inspector – Prairie Island Nuclear Generating Plant

Attachment

A102

ATTACHMENT

NUCLEAR MANAGEMENT COMPANY, LLC
PRAIRIE ISLAND NUCLEAR GENERATING PLANT
DOCKET NOS. 50-282 AND 50-306

December 2003

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
RESPONSE TO GENERIC LETTER 2003-01

18 Pages Follow
(15 pages of text and 3 figures)

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
RESPONSE TO GENERIC LETTER 2003-01

Each request from Generic Letter 2003-01 is re-stated in **bold**, followed by the Prairie Island response.

Addressees are requested to provide the following information within 180 days of the date of this generic letter.

1. **Provide confirmation that your facility's control room meets the applicable habitability regulatory requirements (e.g., GDC 1, 3, 4, 5, and 19) and that the CRHSs are designed, constructed, configured, operated, and maintained in accordance with the facility's design and licensing bases.**

   Prairie Island Response:

   The Control Room Habitability Systems (CRHSs) at Prairie Island include the Control Room Envelope and the Control Room Ventilation system.

   Control Room Envelope

   The control room envelope consists of the control room and the two mechanical equipment rooms. The control room is a common structure that contains the controls for both Unit 1 and Unit 2. There is sufficient separation between the controls for each Unit such that safety is not impaired by the sharing. The control room is located at elevation 735' within the Auxiliary Building approximately equidistant between Unit 1 and Unit 2. Ground elevation at the Prairie Island site is 695' elevation. The mechanical equipment rooms are located directly above the control room at elevation 755' (referred to as the Chiller Rooms). The cable spreading room on the 715' elevation (directly below the control room) is not part of the control room envelope. Figures 1 and 2 show the relation of the control room and the mechanical equipment rooms within the Auxiliary Building. The control room ventilation system is entirely located within the two mechanical equipment rooms (one train of ventilation system in each room), with the exception of the outside air supply. The outside air supply ducting is routed through the Auxiliary Building. The outside air supply dampers are located at the envelope boundary. There are no other ventilation systems that traverse the control room envelope.

   The Auxiliary Building is a Class I structure, designed to withstand a seismic event; described in the Updated Safety Analysis Report (USAR), Section 12. The Control Room and Chiller Rooms are protected from adverse environmental conditions by the ceilings, walls and floors. In areas where the ventilation system provides possible communication paths, dampers in the ventilation system automatically close to isolate the envelope from a steam environment (referred to as Steam Exclusion).

Protection from a High Energy Line Break is described in more detail in USAR, Appendix I.

The walls, floor and ceiling of the Control Room are of fire resistant construction and have a three hour fire rating. The doors leading to the Control Room from the Turbine Building and the Operators' lounge area are National Fire Protection Association (NFPA) 80, 3-hour fire–rated doors. The door leading to the Control Room from the Records Room is an NFPA 80, 1-1/2 hour fire-rated door. There are no access or egress paths from the Control Room to the Auxiliary Building, Chiller Rooms or Relay/Cable Spreading Room. Three hour Underwriters Laboratory fire rated penetration seals are installed on all walls, floor and ceiling of the Control Room, which support mechanical and electrical equipment supplied to the room. Ventilation ducts supplying Control Room heating and cooling from the Chiller Rooms have 3-hour fire rated dampers. The dampers are maintained in the opened position. The dampers self close when the fusible links are removed or fail. Ventilation ductwork from the Relay Room to the Control Room have 3 hour fire rated dampers installed although these dampers are permanently closed and abandoned in place.

In the event that control room evacuation is necessary, the plant can be shutdown from outside the control room as described in USAR, Section 7.8.5. This is for control room evacuation for a non-Appendix R fire related event. For shutdown outside the control room for a fire event, the methods are described in the Prairie Island (Appendix R) safe shutdown analysis and associated procedures.

Control Room Ventilation System

The Control Room ventilation system is designed to provide a reliable means of cooling and filtering air supplied to the Control Room under both normal and post-accident conditions, it has two redundant trains. Figure 3 shows a simplified drawing of the Control Room Ventilation system. The ventilation system is safety related, designed to withstand a seismic event. The Control Room ventilation system has two modes; a normal mode and an emergency mode. The normal and emergency modes are described below.

Normal Mode

During normal operation one train is running and the other train is in standby. For the operating train, the air handler would be operating and the clean-up fan would be in standby with no air flow through the PAC filter. During normal operation, the operating train recirculates the control room envelope air and draws in fresh air. This recirculation flow rate during normal system operation is not filtered; i.e., the Air Handler Unit roll

filter is not credited. Air is exhausted from the Control Room Envelope at a rate equivalent to the quantity of fresh air brought in. The design flow rates are 10,000 cubic feet per minute (cfm) recirculation flow rate and 2000 cfm fresh air for a total air handler flow rate of 12,000 cfm. The input for normal operation in the dose analysis is the fresh air supply flow rate.

Emergency Mode

In response to a Safety Injection or high radiation signal, both trains start and are automatically aligned to isolate the fresh air and start and align a portion of the recirculation air flow through the Clean-Up fan. The portion of the air that is drawn by the clean-up fan passes through a PAC filter that is credited in the dose analysis. In this alignment, the system is recirculating and filtering the control room atmosphere. To account for a single active failure, only one train of control room ventilation system is credited in the dose analysis. In the emergency mode, the clean-up fan is designed to provide 4000 cfm ± 10%.

The safety injection signal is generated from low Pressurizer Pressure, low Main Steam Line Pressure or high Containment Pressure. The high radiation signal is generated from radiation monitors located in the supply ductwork inside the control room. Two redundant radiation monitors with control functions are provided. The radiation monitors (R-23 and R-24), are scintillation type detectors, calibrated to Xe-133, and physically located within the Control Room. The radiation monitors sensing lines penetrate the control room supply ductwork downstream of the control room ventilation filter unit inside of the Control Room. A "high" signal from either detector will automatically switch the control room ventilation system from the normal mode of operation to the emergency mode.

On a Steam Exclusion signal (high temperature in the outside air supply or exhaust ductwork) redundant outside air dampers automatically close to protect the control room from a potential steam environment. The resistance temperature detectors that sense the high temperature conditions are set to actuate the dampers at a temperature less than 120°F.

Confirmation that Prairie Island Meets Design and Licensing Basis

Generic Letter 2003-01 requests that licensees confirm that the CRHSs are designed, constructed, configured, operated and maintained in accordance with the facility's design and licensing bases. The guidance in NRC Regulatory Guide 1.196, "Control Room Habitability at Light-Water Nuclear Power Plants," and NEI 99-03, Rev. 1, "Control Room Habitability Guidance," were used to perform the evaluation at Prairie Island. More

specifically, consistent with the guidance documents the following steps were followed:

1. The first step for this evaluation was to assemble, review, and summarize, all of the design and licensing bases documentation related to the CRHSs. This included the following activities:

   - Licensing bases documentation pertaining to Control Room Habitability was assembled and summarized. This involved identification, review and summary of Technical Specifications, Safety Analysis Report, NRC correspondence, commitments, etc.

   - Design bases documentation pertaining to Control Room Habitability was assembled and summarized. NEI 97-04, Rev. 1, Appendix B, was used as a guide in determining what constitutes design bases functional requirements and design bases controlling parameters for Control Room Habitability at Prairie Island.

   - Dose analyses were reviewed to identify all inputs and assumptions used in the analyses that are related to Control Room Habitability. Examples of these inputs and assumptions are the applicable source term, atmospheric dispersion factors, unfiltered inleakage, control room volume, time delays, filtered recirculation air flow, PAC Filter efficiencies, etc.

   - Toxic gas analyses were reviewed to identify all inputs and assumptions used in the analyses that are related to Control Room Habitability. Examples of these inputs and assumptions are the source term, inleakage rate, control room volume, etc.

   - Verification of actual control room envelope boundary and ventilation system was performed. During the walkdowns, the ventilation system was compared to the flow diagram to ensure that the flow diagram accurately reflected actual system configuration.

   - Plant procedures for Control Room Ventilation and for the ventilation systems for the adjacent areas were reviewed to identify allowed operating configurations either during normal operation or during post-accident operation.

- Plant surveillance testing procedures were reviewed to identify acceptance criteria related to Control Room Habitability.

The objective of the first step is to assemble and summarize the appropriate information and not to evaluate the information. The evaluation of the information occurs in the second step.

2. The second step is to evaluate the information assembled in step 1 to confirm that the CRHSs are consistent with the current design and licensing basis. The evaluation to confirm that the design and licensing bases are being met is performed using the guidance in NEI 99-03, Rev. 1. This evaluation includes the following areas:

   - Review of the dose and toxic gas analyses to ensure that the analyses are consistent with the CRH design and licensing basis. The review of the dose and toxic gas analyses also evaluate the acceptability of, and ensure that a basis is provided for, the inputs and assumptions.

   - Review plant drawings and specifications to confirm that the CRHSs design supports the analyses and to ensure that the control room envelope boundaries are consistent with the analyses.

   - In the dose and toxic gas analyses, specific ventilation line-ups may be assumed for the control room ventilation systems and the ventilation systems for the adjacent areas. Operating procedures are reviewed to confirm that allowed system operating configurations are consistent with, or bounded by, the dose and toxic gas analyses. The review of operating procedures also confirms that the ventilation system operating configurations used during the Tracer Gas Testing (discussed in item 1.(a), below) represent conservative configurations relative to the allowed operating configurations.

   - Surveillance Procedures (SPs) are used to verify that systems and components can perform their design function (credited in the safety analyses). The review of the SPs for control room habitability confirms that the tests confirm post-accident operability and that the testing acceptance criteria are consistent with the inputs and assumptions used in the control room habitability related analyses.

- Maintenance procedures were reviewed to ensure that control room envelope boundary controls are adequate during maintenance activities.

Discrepancies identified during step 2 have been entered into the plant corrective action process for resolution. The discrepancies were evaluated and it was determined that there were no reportability concerns and no challenges to operability. Following resolution of the discrepancies, the plant will be in compliance with the design and licensing bases.

The following types of controls are used to assure control room envelope integrity. Breaches in the control room envelope are controlled by Operations, in accordance with Technical Specifications; the envelope boundary can be inoperable for up to 24 hours provided that compensatory measures are utilized to protect the control room operators The control room habitability program engineer reviews all maintenance activities that could challenge control room envelope integrity – this would include routine maintenance and modification activities. Changes to plant configuration and procedures are subject to the plant engineering processes; which include, but are not limited to, the 50.59 process, design change process, procedure change process. The controls in these engineering processes ensure that compliance to the design and licensing bases are maintained.

(a) **[Confirm] That the most limiting unfiltered inleakage into your CRE (and the filtered inleakage if applicable) is no more than the value assumed in your design basis radiological analyses for control room habitability. Describe how and when you performed the analyses, tests, and measurements for this confirmation.**

Prairie Island Response:

Prairie Island performed Tracer Gas Testing in 1998 using NCS Corporation and Lagus Applied Technology, Inc. An initial set of tests were performed with the control room envelope in an "as-found' condition; i.e., no pre-conditioning was performed for the initial set of tests. The initial set of tests were performed to simulate various combinations of control room ventilation (train A or train B or both trains operating) with different configurations of the ventilation systems in the adjacent areas. The results from the series of tests indicated unfiltered inleakage rates between 198 and

349 cfm (uncertainty not included in these numbers although the uncertainties were reported) depending on the configuration tested. These values for unfiltered inleakage were greater than the values used in the dose analyses. Licensee Event Report (LER) 98-02, dated February 18, 1998, was issued to report this design bases discrepancy.

Inspections during the initial set of tests indicated that the seals for the doors that enter the control room envelope and the outside air isolation dampers could be a significant vulnerability. Thus, following the initial testing, the seals on all the doors entering the control room envelope were replaced, and the outside air isolation dampers were replaced with bubble tight design dampers.

Tracer gas testing was again performed (still during 1998) subsequent to replacing the door seals. During the retesting, only the limiting configurations (based on the results from the initial testing) were tested. Similar to the initial testing, the retesting was performed using NCS Corporation and Lagus Applied Technology, Inc. The results from the retesting are as follows:

System Configuration	Inleakage Rate (cfm)
High Radiation	160 ± 5
SI	145 ± 5

The system configuration for the High-Radiation vs. the Safety Injection (SI) signal affects the ventilation systems in the adjacent spaces (Aux Bldg and Turbine Bldg); but, it does not affect the emergency alignment of the control room ventilation system. The alignment of the ventilation systems in the adjacent spaces affects the differential pressures across the control room envelope boundaries; which can affect the unfiltered inleakage. With the High Radiation signal, the configuration of the ventilation systems in the adjacent areas is more representative of a fuel handling accident (FHA). With the SI signal, the configuration of the ventilation systems in the adjacent areas is more representative of a main steam line break (MSLB) or loss of coolant accident (LOCA) event. Including 10 cfm for ingress and egress would indicate that, in order to bound the testing results, the FHA dose analysis should use 175 cfm unfiltered inleakage and the MSLB and LOCA dose analyses should use 160 cfm unfiltered inleakage.

Control Room dose analyses at Prairie Island have been conducted for the LOCA, FHA and MSLB accident scenarios. Initially, only the LOCA was analyzed for Control Room operator dose. In response to NUREG 0737, III.D.3.4, updated post-LOCA dose analyses were

performed for the Control Room. Based on the correspondence and subsequent NRC Safety Evaluation Report (SER) accepting the Prairie Island response to III.D.3.4, the LOCA was considered to provide the bounding result. Subsequently as part of additional licensing actions, control room dose was determined for both the FHA and the MSLB outside of Containment.

- The FHA dose to the control room operator was determined in support of a license amendment that allows fuel handling inside of Containment with the Containment Airlock Doors open; essentially providing a direct release path to the environment (License Amendment 119 to DPR-42 and 112 to DPR-60).

- The MSLB dose to the control room operator was determined in support of a license amendment approving use of the Steam Generator Voltage Based Repair Criteria (License Amendment 133 to DPR-42 and 125 to DPR-60).

Consistent with the current licensing bases, control room dose analyses are performed for the LOCA, the MSLB and the FHA. The LOCA dose analysis demonstrates that the dose to the Control Room operator satisfies General Design Criteria (GDC) 19 uses 165 cfm unfiltered inleakage. The MSLB dose analysis demonstrates that the dose to the Control Room operator satisfies GDC-19 using 175 cfm unfiltered inleakage. An evaluation for the dose to the control room operator following a FHA demonstrates that the dose to the Control Room operator is less than the GDC-19 limits with unfiltered inleakage up to 700 cfm.

Therefore, the limiting unfiltered inleakage determined by tracer gas testing is less than the values used in the radiological analyses.

In addition, Prairie Island is currently in the process of performing new dose analyses using the Alternative Source Term (AST) using the guidance in Regulatory Guide 1.183.

(b) **[Confirm] That the most limiting unfiltered inleakage into your CRE is incorporated into your hazardous chemical assessments. This inleakage may differ from the value assumed in your design basis radiological analyses. Also, confirm that the reactor control capability is maintained from either the control room or the alternate shutdown panel in the event of smoke.**

Prairie Island Response:

Toxic Chemical Assessments

NUREG-0737 Section III.D.3.4 required all licensees to submit the results of an analysis of Control Room concentrations from postulated accidental release of toxic gases. In response to the requirements of III.D.3.4, Prairie Island prepared a report dated January 1981, which concluded that monitors were required for automatic detection of chlorine, hydrochloric acid, ammonia, and formaldehyde. The model used conformed to the requirements of NUREG-0570 and RG 1.78.

In a letter dated March 4, 1985 from the NRC, Prairie Island was allowed to remove its monitoring system for ammonia, hydrochloric acid and formaldehyde. Prairie Island was required to institute a training program which would assure that, upon detection of any noticeable chemical odor, operators would manually isolate the control room and don self-contained breathing apparatus. The chlorine monitor was retained at this time. The analysis supporting this change used an exposure model from NUREG/CR-1741 and time to respond to odor detection from RG 1.78.

In 1991, Prairie Island reevaluated both the onsite and offsite chemical releases. This evaluation is described in more detail in USAR, Section 2.9.4, "Toxic Chemical Study." With the exception of chlorine and ammonia transported by railcar, there are no other chemicals, either on-site or off-site, that in the event of a spill could reach levels inside the Control Room that could incapacitate operators within two minutes. Operators are expected to be able to don protective SCBAs within two minutes following detection. For the cases of railcar releases of chlorine or anhydrous ammonia, a probabilistic model was developed that accounts for the frequency of various weather conditions and the likelihood of a chlorine or anhydrous ammonia railcar accident that results in a toxic chemical releases. Based on a probabilistic evaluation of chlorine and ammonia spills, it was determined that no automatic monitoring systems were required. Following NRC approval, the chlorine detection system was removed.

The toxic chemical study and associated analyses assume full outside airflow that would occur during normal operation of the control room ventilation system. This outside airflow is assumed to continue through the detection and donning of the SCBAs, no credit is taken for control room design in limiting the effects of a toxic

chemical release. Therefore, unfiltered inleakage is not considered in the toxic chemical analyses.

Prairie Island uses the guidance of RG 1.78 and 1.95 in determining the adequacy of operator protection in the event of a toxic chemical release. RG 1.95 recommends that a six hour air capacity for the SCBAs be readily available on site to ensure that sufficient time is available to transport additional bottled air from offsite locations. The regulatory guidance also states that a minimum emergency crew should consist of those personnel required to maintain the plant in a safe condition, including orderly shutdown or scram of the reactor. When a toxic gas event is detected, control personnel will place the Control Room ventilation in recirculation and don their SCBAs. Typically, Prairie Island provides a minimum of six hours of air for 14 people: six Control Room operators, six out-plant operators and fire brigade, one chemist, and one shift manager. The breathing air supply consists of an auto-cascade air system with two Quick-Fill stations located on the missile shield wall outside the Control Room. The system also provides a redundant three hour supply of air in the event of an equipment failure on one of the stations. All SCBAs in the plant have Quick-Fill capability. Annually, Operations personnel must complete SCBA training and must don an SCBA and have it functional within 2 minutes for potential hazardous chemical entering the Control Room.

On-site chemicals are evaluated annually. The on-site chemicals that are evaluated are identified in USAR, Table 2.9-1. The control room habitability program identifies maximum allowable values and site locations for various chemical substances that could affect control room habitability. Chemicals briefly on-site are reviewed for acceptability by the control room habitability program engineer.

Prairie Island is currently in the process of re-performing the survey of off-site chemicals. This new survey will be complete by July 2004.

Reactor Control Capability in the Event of Smoke

Consistent with NEI 99-03, Revision 1, Appendix A, a qualitative assessment was performed to ensure that the operators maintain the ability to safely shut down the plant during a smoke event originating inside or outside the control room. For Prairie Island a design bases event is not considered simultaneously with a fire/smoke event.

The Control Room contains controls and systems for both operating Units and is located at an elevation of 735 ft. adjacent to the Turbine Building between the Turbine Building and the Auxiliary Building. The Relay/Cable Spreading Room is located directly below the Control Room on the 715 ft. elevation, adjacent to the Turbine Building between the Turbine Building and the Auxiliary Building. The 121 and 122 Control Room Chiller Rooms are located directly above the Control Room on the 755 ft. elevation between the Auxiliary Building and the Turbine Building.

The Hot Shutdown Panels are located in the Auxiliary Feed Water Pump Rooms (AFWP Room) located in the safeguards corridor section of the Turbine Building on the ground level or 695 ft. elevation. The AFWP rooms are separate from the Control Room Envelope. Each AFWP Room contains one train of Auxiliary Feed Water Pumps for both units, a Hot Shutdown Panel and Instrument Air Compressors. The Auxiliary Building is located South of the AFWP Rooms. The Battery Room complex is located North of the AFWP Rooms. The Unit 1 Normal and Safeguards 480v and 4kv Switchgear Rooms are located directly above the AFWP Rooms.

Due to relative location (separated by two floor elevations and several sets of fire barriers) of the Control Room and the AFWP rooms, it is not expected that a single smoke event could affect both areas. There are no common barrier walls or ventilation systems between the Control Room and AFWP Rooms. For smoke to affect both the AFWP Rooms and Control Room, the fire would need to be located in the Turbine Building. During normal operation of the Control Room ventilation system, the Control Room air pressure is typically maintained positive with respect to the Turbine Building. The only potential leakage paths for smoke from the Turbine Building fire into the Control Room are through door seals. The door seals are maintained through the plant preventative maintenance program in good condition and leakage is not expected. The 735' elevation of the Turbine Building adjacent to the control room is concrete and smoke vents are provided in the Turbine Building roof for smoke removal. Combustible materials directly outside the Control Room is extremely low on the 735' elevation and no ignition sources are present in this area.

For a fire/smoke event developing in the AFWP Rooms, safe shutdown could be performed by Operations personnel from the Control Room. For a fire/smoke event developing in the Control

Room, safe shutdown could be performed by Operations personnel using the hot shutdown panel and outplant controls.

In the event that fire/smoke in the control room necessitated control room evacuation, the appropriate procedure would be implemented and Operators would proceed to various plant locations and perform actions as directed by individual appendices of the procedure. Some of the areas that are directed as the primary access routes could be affected by smoke. For example, a fire in the Relay Room could necessitate control room evacuation. The same fire in the Relay Room also could affect the primary access route to the AFWP rooms. In this event the Operators would make a decision to either use alternate pathways or return to the Control Room and don Self Contained Breathing Apparatus (SCBA). Operators are directed by procedure to carry flashlights and would be able to follow these alternate paths even if normal plant lighting and plant incandescent emergency lighting were affected by smoke. A review of the time available to perform the required actions indicates that there is sufficient time for the Operations personnel to use alternate access routes and complete the required actions.

The plants' fire detection system would initially indicate to the Control Room that smoke was present in a particular plant fire area. The Fire Detection Alarm Response procedure includes implementation of the Fire Fighting Strategies, which direct fire brigade personnel to secure normal ventilation to an area that has smoke or fire present as well as the use of portable fans for smoke removal. Portable smoke removal equipment is staged in various areas of the plant. An evaluation to address large amounts of smoke from a Relay Room fire shows that with adequate ventilation (fans) smoke generated in the Turbine Building (from a Relay Room fire) could be removed or dispersed in a short period of time.

Self Contained Breathing Apparatus are readily available to Control Room Operators who are trained in their use. Operations personnel perform the Fire brigade function at Prairie Island. As discussed in the above section regarding a toxic chemical release event, an SCBA refill bank is located outside the Control Room with approximately 6 hours of breathing air for 14 people. The system also has refill capability from off-site sources; therefore, the time SCBAs could be used is unlimited.

The above operator actions are consistent with the current plant procedures. Operations personnel are periodically trained on the plant procedures for a fire/smoke event that results in control room

evacuation and on the plant procedures for mitigating a fire outside of the control room. Thus, the current training is considered adequate.

In conclusion, using the guidance described in NEI 99-03, Rev. 1, Appendix A, it is shown that a single smoke event originating from inside or outside the Control Room would not affect both the Control Room and the Hot Shutdown Panel areas. Plant Operators would be able to achieve and maintain safe shutdown (reactor control capability) from either the Control Room or the Hot Shutdown Panels if needed.

(c) **[Confirm] That your technical specifications verify the integrity of the CRE, and the assumed inleakage rates of potentially contaminated air. If you currently have a ΔP surveillance requirement to demonstrate CRE integrity, provide the basis for your conclusion that it remains adequate to demonstrate CRE integrity in light of the ASTM E741 testing results. If you conclude that your ΔP surveillance requirement is no longer adequate, provide a schedule for: 1) revising the surveillance requirement in your technical specification to reference an acceptable surveillance methodology (e.g., ASTM E741), and 2) making any necessary modifications to your CRE so that compliance with your new surveillance requirement can be demonstrated.**

If your facility does not currently have a technical specification surveillance requirement for your CRE integrity, explain how and at what frequency you confirm your CRE integrity and why this is adequate to demonstrate CRE integrity.

Prairie Island Response:

The emergency mode of operation is initiated by either a Safety Injection Signal or High Radiation as detected by radiation monitors in the supply ductwork downstream of the air handling units. In the emergency mode, all outside air is isolated by closure of the dampers in the fresh air supply, and both clean-up fans are started. A portion of the total flow through the air handling units is filtered through the PAC filters. Prairie Island Technical Specifications currently do not contain surveillance requirements to demonstrate control room envelope integrity. The Technical Specifications do have ventilation system and filtration operability and surveillance requirements to assure the removal of radioactivity from the isolation type control room as credited in the dose analyses. In

addition, the Technical Specifications have required actions to maintain the operability of the control room envelope boundary.

As previously discussed above, Prairie Island performed tracer gas testing of the control room envelope in 1998. There were two sets of tests performed. The first set was with no pre-conditioning. The results from the first set of tests did not satisfy the acceptance criteria for unfiltered inleakage. Following the first set of tests, the seals on all doors that enter the control room envelope were replaced. Subsequent to replacing the door seals, the second set of tests were performed, and the results satisfied the acceptance criteria demonstrating the integrity of the control room envelope. To maintain the door seals in good condition, the door seals are inspected and replaced (if necessary) on an annual basis using the plant Preventative Maintenance program. In addition, periodic inspections are performed of the outside air damper seating surfaces to ensure that the dampers that provide control room envelope integrity are in good condition. Walkdowns of the control room envelope boundary indicate that there are no new unexpected vulnerabilities that were not present in 1998. Therefore, there is reasonable assurance that the results from the second set of tracer gas tests in 1998 are representative of the current condition, which ensure control room envelope integrity.

Technical Specification Task Force (TSTF) 448, Revision 1, modifies the current Improved Technical Specification (ITS) standards of NUREGs 1430- 1434 to include requirements for in-leakage testing and is currently under NRC review. NUREG-1431 is applicable to Prairie Island. As TSTF, Revision 1, is not yet issued, a commitment to adopt the TSTF in its entirety cannot be made at this time. However, *Prairie Island does commit to submit to the NRC proposed changes to the Technical Specifications that will capture the intent of the current TSTF and final NRC position within six months following the approval of the TSTF-448, Rev. 1, for adoption.* Six months allows time for evaluation and preparation of the licensing submittal. Furthermore, the timing of this commitment assumes that TSTF 448, Revision 1, will be included in the Consolidated Line Item Improvement Process (CLIIP) for adoption.

Consistent with TSTF 448, Rev. 1, a new Technical Specification program would be established, referred to as the Control Room Integrity Program. Prairie Island is presently developing a program that meets the intent of the new Control Room Integrity Program and most of the items are already in place. Regulatory Guide 1.197 specifies retesting at six-year intervals, providing that the test

results are acceptable. Unacceptable test results would require a retest in three years. To be consistent with Regulatory Guide 1.197, based on tracer gas testing in 1998, *Prairie Island is committing to perform tracer gas testing in 2004.*

2. **If you currently use compensatory measures to demonstrate control room habitability, describe the compensatory measures at your facility and the corrective actions needed to retire these compensatory measures.**

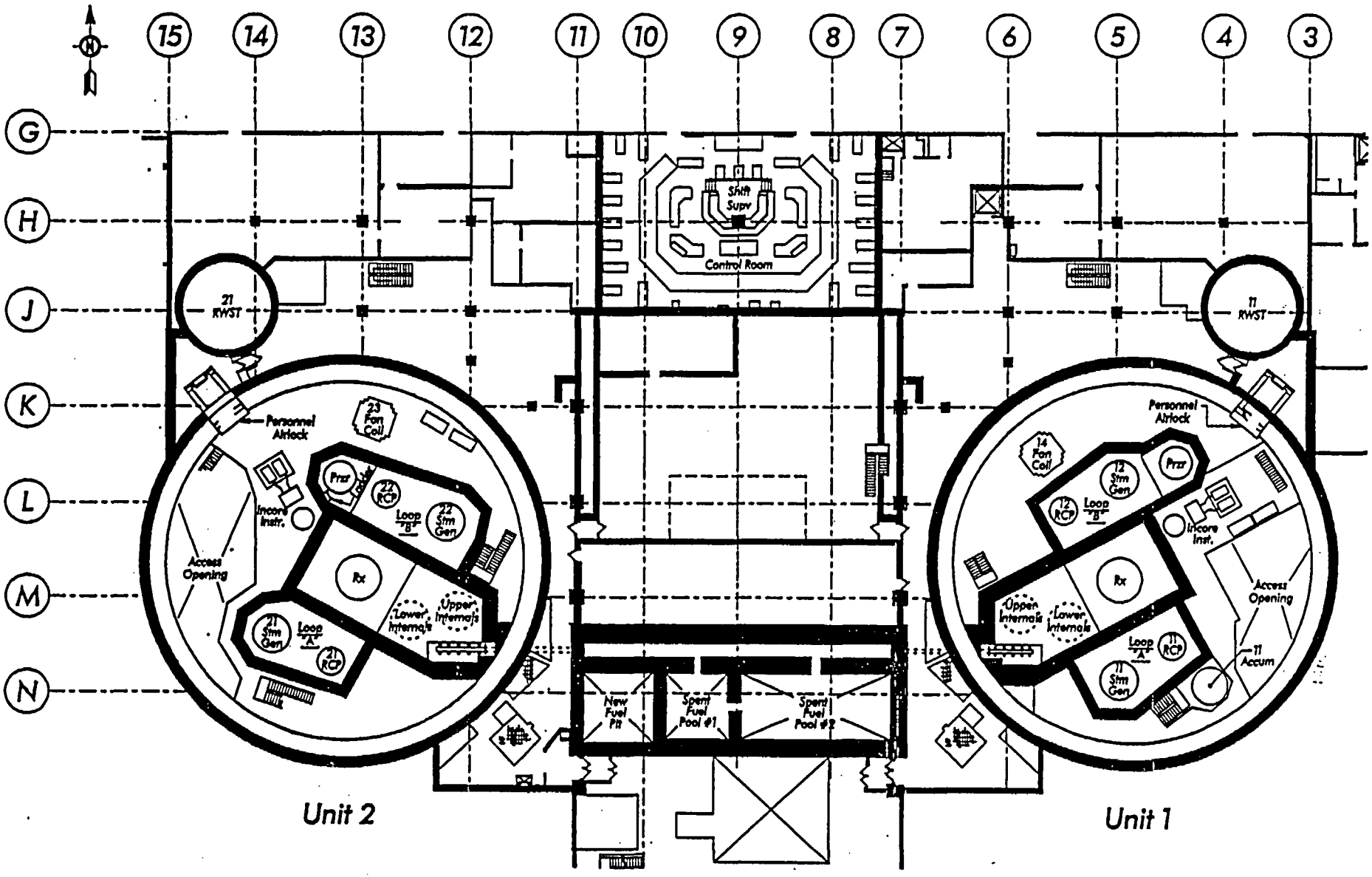
Prairie Island Response:

Not applicable, there are no compensatory measures currently in effect to demonstrate control room habitability at Prairie Island.

3. **If you believe that your facility is not required to meet either the GDC, the draft GDC, or the "Principal Design Criteria" regarding control room habitability, in addition to responding to 1 and 2 above, provide documentation (e.g., Preliminary Safety Analysis Report, Final Safety Analysis Report sections, or correspondence) of the basis for this conclusion and identify your actual requirements.**

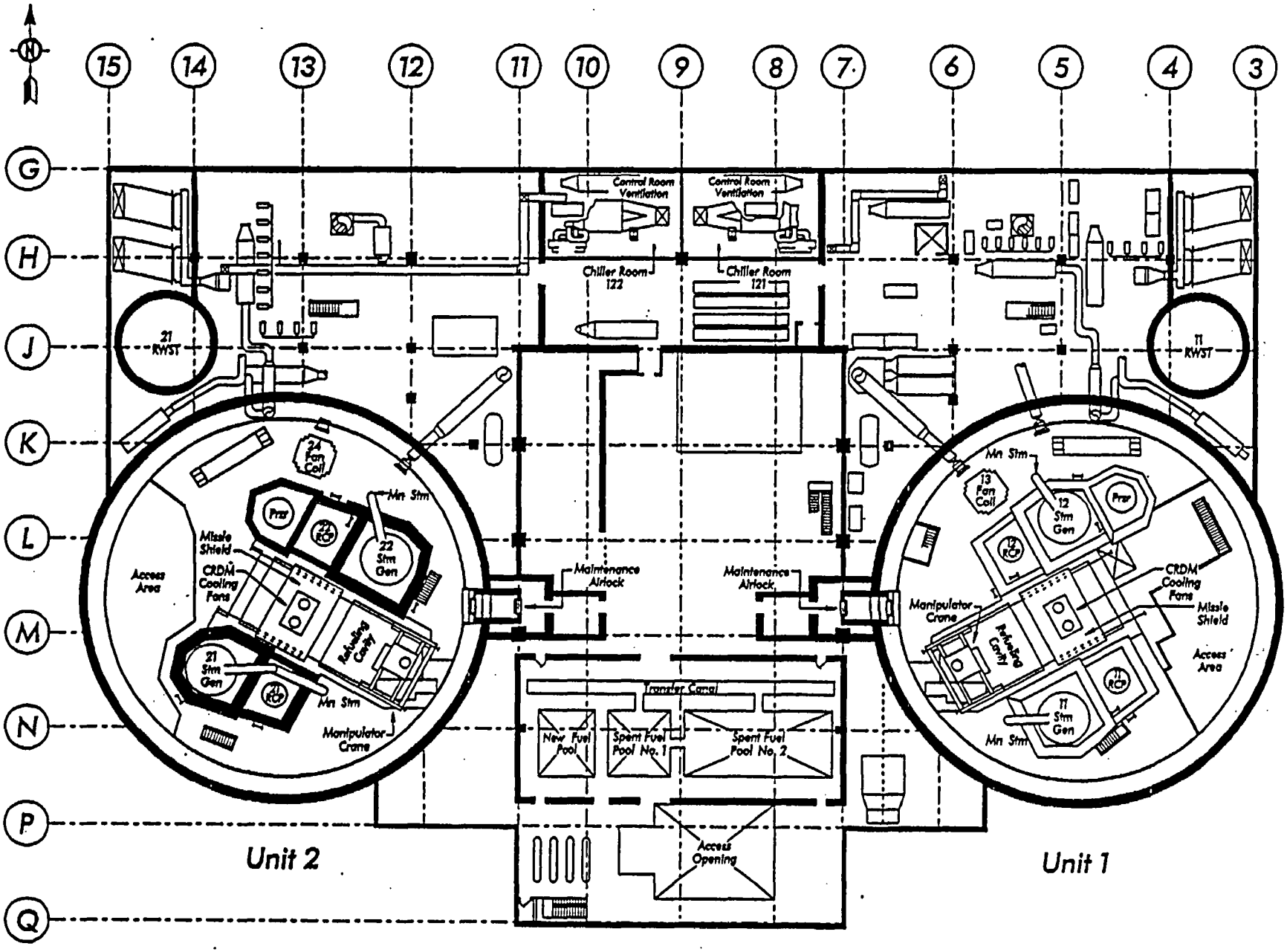
Prairie Island Response:

Not applicable, Prairie Island was licensed to the AEC General Design Criteria, as proposed on July 10, 1967. Design and system reviews were performed in response to NUREG 0737, Item III.D.3.4, demonstrate that the system is capable of meeting the dose limits of 10 CFR 50 Appendix A GDC-19.



AUX. BUILDING ELEV.735'-0"

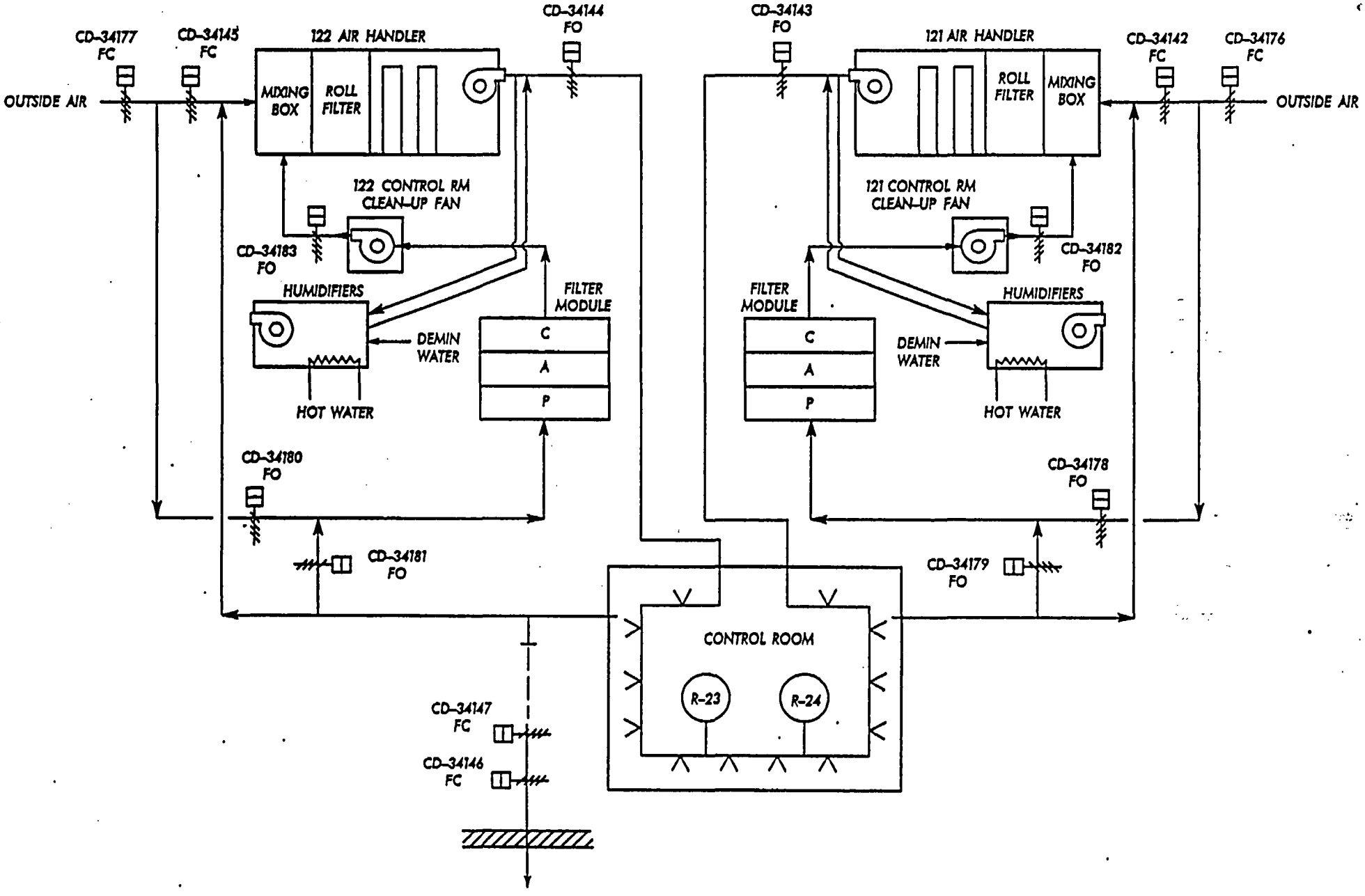
FIGURE 1



AUX. BUILDING ELEV.755'–0"

FIGURE 2

...\PRI\Steve Thomas\AUX755.DGN 11/18/2003 11:27:17 AM



CONTROL ROOM VENTILATION

FIGURE 3