August 30, 1983

SECY-83-363

POLICY ISSUE

For: The Commissioners (NEGATIVE CONSENT)

From: William J. Dircks
Executive Director for Operations

Subject: BACKUP EMERGENCY OPERATIONS FACILITY FOR THE PRAIRIE ISLAND NUCLEAR GENERATING PLANT, UNITS 1 AND 2 AND THE MONTICELLO NUCLEAR GENERATING PLANT

Purpose: To request the Commission to review the staff approval for an exception to the location of a backup Emergency Operations Facility (EOF) for both the Prairie Island Nuclear Generating Plant, Units 1 and 2 and the Monticello Nuclear Generating Plant.

Category: This paper covers a minor policy question.

Issue: Whether the Prairie Island and Monticello Nuclear Generating Plants may establish a common backup EOF located 55 miles and 45 miles from their respective plant sites.

Alternatives:

1. The Commission may agree with the staff approval of the position of Northern States Power Company (NSP) to establish a common backup EOF which is located 55 miles from the Prairie Island site and 45 miles from the Monticello site.

2. The Commission may disagree with the staff approval of the licensee's position.

Background: On January 21, 1981 the Commission approved two options for the location of the EOF at nuclear power plant sites in COMJA-80-37. One option allowed for a single EOF location between 10 and 20 miles from the site with no habitability features. The second option allowed for a primary EOF located up to 10 miles from the site with habitability features and a backup EOF without habitability features located between 10 and 20 miles from the site.

In the Chilk to Dircks memorandum of September 30, 1981 responding to SECY 81-509, the Commission disapproved a recommendation that the staff approve licensee requests for exceptions of COMJA-80-37 concerning EOF location and

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backup criteria where the licensee had provided a heavily shielded EOF located within 10 miles or less of the plant site without a backup EOF. The Commission stated in this memorandum that the staff could accept such facilities provided each emergency plan identified an alternate location where utility and government officials can meet and have contingency arrangements for communications to the Technical Support Center (TSC).

On July 16, 1982 the Commission approved SECY 82-111B, and on November 22, 1982 the Commission approved Supplement 1 to NUREG-0737 which was subsequently promulgated in Generic Letter 82-33 dated December 17, 1982. Table 1 included in these documents is the same table from COMJA-80-37 which describes the EOF location options.

On March 2, 1983 the Commission directed the staff to refer all exception requests concerning location and habitability of EOFs, along with proposed staff actions, to the Commission for decision (M830302B).

Discussion:

NSP, in two letters dated June 8, 1981 (Enclosures 1 and 2) and one letter dated January 26, 1982 (Enclosure 3), states that the Prairie Island permanent primary EOF will be located onsite approximately 0.5 mile from the reactor containment, and the Monticello permanent primary EOF will be located onsite approximately 1 mile from the reactor containment in a multiuse building. The permanent structure at both sites will provide radiation shielding equivalent to a protection factor of 5 or greater and will meet the ventilation system requirements in Table 1 of Supplement 1 to NUREG-0737 for a primary EOF. Until the permanent structure is made operational at Prairie Island, an interim facility is being used which is located 6.9 miles from the plant in Red Wing, Minnesota.

The proposed backup EOF for these plants is a common facility located at the corporate headquarters of NSP in Minneapolis, Minnesota, a distance of 45 miles from Monticello and 55 miles from Prairie Island. This dedicated single backup EOF for both plants is equipped with dose assessment instrumentation, plant records and drawings, and is directly available to the NSP corporate engineering staff. This facility is made operational anytime the

primary EOF at either plant is activated, providing a redundant capability. Also it has access to helicopter transport to both sites and is located a few miles from the Minnesota State Emergency Center in St. Paul. Dose assessment and protective action functions can be performed at the backup EOF to the same level of confidence as the primary EOF. Engineering and corporate senior management will be available to the backup EOF and there would be an immediate transfer of the EOF functions should the primary EOF be abandoned. Dedicated and backup communications already exist at this facility and have been tested during exercises and drills and found to be adequate. In addition, the licensee is planning to install data acquisition systems such as the Safety Parameter Display System and terminals from the plant process computer to aid the corporate engineering staff in the EOF.

All of these capabilities are in excess of the requirements in Supplement 1 to NUREG-0737. From a technical and functional point of view, the staff can fully support the utility position in this matter. In addition, the Regional staff has informed us that for the past two years, this backup EOF has been used successfully as NSP activates this center for its annual exercises. The facility has adequately demonstrated its capability to support the primary EOF and, if necessary, can fulfill the functions of an EOF. Further, during the emergency preparedness implementation appraisals and followup inspections at both plants, the backup EOF has been found to be in an adequate state of preparedness.

The Staff and the Region believe that disapproval of this backup EOF will probably degrade the overall state of emergency preparedness because NSP will seek nondedicated facilities within 20 miles of each plant and simply arrange for portable dose assessment and communications capability. In doing this, they will meet the minimum regulatory guidance and will probably not commit to maintaining the corporate support center since it is not required by the NRC regulations.

If a fully equipped and staffed backup EOF is available to corporate management during emergencies, there may be some reluctance on their part to relocate to the primary EOF when all the essential information and command and control is already at the corporate offices. This could result in a remote mode of emergency operations and a lack of direct interaction of corporate management with local, State, and Federal officials at the plant site. In addition, local officials wishing to confer with the EOF staff will be forced to travel long distances when the backup EOF takes over the EOF functions. Another problem encountered would be the inability to use the backup EOF for staging and logistical support for offsite monitoring teams, since a distance of 45 or 55 miles from the plant site would make it impractical to use. However, the backup EOF in Minneapolis does have the capability to dispatch and coordinate offsite monitoring functions via radio communications. Finally, if the Commission agrees to grant an exception to NSP, it will set a precedent for the approval of a very similar proposal by the Virginia Electric and Power Company and possibly other licensees or applicants in the future.

The Staff believes that an exception for the combined response capability should be approved in this instance because of all of the other advantages of this location as well as the manner in which NSP is operating and has equipped this facility. If NSP is required to provide a separate backup EOF within 20 miles of the plant site, the result may be a reduced rather than an enhanced capability.

Recommendation: That the Commission agree with the staff approval of the position of NSP to establish a common backup EOF for the Prairie Island and Monticello Nuclear Generating Plants 55 and 45 miles from the respective sites.

Note: The staff intends to approve the location for the Prairie Island and Monticello common backup EOF unless otherwise instructed by the Commission. A draft of the letter to be sent to the licensee is enclosed (Enclosure 4). In considering this exception the Commission should be aware

that the Virginia Electric and Power Company has made a very similiar proposal for a common backup EOF for North Anna and Surry located in its corporate headquarters in Richmond.

William J. Dircks
Executive Director for Operations

Enclosures:
1. Ltr. from Northern States Power Company (NSP) dtd. 6/8/81
2. Ltr. from NSP dtd. 6/8/81
3. Ltr. from NSP dtd. 1/26/82
4. Draft ltr. to Northern States Power Company

SECY NOTE: In the absence of instructions to the contrary, SECY will notify the staff on Thursday, September 15, 1983 that the Commission, by negative consent, assents to the action proposed in this paper.

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ENCLOSURE 1

MONTICELLO

Northern States Power Company

414 Nicollet Mall
Minneapolis, Minnesota 55401
Telephone (612) 330-5500

June 8, 1981

Director of Nuclear Reactor Regulation
U S Nuclear Regulatory Commission
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Post-TMI Requirements for the Emergency Operations Facility
(Generic Letter 81-10)

Our letter of April 8 furnished certain information for the subject requirement and further indicated that by June 1 we would be in a position to supply additional conceptual design information for your pre-implementation review. We also indicated that our June 1 submittal would include expanded descriptions of the phased installation of emergency response facilities to include 1981 installations. Attached is the document package that constitutes our June 1 response information under the following format:

Emergency Response Facilities
(1) Conceptual Design Information
(2) Task Functions

For certain emergency response facility requirements, NUREG-0696 references the data sets presented in Regulatory Guide 1.97 (Rev 2) and our designs will be based on this guidance where practicable. However this action should not be construed as an NSP blanket commitment to all other aspects of that Regulatory Guide.

The attached conceptual design information applies to the planned final upgraded emergency response facilities. By December 1, 1981 we will furnish a realistic implementation schedule in lieu of the October 1, 1982 date specified in

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Enclosure 1

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Mr Eisenhut's February 18 letter (generic letter 81-10). Apparently the specified date is based on hardware equipment delivery lead times only and does not allow for design development and testing of new systems for backfit applications, which activities must be included in our projection.

L. O. Mayer

L O Mayer, PE
Manager of Nuclear Support Services

LOM/jh

cc J G Keppler
NRC Resident Inspector
G Charnoff

Attachment

MONTICELLO NUCLEAR GENERATING PLANT
EMERGENCY RESPONSE FACILITIES

(1) CONCEPTUAL DESIGN INFORMATION

Technical Support Center

The Technical Support Center (TSC) serves as a center outside of the Control Room that acts in support of the command and control function. Plant status and diagnostic information will be available at this location for use by technical and management personnel in support of reactor command and control functions. The TSC is located in the southeast corner, second level of the Administration Building (same level as Control Room). The Emergency Director is in charge of the TSC.

Attached as Figure 1 is a functional block diagram of the conceptual design of the emergency response instrumentation system (ERIS) for the Monticello Nuclear Generating Plant. The system is designed with a single DEC 11/780 VAX computer dedicated for the ERIS function. The computer will receive, store and process the data necessary to drive the SPDS, TSC and EOF displays and peripheral equipment.

The TSC instrumentation will consist of standard, off-the-shelf equipment selected, in part, on proven reliability. The accuracy and reliability of the equipment will be comparable to that of the existing control room instrumentation. Class 1E signals wired as inputs to the ERIS computer will be routed through safety grade isolation. The DEC 11/780 computer has been selected to duplicate the type of DEC process computer presently being installed, thus optimizing the availability of the ERIS computer by utilizing common spare parts and technical expertise.

The power supply for the TSC will be provided by an uninterruptible AC source. It is expected that the security system power supply will be utilized for this purpose. It consists of an AC inverter powered by a battery system and chargers supplied from a backup diesel generator. The system is not single failure proof or Class 1E design but it has proven to be a very reliable AC power source. Loss of power to the TSC will not result in a loss of any stored data.

The TSC data display system will consist of computer driven peripherals, strip chart recorders for pre-selected parameters or computer point trending and a CCTV system to monitor the main control panels in the control room. The computer driven peripherals will include a CRT terminal, graphics CRT and a printer/plotter/copier for monitoring the off-site dose assessment function, and a CRT terminal, teletype terminal and a graphic CRT for monitoring plant status. The SPDS

displays will be available on call from the CRT graphics terminal. The above peripherals will allow real time and time-history analysis of the important plant parameters. The link between the ERIS computer and the VAX process computer will allow TSC personnel access to the balance of plant parameters not designated as part of the ERIS parameter set. The strip chart recorders provide additional trending information for the accident range instruments. The CCTV will allow TSC personnel to monitor plant systems or parameters which may not be hard wired into the ERIS. The camera will be equipped with remote pan, tilt and zoom lense controls in the TSC.

This TSC personnel will have access to up-to-date records, operational specifications, procedures and drawings consisting of:

- Plant Technical Specifications
- Plant Operating Procedures
- Emergency Operating Procedures
- Final Safety Analysis Report
- Plant Operating Records
- Safety Audit Committee Minutes and Audit Reports
- Procedures needed to perform the functions of the EOF when it is not operational
- Technical Manuals
- The Plant Drawing File

Data transmission between the TSC and the control room will be accomplished with the computer peripheral devices or the CCTV system. Voice communications will also be used to transmit data. Telephone, intercom and battery operated radios are available for this purpose.

Interim 1981 Phase - TSC

As noted in our April 8, 1981 letter, we are unable to commit to implementation of the final emergency response facilities by October 1, 1982. By the end of 1981, we will have the TSC upgraded with the following features:

- Plant records & drawings as noted above
- CCTV for monitoring the control room panels
- Voice communications to the control room via telephone, intercom and radio
- Process computer CRTs for monitoring plant parameters and computer alarms
- A process computer point trend recorder
- Strip chart recorders which will automatically start on a plant scram to trend the accident range instruments for reactor level, reactor pressure, torus level, torus temperature, containment pressure, and when available to control room, containment hydrogen and oxygen concentration and containment radiation
- Meteorological data

Emergency Operation Facility (EOF)

The permanent EOF* will be located on site as shown on attached Figure 2. This multi-use building will contain the plant simulator, plant training section, display, visitor center and administrative offices for the Training Department. The general layout of the building is as shown on Figure 3 with the detailed layout of the classroom - EOF section shown on Figure 4 with room square footages as indicated. The portion of the building shown in Figure 4 is the section of the building that meets the requirements for the EOF. This section of the building is a concrete structure that contains sufficient shielding to meet NUREG 0696. The ventilation system has an emergency mode of operation that will pressurize the building with a HEPA filtration system. The general layout of the building's entrances and exits have been given consideration for operation of the building in an emergency mode. Radiological monitoring and alarming will be provided for the EOF portion of the building. Extensive communications equipment will be installed in the building to provide primary and backup means of communicating with outside agencies, Headquarters Emergency Center, TSC and the Control Room. The EOF portion of the building will be served by a dual source power supply for those services necessary to make the EOF functional. Records for the use of the EOF will be contained in the administrative area of the Training Facility. These records, while not in the habitability envelope of the EOF, will be accessible at all times through use of available protective measures and clothing.

The data provided to the EOF will consist of only that data required by the EOF personnel to perform their function. As such, the ERIS will transmit meteorological data, radiation levels at the release points and the off-site dose assessment program to the EOF. The SPDS and Reg. Guide 1.97 parameter set will not be made available at the EOF. It is felt that it is the function of the TSC personnel to assess plant conditions, and for consistency in the emergency response actions it is best that plant status is transmitted verbally to the EOF.

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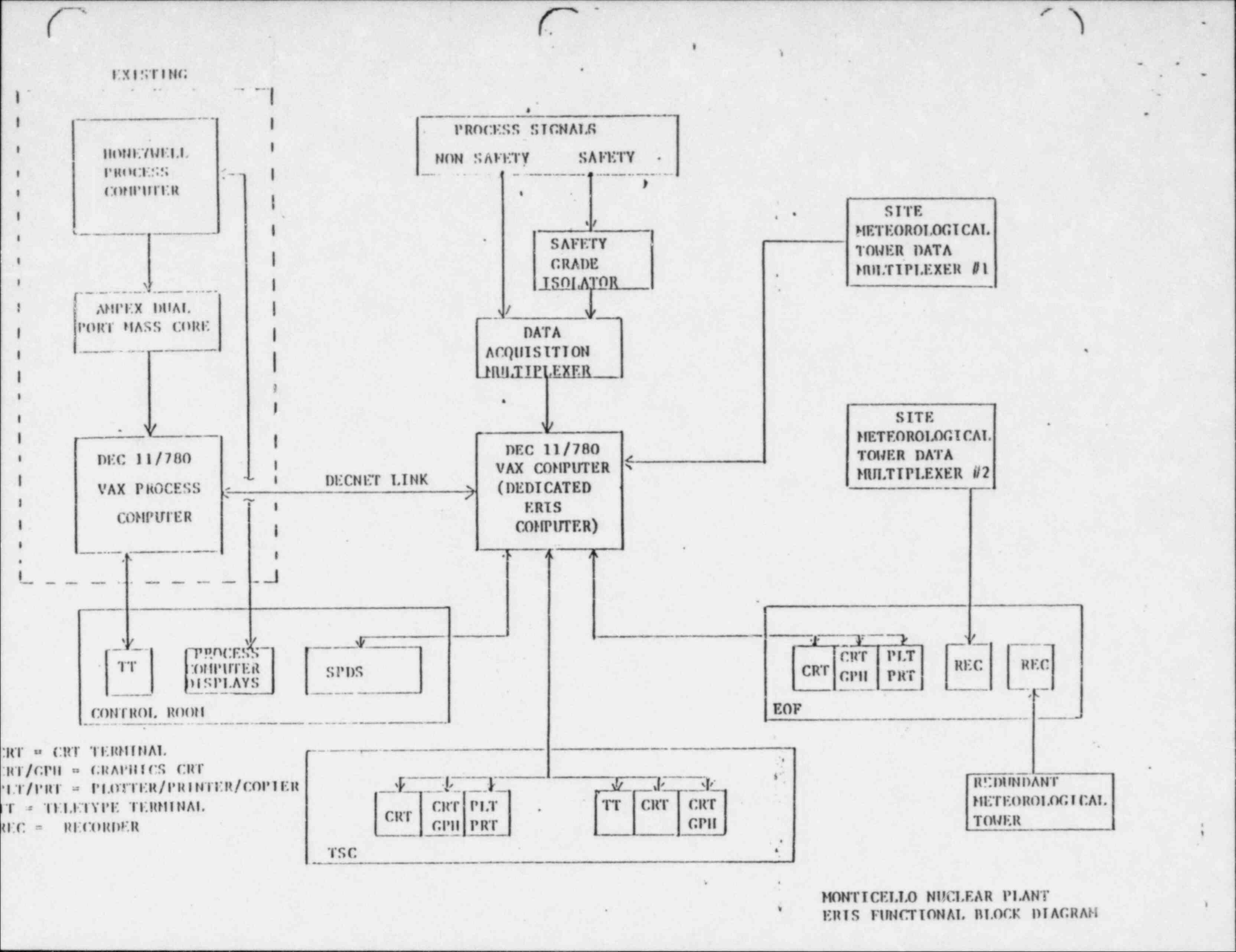
*Until this permanent EOF can be made operational an interim facility is now in use. This interim facility is located 3 1/4 miles SSE of the plant in the city of Monticello and is equipped to meet the functional requirements of an EOF.

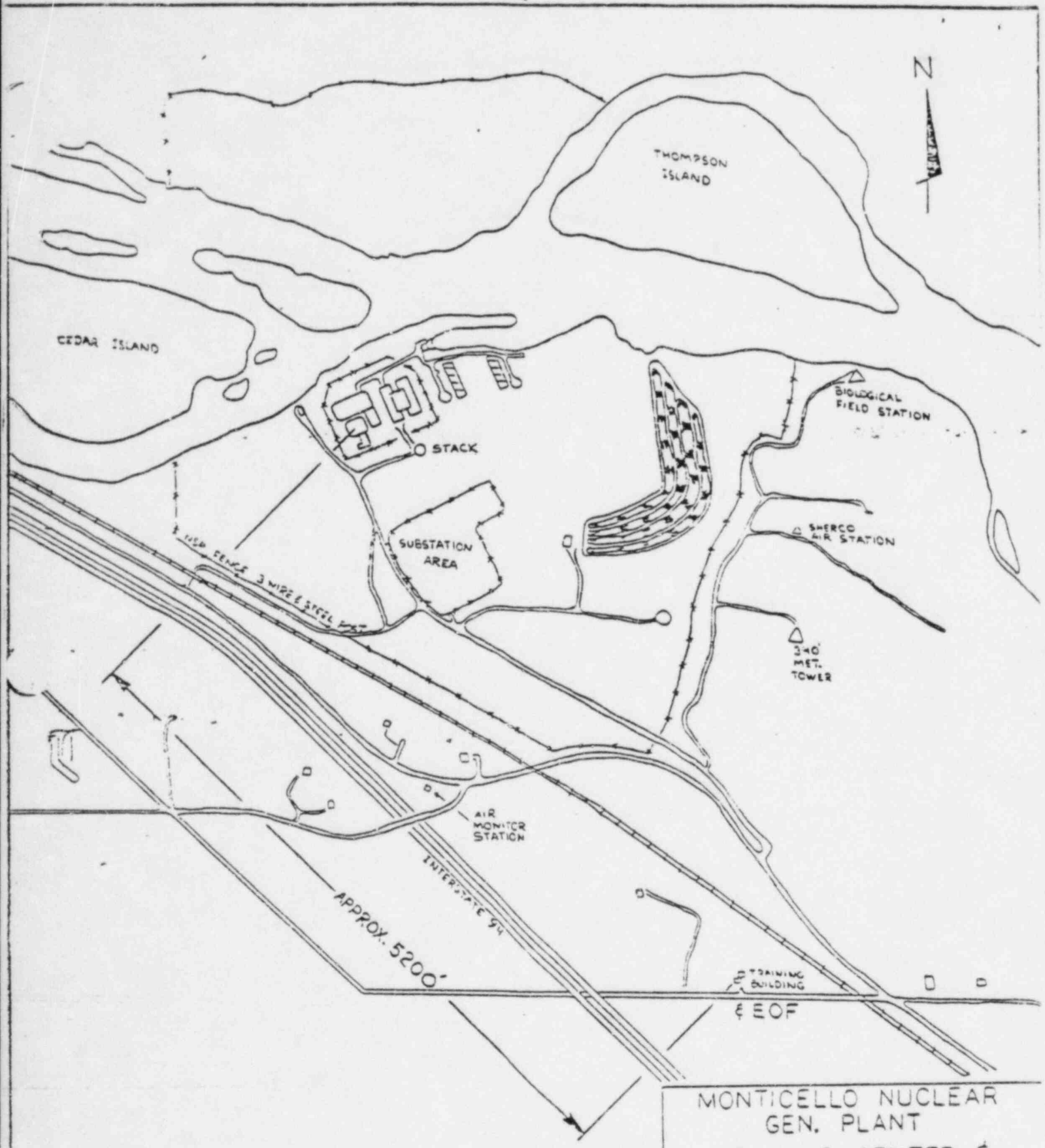
Headquarter Emergency Center - Backup EOF

As indicated in Table 2 of 0696, a backup EOF is suggested if the primary EOF is located within 10 miles of the plant. As part of the Corporate Emergency Response Plan, a Headquarters Emergency Center is provided for. This HQEC will be manned for those emergency classes that require manning of the EOF. Therefore, the HQEC is available and functional during those times that the EOF is activated. For those unlikely circumstances that could result in abandonment of the primary EOF, the HQEC would function as the backup EOF and would be able to assume the responsibility and functioning of the primary EOF. Because the purpose of the HQEC is to provide a corporate focal point for monitoring of emergencies, the correct decision making authority would be available in the backup EOF at any time the primary EOF would need to be abandoned. The location of the HQEC is on the 8th floor of the NSP corporate office building which is located in downtown Minneapolis, Minnesota, approximately 45 miles from the Monticello plant. While this location exceeds the 10 to 20 miles suggested in 0696, it is felt that this additional distance is not a significant deviation. It is anticipated that the backup EOF will be equipped with a output device from the plant Dose Assessment System. This will allow the backup EOF to monitor the dose projections if it is necessary to assume the role of the primary EOF. Dedicated communications systems are available in the HQEC.

Also a controlled set of the most significant plant drawings is available in the Corporate Headquarters. The location of the HQEC is on the same floor in the corporate headquarters as our System Dispatch Center. This location allows access to extensive primary and backup communication systems. For those cases where rapid transportation between the EOF and the HQEC may be necessary, arrangements are being made for the use of a helicopter pad on a building adjacent to the Corporate Headquarters.



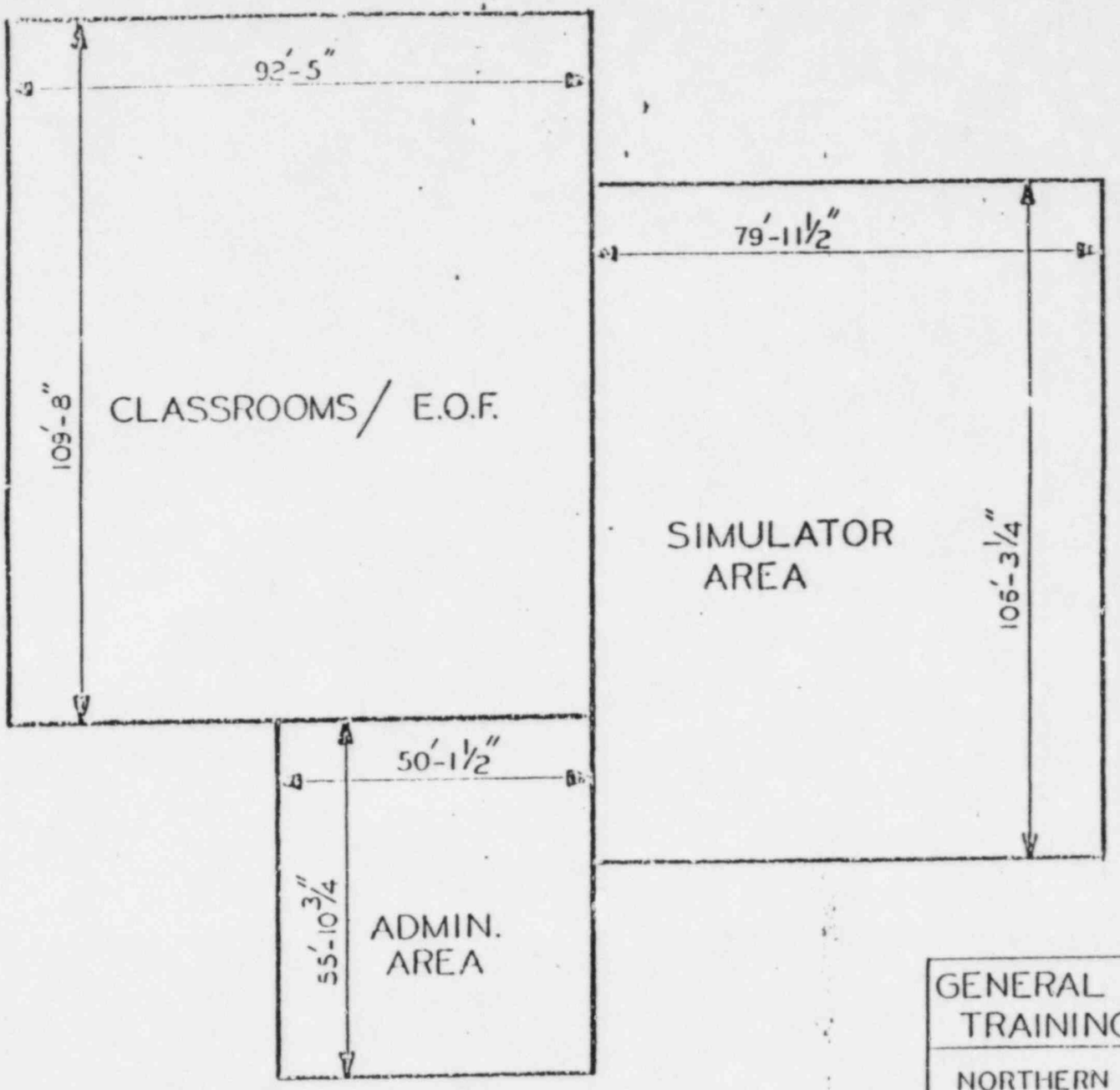
MONTICELLO NUCLEAR PLANT
ERIS FUNCTIONAL BLOCK DIAGRAM



MONTICELLO NUCLEAR GEN. PLANT
TRAINING CENTER & E.O.F. LOCATION

NORTHERN STATES POWER

DWN: MSN | FIGURE 2



GENERAL LAYOUT OF TRAINING CENTER

NORTHERN STATES POWER

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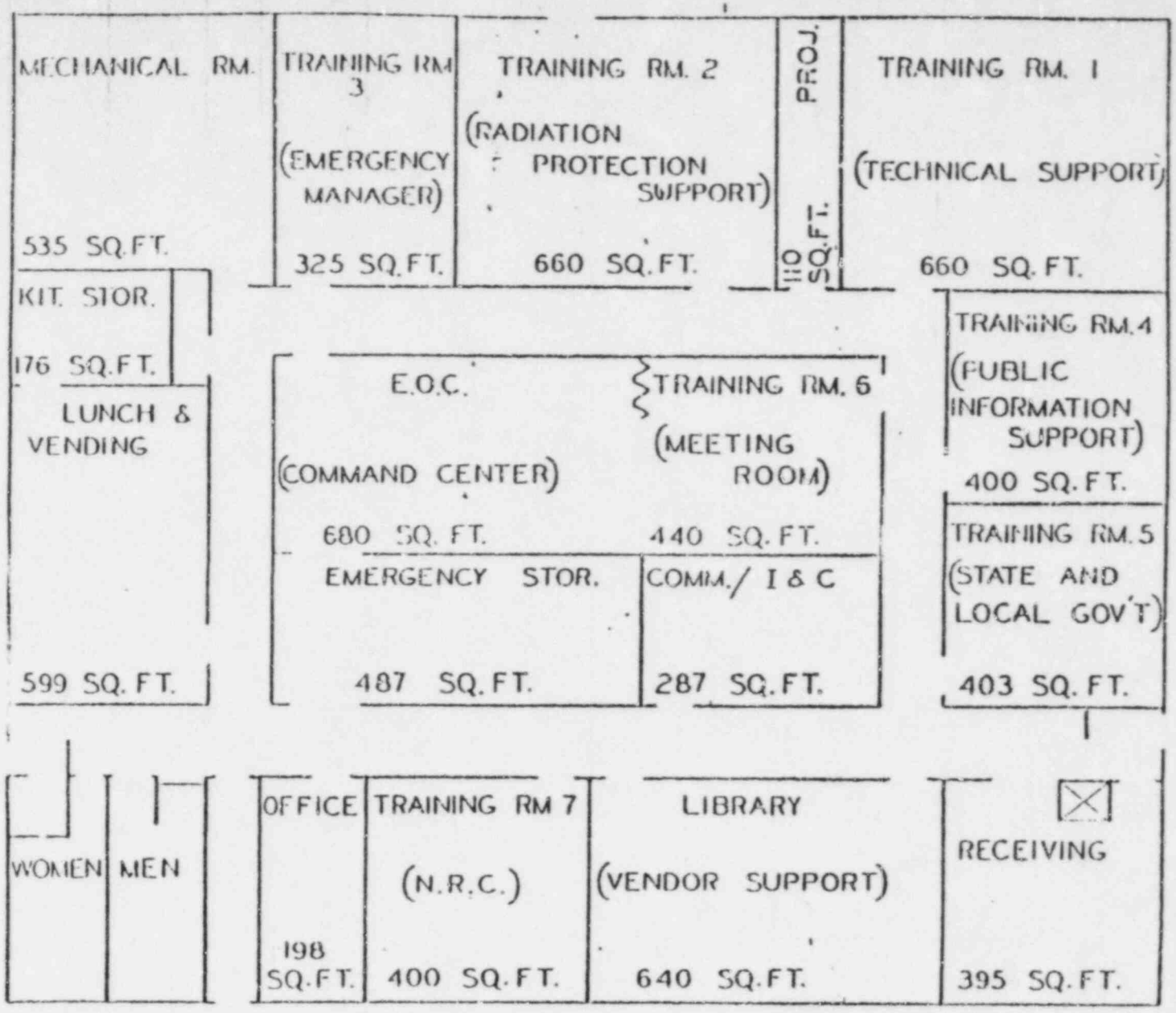


CLASSROOM/ E.O.F.
SECTION OF TRAINING CENTER
NORTHERN STATES POWER
DWN: RWH | FIGURE 4

MONTICELLO NUCLEAR GENERATING PLANT
EMERGENCY RESPONSE FACILITIES

(2) TASK FUNCTIONS

This report has been written to delineate the function of, and tasks performed by, individuals who will normally report to the Technical Support Center, Emergency Operations Facility, and the Headquarters Emergency Center (Backup EOF) upon the activation of these emergency centers.

The Emergency Organization (both plant and corporate) is not mobilized during "Notification of Unusual Events", therefore the emergency facilities are not activated during events that come under this emergency classification.

Each of the tasks in this report are specified in various Northern States Power Company Emergency Plans and Implementing Procedures. This report is intended to be a general discussion of the functions of individuals who will report to the ERF's. This report will be used to assist in the design of the physical facilities to ensure that the design will support the needs of the emergency response organizations. As a regulatory requirement we have implemented upgraded Emergency Plans and Procedures. Efforts have been expended to make this descriptive report consistant with the above mentioned documents. However, if differences are found, our commitment is to the Plan and Procedure documents.

TECHNICAL SUPPORT CENTER

Emergency Director

The Emergency Director is the overall coordinating authority for Northern States Power Company at the affected plant. He has the responsibility and authority for managing the emergency effort within the plant. He also manages the emergency effort outside the confines of the site until the near-site Emergency Operating Facility (EOF) is activated, and the corporate Emergency Organization relieves him of his external tasks.

When notified of a problem, and after he familiarizes himself with the situation, the Emergency Director determines the classification of the emergency to be declared. He directs the Emergency Plan to be activated and initiates the appropriate notifications for the class of emergency declared. During Alert classifications, he assists the Emergency Manager in determining the necessity of mobilizing the sister plant's Health Physics personnel to act in the capacity of offsite survey teams.

If releases occur from the plant, offsite dose rate projections will be made. If the results of the projections warrant sheltering or immediate evacuation of an area, the Emergency Director notifies the proper authorities and provides them with protective action recommendations. In all other circumstances, he ensures that radiological information is transmitted to state level authorities as soon as practicable, with periodic information updates.

He determines the need for, and initiates the monitoring of onsite and offsite areas. When the EOF is activated, he transfers responsibilities for offsite surveys to the Emergency Manager. Regarding plant matters, the Emergency Director periodically consults with NRC personnel.

If the conditions of the emergency continue to deteriorate, he directs the escalation of the emergency to the next higher classification and notifies the proper authorities. If conditions warrant, he initiates onsite protective actions, from the use of anti-contamination clothing up to evacuation of the plant or site. With the recommendation of the Superintendent, Radiation Protection, he can direct the use of a thyroid blocking agent for Northern States Power personnel. He is responsible for personnel accountability during the emergency, and initiates Search and Rescue operations as necessary. The Emergency Director is responsible for the authorization of increased exposure for Search and Rescue personnel up to the maximum limits for the protection of life and property.

Utilizing all available pertinent data, he determines the conditions of evacuated plant areas and makes decisions as to the re-entry of affected areas. When the emergency is stabilized and as conditions dictate, after review with the Emergency Manager the Emergency Director de-escalates the classification of the emergency and notifies the appropriate offsite authorities.

Radiological Emergency Coordinator

The Radiological Emergency Coordinator directs the efforts of the Radiation Protection Group. This group is responsible for surveys (onsite and initial offsite), chemistry, contamination/radiation control, exposure control and the use of respiratory protection equipment. He is responsible for making offsite dose projections as soon as possible in the event of a release from the plant, and any subsequent offsite dose assessments until the corporate organization at the EOF assumes this responsibility.

He makes recommendations to the Emergency Director concerning the authorization of additional exposure for Search and Rescue team members and in the use of a thyroid blocking agent.

Shift Technical Advisor

The Shift Technical Advisor is on 24 hour/day coverage, and is available to consult with the Shift Supervisor within a 10 minute period at all times when the STA function is required. He reports to the control room immediately when notified and assists the Shift Supervisor and Emergency Director in assessing the accident and other emergency conditions. He advises the Emergency Director on the safety related aspects of the situation and on ways to improve the plant's capability for response to off-normal situations.

Shift Emergency Communicator

The Shiff Emergency Communicator is responsible for the functioning and coordination of the various means of communication in the TSC. He transmits and receives information over the communications systems. He records pertinent data transmitted to him and routes all other information to the appropriate person. The Shift Emergency Communicator is on 24 hour per day coverage and is available to report to the Emergency Director within 10 minutes of notification. He reports to the control room initially and initiates the off site notification process. When the TSC is activated he moves to the TSC.

Other Personnel

The remaining NSP personnel in the TSC consist of plant supervisory staff and other individuals as requested by the Emergency Director. These may include the following:

- Plant Superintendent, Engineering & Radiation Protection
- Plant Superintendent, Operations & Maintenance
- Superintendent Technical Engineering
- Superintendent Operations Engineering
- Superintendent Maintenance
- Superintendent Quality Engineering
- Superintendent Security & Services

With the addition of administrative support, technical specialists and 5 NRC personnel, the TSC staffing should be about 20.

It is the responsibility of these individuals to assist the Emergency Director and apply their expertise in their specific disciplines to support the emergency effort. Although they may not be required to remain in the TSC, they report to the TSC when requested by the Emergency Director, and familiarize themselves with the needs of the Emergency Director. They may then report to their work stations to direct the efforts of their respective support groups if environmental conditions are satisfactory.

EMERGENCY OPERATING FACILITY (EOF)

Emergency Manager

The Emergency Manager position is staffed by a corporate call list of qualified individuals. He is responsible to direct the corporate emergency response effort. He manages the overall offsite support effort and supervises the Northern States Power Company personnel at the Emergency Operating Facility (EOF). The Emergency Manager provides resources to the Emergency Director as he requests them.

Upon notification of an emergency at a nuclear plant, the Emergency Manager contacts the Emergency Director to determine the extent of the emergency. If the Emergency Director classifies the emergency as an Alert, the Emergency Manager determines the necessity of mobilizing the sister plant's Health Physics personnel to conduct offsite surveys. He then proceeds to the affected plant's EOF and assumes control of the Corporate Emergency Organization.

He assigns personnel to fill positions in the Emergency Organization at the EOF. He coordinates the efforts of the sister plant's Health Physics personnel and directs the gathering of offsite survey data. If necessary, he requests the implementation of the Emergency Radiological Environmental Monitoring Program. Using the data gathered by the offsite survey teams, he ensures offsite dose projections are performed. He reports the results of the local projections to Northern States Power management and state EOCs. If projection estimates warrant, he provides recommendations to state and local agencies on the potential need for sheltering or evacuation of offsite areas.

The Emergency Manager supervises the logistic effort to supply the plant with personnel and equipment as required. He provides technical support to the TSC and plant as the Emergency Director requests it. The Emergency Manager is the interface with Northern States Power corporate management to obtain the necessary resources to support the emergency effort. He obtains the services of outside vendors or consultants as is necessary and coordinates their assistance to support the plant during the emergency.

He advises Power Production Management at the Headquarters Emergency Center (HQEC) on emergency related matters at the plant. He provides routine status reports to Power Production Management, state and local officials at the EOCs and the NRC. He provides the technical input and review of press releases by public information personnel. When directed by Power Production Management he provides technical support at press conferences called by the Communications group.

In the event that the situation deteriorates to the point that EOF habitability warrants protective actions, the Emergency Manager directs the evacuation of non-essential personnel and the use of protective actions by personnel remaining in the EOF. If radiation or contamination levels continue to increase, the Emergency Manager directs the evacuation of the EOF to the HQEC. He notifies the proper authorities (HQEC, state and local EOCs) of his change in location.

If long term recovery needs dictate, through discussions with Power Production Management and the Recovery Manager, the Emergency Manager determines the need for mobilizing the Recovery Organization. When conditions at the plant have stabilized, he and the Emergency Director discuss the reclassification or close out of the emergency. If a recovery is dictated, he directs the turnover of the EOF to the Recovery Organization.

EOF Coordinator

The EOF Coordinator is responsible for the general operation of the EOF. It is anticipated that he will be the first Northern States Power Company corporate representative to arrive at the EOF when notified. As such, he is responsible for the initial startup of the EOF. After the EOF has become functional, he acts as the Emergency Manager and may direct all offsite activities until a designated Emergency Manager arrives and relieves the Coordinator of those duties.

In starting up the EOF, he directs other personnel available to test the communication systems at the EOF and the habitability of the facility. He directs the activities of the Security Force personnel and the recordkeeping personnel at the EOF. The EOF Coordinator assists the Emergency Manager in obtaining vendor services. He directs the activities of the Logistics Coordinator in providing logistical support for the plant and the EOF and sets up a shift rotation to keep the EOF manned 24 hours/day.

When the Emergency Manager declares the need for evacuating the EOF, the EOF Coordinator oversees and coordinates the actual evacuation of the facility. He supervises the assembly of material to be removed to the HQEC (Alternate EOF).

The EOF Coordinator prepares reports to the Emergency Manager concerning the status of the EOF and any problems concerning EOF operations.

Radiation Protection Support Supervisor

He is a member of the sister plant's Health Physics Organization. He directs the Radiation Protection Support Group that carries out all offsite radiological tasks requested by the Emergency Manager. The Radiation Protection Support Supervisor advises the Emergency Manager on radiological matters, including data from the Radiological Environmental Monitoring Program.

Upon arriving at the EOF, he contacts the Radiation Protection Superintendent at the TSC and familiarizes himself with offsite activities in progress. When this is done, he assumes control and coordination of the offsite survey teams, determining the necessary radiation protection equipment for all field personnel. He dispatches survey teams to perform appropriate surveys to confirm dose projection results and to map the plume of any released radioactive material. The Radiation Protection Support Supervisor provides the interface with state health officials to coordinate state and Northern States Power Company survey teams.

He directs the activities of the dose projection team and assists in calculations of offsite dose estimates. He informs the Emergency Manager of the results of the projections and makes recommendations to the Emergency Manager on offsite protective actions. He prepares status reports of operations in progress for the Emergency Manager. If events at the site deteriorate to the point where a site evacuation is necessary, the Radiation Protection Support Supervisor recommends evacuation routes for plant personnel.

He supervises the monitoring of the EOF and routinely updates the EOF Coordinator on the habitability of the facility. He directs the distribution of personnel dosimetry equipment to all personnel in the EOF and protective clothing, as necessary. When the results of EOF monitoring are reported to him, he informs the Emergency Manager when radiation or contamination levels in the EOF are above normal. Based on this information, the Radiation Protection Support Supervisor makes protective action recommendations for EOF personnel. If radiation levels reach the point that the Emergency Manager decides to evacuate the EOF, the Radiation Protection Support Supervisor determines evacuation routes to be used to limit personnel exposure and supervises teams for monitoring evacuated personnel.

Technical Support Supervisor

He supervises the Technical Support Group at the EOF. The Technical Support Supervisor supplies publications and prints necessary for analysis of plant conditions and provides technical analysis as requested by the Emergency Manager. He advises the Emergency Manager and Power Production management on technical decisions affecting the emergency effort and performs other technical tasks as requested by the Emergency Manager.

The Technical Support Supervisor is the interface between the Emergency Organization and the vendors and NRC technical personnel at the EOF. He provides information and direction for Technical Support Group personnel located at the HQEC.

Communications Coordinator

The Communications Coordinator is responsible for establishing communications in the EOF and the overall coordination of all communications systems at the facility. He verifies all methods of communications are functioning and arranges for the repair of any equipment as necessary. He distributes and updates Communications Information sheets, containing pertinent phone numbers.

Logistics Coordinator

The Logistics Coordinator is responsible for coordination of the logistics effort necessary to support the plant, the EOF and the overall emergency effort. As directed, he initiates and expedites the procurement process to obtain needed goods and services. He notifies the affected plant's Nuclear Steam Supply vendor and Architect/Engineer of the emergency and provides the vendor response centers with the information necessary for them to formulate their level of response. If the vendors are needed for longer than three days, the Logistics Coordinator initiates procedures to procure their long term services.

He is also responsible for making the necessary living arrangements (food, lodging and transportation) for personnel at the EOF who are not able to commute to the EOF from their homes. He arranges for food and other habitability items for personnel while working at the EOF.

Records

The Records position is responsible for keeping complete and accurate logs at the EOF during an emergency. As the logs are completed, he consolidates and files them to provide a permanent record of events and decisions taken at the EOF for the duration of the emergency. He is also responsible for updating the EOF status boards as information is received from the plant.

Public Information Specialist

The Public Information Specialist supervises the collection of information at the EOF for news releases. He prepares news releases and obtains the Emergency Manager's approval of their technical content. He then provides drafts of the releases to the Supervisor,

Media Information at the corporate headquarters. He is the interface with media personnel at the facility and coordinates any news releases given to the press at the EOF. (This news release point is not a normal interface and will only be used if unusual circumstances dictate. The normal interface point with the press will be at corporate headquarters in Minneapolis.) He also keeps the Emergency Manager informed of media activities in and around the EOF.

HEADQUARTERS EMERGENCY CENTER (HQEC) - (BACKUP EOF)

Power Production Management

When notified of an emergency classified as Alert, Site Emergency or General Emergency, Power Production Management Personnel report to the Headquarters Emergency Center (HQEC). The person in charge is responsible for the overall coordination of the corporate emergency response effort. He serves as a focal point for relaying corporate policy decisions to the corporate emergency organization and provides plant status information to upper management. He insures corporate resources are available to the plant in support of the emergency effort. He coordinates EOF operations with the HQEC, Communications Department and the Environmental Regulatory Activities Department (ERAD). He provides managerial support to the Emergency Manager as necessary and serves as a sole interface between the company executive management and the corporate emergency organization.

The person in charge selects appropriate members of NSP management for advisory support. He provides direction for the HQEC Technical Support Supervisor as to long term engineering analysis. He assigns personnel to serve as interface between vendor representatives and the power production management organization.

The power production management organization procures funds to support Site, EOF and HQEC operations. Also involved is the point of contact with the Institute of Nuclear Power Operations; authorization of information release to the Notepad system, and contacts with American Nuclear Insurers.

Communications Supervisor

This position is filled by the Director of Communications or his designee. He coordinates the NSP public information efforts and advises Power Production Management on public affairs related items. He is the sole media representative for corporate management communication with the various media channels, although he may delegate this responsibility.

When notified of an emergency, the Communications supervisor insures the Communications procedure is activated and functioning. He provides a staff of Communications Representatives to prepare news releases and conduct press conferences. Although the major NSP interaction with the media will be at the Media Information Facility, he directs a Communications Representative to report to the EOF to interface with any media that might arrive at that facility. He coordinates the efforts of NSP Communications Representatives at the state Emergency Operations Center, the EOF and the Media Information Facility.

The Communications supervisor provides Communication Department support to Power Production Management at the HQEC. He submits drafts of news releases to Power Production Management for review and approval, and insures that requests by Power Production Management in the communications field are promptly acted on. The Communications Supervisor directs the dissemination of news releases and situation reports and coordinates with Power Production Management to prepare for and conduct formal news conferences.

Technical Support Supervisor

The Technical Support Supervisor directs personnel in the Technical Support Group to assist in engineering analysis as requested by Power Production Management. The Technical Support Group is staffed from a call list of Northern States Power Company non-plant technical personnel. The Group advises Power Production Management on technical decisions and perform other tasks as required.

The HQEC Technical Support Supervisor is the technical liaison with the EOF Technical Support Group. He oversees the efforts of vendor engineering groups retained by Power Production Management at the corporate offices. He provides the technical information to Power Production Management for release on the Notepad System. When directed by Power Production Management, the Technical Support Supervisor interfaces with the Logistics Coordinator at the EOF to facilitate processing material or service requests from the EOF.

Environmental Regulatory Activities Department (ERAD) Supervisor

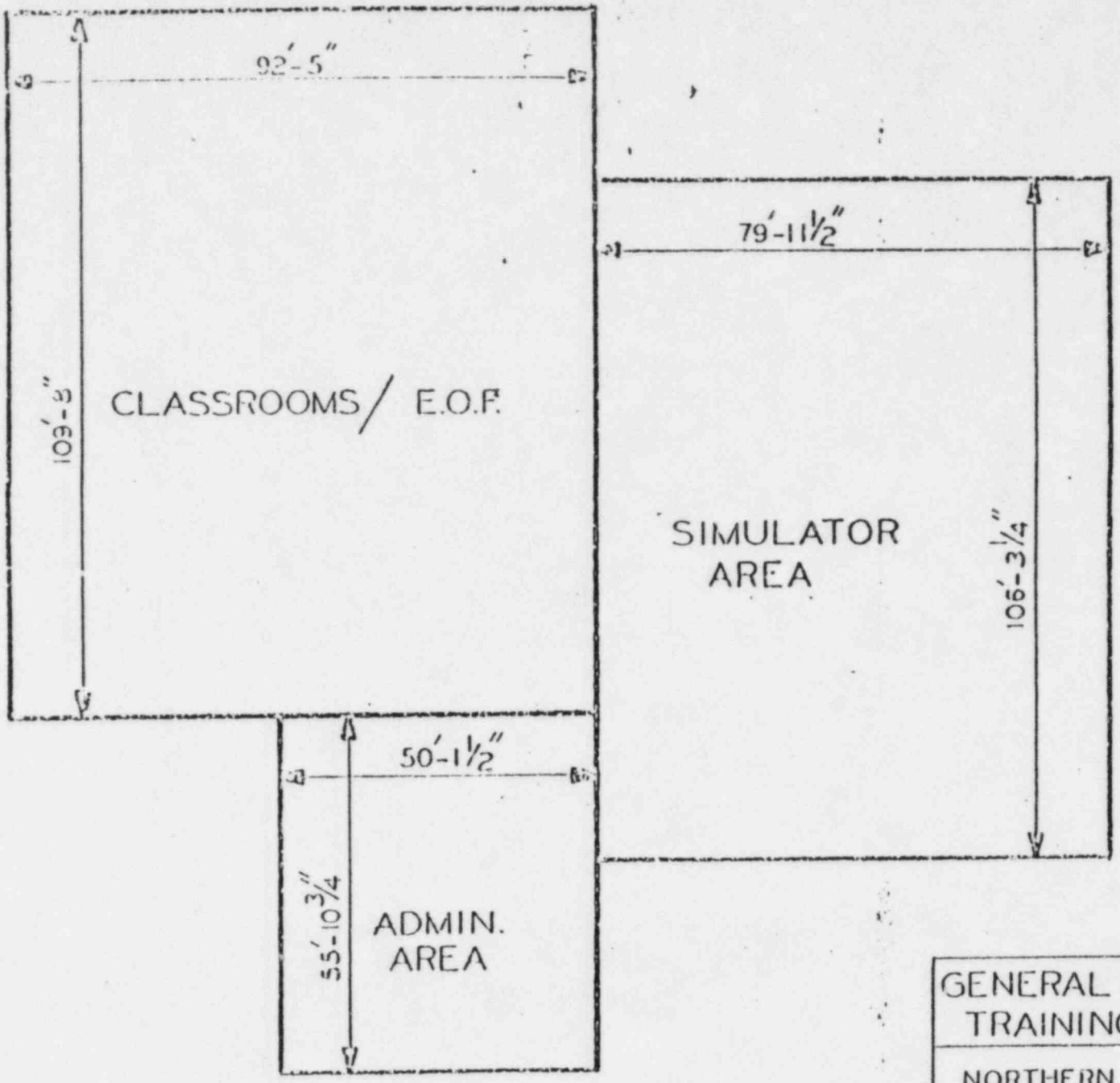
The ERAD Supervisor provides a NSP liaison with state and local government representatives. He supplies timely information to Power Production Management about actions taken or planned by either of these government's agencies.

Advisory Support Group

The Advisory Support Group is staffed by appropriate management personnel as requested by Power Production Management. This Group supplies a pool of knowledgeable management personnel to support the operations of the HQEC. They advise on management and policy decisions concerning the emergency effort. They also provide assistance and perform selected tasks as directed by Power Production Management.

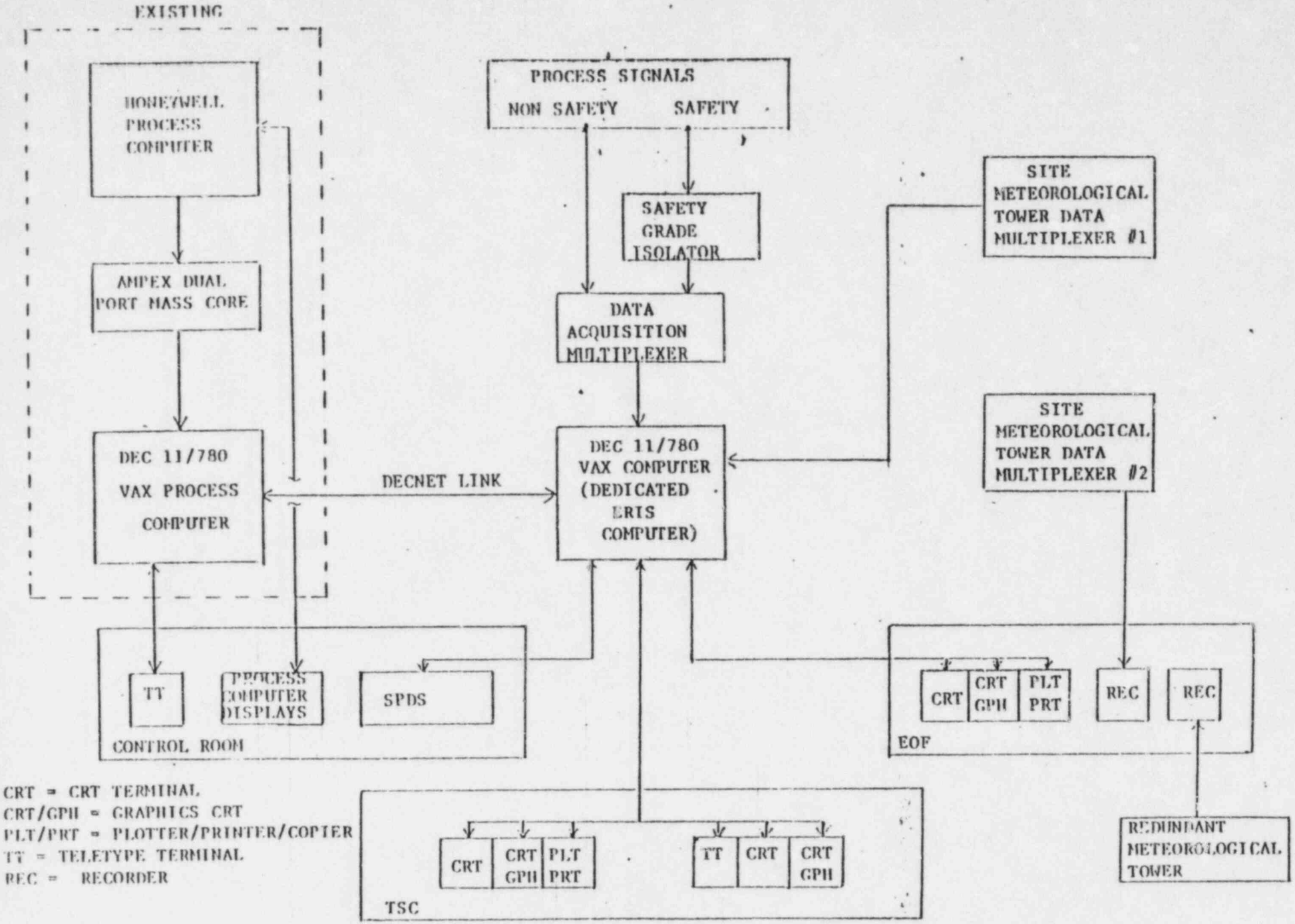
Backup EOF

For the unlikely occurrence when the primary EOF is evacuated the HQEC will serve as the backup EOF. As directed by the Emergency Manager, personnel from the EOF shall report to the HQEC. Key personnel functional responsibilities shall remain as presented. For the interim period during evacuation, Power Production Management and staff have complete responsibilities for offsite activities regarding the emergency.

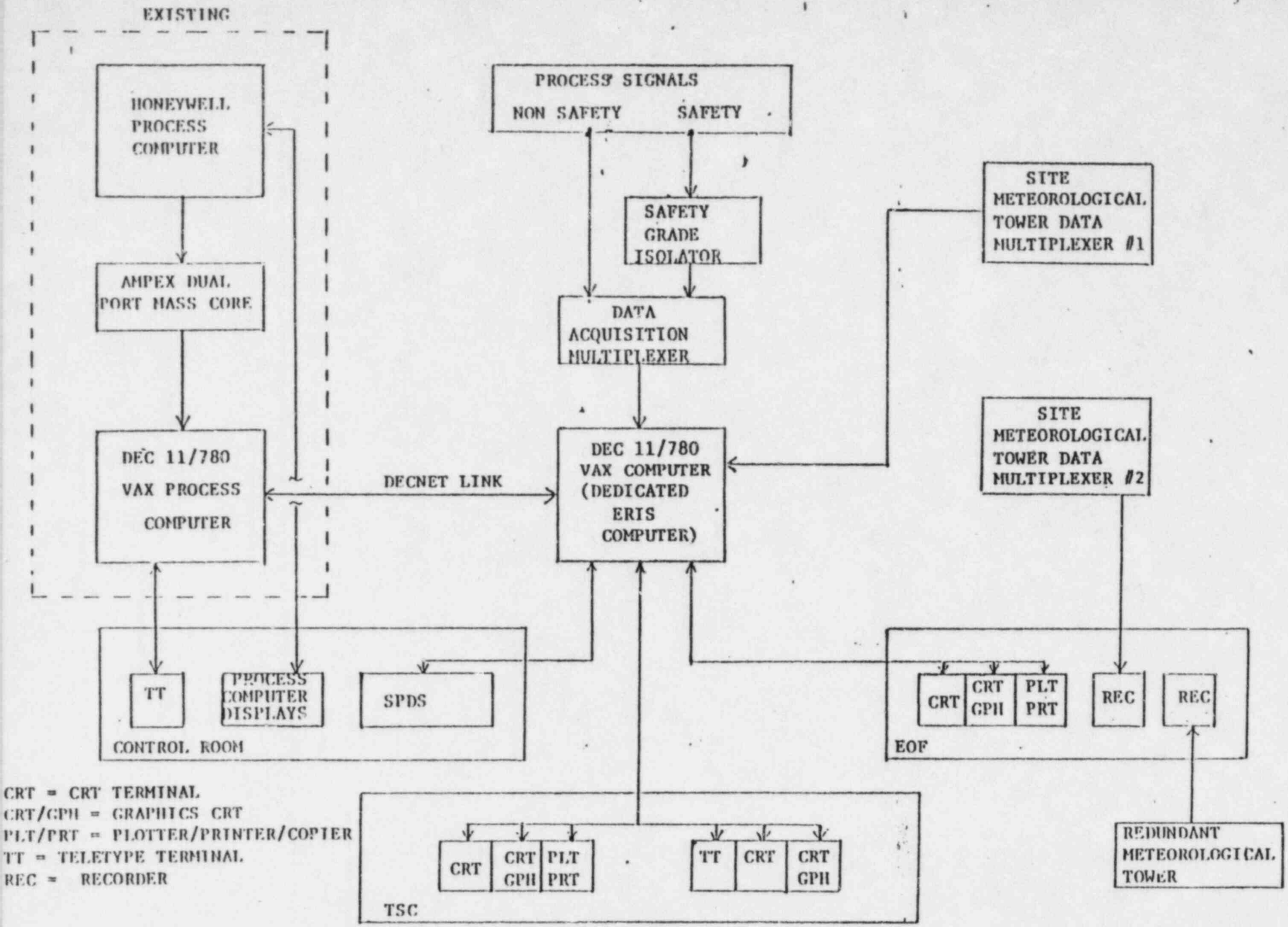


GENERAL LAYOUT OF TRAINING CENTER

NORTHERN STATES POWER



MONTICELLO NUCLEAR PLANT
ERIS FUNCTIONAL BLOCK DIAGRAM



CRT = CRT TERMINAL
CRT/GPH = GRAPHICS CRT
PLT/PRT = PLOTTER/PRINTER/COPIER
TT = TELETYPE TERMINAL
REC = RECORDER

MONTICELLO NUCLEAR PLANT
ERIS FUNCTIONAL BLOCK DIAGRAM
FIGURE 1 CONCEPTUAL DESIGN

ENCLOSURE 2

Northern States Power Company

414 Nicollet Mall
Minneapolis, Minnesota 55401
Telephone (612) 330-5500

June 8, 1981

Director of Nuclear Reactor Regulation
U S Nuclear Regulatory Commission
Washington, DC 20555

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket No. 50-282 License No. DPR-42
50-306 DPR-60

Post-TMI Requirements for the Emergency Operations Facility
(Generic Letter 81-10)

Our letter of April 8 furnished certain information for the subject requirement and further indicated that by June 1 we would be in a position to supply additional conceptual design information for your pre-implementation review. We also indicated that our June 1 submittal would include expanded descriptions of the phased installation of emergency response facilities to include 1981 installations. Attached is the document package that constitutes our June 1 response information under the following format:

(1) General Description Emergency Response Facility Implementation
(2) Appendix A Technical Support Center Phase I Detailed Description
(3) Appendix B Emergency Response Facility Task Functions
(4) Appendix C Generic Safety Assessment System-Conceptual Design Description

For certain emergency response facility requirements, NUREG-0696 references the data sets presented in Regulatory Guide 1.97 (Rev 2) and our designs will be based on this guidance where practicable. However this action should not be construed as an NSP blanket commitment to all other aspects of that Regulatory Guide.

As indicated in the item (1) attachment material under Phase III, we will furnish by December 1, 1981 the balance of the conceptual design information for the upgraded emergency response facilities. Also included will be an update on a realistic implementation schedule in lieu of the October 1, 1982 date specified

ENCLOSURE 2

in Mr Eisenhut's February 18 letter (generic letter 81-10). Apparently the specified date is based on hardware equipment delivery lead times only and does not allow for design development and testing of new systems for backfit applications, which activities must be included in our projection.

L. O. Mayer

L O Mayer, PE
Manager of Nuclear Support Services

LOM/jh

cc J G Keppler
NRC Resident Inspector
G Charnoff

Attachment

NORTHERN STATES POWER COMPANY

EMERGENCY RESPONSE FACILITIES

PRAIRIE ISLAND NUCLEAR GENERATING PLANT

CONTENTS

NORTHERN STATES POWER COMPANY

POST-TMI REQUIREMENTS FOR THE EMERGENCY RESPONSE FACILITIES

PRAIRIE ISLAND NUCLEAR GENERATING PLANT

I. General Description of Emergency Response Facilities Implementation

In order to insure an integrated approach to the Emergency Facilities upgrade, a multi-phased program is being pursued. The phases are broken up in a manner that balances needs for upgrading in a timely manner against uncoordinated additions of hardware and software to the facility which may satisfy individual narrow requirements, but in reality, may be detrimental to the overall safe operation of the facility. The following is a general description of the phases. Detailed descriptions are contained in various sections of the report.

Phase I

This phase will complete the upgrading of the physical portion of the Tech Support Center including habitability, HVAC, power supplies and an upgraded interim data acquisition and display system.

Phase II

This phase will complete the installation of a computer based dose assessment system that will include on-line availability of meteorological data and radiation release data. This phase will also see the construction and activation of the permanent Emergency Operations Facility.

Phase III

This phase will include the completion of a complete data acquisition and display system in a final configuration for the control room and emergency response facilities. This phase will include the replacement of the plant process computer and installation of a plant multiplexing system and computer driven control room enhancement system. This phase will also include implementation of the results of the control room review that will be done in response to NUREG 0700.

Phase I Detailed Description

Attached in Appendix A is a detailed description of the Phase I upgrading of the Technical Support Center. It is intended that Phase I will result in a final configuration of the TSC in the functional areas of: HVAC, structural, shielding, power supplies and communications. Ongoing studies may result in modifications to the facilities as described in this report.

Phase II Description

Phase II of the Emergency Response Facility upgrade will consist of the installation of a computer based Dose Assessment System. This system will allow dose assessment based on real time meteorological data and up-to-date plant release data. The system will have CRT displays allowing access to dose assessment data in the control room, TSC, and EOF. This system will meet the intent of NUREG 0654 and Reg Guide 1.23. Also, as part of Phase II, the construction of a Training Center - Emergency Operations Facility will be completed. This building will house the permanent EOF for the plant.

II. Emergency Response Facility Task Functions

Attached as Appendix B are the task functions for the personnel that will report to the various emergency response facilities. These task functions will be used to arrive at a detailed matrix of facilities required in the various ERF's. By use of these matrices, it will be insured that the proper equipment and facilities are available for the individual to perform their functions.

III. Emergency Response Facility Design Description

A. Technical Support Center

The location and general layout of the facility is shown on attached Figures 1 and 2. The TSC is located directly across the turbine hall from the plant control room entrance and on the same elevation. The description of the facility is as described in Appendix A.

B. Operational Support Center

The Operational Support Center is located in what is called the Plant Operating Records Room. It is located immediately adjacent to the main Control Room on the same operating level. Its location is shown in attached Figure 1. Communications between the Operational Support Center, the Technical Support Center and Control Room will be handled by two extensions of the present plant telephone system. The Operational Support Center will also be served by a multi-channel intercom system that will allow enhanced communication between the TSC, the OSC and the Control Room and all other stations served by this intercom system. This room, while not as heavily shielded as the Control Room, is contained in a substantial structure that has significant concrete shielding.

C. Emergency Operation Facility

230 to R

The permanent EOF* will be located on site as shown on attached Figure 3. This multi-use building will contain the plant simulator, plant training section, display, visitor center and administrative offices for the Training Department. The general layout of the building is as shown on Figure 4 with the detailed layout of the classroom - EOF section shown on Figure 5 with room square footages as indicated. The portion of the building shown in Figure 5 is the section of the building that meets the requirements for the EOF. This section of the building is a concrete structure that contains sufficient shielding to meet NUREG 0696. The ventilation system has an emergency mode of operation that will pressurize the building with a HEPA filtration system. The general layout of the building's entrances and exits have been given consideration for operation of the building in an emergency mode. Radiological monitoring and alarming will be provided for the EOF portion of the building. Extensive communications equipment will be installed in the building to provide primary and backup means of communicating with outside agencies, Headquarters Emergency Center, TSC and the Control Room.

For the EOF data displays, it is intended to provide the full capability of the computer based Dose Assessment System, and as part of Phase III, selected plant data displays will be available in the EOF. The EOF portion of the building will be served by a dual

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*Until this permanent EOF can be made operational an interim facility is now in use. This interim facility is located 6.9 miles southeast of the plant in the city of Red Wing and is equipped to meet the functional requirements of an EOF.

source power supply for those services necessary to make the EOF functional. Records for the use of the EOF will be contained in the administrative section of the Training Department. These records, while not in the habitability envelope of the EOF, will be accessible at all times through use of available protective measures and clothing.

D. Headquarter Emergency Center - Backup EOF

As indicated in Table 2 of 0696, a backup EOF is suggested if the primary EOF is located within 10 miles of the plant. As part of the Corporate Emergency Response Plan, a Headquarters Emergency Center is provided for. This HQEC will be manned for those emergency classes that require manning of the EOF. Therefore, the HQEC is available and functional during those times that the EOF is activated. For those unlikely circumstances that could result in abandonment of the primary EOF, the HQEC would function as the backup EOF and would be able to assume the responsibility and functioning of the primary EOF. Because the purpose of the HQEC is to provide a corporate focal point for monitoring of emergencies, the correct decision making authority would be available in the backup EOF at any time the primary EOF would need to be abandoned. The location of the HQEC is on the 8th floor of Northern States Power's corporate offices which are located in downtown Minneapolis, Minnesota. As shown on attached Figure 6, the location of the corporate offices are approximately 55 miles from Prairie Island and is one-half the distance between our Monticello and Prairie Island plants. While this location exceeds the 10 to 20 miles suggested in 0696, it is felt that this additional distance is not a significant deviation. It is anticipated that the backup EOF will be equipped with a output device from the plant Dose Assessment System. This will allow the backup EOF to perform the monitoring of the Dose projections if it is necessary to assume the role of the primary EOF. Dedicated communications systems are available in the HQEC.

Also a controlled set of the most significant plant drawings is available in the Corporate Headquarters. The location of the HQEC is on the same floor in the corporate headquarters as our System Dispatch Center. This location allows access to extensive primary and backup communication systems. For those cases where rapid transportation between the EOF and the HQEC may be necessary, arrangements are being made for the use of a helicopter pad on an adjacent building to the Corporate Headquarters.

IV. Safety Parameter Display System

Northern States Power is a member of a group of utilities who are jointly funding the development of a generic safety parameter display software system. This system is described in detail in Appendix C and was presented to the NRC staff on May 14. This system is being developed for implementation on the Emergency Response facilities data acquisition and display computer which will be part of Phase III. The final version of SPDS that is implemented at Prairie Island will depend on the results of the development, testing and verification work that will take place with the generic SPDS system. It is anticipated that final acceptance of the system will depend upon testing and verification performed at a simulator. Northern States Power is evaluating and keeping abreast of other SPDS systems that are being developed to fully assess the overall status of various systems. A final review and determination of the actual system to be implemented at Prairie Island will not be able to be completed until late 1981. The generic SPDS system presented in Appendix C is intended to be a status report on the present stages of development of this system. The final configuration of the SPDS that will be installed could vary from the described system due to changes implemented during system reviews. It is intended for the final configuration of the ERF data display system that some version of the SPDS display will be available in the TSC and the EOF.

V. Schedules

Phase I

The implementation of this phase is underway at this time. Completion of the major portion of this phase is expected to take place by the end of 1981.

Phase II

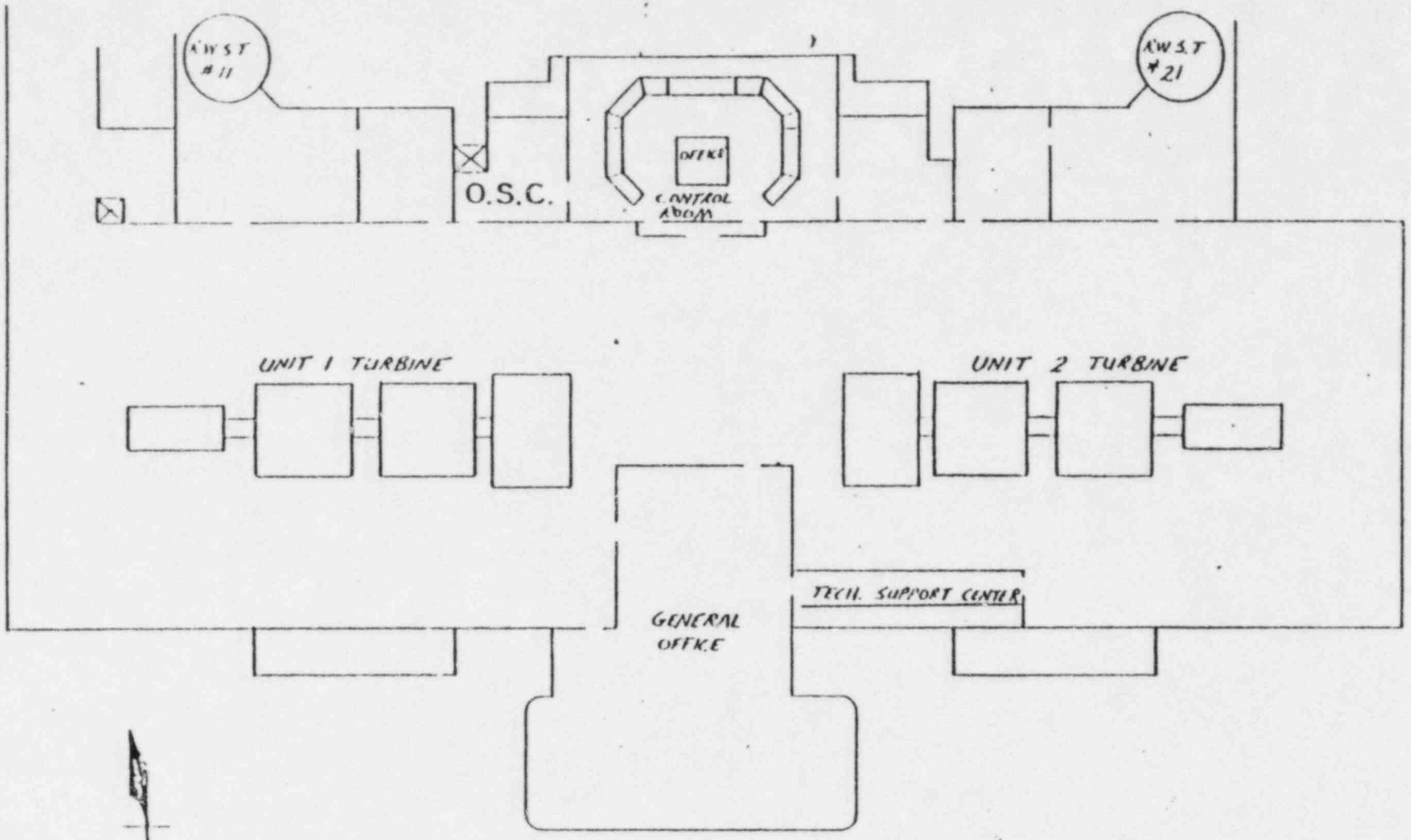
Detailed specifications for the Dose Assessment System are being completed at this time. As indicated in the regional meeting on NUREG 0654 and 0696, final NRC guidance on Dose Assessment and Meteorological Data Systems are being completed at this time. In anticipation of these final NRC requirements being issued late this fall, we would plan on purchasing and installing a complete computer based Dose Assessment System in 1982. We would anticipate having the system operational in late 1982 dependent on hardware and software availability.

The construction of the Training Center - permanent EOF is underway at this time. Completion of this facility is scheduled for Spring of 1982. Therefore, is it anticipated that full operation of the permanent EOF should be available late in 1982. The backup EOF (HQEC) is now functioning as a part of the upgraded Emergency Plan. Dose Assessment for the primary EOF and backup EOF will be installed as the complete Dose Assessment System is implemented.

Phase III

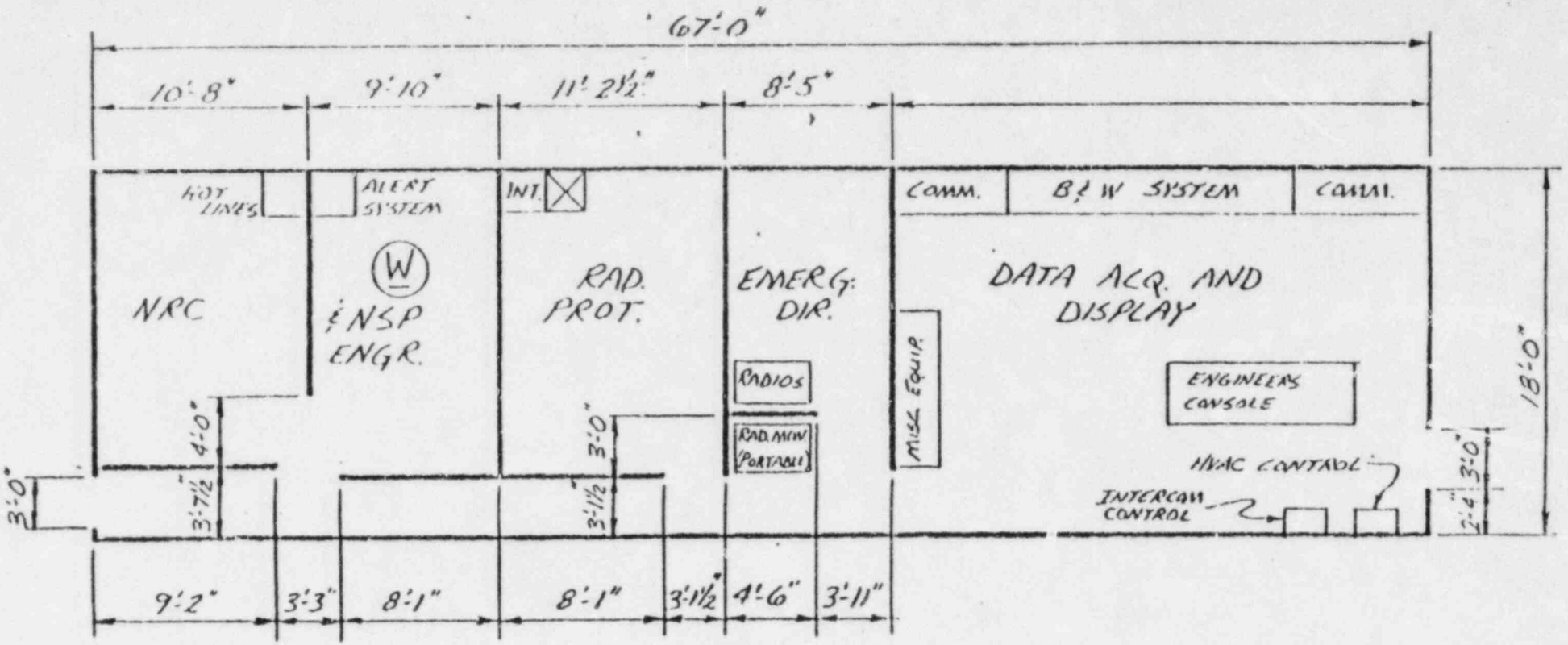
Phase III which consists of the permanent Data Acquisition and Display System for the Emergency Response Facility and the Control Room is dependent on many factors. Because of the significance of placing new displays, output devices, printer, plotters, etc. in the Control Room, the approach to implementation of this phase must be carefully planned. Our plans, at this time, are to proceed with specifying and procuring a replacement plant process computer that will have capabilities for supporting Control Room enhancements, including SPDS, possible safety system status monitoring and annunciator enhancement features. To adequately specify, engineer and testout such a system is a long term undertaking. The formal NRC requirements for the overall Control Room review are undergoing review and modification at this time. As soon as these reviews and changes are made and the requirements and/or guidance are published, we intend to undertake the complete Control Room review. The output of this review should provide final guidance for possible Control Room changes. Because of the complexities and long lead hardware items which are required for the final implementation, we are unable to supply a complete schedule at this time for Phase III. We do intend to provide updated status reports and clarification of our intended implementation method at six month intervals. By December 1, 1981, we will be able to supply additional information on the final Data Acquisition and Display System including a update on schedule considerations.

To help us determine if our Control Room contains any serious deficiencies, we cooperated with an EPRI sponsored effort to have a review completed on the plant Control Room. This review is completed at this time and we have received a preliminary report. As we had anticipated, there are no major concerns associated with the Prairie Island Control Room. Because of the demonstrated adequacy of the present Control Room layout and information display system, together with a lack of formal regulatory guidance, we are reluctant to commit to a schedule for control room modifications. In order to give careful consideration to control board modifications and additions, a full scale mockup is now being designed with construction to follow. This tool will allow complete review and verification of changes before actual implementation.



GENERAL ARRANGMENT OPERATING FLOOR

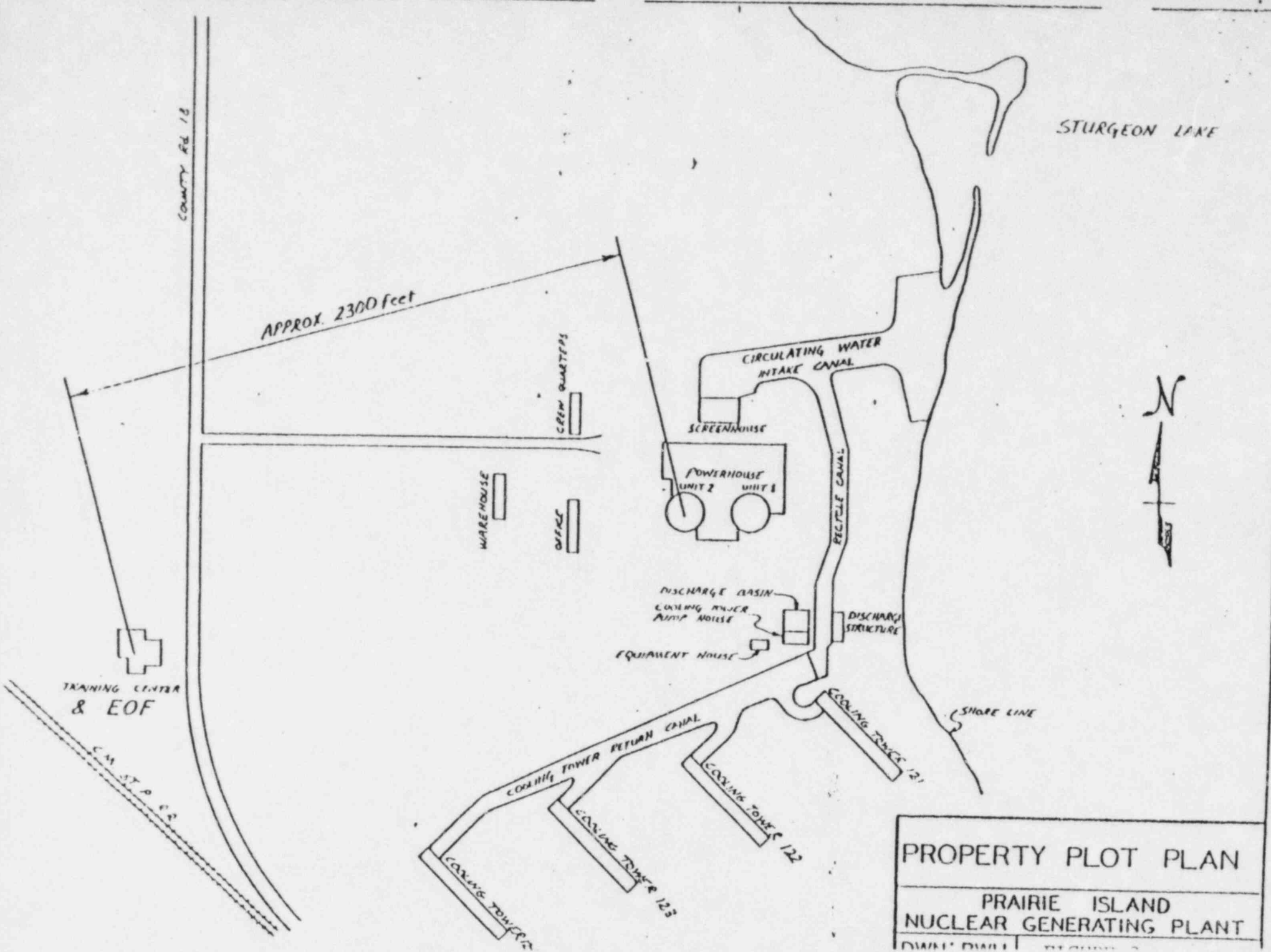
PRAIRIE ISLAND
NUCLEAR GENERATING PLANT



TECH. SUPPORT CENTER LAYOUT

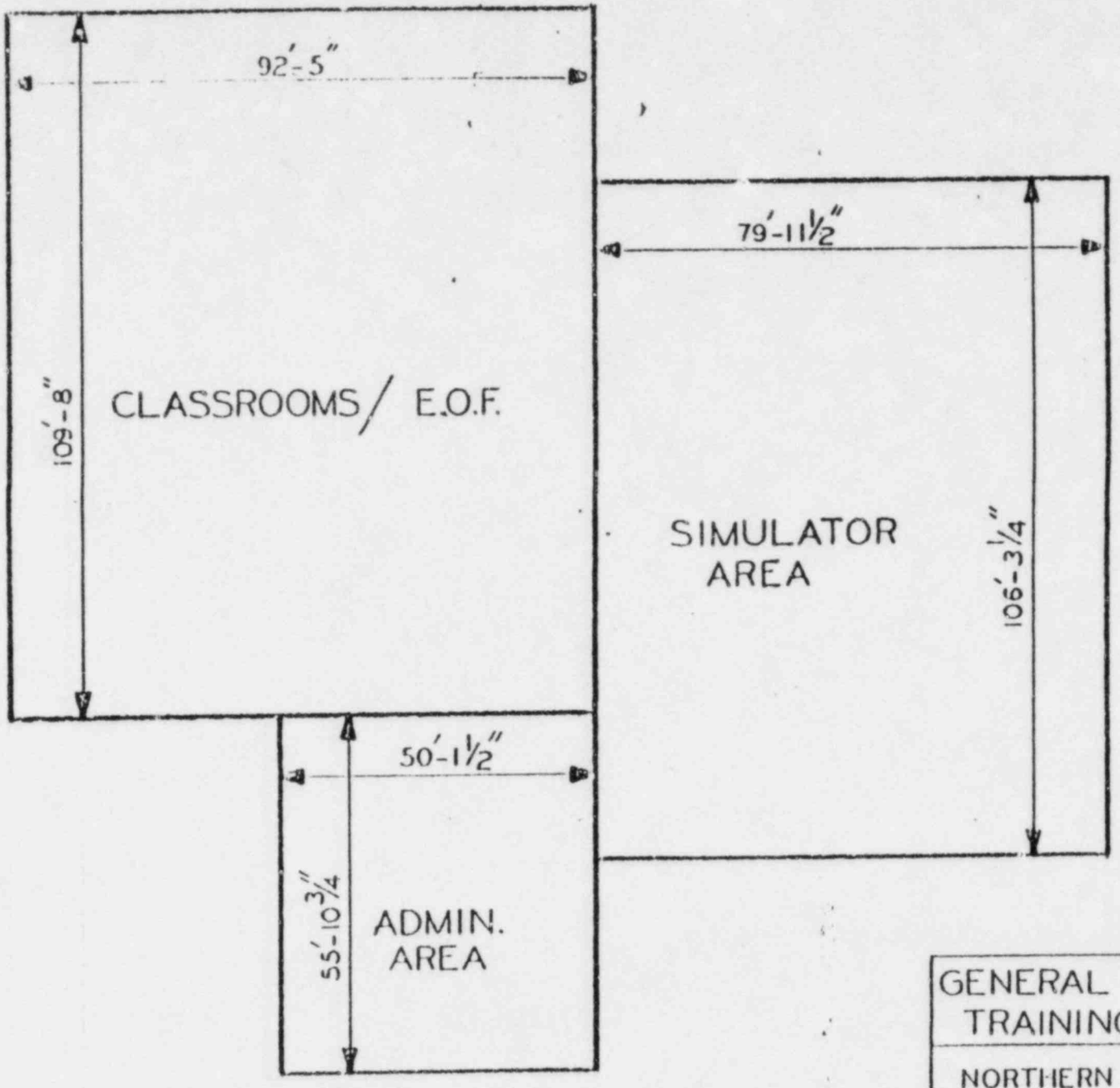
PRAIRIE ISLAND
NUCLEAR GENERATING PLANT

DWN: RWH | FIGURE 2



PROPERTY PLOT PLAN

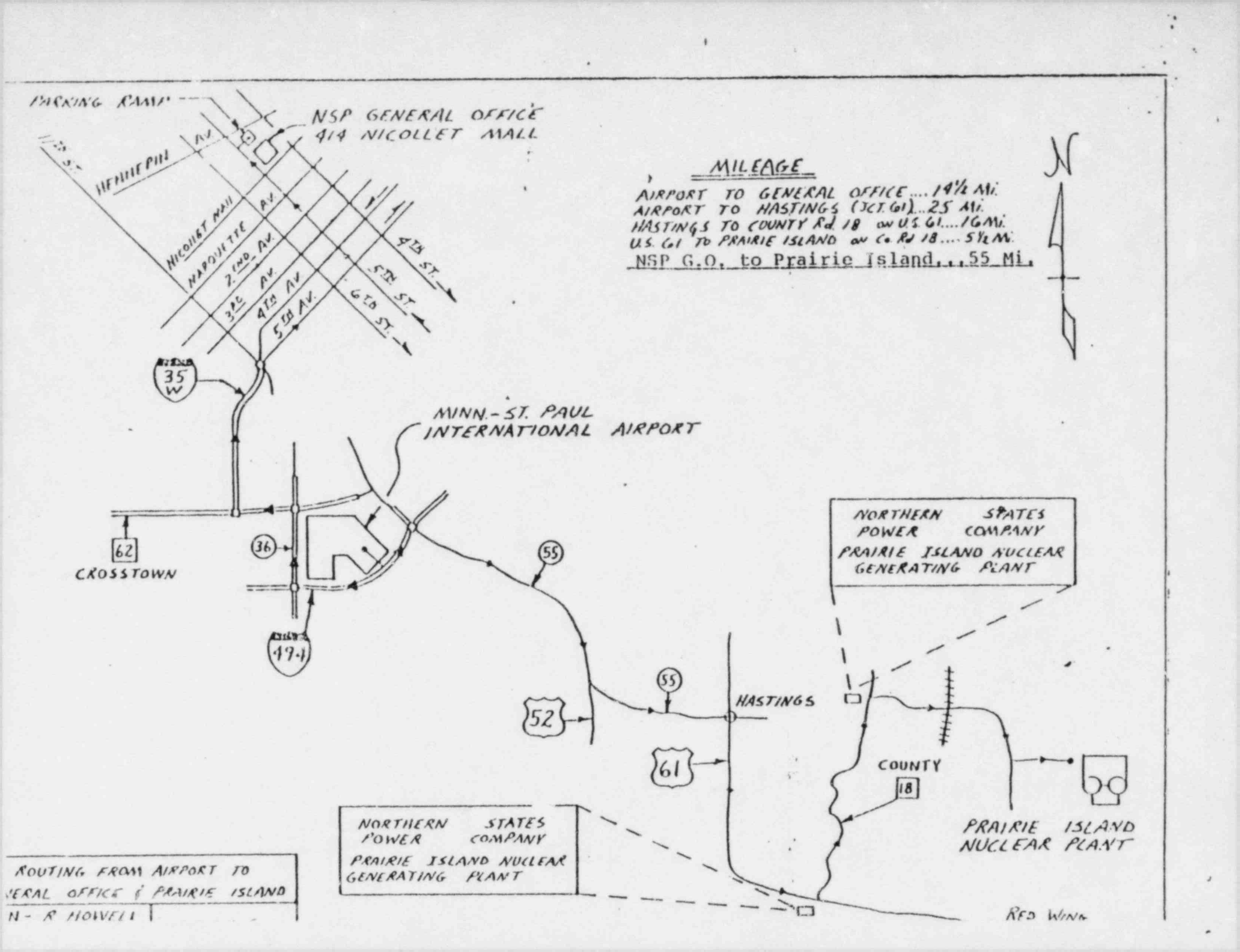
PRAIRIE ISLAND NUCLEAR GENERATING PLANT

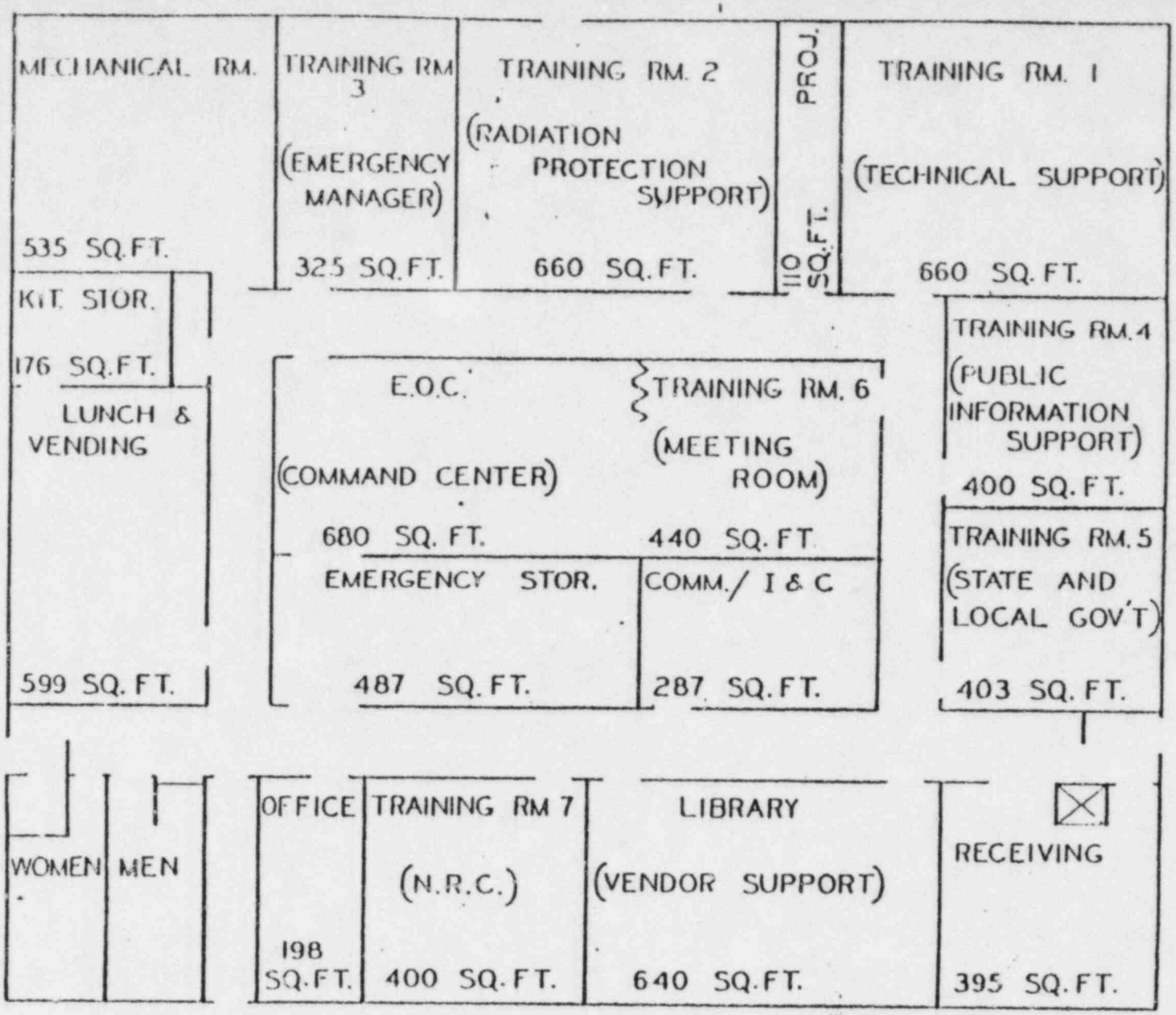


GENERAL LAYOUT OF TRAINING CENTER

NORTHERN STATES POWER

DWN: DWH FIGURE 1


PARKING RAMP
NSP GENERAL OFFICE
414 NICOLLET MALL
HENNEPIN AV.
NICOLLET MALL
MARQUETTE AV.
2ND AV.
3RD AV.
4TH AV.
5TH AV.
4TH ST.
5TH ST.
6TH ST.
35 W
MINN.-ST. PAUL
INTERNATIONAL AIRPORT
62
CROSSTOWN
36
55
52
55
HASTINGS
61
494
MILEAGE
AIRPORT TO GENERAL OFFICE .... 14½ Mi.
AIRPORT TO HASTINGS (JCT. 61) ... 25 Mi.
HASTINGS TO COUNTY Rd 18 on U.S. 61 .... 16 Mi.
U.S. 61 TO PRAIRIE ISLAND on Co. Rd 18 .... 5½ Mi.
NSP G.O. to Prairie Island . . . 55 Mi.
N
NORTHERN STATES POWER COMPANY
PRAIRIE ISLAND NUCLEAR GENERATING PLANT
COUNTY
18
PRAIRIE ISLAND NUCLEAR PLANT
NORTHERN STATES POWER COMPANY
PRAIRIE ISLAND NUCLEAR GENERATING PLANT
RED WING
ROUTING FROM AIRPORT TO
ERAL OFFICE & PRAIRIE ISLAND
N - R HOWELL



CLASSROOM/ E.O.F.
SECTION OF TRAINING CENTER

NORTHERN STATES POWER

DWN: RWH | FIGURE 5

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
EMERGENCY RESPONSE FACILITIES

APPENDIX B

TASK FUNCTION ANALYSIS

This report has been written to delineate the function of, and tasks performed by, individuals who will normally report to the Technical Support Center, Emergency Operating Facility, Operational Support Center and the Headquarters Emergency Center (Backup EOF) upon the activation of these emergency centers.

The Emergency Organization (both plant and corporate) is not mobilized during "Notification of Unusual Events", therefore the emergency facilities are not activated during events that come under this emergency classification.

Each of the tasks in this report are specified in various Northern States Power Company Emergency Plans and Implementing Procedures. This report is intended to be a general discussion of the functions of individuals who will report to the ERF's. This report will be used to assist in the design of the physical facilities to ensure that the design will support the needs of the emergency response organizations. As a regulatory requirement we have implemented upgraded Emergency Plans and Procedures. Efforts have been expended to make this descriptive report consistant with the above mentioned documents. However, if differences are found, our commitment is to the Plan and Procedure documents. .

TECHNICAL SUPPORT CENTER

Emergency Director

The Emergency Director is the overall coordinating authority for Northern States Power Company at the affected plant. He has the responsibility and authority for managing the emergency effort within the plant. He also manages the emergency effort outside the confines of the site until the near-site Emergency Operating Facility (EOF) is activated, and the corporate Emergency Organization relieves him of his external tasks.

When notified of a problem, and after he familiarizes himself with the situation, the Emergency Director determines the classification of the emergency to be declared. He directs the Emergency Plan to be activated and initiates the appropriate notifications for the class of emergency declared. During Alert classifications, he assists the Emergency Manager in determining the necessity of mobilizing the sister plant's Health Physics personnel to act in the capacity of offsite survey teams.

If releases occur from the plant, offsite dose rate projections will be made. If the results of the projections warrant sheltering or immediate evacuation of an area, the Emergency Director notifies the proper authorities and provides them with protective action recommendations. In all other circumstances, he ensures that radiological information is transmitted to state level authorities as soon as practicable, with periodic information updates.

He determines the need for, and initiates the monitoring of onsite and offsite areas. When the EOF is activated, he transfers responsibilities for offsite surveys to the Emergency Manager. Regarding plant matters, the Emergency Director periodically consults with NRC personnel.

If the conditions of the emergency continue to deteriorate, he directs the escalation of the emergency to the next higher classification and notifies the proper authorities. If conditions warrant, he initiates onsite protective actions, from the use of anti-contamination clothing up to evacuation of the plant or site. With the recommendation of the Superintendent, Radiation Protection, he can direct the use of a thyroid blocking agent for Northern States Power personnel. He is responsible for personnel accountability during the emergency, and initiates Search and Rescue operations as necessary. The Emergency Director is responsible for the authorization of increased exposure for Search and Rescue personnel up to the maximum limits for the protection of life and property.

Utilizing all available pertinent data, he determines the conditions of evacuated plant areas and makes decisions as to the re-entry of affected areas. When the emergency is stabilized and as conditions dictate, after review with the Emergency Manager the Emergency Director de-escalates the classification of the emergency and notifies the appropriate offsite authorities.

TSC Coordinator

The TSC Coordinator is a member of senior plant management and is responsible for the general operation of the TSC. He establishes and maintains communications in the TSC and designates a communicator. He is responsible for the monitoring of TSC habitability through the use of equipment to measure direct radiation and airborne contamination. He apportions office space in the TSC for all Emergency Organization personnel. The TSC Coordinator is the interface with non-company personnel and coordinates the activities of plant and non-plant personnel at the TSC.

He is responsible for the maintenance and updating of the status boards in the TSC and periodically briefs personnel on the current status of the emergency effort. He obtains technical assistance to support control room operations and controls the use of equipment in the TSC emergency locker.

Superintendent, Radiation Protection

The Superintendent, Radiation Protection directs the efforts of the Radiation Protection Group. This group is responsible for surveys (onsite and initial offsite), chemistry, contamination/radiation control, exposure control and the use of respiratory protection

equipment. He is responsible for making offsite dose projections as soon as possible in the event of a release from the plant, and any subsequent offsite dose assessments until the corporate organization at the EOF assumes this responsibility.

He makes recommendations to the Emergency Director concerning the authorization of additional exposure for Search and Rescue team members and in the use of a thyroid blocking agent.

Shift Technical Advisor

The Shift Technical Advisor is on 24 hour/day coverage, and is available to consult with the Shift Supervisor within a 10 minute period at all times. He reports to the control room immediately when notified and assists the Shift Supervisor and Emergency Director in assessing the accident and other emergency conditions. He advises the Emergency Director on the safety related aspects of the situation and on ways to improve the plant's capability for response to off-normal situations.

Communicator

The Communicator is responsible for the functioning and coordination of the various means of communication in the TSC. He transmits and receives information over the communications systems. He records pertinent data transmitted to him and routes all other information to the appropriate person. This position is filled by a person designated by the TSC Coordinator.

Other Personnel

The remaining Northern States Power Company personnel in the TSC consist of the Duty Engineer and other members of the Operations Committee. The balance of the Operations Committee in the TSC is comprised of the following positions: Superintendent of Maintenance & Operations (who directs the Maintenance Group), Superintendent of Engineering & Radiation Protection (who directs the Engineering Group), Superintendent of Technical Engineering, Superintendent of Maintenance, and Superintendent of Nuclear Engineering. With the addition of administrative support, technical specialists and 5 NRC personnel the maximum staffing of the T.S.C. should not exceed twenty.

It is the responsibility of these individuals to assist the Emergency Director and apply their expertise in their specific disciplines to support the emergency effort. Although they may not be required to remain in the TSC, they report to the TSC and familiarize themselves with the needs of the Emergency Director. They may then report to their work space to direct the efforts of their respective support groups if environmental conditions are satisfactory.

EMERGENCY OPERATING FACILITY (EOF)

Emergency Manager

The Emergency Manager position is staffed by a corporate call list of qualified individuals. He is responsible to direct the corporate emergency response effort. He manages the overall offsite support effort and supervises the Northern States Power Company personnel at the Emergency Operating Facility (EOF). The Emergency Manager provides resources to the Emergency Director as he requests them.

Upon notification of an emergency at a nuclear plant, the Emergency Manager contacts the Emergency Director to determine the extent of the emergency. If the Emergency Director classifies the emergency as an Alert, the Emergency Manager determines the necessity of mobilizing the sister plant's Health Physics personnel to conduct offsite surveys. He then proceeds to the affected plant's EOF and assumes control of the Corporate Emergency Organization.

He assigns personnel to fill positions in the Emergency Organization at the EOF. He coordinates the efforts of the sister plant's Health Physics personnel and directs the gathering of offsite survey data. If necessary, he requests the implementation of the Emergency Radiological Environmental Monitoring Program. Using the data gathered by the offsite survey teams, he ensures offsite dose projections are performed. He reports the results of the local projections to Northern States Power management and state EOCs. If projection estimates warrant, he provides recommendations to state ar local agencies on the potential need for sheltering or evacuation of offsite areas.

The Emergency Manager supervises the logistic effort to supply the plant with personnel and equipment as required. He provides technica support to the TSC and plant as the Emergency Director requests it. The Emergency Manager is the interface with Northern States Power corporate management to obtain the necessary resources to support the emergency effort. He obtains the services of outside vendors or consultants as is necessary and coordinates their assistance to support the plant during the emergency.

He advises Power Production Management at the Headquarters Emergency Center (HQEC) on emergency related matters at the plant. He provides routine status reports to Power Production Management, state and local officials at the EOCs and the NRC. He provides the technical input and review of press releases by public information personnel. When directed by Power Production Management he provides technical support at press conferences called by the Communications group.

In the event that the situation deteriorates to the point that E habitability warrants protective actions, the Emergency Manager directs the evacuation of non-essential personnel and the use of protective actions by personnel remaining in the EOF. If radiat or contamination levels continue to increase, the Emergency Mana directs the evacuation of the EOF to the HQEC. He notifies the proper authorities (HQEC, state and local EOCs) of his change in location.

If long term recovery needs dictate, through discussions with Pow Production Management and the Recovery Manager, the Emergency Mar determines the need for mobilizing the Recovery Organization. Wh conditions at the plant have stabilized, he and the Emergency Dir discuss the reclassification or close out of the emergency. If a recovery is dictated, he directs the turnover of the EOF to the Recovery Organization.

EOF Coordinator

The EOF Coordinator is responsible for the general operation of t EOF. It is anticipated that he will be the first Northern States Power Company corporate representative to arrive at the EOF when notified. As such, he is responsible for the initial startup of EOF. After the EOF has become functional, he acts as the Emergen Manager and may direct all offsite activities until a designated Emergency Manager arrives and relieves the Coordinator of those duties.

In starting up the EOF, he directs other personnel available to t the communication systems at the EOF and the habitability of the facility. He directs the activities of the Security Force person and the recordkeeping personnel at the EOF. The EOF Coordinator assists the Emergency Manager in obtaining vendor services. He directs the activities of the Logistics Coordinator in providing logistical support for the plant and the EOF and sets up a shift rotation to keep the EOF manned 24 hours/day.

When the Emergency Manager declares the need for evacuating the E the EOF Coordinator oversees and coordinates the actual evacuatio of the facility. He supervises the assembly of material to be re moved to the HQEC (Alternate EOF).

The EOF Coordinator prepares reports to the Emergency Manager concerning the status of the EOF and any problems concerning EOF operations.

Radiation Protection Support Supervisor

He is a member of the sister plant's Health Physics Organization. He directs the Radiation Protection Support Group that carries out all offsite radiological tasks requested by the Emergency Manager. The Radiation Protection Support Supervisor advises the Emergency Manager on radiological matters, including data from the Radiological Environmental Monitoring Program.

Upon arriving at the EOF, he contacts the Radiation Protection Superintendent at the TSC and familiarizes himself with offsite activities in progress. When this is done, he assumes control and coordination of the offsite survey teams, determining the necessary radiation protection equipment for all field personnel. He dispatches survey teams to perform appropriate surveys to confirm dose projection results and to map the plume of any released radioactive material. The Radiation Protection Support Supervisor provides the interface with state health officials to coordinate state and Northern States Power Company survey teams.

He directs the activities of the dose projection team and assists in calculations of offsite dose estimates. He informs the Emergency Manager of the results of the projections and makes recommendations to the Emergency Manager on offsite protective actions. He prepares status reports of operations in progress for the Emergency Manager. If events at the site deteriorate to the point where a site evacuation is necessary, the Radiation Protection Support Supervisor recommends evacuation routes for plant personnel.

He supervises the monitoring of the EOF and routinely updates the EOF Coordinator on the habitability of the facility. He directs the distribution of personnel dosimetry equipment to all personnel in the EOF and protective clothing, as necessary. When the results of EOF monitoring are reported to him, he informs the Emergency Manager when radiation or contamination levels in the EOF are above normal. Based on this information, the Radiation Protection Support Supervisor makes protective action recommendations for EOF personnel. If radiation levels reach the point that the Emergency Manager decides to evacuate the EOF, the Radiation Protection Support Supervisor determines evacuation routes to be used to limit personnel exposure and supervises teams for monitoring evacuated personnel.

Technical Support Supervisor

He supervises the Technical Support Group at the EOF. The Technical Support Supervisor supplies publications and prints necessary for analysis of plant conditions and provides technical analysis as requested by the Emergency Manager. He advises the Emergency Manager and Power Production Management on technical decisions affecting the emergency effort and performs other technical tasks as requested by the Emergency Manager.

The Technical Support Supervisor is the interface between the Emergency Organization and the vendors and NRC technical personnel at the EOF. He provides information and direction for Technical Support Group personnel located at the HQEC.

Communications Coordinator

The Communications Coordinator is responsible for establishing communications in the EOF and the overall coordination of all communications systems at the facility. He verifies all methods of communications are functioning and arranges for the repair of any equipment as necessary. He distributes and updates Communications Information sheets, containing pertinent phone numbers.

Logistics Coordinator

The Logistics Coordinator is responsible for coordination of the logistics effort necessary to support the plant, the EOF and the overall emergency effort. As directed, he initiates and expedites the procurement process to obtain needed goods and services. He notifies the affected plant's Nuclear Steam Supply vendor and Architect/Engineer of the emergency and provides the vendor response centers with the information necessary for them to formulate their level of response. If the vendors are needed for longer than three days, the Logistics Coordinator initiates procedures to procure their long term services.

He is also responsible for making the necessary living arrangements (food, lodging and transportation) for personnel at the EOF who are not able to commute to the EOF from their homes. He arranges for food and other habitability items for personnel while working at the EOF.

Records

The Records position is responsible for keeping complete and accurate logs at the EOF during an emergency. As the logs are completed, he consolidates and files them to provide a permanent record of events and decisions taken at the EOF for the duration of the emergency. He is also responsible for updating the EOF status boards as information is received from the plant.

Public Information Specialist

The Public Information Specialist supervises the collection of information at the EOF for news releases. He prepares news releases and obtains the Emergency Manager's approval of their technical content. He then provides drafts of the releases to the Supervisor,

Media Information at the corporate headquarters. He is the interface with media personnel at the facility and coordinates any news releases given to the press at the EOF. (This news release point is not a normal interface and will only be used if unusual circumstances dictate. The normal interface point with the press will be at corporate headquarters in Minneapolis.) He also keeps the Emergency Manager informed of media activities in and around the EOF.

OPERATIONAL SUPPORT CENTER

Operational Support Center Coordinator

The Operational Support Center (OSC) Coordinator is responsible for the general operation of the OSC. The senior Operations personnel present (that is not in the control room) or a person designated by the Emergency Director will function as the OSC Coordinator.

The OSC Coordinator initiates the operation of the portable Area Radiation Monitoring equipment. He verifies radiological monitoring of the OSC and control room environs is begun by the Radiation Protection Group. He ensures continuous monitoring of the area monitoring equipment and establishes routine sampling of the OSC and control room atmosphere.

He coordinates the activities of plant personnel at the OSC to support plant operations as requested by the Emergency Director and shift supervisor. The OSC Coordinator requests and notifies additional personnel as the need arises. During evacuations, he directs the OSC accountability check and informs the Emergency Director of all personnel present. He checks and maintains communications systems between the OSC, the TSC and the control room. He controls the use of the reentry equipment in the OSC emergency equipment locker. He also keeps personnel in the OSC informed of the current status of the plant and emergency effort by means of periodic information updates.

Radiation Survey Teams

Emergency radiation survey teams are normally composed of about 4 people. Therefore, there is at least one person per team available at all times for each of the 3 teams that report to the OSC. When the Emergency Director feels offsite surveys are warranted, two of the teams are delegated for offsite surveys. They continue their offsite surveys until relieved by sister plant health physics personnel.

The remaining survey team begins onsite duties as necessary. These consist of radiation safety, personnel and material decontamination, air or liquid sampling and analysis of onsite and offsite samples.

Other Personnel

The remaining personnel in the OSC have the responsibility to assist the Emergency Director and use their knowledge or direct their groups in such a manner as to support the emergency effort.

The remaining personnel consist of standby Operations personnel (any shift operators not presently on shift) who assist the Operations Group in all plant operations and the assessment of operational aspects of the emergency. The Maintenance Supervisor directs Maintenance Group personnel in damage control and emergency repairs. The Instrument & Control Group Supervisor/Coordinator directs I & C Group personnel who are responsible for instrument damage control, repair and calibration. The Chief Station Electrician also reports to the OSC, where he supports the emergency effort in any electrical aspects of the situation.

HEADQUARTERS EMERGENCY CENTER (HQEC) - (BACKUP EOF)

Power Production Management

When notified of an emergency classified as Alert, Site Emergency or General Emergency, Power Production Management Personnel report to the Headquarters Emergency Center (HQEC). The person in charge is responsible for the overall coordination of the corporate emergency response effort. He serves as a focal point for relaying corporate policy decisions to the corporate emergency organization and provides plant status information to upper management. He insures corporate resources are available to the plant in support of the emergency effort. He coordinates EOF operations with the HQEC, Communications Department and the Environmental Regulatory Activities Department (ERAD). He provides managerial support to the Emergency Manager as necessary and serves as a sole interface between the company executive management and the corporate emergency organization.

The person in charge selects appropriate members of NSP management for advisory support. He provides direction for the HQEC Technical Support Supervisor as to long term engineering analysis. He assigns personnel to serve as interface between vendor representatives and the power production management organization.

The power production management organization procures funds to support Site, EOF and HQEC operations. Also involved is the point of contact with the Institute of Nuclear Power Operations; authorization of information release to the Notepad system, and contacts with American Nuclear Insurers.

Communications Supervisor

This position is filled by the Director of Communications or his designee. He coordinates the NSP public information efforts and advises Power Production Management on public affairs related items. He is the sole media representative for corporate management communication with the various media channels, although he may delegate this responsibility.

When notified of an emergency, the Communications supervisor insures the Communications procedure is activated and functioning. He provides a staff of Communications Representatives to prepare news releases and conduct press conferences. Although the major NSP interaction with the media will be at the Media Information Facility, he directs a Communications Representative to report to the EOF to interface with any media that might arrive at that facility. He coordinates the efforts of NSP Communications Representatives at the state Emergency Operations Center, the EOF and the Media Information Facility.

The Communications supervisor provides Communication Department support to Power Production Management at the HQEC. He submits drafts of news releases to Power Production Management for review and approval, and insures that requests by Power Production Management in the communications field are promptly acted on. The Communications Supervisor directs the dissemination of news releases and situation reports and coordinates with Power Production Management to prepare for and conduct formal news conferences.

Technical Support Supervisor

The Technical Support Supervisor directs personnel in the Technical Support Group to assist in engineering analysis as requested by Power Production Management. The Technical Support Group is staffed from a call list of Northern States Power Company non-plant technical personnel. The Group advises Power Production Management on technical decisions and perform other tasks as required.

The HQEC Technical Support Supervisor is the technical liaison with the EOF Technical Support Group. He oversees the efforts of vendor engineering groups retained by Power Production Management at the corporate offices. He provides the technical information to Power Production Management for release on the Notepad System. When directed by Power Production Management, the Technical Support Supervisor interfaces with the Logistics Coordinator at the EOF to facilitate processing material or service requests from the EOF.

Environmental Regulatory Activities Department (ERAD) Supervisor

The ERAD Supervisor provides a NSP liaison with state and local government representatives. He supplies timely information to Power Production Management about actions taken or planned by either of these government's agencies.

Advisory Support Group

The Advisory Support Group is staffed by appropriate management personnel as requested by Power Production Management. This Group supplies a pool of knowledgeable management personnel to support the operations of the EQEC. They advise on management and policy decisions concerning the emergency effort. They also provide assistance and perform selected tasks as directed by Power Production Management.

Backup EOF

For the unlikely occurrence when the primary EOF is evacuated the EQEC will serve as the backup EOF. As directed by the Emergency Manager, personnel from the EOF shall report to the EQEC. Key personnel functional responsibilities shall remain as presented. For the interim period during evacuation, Power Production Management and his staff have complete responsibilities for offsite activities regarding the emergency.

APPENDIX C

GENERIC SAFETY ASSESSMENT SYSTEM

CONCEPTUAL DESIGN DESCRIPTION

1.0 GENERAL CONSIDERATIONS

The Safety Assessment System (SAS) was designed to meet the requirements of the Safety Parameter Display System (SPDS). It provides a centralized, flexible, computer based data and display system to assist control room personnel in evaluating the safety status of the plant. This assistance is accomplished by providing the operator and other Emergency Response Facilities (ERF) a high level graphical display containing a minimum set of key plant parameters representative of the plant safety status. More detailed plant information is provided by several secondary displays. All graphical displays are presented to the Control room operator on high resolution multiple-color CRTs.

All data displayed by the SAS is validated if practical, by comparing redundant sensors, checking the value against reasonable limits, calculating rates of change, and/or checking temperature versus pressure curves.

All displays of the SAS have been carefully designed by personnel with plant operating experience and evaluated against human factors design criteria. The concepts used in the SAS design will be validated by direct observation of licensed operators at a power plant simulator after extensive verification testing has been completed using data recorded from a similar power plant simulator. The intent of the SAS is to present to the control room personnel a few easily understandable displays which use color coding and pattern recognition techniques to indicate off-normal values. These displays are updated and validated on an essentially real time basis.

The SAS will be operable during normal and abnormal plant operating conditions. The SAS will operate during all SPDS required modes of plant operation. Normal operations will encompass all plant modes above intermediate shutdown. When the reactor coolant system is intentionally cooled below normal operating values the operator will select the heatup-cooldown mode which alters the limit checking algorithm for the key parameters. An additional mode may be provided to address concerns of cold shutdown plant conditions.

2.0 DISPLAY HARDWARE LOCATIONS AND OPERATION

The SAS display system consists of a primary CRT and a supportive CRT. The primary CRT will contain the high level display during normal conditions and for the first few minutes during abnormal conditions. A dedicated function button panel controlling the primary CRT will allow the operator to select from several predetermined supportive displays at any time. This CRT is located in a central location of the control room near the emergency operating station of the control room Senior Reactor Operator (SRO). It will be distinguished by its display content and central location.

The secondary CRT can display any information available to the primary CRT. This CRT may be located away from the primary CRT but within viewing distance of operators stationed at the main control board. This CRT will provide supportive displays or act as a backup device if the primary CRT should fail.

The SAS has been designed such that control room personnel can utilize its features without requiring additional operations personnel.

3.0 DISPLAY CONTENTS

The primary display consists of bar graphics of selected parameter values, digital status indicators for important safety system parameters and digital values. The parameters indicated by bar graphs and digital values include: RCS pressure, RCS temperature, pressurizer level, steam generator levels and steam generator pressures. Items indicated by status and digital values include containment environment and secondary system radiation. Inadequate Core Cooling indication (if available), core exit temperature, amount of subcooling and containment radiation are indicated by digital values.

In addition there is a small message area which will be used to indicate that an appropriate secondary display provides further information in case an off-normal value is detected or an event is occurring.

Each of the bar graphs indicates normal parametric wide-range values. If a parameter's value is outside the normal range the bar color will turn red. Arrows next to the bar will indicate the trend direction (increasing or descreasing) based on data smoothing algorithms. The value for "RCS subcooling" will be titled with the word "Subcooled", "Saturated", or "Superheat" as appropriate.

During normal operation the message area will be used to display average power, reactor core average temperature, date, time, and unit name. These messages may be displaced by higher priority messages as required.

Secondary displays may be selected by the operator. One group will contain trend graphs of groups of selected parameters, showing the last 20 minutes of plant operation. These groups were chosen to keep like parameters or related parameters on one display "page". Another group of secondary displays includes the alphanumeric values for each parameter and an arrow indicating the direction of change. All of the secondary displays maintain the message area which notifies the operator of off-normal values on other "pages".

4.0 HUMAN FACTORS CONSIDERATIONS

Human factors engineering and industrial design techniques have been effectively combined to establish man-machine interface design requirements, maximize system effectiveness, reduce training and skill demands, and minimize operator error.

The CRT color graphic formats and functional key board designs have been developed through an interdisciplinary team of senior operational, human factors, industrial design and computer interface personnel.

Mimimum use of color combined with simplified form throughout the CRT presentation have been key design features to provide both normal and off-normal pattern recognition. The operator, who is the end user, has been directly involved from the conception to insure that man-machine interface goals of SAS have been satisfied. Human factor engineering standards and testing verification have been used which are consistant with accepted practices as recommended or specified by the NRC (NUREG/CR-1580; Supplement NUREG-0659, AND NUREG-0700), Military (MIL-STD-1472 B, Human Engineering Guide to Equipment Design), aerospace, and participating individual utilities.

5.0 QUALITY ASSURANCE CONSIDERATIONS

The SAS is implemented on a digital computer system which includes a peripheral display generator computer for color graphic displays. The software that controls the sensor data validation, key parameter construction, and display formats has been developed under strict quality assurance procedures similar to those defined in Position 19 of NUREG-0388, "Safety Evaluation Report Related to Operation of Arkansas Nuclear One, Unit 2", Rev. 1 and supplements. The original development of the SAS software began with a functional specification that was developed over a period of 18 months by a technical committee comprised of members from a number of utilities and consultants. These functional specifications will be transformed into a design specification that will be reviewed by an independent set of qualified utility personnel not involved in the original definition. These reviews will assure conformance of the SAS to those functions of the SPDS discussed in NUREG-0696. The basis for

selection of the primary display parameters will be a part of the final documentation.

During the course of software development, a set of static test cases will be developed which test the key features of each software module. Furthermore, static system test cases will be developed and used to verify the correct operability of the total system. A set of dynamic test cases will be generated by capturing nuclear reactor simulator data on magnetic tape from a number of different plant transients which test the dynamic behavior of the system under "real" conditions. Finally, an operator testing phase on a simulator is scheduled to validate the correct operability of the software and the man-machine interface. A design review that compares these test results to the original functional and design specifications will be performed. A selected number of the static test cases will be "frozen" such that they could be used to verify future changes to the software. In summary, quality assurance was addressed and designed into the SAS software from the beginning to provide a highly reliable product and a mechanism for identifying and controlling future changes.

ENCLOSURE 3

Northern States Power Company

414 Nicollet Mall
Minneapolis, Minnesota 55401
Telephone (612) 330-5500

January 26, 1982

Director
Office of Nuclear Reactor Regulation
Attn: Document Control Desk
US Nuclear Regulatory Commission
Washington, DC 20555

Prairie Island Nuclear Generating Plant
Docket No. 50-282 License No. DPR-42
50-306 DPR-60

Emergency Response Facilities
Generic Letter 81-10

Our letter of January 7, 1982 pointed out that we were in the final stages of addressing the items of concern outlined in Mr R A Clark's letter of November 23, 1981 and that we would submit this information together with projected implementation dates by January 22, 1982. This supplemental information would further describe how we are meeting the functional requirements of NUREG-0696 (final report).

Attached is our response document which addresses each of the items of concern in the same format used in Mr Clark's November 23, 1981 letter. In some cases our response information is supported by appendices and sketches.

We assume this additional information will remove the qualifications you placed on the acceptability of our conceptual design plan and therefore these items will not receive special attention during the proposed NRC post-implementation inspection. Unless advised to the contrary within the 40 day review period mentioned in Mr Clark's letter of November 23, 1981, we will continue with implementation of our conceptual design plan. Our proposed schedule for implementation is later than specified in your Generic Letter 81-10, but in reviewing all factors we consider the dates realistic.

As discussed with your Project Manager on January 22, this letter has been delayed a few days due to severe weather affecting the availability of our involved people.

L O Mayer

L O Mayer, PE
Manager of Nuclear Support Services

LOM/ECW/jh

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ENCLOSURE 3

cc Regional Administrator-III, NRC

NSP RESPONSE TO ITEMS OF CONCERN IN NRC LETTER DATED NOVEMBER 23, 1981 REGARDING THE PRAIRIE ISLAND EMERGENCY RESPONSE FACILITIES

Specific Criteria Deviation

1. Technical Support Center Size

The following additional justification is offered to support the present technical support center size:

A. As specified in Appendix B of our response dated June 8, 1981, a maximum staffing of 20 individuals, including 5 NRC personnel, is expected in the technical support center - we believe that the present physical size of the technical support center is adequate to allow the functioning of the expected number of personnel.

B. The full scale emergency plan drill conducted December 8, 1981 at Prairie Island did not reveal any deficiencies in the size of the technical support center even with up to six extra observers and controllers present in the center.

C. The close-in location of the permanent EOF will allow close technical support of the plant staff if it becomes necessary to form a large technical support organization - the permanent EOF is of sufficient size to support any spill-over from the technical support center.

D. The present location of the technical support center is ideal for the function of control room support - any imposition of an arbitrary square foot per person criteria could result in forcing the relocation of the technical support center to a much less desirable location.

E. The 75 square feet per person has never been adequately justified as a criteria - we feel that the number of people expected in the technical support center and the results of the drill conducted justify the present size.

2. Dedicated communication between the control room, technical support center and the operational support center.

A. The plant telephone system provides one means of communication between the 3 locations - the telephone system is powered from a non-interruptible inverter supply.

B. A plant intercom system will be operational soon between these 3 locations - this intercom allows open-channel communication between these locations at any time, and is not affected by any site phone system traffic. This system is also supplied by a non-interruptible power system.

C. The Operational Support Center is located directly adjacent through a single door from the Control Room - this provides for almost instant communication in case of any wire system/normal communication failures. The location of the technical support center is directly across the turbine hall from

the control room and operational support center. This close coupling of approximately 150 feet between the technical support center and the other two facilities also allows ease of communication in the unlikely event of failure of the normal communication system.

3. The location of the back-up EOF 55 miles from the plant.

   A. The HQEC is the back-up EOF and is the corporate response center to nuclear plant emergencies. This center will be functional during all emergencies in which the EOF is active. Therefore this center will be fully functional at all times during an emergency and will be able to assume command of the company's emergency response personnel at any time the EOF should need to be evacuated. Because of this center being in readiness it is the ideal location functionally for the back-up EOF. We do not believe that the additional distance from the two nuclear plants is a significant enough detriment to outweigh the obvious advantage this center has for being the back-up EOF, its obvious advantage being its complete functionability at all times.

   B. The HQEC/back-up EOF will have the capability to operate the plant dose assessment system remotely and also will have the ability to contact the field observing team.

   C. Appendix A describes the HQEC more fully.

Because of the above stated reasons it is not thought to be necessary to provide for individual back-up EOF's closer to the site. We believe that to abandon the EOF and try to reinitiate a back-up EOF would lead to much confusion during the transition period. It is felt that with the HQEC there will not be a problem with where the NSP command center for the emergency is in the extremely unlikely event that the EOF would have to be evacuated.

Information Inadequacies

1. Functions of the TSC, OCS and the EOF.

   Attached as Appendix A are functional descriptions of the Prairie Island emergency response facility. These include the TSC, EOF, OSC, HQEC, backup EOF and control room.

2. Location of the functional work area and work space arrangement for the technical support center and the EOF.

   Attached as Appendix B are detailed arrangement drawings for the tech support center and the EOF Command center that conceptually detail the functional working areas and associated data and communication equipment. Refer to our June 8, 1981 submittal for site location of these facilities.

   Detailed engineering has not been completed for our permanent EOF Command center; therefore the Appendix B figure is a preliminary layout.

The structural and habitability requirements for the EOF and the TSC.

RESPONSE

A. TSC

1. Structure

The TSC Complex must be able to withstand the most adverse conditions reasonably expected during the design life of the plant including adequate capabilities for (1) earthquakes, (2) high winds (other than tornadoes) and (3) floods. The Prairie Island Facility complies with these requirements as follows:

Floods:

The technical support center is located on the operating floor of the turbine building which is at elevation 735'-0". The high flood level for the plant is 703'-6". Thus the technical support center is not affected by flood conditions as per section 2.7 of FSAR (see figure 2.7-7, FSAR).

Winds:

The technical support center is completely surrounded by the turbine building and hence does not experience wind forces. The turbine building is designed for high winds of 100 mph as per Appendix B sections B.4.1 and B.6 (e) of the FSAR. This wind speed exceed the requirements of Uniform Building Code.

Earthquakes:

The design of the technical support center has been reviewed for the earthquake loads specified in the Uniform Building Code, Zone I. The review concluded that the reinforced concrete block wall and the prestressed concrete spancrete floor slabs will be able to withstand earthquake forces.

The spancrete slabs are anchored to the block walls along column rows A and B with the reinforcement steel at 3'-4" center to center. The slab rests on the block walls along the short sides of the technical support center. The analysis of the short walls takes into

consideration the friction between the walls and floors to transfer horizontal reaction forces due to earthquake. The forces are approximately 25 lbs/ft.

The design of the operating floor at the turbine building has been checked to verify that it will withstand additional dead loads, live loads and earthquake loads transferred by the technical support center. The load combinations and the allowable stresses for the floor are the same as those used for the original design and as specified in the FSAR.

2. Habitability

TSC personnel shall be protected from radiological hazards, including direct radiation and airborne radioactivity from inplant sources under accident conditions, to the same degree as control room personnel. Applicable criteria are specified in General Design Criterion 19; Standard Review Plan 6.4; and NUREG-0737, "Clarification of TMI Action Plan Requirements," Item II.B.2.

The habitability of the Prairie Island technical support center has been evaluated to determine the dose commitment to plant personnel occupying the TCS for the duration of an accident. The result of the analysis indicates that the post accident 30 day integrated TSC dose values are below the limits of General Design Criterion 19.

The whole body gamma and beta skin doses due to exposure to noble gas radionuclides, and the thyroid dose due to inhalation of iodine radioisotopes were evaluated on the basis of source strength, atmospheric transport, and the TSC room protection including HVAC considerations.

Dose commitments were evaluated for the following time intervals:

0 - 8 hours

8 - 24 hours

24 - 96 hours

96 - 720 hours

Source terms were determined assuming Regulatory Guide 1.4 guidance. In the case of LOCA, 100% of noble gases and 25% of the iodines present in the reactor core are assumed to escape to the containment and are initially available for release. The source term for each isotope of iodine, xenon, and Krypton is calculated in terms of curies released within each time interval, as stated above.

The skin dose, whole body dose and thyroid dose (with and without cont. spray) for different time periods are:

TIME	SKIN DOSE (REMS)	WHOLE BODY DOSE (REMS)	THYROID DOSE NO SPRAY (REMS)	THYROID DOSE WITH SPRAY (REMS)
0-8 HRS	12.00	0.45	11.56	0.50
8-24 HRS	2.36	0.04	5.48	0.11
1-4 DAYS	2.41	0.03	4.33	0.09
4-30 DAYS	1.38	0.01	3.32	0.07
TOTAL 30 DAYS	18.15	0.53	24.69	0.77

In this analysis the post-accident 30-day integrated TSC dose valves are below the limit of GDC 19. According to this criteria, TSC should provide radiation protection such that personnel occupying the room do not receive radiation exposure in excess of 5 rem whole body or its equivalent to any part of the body, for the duration of the accident. Beta skin dose from airborne activity within the room and thyroid dose from the inhalation of radioactive iodine should not exceed 30 rem separately.

TSC HVAC System

The system consists of the following:

1. An air handling unit comprised for a "draw through" fan having a rated capacity of 3,000 SCFM at a static head of 1.0 "W.C.", a cooling coil with an air cooled condensing unit rated at 7 1/2 tons, an electric heater rated at 5 KS, and control dampers.

2. A return fan having a rated capacity of 3,000 SCFM at a static pressure of 1.0 "W.C.".

3. An HVAC Clean-up Unit comprised of a prefilter, an upstream HEPA filter, a downstream HEPA and a fan. The fan will have a rating of 3,000 SCFM at a static pressure of 6.0 "W.C.".

This system operates to satisfy the heating, cooling, and pressurization requirements of the TSC.

During normal operation, outside air is mixed with return air through control dampers and is supplied to the RSC through an air handling unit which consists of a filter, a cooling coil (with an air cooled condensing unit), a heating coil, and a fan. The air is returned to the air handling unit through a return fan.

During emergency operation, the normal outside air inlet will be closed, the return fan will be shut off and isolated, and the normal return damper will be fully open. Air will be supplied to the air handling unit at the return air opening through an HVAC Clean-up Unit, which consists of a prefilter, an upstream HEPA filter, a carbon filter, a downstream HEPA, and a fan. The air into the HVAC Cleanup Unit is a combination of outside air and return air such that the TSC will be under a positive pressure.

The operation of the HVAC system is controlled from within the TSC. When the TSC is activated the HVAC system will be switched from the "Normal" mode to the "Emergency" mode as discussed above.

B. EOF

1. Structure

The EOF Complex must be able to withstand the adverse conditions reasonably expected during the design life of the plant including adequate capabilities for high winds (other than tornadoes) and floods. The Prairie Island EOF complies with these requirements as follows:

Floods:

The ground floor elevation of the EOF is 699'-0", which is 11 feet above record historical floods. While the plant itself is designed for a maximum probable flood elevation of 703'-6", the EOF will be able to withstand the reasonable expected flood (100 year).

Winds:

The entire building housing the EOF is designed as follows

a. The area where the EOF is located is surrounded with at least 8" precast concrete solid walls and 8" precast concrete solid roof slabs.

b. The remaining areas are surrounded with 12" precast concrete (hollow core) wall panels (consisting of 2" insulation and 10" concrete) and steel roof deck.

Additionally, the building has been designed in accordance with the Uniform Building Code and is therefore designed to withstand the reasonable expected high winds.

2. Habitability

The habitability of the EOF has been evaluated to determine the dose committment to personnel occupying the EOF for the duration of an accident. The results of the analysis indicates that the post accident 30 day integrated EOF doses are below the limits of General Design Criteria 19.

Regulatory Guide 1.4 was used to determine activity levels in the containment following a DBA-LOCA. Activity releases are based on a containment leakage rate of 0.25% per day for the first day and 0.125% per day thereafter. The EOF's minimum 8-inch concrete shielding provides a protection factor greater than 5. (A 6-inch concrete shield is necessary for a protection factor of 5.) The ventilation system is designed to have outside air enter the shielded area, through HEPA filters (99.97% efficiency on 0.3 micron DOP particles) and then recirculate within the area.

The resultant Prairie Island doses calculate to be:

	Doses In Rems		
	Thyroid	Whole Body	Beta-Skin
Total Doses	22.4	0.84*	4.45
GDC 19 Doses Limits	30	5	30

*Includes Plume Shine Contribution

5. The radiological monitoring systems to be used in the TSC, the OSC and the EOF.

RESPONSE

A. TSC and EOF

Radiation monitoring systems for these areas consist of either permanently installed and dedicated portable-type instruments. The following is a list of typical radiation monitoring equipment located in the TSC and EOF.

1. 1-VAMP - Victoreen Area Monitoring Portable - range 1-1000 mr/hr, alarm (visual and audible) setpoint 15 mr/hr
2. 1-RM-14 or equal with 2" pancake probe - range 10-50,000 cpm
3. 1-RO-2A or PIC-6A range 1 mr/hr - 1000 mr/hr
4. 1 - continuous air monitor (CAM) (particulate, gas and iodine) (silver zeolite absorber) range: particulate = $10\text{-}10^6$ cpm, iodine $10\text{-}10^6$ cpm. Alarms: (visual and audible) particulate: 3×10^{-10} c/cc iodine: 1×10^{-9} c/cc
5. 1-A.C. powered air sampler

All instruments are calibrated semi-annually except for the CAM which is calibrated annually.

B. The radiation monitoring system for the OSC is similar to that of the TSC except no CAM is provided in the OSC. The following additional instruments are available in the OSC:

1. 2-RO-2A or equal survey meters
2. 1-Teletector survey instrument
3. One battery powered air sampler (equipped with silver zeolite absorber cartridge)

6. The design, hardware, location, software and layout of the Phase II and Phase III data acquisition systems and their schedule of implementation.

RESPONSE: PHASE II DOSE ASSESSMENT SYSTEM

The technical description of the Dose Assessment System is attached as Appendix D. The contract for this system is in the process of being signed at this time. Installation of the system is scheduled for late 1982 with initial operation scheduled for January 1, 1983, dependent on hardware and software availability. NUREG 0654 references a "Class B" model for implementation. In reviewing the state of available models at this time, we have concluded that an extended Class A model is all that can be justified at this time. Therefore, we are not planning to pursue a "Class B" model for use at Prairie Island. This conclusion was reached after conversations with model vendors, NRC personnel and attendance at an NRC-sponsored seminar. We will be submitting our extended Class A model for review when we have a complete description of it.

PHASE III ERF DATA ACQUISITION AND DISPLAY SYSTEM

System Description: See attached Appendix E for a conceptual description and layout.

Schedule:

Because of the significance of placing new displays, output devices, printer, plotters, etc. in the Control Room, the approach to implementation of this phase must be carefully planned. Our plans, at this time, are to proceed with specifying and procuring a replacement plant process computer and ERF computer that will have capabilities for supporting Control Room enhancements, including SPDS, possible safety system status monitoring and annunciator enhancement features. To adequately specify, engineer and testout such a system is a long term undertaking. The formal NRC requirements for the overall Control Room review are undergoing final review at this time. In anticipation that the requirements for this review will not change significantly, we have initiated our Control Room review project. The output of this review should provide final guidance for possible Control Room changes. Because of the complexities and long lead hardware items which are required for the final implementation, our schedule at this time for Phase III is preliminary.

Based on a system as described in Appendix E, our earliest implementation date is December 31, 1983.

To help us determine if our Control Room contains any serious deficiencies, we cooperated with an EPRI-sponsored effort to have a review completed on the plant Control Room. This review is completed at this time and we have received a preliminary report.

As we had anticipated, there are no major concerns associated with the Prairie Island Control Room. Because of the demonstrated adequacy of the present Control Room layout and information display system, we feel that an orderly approach to Control Room modifications is the most reasonable approach rather than the imposition of an arbitrary deadline that could result in counter productive unsafe Control Room modifications.

SPDS:

Because the ERF computer system that implements SPDS will not be a qualified seismic system, 0696 asks that loss of the system be addressed. We intend to back-up the primary SPDS display with a manual method such as described to the staff at the November 19 meeting between the Safety Assessment Group and the NRC staff. This manual method will be tested and documented as part of the development of the SPDS system and will be plant specifically qualified as part of our Control Room Review effort.

7. The Control Room emergency functions and interfaces with the other emergency response facilities.

RESPONSE

See Appendix A Functional Description of Emergency Response Facilities for a description of the role of the Control Room in the emergency plan.

APPENDIX A

FUNCTIONAL DESCRIPTION OF EMERGENCY RESPONSE FACILITIES

Headquarters Emergency Center (HQEC)/Backup EOF

When an "Alert", "Site Area Emergency" or "General Emergency" condition is declared, the Headquarters Emergency Center (HQEC) will be activated at the NSP Corporate Office. The purpose of the HQEC is to provide a command and control center to coordinate the activitie of NSP departments and personnel providing support for the affected plant and the EOF. The HQEC will be staffed by a small number of personnel designated to provide interfaces between the various departments within the NSP General Office, the organizations at the EOF and the affected plant, NSP regional organizations and outside agencies. The HQEC is located in Conference Room 8A/B in the General Office and provides a convenient location to control the activities of the various departments. The HQEC is not intended to function as a work space for the various departments. The key departments may have representatives located in the HQEC but the primary functions of each department assisting in the emergency response will be conducted at normally assigned work spaces. Personnel functioning in the Power Production Management position, would normally be stationed in the HQEC with a small staff to handle routine administrative functions.

Contact with key personnel in the NSP departments is provided by special centrex telephone lines in the HQEC. Additionally, due to the proximity of the HQEC to departmental work centers, personal contact can be quickly arranged for conferences, discussions or the

review and approval functions that Power Production Management must provide. The HQEC is supplied with the equipment necessary to support its role as a command and control center for General Office emergency activities. Dedicated telephone and radio communications have been installed to provide normal and backup methods of communicating with the EOF and TSC. A special mobile cabinet containing technical references, special telephones, and administrative supplies necessary for the HQEC command and control function has been established. Additionally, status boards, site area maps, bulletin and chalk boards are located on the center's walls to provide a convenient means of displaying current information. In the event the EOF is evacuated the HQEC has the ability to function as the backup EOF.

Nearsite Emergency Operations Facility (EOF)

The Emergency Operations Facility is activated during "Alert", "Site Area Emergency" and "General Emergency" conditions. The purpose of the EOF is to provide a command and control center for NSP offsite emergency activities concerned with identifying and limiting the consequences of the emergency conditions. The EOF also serves as a work center. The various support groups assigned to the EOF are provided with the necessary references, materials and equipment to effectively control the activities of the Corporate Emergency Response Organization. Specifically, the following functions are coordinated at the EOF:

Management of the overall NSP offsite emergency response to support plant activities
Direction of offsite radiological survey teams
Communications with State and Local government agencies

Consultation with NSSS Vendors, consulting firms
Consultation with the NRC and FEMA
Accident assessment
Recommendation of protective actions
Review of public information releases

The EOF provides office space for each NSP group, key supervisors, State and local officials, and the NRC, as well as a command center. Each space is provided with furnishings necessary to perform routine office functions. The NSP support groups and governmental representatives will perform their respective functions in these assigned offices. The command center is intended to function as a work space for the Emergency Manager, Radiation Protection Support Group, and for related critical communications. These activities are assigned to this area due to the high volume of activity, and the importance of the information handled. Additionally, this area is the central area for displaying plant status, offsite survey status, conducting accident assessment and directing the activities of the offsite Emergency Response Organization.

The EOF is supplied with the equipment necessary to fulfill its function as the offsite response center. Special telephone and radio communications links have been established with other response centers and mobile survey teams. Back-up radio communication is provided with the plant. Radiation monitoring and decontamination equipment has been provided to rapidly supply offsite monitoring teams. Office equipment such as facsimile machines, copy machines, microfiche readers and typewriters are provided to facilitate administrative duties and technical

reference work. General office supplies are stocked in adequate numbers. Operating procedures detailing the methods to activate the EOF, conduct routine administrative operations, surveys and accident assessment, provide security and deactivate the Emergency Organization are developed and are available in the EOF. Other organization's procedures, plans and reference documents are also available to EOF personnel.

Technical Support Center (TSC)

The Technical Support Center is located in the engineering conference area of the plant administrative offices across the Turbine Building from Units 1 & 2 Control Room.

The Technical Support Center (TSC) will serve as a center outside of the Control Room from which the plant management, technical, and engineering support personnel will:

(1) Support the Control Room command and control functions
(2) Assess the plant status and potential offsite impact
(3) Coordinate emergency response actions

The Technical Support Center will have the following capabilities:

(1) Have work space for about twenty people.
(2) Have shielding and ventilation cleanup system (PAC filter) to provide habitability under accident conditions.
(3) Has an emergency locker containing monitoring equipment (radiation and airborne), respiratory protection equipment and thyroid blocking agent tablets.

(4) Have communication channel to all onsite and offsite emergency response centers (primary and backup).

(5) Have a complete set of as-built drawings and other records such as plant layout pictures available.

(6) Have the capability to record and display the following:

(a) Plant System Parameters

(1) Reactor Coolant System

(2) Secondary System

(3) ECCS System

(4) Containment

(b) In Plant Radiological Parameters

(1) Reactor Coolant System

(2) Containment

(3) Effluent Treatment

(4) Release Paths

(c) Offsite Radiological Parameters

(1) Meteorology

(2) Offsite Radiation Levels

The Technical Support Center shall be activated when an Alert, Site or General Emergency is declared or whenever it is deemed necessary by the Shift Supervisor or the Emergency Director.

The senior plant management person present will be Coordinator of the Technical Support Center. This individual shall be responsible for establishing and maintaining lines of communications between the Technical Support Center, the Operational Support Center and the

Control Room, and shall also be responsible for establishing the monitoring of direct radiation and airborne activity in the Technical Support Center.

If activation of the Technical Support Center occurs during normal work hours, instructions to report to the TSC will be received over the plant public address system. All members of the Operations Committee on site shall report to the TSC.

If activation of the Technical Support Center occurs during the off duty hours, the Shift Supervisor or an individual designated by the Shift Supervisor shall contact all Operations Committee members by phone or Radio Alert system and request them to report to the Technical Support Center.

Operation Support Center (OSC)

The Operational Support Center will provide a center to assemble the necessary Operators, Radiation Protection Specialist, Instrument and Control, Electrical, and Maintenance personnel to support the operations of the plant under emergency conditions without causing undue congestion in the main Control Room.

The Operational Support Center is located in the Plant Operating Records Rooms, immediately adjacent to the main Control Room.

The Operational Support Center will be activated when an Alert, Site or General Emegency is declared or whenever it is deemed necessary by the Shift Supervisor or the Emergency Director.

The senior person in the OSC shall be Coordinator and shall be responsible for establishing and maintaining lines of communications between the Operational Support Center, the Control Room and the Technical Support Center.

If activation of the OSC occurs during a normal working day, instructions to report to the OSC will be received over the plant public address system. Any Operations shift personnel on site that are not assigned to normal shift duty shall report to the OSC immediately. The following personnel will also report to the OSC if on site (Additional personnel will be contacted as necessary):

(1) Maintenance Supervisors
(2) Station Electrician
(3) Instrument and Control Supervisor and Coordinators
(4) Radiation Monitoring Team Members

If activation of the Operational Support Center occurs during normal off duty hours, the Shift Supervisor or his designee shall contact the following personnel to establish an initial compliment of support personnel to assist in the emergency (additional personnel will be contacted as necessary):

(1) 1 Shift Supervisor
(2) 1 Lead Plant Equipment & Reactor Operator
(3) 1 Maintenance Supervisor
(4) 1 Station Electrician

(5) 1 Instrument & Control Supervisor/Coordinator

(6) 1 Radiation Protection Coordinator

Instrumentation is stored in the emergency locker which provides for monitoring both direct radiation and airborne radioactive contaminants.

Radiation shielding is provided by concrete wall construction of the room.

An emergency locker located in the OSC contains all equipment necessary for re-entry into the plant. This includes but not limited to both waterproof and cloth coveralls, respiratory protection (Scott Air Paks), dosimeters, radiation detection meters, air samplers, decontamination and first aid equipment.

Communication equipment (radio, telephone and intercom) is available for contacting designated sections of the emergency response organizations.

Control Room

The Control Room shall be the initial onsite center of emergency control. Control Room personnel must evaluate and effect control over the initial aspects of the emergency and initiate responses necessary for coping with the initial phases of an emergency until such time that the onsite emergency centers can be activated. These activities shall include:

(1) Continuous evaluation of the magnitude and potential consequences of an incident

(2) Initial corrective actions

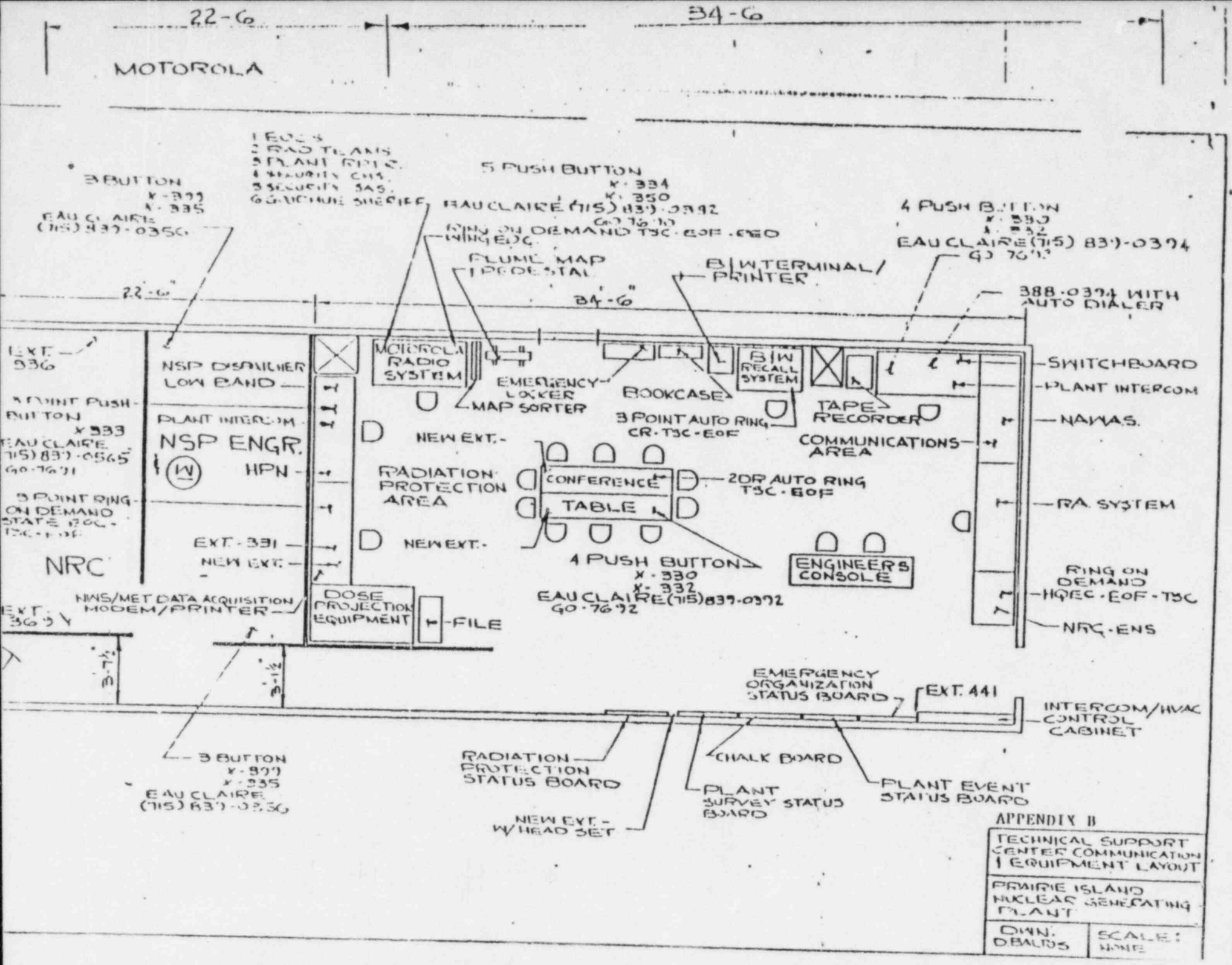
(3) Notification of offsite agencies

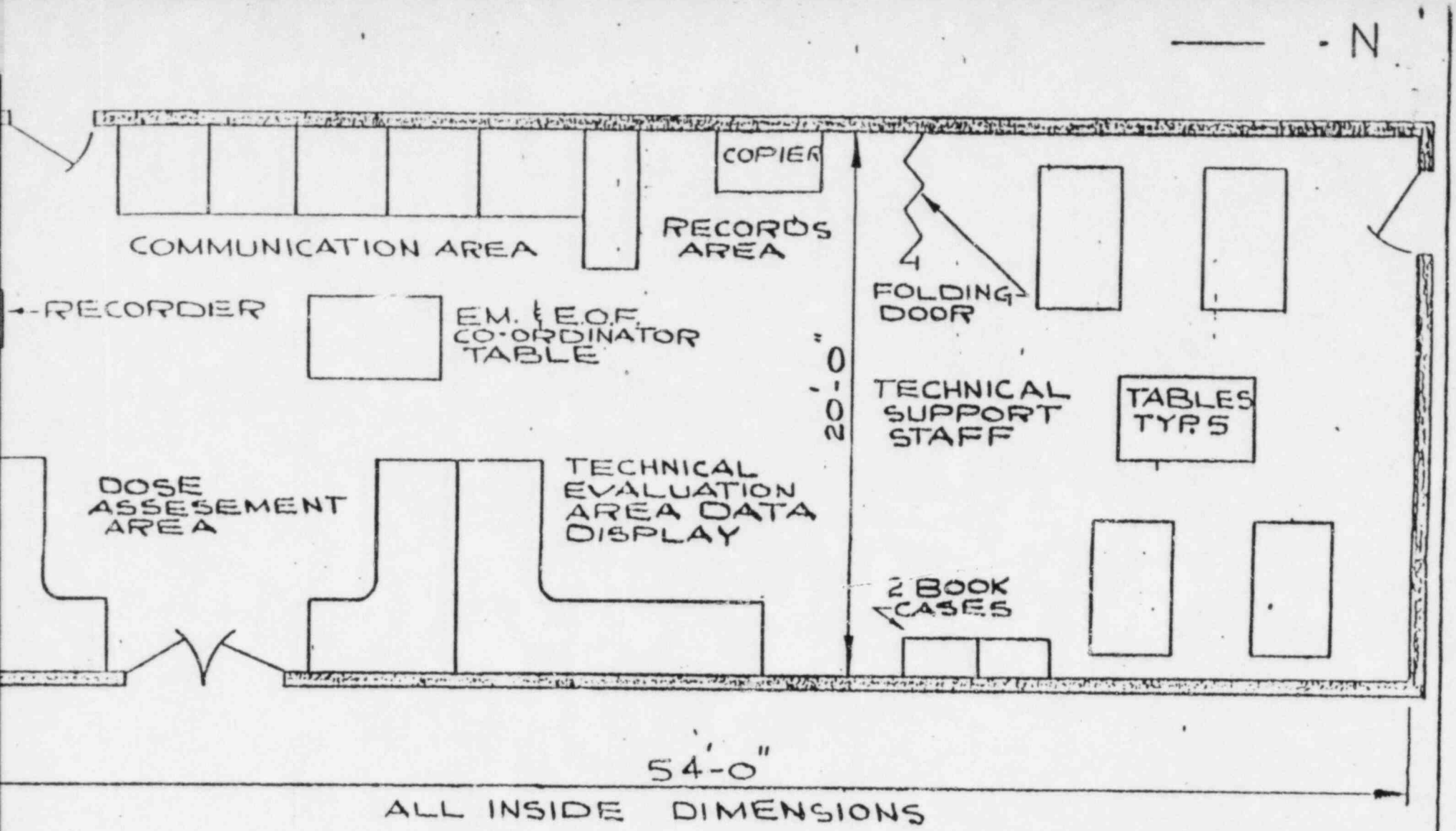
(4) Notification of plant staff (onsite or offsite)

All plant operations are controlled from here by the Shift Supervisor, with direction from the management personnel located either in the Control Room or Technical Support Center.

Communication equipment is available in the Control Room for contacting all onsite and offsite emergency organizations and personnel.

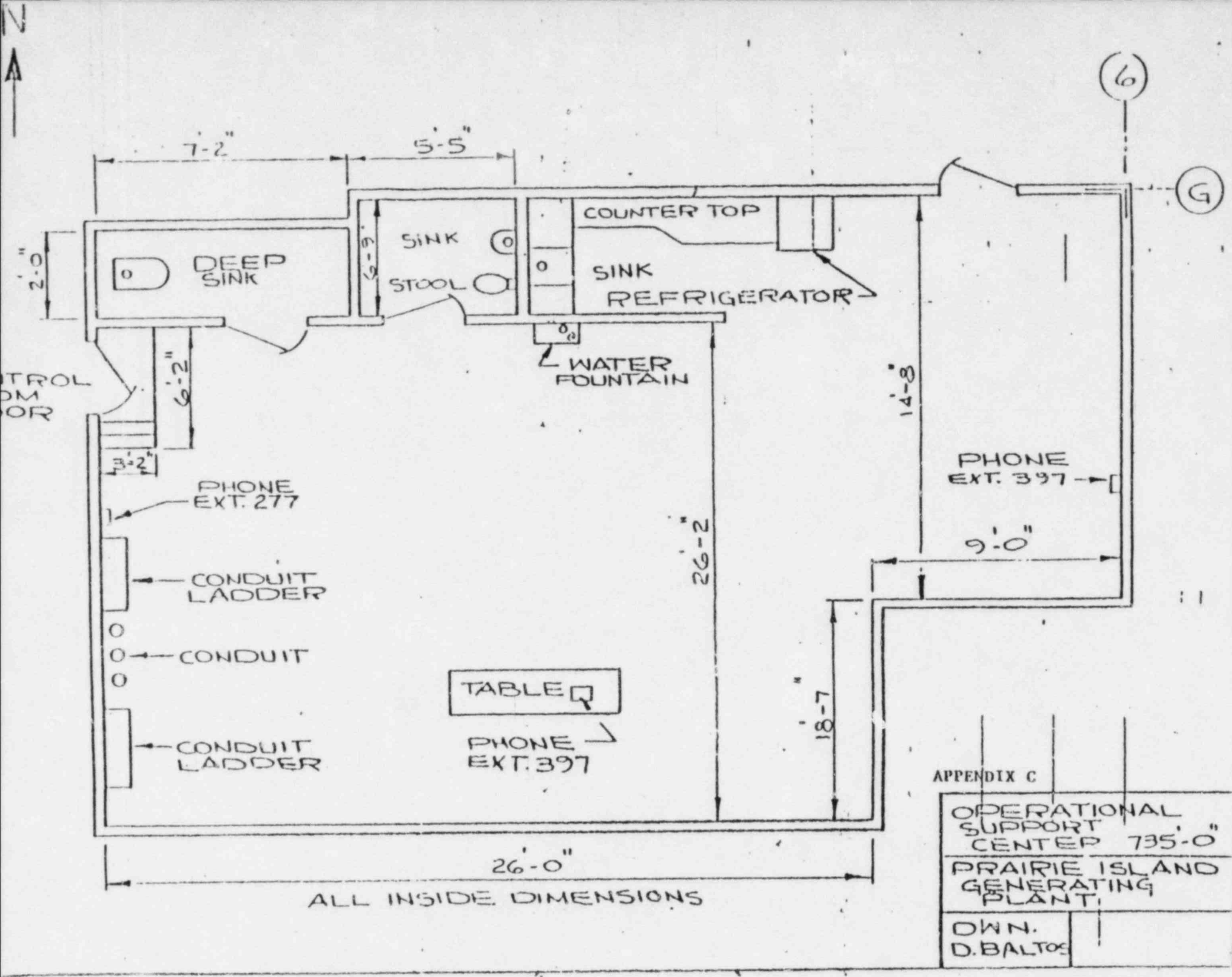
The Control Room contains the necessary instrumentation (process and radiological) to evaluate all plant conditions. Habitability is maintained by shielding and the special ventilation system (PAC Filter), which is capable of operating in a cleanup or recycle mode.


22-6
34-6
MOTOROLA
1 EOC'S
2 RAD TEANS
3 PLANT RPTS.
4 SECURITY CHF.
5 SECURITY SAS.
6 GOVERNMENT SHERIFF
3 BUTTON
X-333
X-335
EAU CLAIRE
(715) 839-0356
5 PUSH BUTTON
X-334
X-350
EAU CLAIRE (715) 839-0392
GO 76 10
RING ON DEMAND T3C-E0F-E60
PLUME MAP
1 PEDESTAL
4 PUSH BUTTON
X-330
X-332
EAU CLAIRE (715) 839-0394
GO 76 13
B/W TERMINAL/
PRINTER
388-0394 WITH
AUTO DIALER
22-6"
34-6"
EXT.
336
NSP DISPATCHER
LOW BAND
3 POINT PUSH-
BUTTON
X 333
EAU CLAIRE
(715) 839-0565
GO-76 11
3 POINT RING-
ON DEMAND
STATE EOC-
T3C-E0F
NRC
PLANT INTERCOM
NSP ENGR.
W
HPN
EXT-331
NEW EXT.
NWS/MET DATA ACQUISITION
MODEM/PRINTER
EXT.
365
MOTOROLA
RADIO
SYSTEM
EMERGENCY
LOCKER
MAP SORTER
BOOKCASE
B/W
RECALL
SYSTEM
3 POINT AUTO RING
CR-T3C-E0F
TAPE
RECORDER
COMMUNICATIONS
AREA
SWITCHBOARD
PLANT INTERCOM
NAWAS
RA SYSTEM
RING ON
DEMAND
HQEC-E0F-T3C
NRC-ENS
NEW EXT.-
RADIATION
PROTECTION
AREA
CONFERENCE
TABLE
20R AUTO RING
T3C-E0F
NEW EXT.-
4 PUSH BUTTON
X-330
X-332
EAU CLAIRE (715) 839-0392
GO-76 12
ENGINEERS
CONSOLE
DOSE
PROJECTION
EQUIPMENT
FILE
EMERGENCY
ORGANIZATION
STATUS BOARD
EXT. 441
INTERCOM/HVAC
CONTROL
CABINET
3 BUTTON
X-333
X-335
EAU CLAIRE
(715) 839-0356
RADIATION
PROTECTION
STATUS BOARD
NEW EXT.-
W/HEAD SET
CHALK BOARD
PLANT
SURVEY STATUS
BOARD
PLANT EVENT
STATUS BOARD
APPENDIX B
TECHNICAL SUPPORT
CENTER COMMUNICATION
EQUIPMENT LAYOUT
PRAIRIE ISLAND
NUCLEAR GENERATING
PLANT
DWN.
DBALDS
SCALE:
NONE



APPENDIX B

E.O.F. COMMAND CENTER & TRAINING ROOM 6	
PRAIRIE ISLAND NUCLEAR GENERATING PLANT	
DWN. D. BALTOS	SCALE 3/16" = 1'-0"


N
6
G
7-2"
5-5"
2-0"
DEEP SINK
SINK
STOOL
COUNTER TOP
SINK
REFRIGERATOR
WATER FOUNTAIN
6'-2"
3'-2"
PHONE EXT. 277
CONDUIT LADDER
CONDUIT
CONDUIT LADDER
TABLE
PHONE EXT. 397
26'-2"
14'-8"
PHONE EXT. 397
9'-0"
18'-7"
26'-0"
ALL INSIDE DIMENSIONS
APPENDIX C
OPERATIONAL SUPPORT CENTER 735-0"
PRAIRIE ISLAND GENERATING PLANT
DWN. D. BALTOS

ENCLOSURE 4

D R A F T

Docket Nos.: 50-263
50-282
50-306

Mr. L. O. Mayer
Manager of Nuclear Support Services
Northern States Power Company
414 Nicollet Mall
Minneapolis, Minnesota 55401

Dear Mr. Mayer:

This is in response to your two letters of June 8, 1981 and the letter of January 26, 1982 regarding the primary and backup Emergency Operations Facilities for the Prairie Island and Monticello Nuclear Generating Stations. The letters indicate that a common backup EOF would be located 55 miles from the Prairie Island site and 45 miles from the Monticello plant site at the Headquarters Emergency Center in downtown Minneapolis, Minnesota. The primary EOF for Prairie Island will be located onsite 0.5 mile from the reactor containment and the primary EOF for Monticello will be located onsite 1 mile from containment.

This letter is to advise you that the Commission finds that your position is acceptable with regard to the location of both your backup and primary EOF for these plants. This approval only applies to the location of these facilities. Approval of the other features of these facilities as well as the approval of your other Emergency Response Facilities (ERFs) will be determined during a postimplementation appraisal to be conducted at the Monticello and Prairie Island sites by the NRC when all your ERFs have been completed.

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

ENCLOSURE 4