Nebraska Public Power District

GENERAL OFFICE
P.O. BOX 499, COLUMBUS, NEBRASKA 68601-0499
TELEPHONE (402) 564-8561

December 17, 1981

Mr. K. V. Seyfrit, Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region IV
611 Ryan Plaza Drive
Suite 1000
Arlington, Texas 76011

Dear Mr. Seyfrit:

Subject: Emergency Preparedness Appraisal Response
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Your letter of October 16, 1981, requested Nebraska Public Power District to respond to a number of deficiencies identified in Appendix A of that same letter. Each of these deficiencies is addressed below. The number associated with each finding correlates to a specific item identified during the Cooper Nuclear Station Emergency Preparedness Appraisal conducted June 15-26, 1981.

1. Emergency Response Organization Description

NRC Finding: (81-13-02) Pursuant to the requirements of 10 CFR 50.47(b)(16) and 10 CFR Part 50, Appendix E(IV)(A), develop and implement explicit and specific functional responsibilities and authorities for the various Emergency Preparedness planning and coordination functions.

Response: The specific functional responsibilities and authorities for the role of the Emergency Planning Coordinator have been developed and will be discussed in the revised Emergency Plan and appropriate EPIPs.

NRC Finding: (81-13-04) Pursuant to the requirement of 10 CFR Part 50, Appendix E(IV)(A), unambiguously define the authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization.

Response: The authorities, responsibilities, and duties of the individuals assigned to the emergency organization have been more fully described in the revised Emergency Plan and will be further refined in the appropriate EPIPs.

NRC Finding: (81-13-05) Pursuant to the requirements of 10 CFR Part 50, Appendix E(IV)(A), revise the description of the Onsite Emergency Organization to reflect functional areas of emergency activity, reporting chains (management structure), and interrelationships of the functional areas, down to the working level, consistent with Table B-1 of NUREG-0654, Revision 1.

Response: The description of the Onsite Emergency Organization has been fully described in the revised Emergency Plan.

NRC Finding: (81-13-06) Pursuant to the requirements of 10 CFR 50.47(b)(2) and 10 CFR Part 50, Appendix E(IV)(A), develop explicit and specific functional responsibilities and authorities for the various emergency action functions.

Response: A detailed listing of emergency functional responsibilities has been included in Section 5.0 of the revised Emergency Plan.

NRC Finding: (81-13-08) Pursuant to the requirements of 10 CFR 50.47(B)(2) and 10 CFR Part 50, Appendix E(IV)(A), include a list of approved licensee personnel (by name) in the Emergency Plan Implementing Procedure who have been selected and are qualified to perform activities within the functional areas of the onsite emergency organization to which they are assigned.

Response: The revised Emergency Plan will include a listing by title of all key emergency personnel, as well as a functional description of their respective duties. The emergency titles (functions) utilized in the revised Emergency Plan will be identical to those in the new EPIPs. Corporate organization charts which relate individuals to functional titles will be provided separately if necessary.

NRC Finding: (81-13-09) Pursuant to the requirements of 10 CFR 50.47(b)(1) and 10 CFR Part 50, Appendix E(IV)(A), revise the Emergency Plan and Implementation Procedures to clearly identify the primary responsibilities for emergency response by state and local organizations within the EPZs, and various other supporting organizations on which CNS would depend for technical support during an emergency.

Response: The Emergency Plan has been revised to include the augmentation/mobilization of state and local organizations and identifies their respective responsibilities. In addition, various outside support organizations are identified along with the type of support they would provide to the District during an emergency.

NRC Finding: (81-13-10) Pursuant to the requirements of 10 CFR 50.47(b)(2) and 10 CFR 50, Appendix E(IV)(A)(3) and (5) through (8), revise the Emergency Plan and Implementing Procedures to clearly identify the functional areas of emergency support to be provided to the station organization, reporting chains, and the interfaces between the corporate and nonlicensee augmentation organizations and the station emergency organization down to the working level.

Response: The revised Emergency Plan and EPIPs identify functional areas of emergency support, reporting chains, and interfaces down to the working level.

NRC Finding: (81-13-11) Pursuant to the requirements of 10 CFR 50.47(b)(13) and 10 CFR Part 50, Appendix E(IV)(H), develop general plans for the recovery of the CNS after an accident, including consideration of criteria for reentry of the facilities and methods to be used to guide recovery operation until plant operation could be resumed.

Response: Section 9.0 of the Emergency Plan has been revised to include general recovery plans. The District has also reviewed the inclusion of criteria for reentry into the facilities and has determined that a better approach is to provide a method for determining such criteria based upon the nature of a specific accident. This approach is also described in Section 9.0 of the revised Emergency Plan.

NRC Finding: (81-13-12) Pursuant to the requirements of 10 CFR 50.47(b)(3) and 10 CFR Part 50, Appendix E(IV)(A) and (D) and (E), provide in the Emergency Plan copies of letters of agreement or contracts which demonstrate that arrangements have been made with offsite organizations to supply specifically defined support or cooperation during an emergency.

Response: Included in the revised Emergency Plan are copies of the letters of agreement.

NRC Finding: (81-13-43) Pursuant to the requirements of 10 CFR 50.47(b)(5) and (6) and the guidance contained in NUREG-0654, Revision 1, Items F.1.a and .b and F.3, develop procedures for providing local governments with emergency information.

Response: An EPIP has been written to ensure that appropriate local governments will be properly informed in the event of an emergency at Cooper Station.

NRC Finding: (81-13-47) Pursuant to the requirements of 10 CFR 50.47(b)(2), (5), and (9), correct the existing EPIP and attachments by developing functional procedures (e.g. accident classifications, notifications, dose assessments, first aid, search and rescue, personnel accountability, personnel decontamination, etc.).

Response: The EPIPs have been rewritten to be responsive to this issue.

NRC Finding: (81-13-50) Pursuant to the requirements of 10 CFR 50.47(b)(1) and (2), 10 CFR Part 50, Appendix E(IV)(C) and (E), and the guidance contained in NUREG-0654 and 0696, develop and implement procedures for activation of the emergency facilities and call-in of all licensee personnel having emergency duties and responsibilities down to the working level.

Response: Appropriate facility (TSC, OSC, EOF) activation procedures, as well as a notification procedure, have been included in the revised EPIPs.

NRC Finding: (81-13-56) Pursuant to the requirements of 10 CFR 50.47(b)(11) and the guidance contained in NUREG-0654, Revision 1, Items K.1-K.6, develop procedures that give specific guidance to individuals involved with the administration of radiation protection during an emergency and to the individuals whose emergency response duties would require radiation protection.

Response: The EPIPs have been rewritten to include such procedures as administration of radioprotective drugs (KI), medical decontamination, etc.

NRC Finding: (81-13-61) Pursuant to the requirements of 10 CFR 50.47(b)(2) and (13), 10 CFR Part 50, Appendix E(IV)(A) and (H), and E(V), develop and implement specific procedures which govern the formation, direction, and control of emergency repair and corrective action teams during an emergency.

Response: EPIPs are being written to address the formation, direction, and control of emergency repair and corrective action teams during an emergency.

NRC Finding: (81-13-62) Pursuant to the requirements of 10 CFR 50.47(b)(1) and (2) and (13), 10 CFR Part 50, Appendix E(IV)(A) and (H), and the guidance contained in NUREG-0654, Revision 1, Items M.2 and .3, develop and implement plans and procedures which will govern the operations of the CNS Recovery Organizations and criteria for its initiation.

Response: The revised Emergency Plan and new EPIPs have been developed to generally describe the methods the District will employ in the event recovery operations are necessary and appropriate.

NRC Finding: (81-13-63) Pursuant to the requirements of 10 CFR 50.47(b)(13) and the guidance contained in NUREG-0654, Revision 1, Item M.1, develop procedures with specific criteria upon which the emergency class will be downgraded and provisions for notification of federal, state, and local officials prior to entering a downgraded mode.

Response: A classification procedure based in part on the EALs of NUREG-0654 has been developed. This procedure can be used to either upgrade or downgrade the classification of an emergency condition or event at Cooper Nuclear Station.

NRC Finding: (81-13-66) Pursuant to the requirements of 10 CFR 50.47(b)(14), 10 CFR Part 50, Appendix E(IV)(F), and the guidance contained in NUREG-0654, Revision 1, Items N.1 through .5, develop and implement procedures for the Conduct of Drills and Exercises which provide specific guidance on the planning, review, conduct, and critique of drills and exercises.

Response: The District is revising its procedure concerning the conduct of drills and exercises. This revision will include guidance on the planning, review, conduct, and critique of drills and exercises.

NRC Finding: (81-13-67) Pursuant to the requirements of 10 CFR 50.47(b)(16) and 10 CFR Part 50, Appendix E(IV)(G), establish unambiguous responsibilities for the development, review, and distribution of the Emergency Plan and EPIPs.

Response: An EPIP has been developed to ensure that the Emergency Plan and EPIPs are appropriately developed, reviewed, and distributed in a timely manner.

NRC Finding: (81-13-68) Pursuant to the requirements of 10 CFR 50.47(b)(16) and 10 CFR Part 50, Appendix E(IV)(G), establish unambiguous documentation for assuring that the CNS Emergency Plans and Procedures are maintained in an up-to-date condition by all holders of controlled copies.

Response: A mechanism will be established to ensure that controlled copies of the Emergency Plan and EPIPs are kept up-to-date.

NRC Finding: (81-13-70) Pursuant to the requirements of 10 CFR 50.47(b)(3), 10 CFR Part 50, Appendix E(IV)(D) and (E) and (G), and the guidance contained in NUREG-0654, Revision 1, Items A.3 and B.9, review all letters of agreement with offsite support organizations to ensure that all are still acceptable and will be honored, and ensure that adequately detailed letters of agreement exist for all organizations the licensee will depend on for aid during an emergency.

Response: All existing letters of agreement are being reviewed in light of this concern. In addition, the District is in the process of identifying those organizations for which letters are deemed necessary and which currently do not exist. The District will attempt to obtain the appropriate letters of agreement with these organizations as soon as possible.

NRC Finding: (81-13-73) Pursuant to the requirements of 10 CFR 50.47(b)(14), 10 CFR 50, Appendix E(IV)(F), and the guidance contained in Nureg-0654, Revision 1, Item N.2, develop and implement a schedule of drills and exercises which adequately tests the components of your emergency response capabilities and equipment.

Response: The District is proceeding with the development of surveillance procedures to ensure the guidance regarding frequency of drills and exercises is met.

2. Emergency Action Levels/Procedure Flow

NRC Finding: (81-13-46) Pursuant to the requirements of 10 CFR 50.47(a)(2), correct the CNS Emergency Procedure in Volume 5 of the CNS Operations Manual, to enable the reactor operations personnel to effectively move through the emergency procedures and into the EPIPs.

Response: The District has deferred the updating of the CNS Emergency Procedures until such time as the BWR Owners Group completes the development of comprehensive Emergency Procedure Guidelines (EPGs). The development of the EPGs was prompted in part by the requirements of NUREG 0737, Item I.C.1. Once the EPGs are finalized, the District will revise Cooper Nuclear Station's Emergency Procedures, incorporating the appropriate portions of the EPGs as well as the concerns expressed in this finding. For further discussion on this subject, refer to letter dated December 30, 1980, J. M. Pilant to D. G. Eisenhut.

NRC Finding: (81-13-48) Pursuant to the requirements of 10 CFR 50.47(b)(4) and 10 CFR Part 50, Appendix E(IV)(B), assure that the Emergency Operating Procedures are expanded to include the initiating conditions and EALS in NUREG-0654, Revision 1, Appendix 1, and lead the station operators into the appropriate section of the CNS Emergency Plan Implementing Procedure.

Response: See the response to Item 81-13-46 above.

NRC Finding: (81-13-49) Pursuant to the requirements of 10 CFR 50.47(b)(9) and 10 CFR Part 50, Appendix E(V), correct procedures to ensure that all appropriate and applicable emergency actions are defined and properly referenced in the CNS Emergency Operations Procedures and the EPIPs.

Response: See the response to Item 81-13-46 above.

NRC Finding: (81-13-74) Pursuant to the requirements of 10 CFR Part 50, Appendix E(IV)(C), develop and implement methods to lead, by direct reference, the Shift Supervisor to the applicable section of Emergency Implementation Procedure

Response: See the response to Item 81-13-46 above.

3. Offsite Radiological Monitoring Capability.

NRC Finding: (81-13-45) Pursuant to the requirements of 10 CFR 50.47(b)(9) and 10 CFR Part 50, Appendix E(IV)(C), provide procedures describing the type, number, equipment, and availability of vehicles for emergency response, e.g., truck, car, four-wheel drive, two-way radio, winches, etc.

Response: New EPIPs have been written to address the types, number, etc., of emergency vehicles.

NRC Finding: (81-13-53) Pursuant to the requirements of 10 CFR 50.47(b)(9) and (10) and 10 CFR Part 50, Appendix E(IV)(B), ensure that offsite radiological field surveys will be performed on all impacted lands until appropriate state authorities can augment the licensee's staff and take responsibility for that emergency function.

Response: The revised Emergency Plan provides for the use of District field surveys until the appropriate state authorities can dispatch their field monitoring teams. The conduct of the District's field monitoring teams is covered by a new EPIP.

NRC Finding: (81-13-55) Pursuant to the requirements of 10 CFR Part 50, Appendix E(IV)(E), upgrade existing facilities and equipment or document the contractor service for the radiological environmental monitoring program to ensure that there are adequate provisions for continuously assessing the impact of the release of radioactive materials to the environment during an emergency.

Response: By letter dated July 30, 1979, J. M. Pilant to H. R. Denton, the District documented the contract services available for radiological environmental monitoring, sample analysis, and meteorological monitoring. These two organizations, activated by a phone call from the Environmental Manager, are Teledyne Isotopes and Ecological Analysts, Inc. (formerly Hazleton Environmental Sciences, Inc.).

4. Post Accident Sampling

NRC Finding: (81-13-29) Pursuant to the requirements of NUREG-0737, Items II.B.3 and II.F.1, upgrade existing post-accident sampling and analysis facilities, equipment, and procedures to insure that the implementation schedules in NUREG-0737 are met and that the radiation doses received during sampling and analysis activities are within the specified guidelines.

Response: The installation of the new post-accident sampling system was completed during the Fall 1981 Outage. The dilution of samples prior to being withdrawn from secondary containment ensures that only diluted samples are handled and taken to the radiochemistry laboratory for analysis.

NRC Finding: (81-13-54) Pursuant to the requirements of 10 CFR 50.47(b)(9) and 10 CFR Part 50, Appendix E(IV)(B) and Appendix E(V), develop and implement, as part of the EPIP, specific procedures for post-accident sampling and analysis.

Response: The proper utilization of the new post-accident sampling system will be addressed in the appropriate EPIPs.

NRC Finding: (81-13-76) Pursuant to the requirements of 10 CFR, Part 20, evaluate the existing primary coolant sampling equipment with respect to ALARA considerations and normal state-of-the-art industrial standards of good practice.

Response: The District evaluated the existing sampling equipment and concurred with the NRC guidance that a new post-accident sampling system was justified. During the design phase of the new sampling system, the District placed increased emphasis on ALARA concerns as well as state-of-the-art industrial standards of good practice in conjunction with sound engineering judgement.

NRC Finding: (81-13-77) Pursuant to the requirements of 10 CFR Part 20, OSHA Regulations, and industrial standards of "good practice," correct the fume hood fans to ensure that the air velocity at the base of the fume hood equals or exceeds 100 linear feet per minute.

Response: As discussed in Section 7.2.3 of the Appraisal Report, this finding addresses equipment and facilities used to sample and analyze the primary reactor coolant during an accident. Subsequent to the appraisal, the District installed a new post-accident sampling system which does not utilize the fume hood in question. For further information regarding this system, see the response to Items 81-13-29, 81-13-54, and 81-13-76 above.

5. Radiation Monitoring

NRC Finding: (81-13-22) Pursuant to the requirements of 10 CFR 50.47(b)(11) and 10 CFR Part 50, Appendix E(IV)(E), provide devices with both visual and audible alarms to indicate radiological conditions in the TSC.

Response: Such devices will be available in the TSC. A more detailed response to this same concern was provided in a letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit.

NRC Finding: (81-13-25) Pursuant to the requirements of 10 CFR 50.47(b)(11) and the guidance contained in NUREG-0696, provide continuous monitoring devices with both visual and audible alarm capabilities for airborne activity and area radiation inside of the OSCs.

Response: Such devices will be available in the OSCs. A more detailed response to this same concern was provided in a letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit.

NRC Finding: (81-13-34) Pursuant to the requirements of 10 CFR 50.47(b)(8) and (b)(11), provide high-range Radiation Survey instruments that do not require personnel exposure, e.g., hands, to high dose rates.

Response: The District has evaluated the various types of instrumentation currently available. As indicated in a letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit, the District has ordered a sufficient number of high-range survey instruments. The expected delivery date for these instruments is January, 1982.

NRC Finding: (81-13-44) Pursuant to the requirements of 10 CFR 50.47(b)(8) and (11), provide high-range instrumentation for normal and emergency use which do not require personnel exposure to high doses to the hands (see Section 4.2.1.1 of this report).

Response: See the response to Item 81-13-34 above.

NRC Finding: (81-13-52) Pursuant to the requirements of 10 CFR 50.47(b)(9) and (10), develop and implement procedures for Offsite, Onsite, and Inplant Radiological surveys that provide sufficient specific guidance to personnel and include appropriate references to other necessary procedures and radiation protection guidance.

Response: The District is in the process of developing EPIPs to address these concerns.

NRC Finding: (81-13-59) Pursuant to the requirements of 10 CFR 50.47(b)(11) and 10 CFR Part 50, Appendix E(IV)(E), develop and implement specific procedures which govern the radiological monitoring and decontamination of personnel and equipment which could be removed from the CNS site during an emergency.

Response: EPIPs regarding decontamination and medical procedures are being developed.

6. Public Education and Information

NRC Finding: (81-13-51) Pursuant to the requirements of 10 CFR 50.47(b)(5) and (7), develop and implement the content of initial and follow-up messages and instructions to response organizations and the public.

Response: By letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit, the District addressed this issue and provided copies of the initial and follow-up messages.

NRC Finding: (81-13-64) Pursuant to the requirements of 10 CFR 50.47(b)(5) and (7), 10 CFR Part 50, Appendix D(IV)(D), and the guidance contained in NUREG-0654, Revision 1, Items G1 through 5, and Item G.7, develop procedures for Public Information which provide for local and general rumor control, clearly identify the utility spokesperson and source of information, coordinate information releases, and identify the organizations involved in news dissemination, their locations, and ways of contacting them.

Response: The District has drafted a Public Information EPIP to respond to the items indicated.

NRC Finding: (81-13-71) Pursuant to the requirements of 10 CFR 50.57(b)(7) and the guidance contained in NUREG-0654, Revision 1, Items G.1, G.2, and G.5, provide for dissemination of emergency planning information to the public.

Response: As described by letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit, the District has established a method of disseminating emergency planning information to members of the public.

NRC Finding: (81-13-72) Pursuant to the requirements of 10 CFR 50.47(b)(7) and the guidance contained in NUREG-0654, Revision 1, Item G.5, establish a program to familiarize the news media on at least an annual basis, with the emergency plans, information on radiation, and points of contact for the release of public information during the emergency.

Response: The District has established such a program. The first annual "media conference" was held on November 24, 1981.

7. Onsite Emergency Organization Augmentation

NRC Finding: (81-13-13) Pursuant to the requirements of 10 CFR 50.47(b)(2) and 10 CFR Part 50, Appendix E(IV)(C), revise the emergency plan to include the augmentation of emergency personnel as specified in NUREF-0654, Revision 1, Table B-1, and provide a method to verify that there is reasonable assurance that the augmentation times can be met for the specified minimum augmentation staff.

Response: Augmentation of emergency personnel is addressed in the revised Emergency Plan and EPIPs. For information regarding assurance that adequate augmentation times can be met, refer to letter dated October 5, 1981, J. M. Pilant to K. V. Seyfrit.

8. Personnel Accountability

NRC Finding: (81-13-30) Pursuant to the requirements of 10 CFR 50.47(b)(8) and the guidance contained in NUREG-0654, Revision 1, provide specific personnel accountability procedures identifying how assembly area personnel will be accounted for and who gets the information.

Response: A personnel accountability procedure is being developed to meet the concerns expressed in this item.

NRC Finding: (81-13-58) Pursuant to the requirements of 10 CFR 50.47(b)(10) and 10 CFR Part 50, Appendix E(IV)(E), provide personnel accountability procedures governing how each asesmbly area will conduct personnel accountability, to whom this information will be reported, and what will be done to locate missing persons.

Response: See response to 81-13-30 above.

9. Respiratory Protection

NRC Finding: (81-13-18) Pursuant to the requirements of 10 CFR 50.47(b)(2), assure that all personnel assigned emergency functions, including the fire brigade, will be capable of responding to an incident. This shall include meeting, while on duty, requirements set forth in NUREG-0041, "Manual of Respiratory Protection Against Airborne Radioactive Materials."

Response: Cooper Nuclear Station's policy regarding facial hair (beards and long sideburns) that interferes with the seal of respiratory devices, as discussed in letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit, will be implemented by January 1, 1982.

NRC Finding: (81-13-23) Pursuant to the requirements of 10 CFR 50.47(b)(11) and 10 CFR Part 50, Appendix E(IV)(E), provide respiratory protection equipment for all persons reporting to the TSC.

Response: This concern was previously addressed by letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit.

NRC Finding: (81-13-26) Pursuant to the requirements of 10 CFR 50.47(b)(11) and the guidance contained in NUREG-0696, provide respiratory protection equipment and protective clothing for the maximum number of persons who may report to each OSC.

Response: By letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit, the District discussed its policy regarding respiratory protection equipment for personnel reporting to the OSCs. If the OSC(s) becomes contaminated, personnel will be relocated. If reentry into an OSC(s) is required, adequate protective clothing and respiratory protection equipment will be provided.

NRC Finding: (81-13-31) Pursuant to the requirements of 10 CFR Part 50, Appendix E(IV)(3), 10 CFR 50.47b.(8), and the guidance contained in NUREG-0654, Revision 1, Item J.6., provide for individual respiratory protection and protective clothing for individuals remaining at or arriving onsite during the emergency.

Response: By letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit, the District discussed its policy regarding respiratory protection equipment for individuals reporting to the Emergency Operations Facility (EOF) and the provisions for evacuating to an alternate EOF if increased levels of airborne radioactivity are detected. For individuals remaining at or arriving onsite, an adequate amount of protective clothing is available as discussed in Section 4.2.2.2 of the Appraisal Report.

NRC Finding: (81-13-42) Pursuant to the requirements of 10 CFR 50.47(b)(8) and the guidance contained in NUREG-0654, Revision 1, Item J.6.a, provide sufficient respiratory protection equipment for all onsite emergency workers.

Response: As discussed in Section 4.2.2.1, the auditors noted that the District maintained sufficient respiratory protective equipment. The auditors concern regarding TSC and OSC personnel respiratory protective equipment was addressed by letter dated November 16, 1981, J. M. Pilant to K. V. Seyfrit.

In addition to providing our planned actions for removing each of the deficiencies identified in Appendix A, you requested the District to provide the results of our consideration of each of the items listed in Appendix B. Many of the items contained in Appendix B are still under consideration; however, those items listed below will be resolved in accordance with the guidance established in the Appraisal Report.

81-13-03	81-13-104
81-13-07	81-13-105
81-13-20	81-13-107
81-13-21	81-13-108
81-13-27	81-13-109
81-13-32	81-13-110
81-13-37	81-13-111
81-13-40*	81-13-112
81-13-41*	81-13-114
81-13-57	81-13-115
81-13-60	81-13-116
81-13-65	81-13-117
81-13-75	81-13-118
81-13-78	81-13-119
81-13-101	81-13-121
81-13-102	

* Additional information regarding the District's meteorological and dose assessment capabilities and plans is contained in Attachment 1.

Should you have any questions regarding the information provided, please contact my office.

Sincerely,

J. M. Pilant
Division Manager
of Licensing and Quality Assurance

JMP/kcw:kr17/5
Attachment

CNS Plant Management Information System (PMIS)
Meteorological Monitoring System Status
December 15, 1981

Implementation of the Meteorological Monitoring System for Cooper Nuclear Station has involved the efforts of several District departments as well as the consulting services of Dames & Moore. Implementation of the system also involves close coordination with the CNS Plant Management Information System (PMIS) project. The following discussion provides an overview of the project status.

References:

1) June 30, 1980, Letter from J. M. Pilant to D. G. Eisenhut, "Post TMI - Requirements/NUREG 0737."

2) July 30, 1981, Letter from J. M. Pilant to T. A. Ippolito, Letter LQA8100238.

3) June 9, 1981, Letter from J. M. Pilant to D. G. Eisenhut, "Emergency Response Facilities."

I. The Meteorological Criteria for Emergency Preparedness as addressed in Appendix 2 to NUREG-0654 requires the District to initiate a program to upgrade the meteorological measuring facilities at CNS. The District initiated this program in 1980 by enlisting the services of Dames & Moore to develop a preliminary implementation plan. This plan was submitted to the NRC in Reference 1. The plan has served as a basis for the following activities.

1. Location of Primary and Backup Tower: A map of the CNS site showing all possible locations of the towers that met the Regulatory Guide 1.23 guidelines was reviewed and preferred tower locations selected. NRC concurrance was requested in Reference 2 as to the final site selections.

2. 100 Meter Tower: A 100 meter guyed tower, supplied and erected by Advance Industries, Sioux City, Iowa, will support meteorological instrumentation at three levels. The tower is also capable of supporting microwave equipment. Erection of the tower, as well as instrument elevator supplied by Tower Systems, Inc., was completed December 11, 1981.

3. 10 Meter Tower: A free standing climbable 10 meter tower with safety line and maintenance cage has been purchased from Valmont Industries, Valley, Nebraska.

4. Instrument Shelters: Two instrument shelters have been purchased from and delivered to the site by Advance Industries. The primary shelter is sized for the meteorological signal processing equipment as well as future microwave equipment if necessary.

5. Meteorological Instrumentation: The instrumentation for the meteorological monitoring system is being purchased from Climetronics. Installation of this equipment is planned for approximately April, 1982. The 100 meter tower will have wind speed, wind direction, and temperature monitored at the 10 meter, 60 meter,

and 100 meter levels. The 10 meter tower will monitor wind speed and wind direction and a precipitation guage will be located next to this tower. Appropriate delta T's and sigma theta calculations will be made and recorded. The instruments, instrument locations, and recording specifications should meet all requirements in Regulatory Guide 1.23.

6. Power and Communications: Temporary power will be provided to the instrument shelters from the existing construction power in the area of the tower sites. Permanent power will be provided to the sites after completion in the summer of 1982 of the planned 12.5 kV bus from the switchyard to the plant. Redundant power to the sites will be supplied from the switchyard and a CNS emergency bus.

   Two 50 pair (underground) communications cables will be installed in a loop from the security building to the switchyard, primary tower, and backup tower. This design provides a redundant communications path to the security building. Communications cable from the security building to the Plant Computer Room will be encased in conduit and will not be redundant.

7. Data Transmission: Since the meteorological monitoring system will be integrated with the PMIS, as discussed in Reference 3, the meteorological system will use a Data Acquisition System (DAS) generic to the PMIS. Specifications for the DAS are anticipated to be completed in the near future. With receipt of these specifications, the District will proceed with procurement of the necessary equipment.

8. Strip Chart Recorders: At the present time, the meteorological instruments located on the Elevated Release Point (ERP) and the 10 meter tower feed data to strip chart recorders. New strip chart recorders are being purchased to record the meteorological data from the new towers. Use of the new recorders requires that the DAS discussed in the previous paragraph be operational. It is presently anticipated that the DAS and recorders will be operational by July 1, 1982.

II. The District has entered into an agreement with Dames & Moore to develop the computer software required to meet the meteorological emergency preparedness requirements as defined in NUREG-0654 and Regulatory Guide 1.23. The scope of this agreement covers an interim Type A model, Class A model, Appendix I calculations and reporting, and communications software; however, Dames & Moore has presently been authorized to proceed with only the development of the interim Type A model. The remaining software will be developed later. A brief description of each activity follows:

1. Interim Type A Model: Annex 1 to Appendix 2 of NUREG-0654 states that, among other requirements, during the interim: "An operable dose calculation methodology (DCM) shall be in use in the Control Room and at appropriate emergency response facilities." The District is proceeding to develop an interim computer model to provide an accurate means of estimating the dispersion of radioactive material resulting from an accidental release. The Dames & Moore developed model was

completed in November, 1981, and will be available for use January, 1982. Details of how the model will be used are addressed in Section III.

2. Class A Model: This model will be operated with real-time data provided by the equipment described in Section I. This program will be run on the PMIS computers as discussed in Reference 3.

3. Appendix I Calculations and Reporting: This software will be developed to meet the Appendix I requirements for routine reporting of meteorological related information.

4. Data Communications Software: The PMIS currently under development will have the capability of handling the communication functions required by NUREG 0654.

III. Interim Meteorological Emergency Preparedness: Under the direction of the District, Stone & Webster is developing procedures for the CNS emergency response program. Part of this program will involve the use of the interim Type A model which is a dispersion model that will allow rapid calculation of fifteen minutes average relative concentrations for assessment of the consequences of an accidental radioactive release. Following is a brief discussion of how this model will be used.

1. Use of the Interim Model: The interim Type A model will be run as a stand alone program on the District's Prime computer in the General Office. Personnel will input the meteorological conditions and release mode into the Prime computer via microwave communications and a dial-up port. The primary location for this data input will be the TSC. The program will provide estimated doses at selected polar coordinates and at selected special points. This information will be displayed on hard copy terminals in the TSC and EOF.