

APPENDIX C

EMERGENCY PLAN EVALUATION REPORT

ON

Cooper Nuclear Station

Nebraska Public Power District

Emergency Plan Dated January 15, 1982

I. EVALUATION SUMMARY

The Cooper Nuclear Station Emergency Plan (hereinafter called "the Plan" or "the CNS Plan"), dated January 15, 1982, was evaluated using the 16 Planning Standards and the 96 supporting criteria in NUREG-0654, Revision 1 (Regulatory Guide 1.101, Revision 2). The evaluation also included a review and evaluation of information contained in: 1) the previous edition of the CNS Plan, dated April 1, 1981; 2) sets of the CNS Emergency Plan Implementing Procedures (EPIP's), dated February 26, 1982, and March 31, 1981; and 3) the NRC staff questions on the previous CNS Plan which were sent to the licensee by letter, dated April 1, 1981.

The evaluation shows that of the 16 standards, 1 was satisfied, 14 were satisfied except as noted, and 1 was not satisfied. The rating of unsatisfactory was given to Planning Standard C, Emergency Response Support and Resources.

The Planning Standard rated as unsatisfactory was so rated because the CNS Plan failed to address the substantive points expressed in the Standard and in the evaluation criteria. The Planning Standards, rated as satisfactory except as noted, were so rated because the CNS Plan failed to address, provided insufficient information about, or was unclear regarding some of the pertinent points enunciated in the Planning Standards' evaluation criteria. Comments were made on each of the deficiencies noted.

In the pages that follow, findings on each Standard and its evaluation criteria are presented. A synopsis of criteria that are properly addressed is given, an evaluation of the degree of satisfaction provided by the Plan is made, and a set of comments noting deficiencies within criteria is provided.

II. GENERAL OVERVIEW COMMENTS

- ° By far, the preponderance of deficiencies identified during the evaluation of the licensee's emergency response plan have been identified to the licensee in a previous transmittal of NRC staff questions regarding the CNS Plan. (See letter from Mr. Thomas Ippolito, Chief, Operating Reactors

Branch #2, Division of Licensing, USNRC to Mr. J. M. Pilant, Director of Licensing and Quality Assurance, Nebraska Public Power District, dated April 1, 1981.)

- In general, the CNS Plan addresses what will be done at the Cooper Station during a radiological emergency. Unfortunately, the Plan is lacking in the specific details of how the actions will be done, by whom they will be done, and the complexity of the interfaces involved.
- The Plan shall be a stand-alone document containing sufficient detail on which the NRC can base its safety findings. While other emergency plans, procedures, provisions, and other appropriate documents can and should be referenced to provide the reader with additional information and insight, the Plan itself must also contain a summary of the referenced documents. Such summaries should be short, but must contain sufficient detail on which the NRC can base its safety findings.
- In-text references shall be as specific as possible; e.g., the reference shall be to a specific page or procedure, not to an entire section or to "the appropriate EPIP's." While this policy must be tempered to reduce the overall amount of work necessary to make simple changes and corrections to the Plan, the policy must be given due consideration so as to aid the reader in moving from one part of the Plan to another and to the specific EPIP which implements the area under discussion.
- In the EPIP's, all in-text references shall be as specific as possible. During an emergency, it is the EPIP's which will be used and the reader will not have the time to hunt for a general reference.
- All pages for the emergency planning documents (including graphics) should be dated and the appropriate revision number indicated so as to facilitate awareness of changes which are made to the documents. Further, the specific changes should be identified by "change bars" in the margin of the page to ensure that emergency workers are aware of changes made to the Plan and its EPIP's.
- Development of a subject index would increase the retrievability of important information in the licensee emergency plan(s) under the possibly stressful conditions associated with an actual emergency.
- The CNS Plan should include a complete list of all implementing procedures (including normal procedures which are also intended to be used during emergencies), as well as the specific portions of the Plan which they implement, the procedure numbers and title, and where up-to-date copies may be found for immediate emergency use. It should be noted that a short description of each procedure is also considered an excellent addition to the planning document.

- ° The CNS Plan does not adequately identify the authorities of the emergency workers to assure that all emergency workers are vested with the necessary authorities to perform tasks for which they are assigned responsibilities by the CNS Plan or its associated implementing procedures. This is contrary to the requirements of 10 CFR Part 50, Appendix E, and the statement made at the bottom of page 3-1 of the CNS Plan.
- ° The "Emergency Telephone Directory" referenced in the CNS Plan does not appear on one of the EPIP's and its exact relationship to the Plan is unclear. If the document is a part of the CNS Plan or its EPIP's, it should be included and docketed with the NRC. Further, it must be updated at least quarterly and updated copies submitted to the NRC.
- ° A table or other graphic depicting all documents needed during response to an emergency at CNS would be helpful. The graphic should specify the relationship among the various documents and where up-to-date copies are maintained for emergency use.
- ° Table 5.4-1 is not complete and missing information should be provided. This table should also be reviewed quarterly to ensure its correctness and telephone numbers could be added if this is not taken care of by the "Emergency Telephone Directory."
- ° Section 6 of the CNS Plan is completely inadequate. Sections 1 through 5 of the Plan have been rewritten and are now, generally, fairly well written and clear. However, Sections 6 through 8 are especially lacking in the specific details needed for the NRC to make its safety findings. These Sections must be corrected to give reference to the specific procedures being cited, as well as to describe what response actions must be performed, by whom, and how (reference to specific methods and procedures).

III. FINDINGS ON STANDARDS & CRITERIA

A. ASSIGNMENT OF RESPONSIBILITY (ORGANIZATIONAL CONTROL)

Planning Standard

Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones (EPZ's) have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

Synopsis

- Federal, State, local, and private sector organizations that are intended to be part of the overall response organization for Emergency Planning Zones are identified.
- The licensee's concept of operations and its relationship to the total effort are specified.

- The Emergency Director (Shift Supervisor until relieved by the Station Superintendent) is identified as the individual who shall be in charge of the emergency response.
- Written agreements referring to the concept of operations developed between Federal, State and local agencies, and other support agencies having an emergency response role within EPZ's are included.
- The Security/Administration/Logistics Manager is responsible for assuring continuity of resources.

Evaluation: The Plan satisfies Planning Standard A, except as noted below.

DEFICIENCIES

Criterion A-1c:

- ° The interrelationships among emergency response organizations are not illustrated in a block diagram.

Criterion A-1e:

- ° It is not explicitly stated that 24-hour per day manning of communications links is provided.

Criterion A-3:

- ° The letters of agreement contained in Appendix D of the CNS Plan are deficient in that many of the letters are out of date and do not contain any description of the types of support being discussed; e.g., estimated time of arrival of support, manpower, and equipment which may be available for response, etc.

B. ONSITE EMERGENCY ORGANIZATION

Planning Standard

Onshift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and response activities are specified.

Synopsis

- The Emergency Director has the authority and responsibility to immediately and unilaterally initiate any emergency actions.
- A line of succession for the Emergency Director is identified.

- The functional responsibilities assigned to the Emergency Director are established. The responsibilities that cannot be delegated are specified.
- The corporate management, administrative, and technical support personnel who will augment the plant staff are specified.
- Contractor and private organizations that may be requested to provide technical assistance are specified.
- The services to be provided by local agencies for handling emergencies are identified. Copies of letters of agreement are appended to the Plan.

Evaluation: The Plan satisfies Planning Standard B, except as noted below.

DEFICIENCIES

Criterion B-1:

- o The Plan does not adequately describe the onsite emergency organization of plant staff personnel for all shifts, and its relationship to the responsibilities and duties of the normal staff complement. For each shift, specify the types and number of personnel on duty, what their regular duties are, and how their duties would change during an emergency.

Criterion B-5:

- o Table B-1 of NUREG-0654 requires a total of 10 persons onshift. Table 5.2-2 of the licensee's Plan indicates a total of 7 persons onshift. The missing personnel are: 1 HP Technician for In-Plant Surveys, 1 Rad/Chem Technician and the Shift Technical Advisor. The Plan does not indicate the numbers of individuals to be supplied as staff additions. The licensee provides no statement regarding meeting the staff augmentation requirements of Table B-1, NUREG-0654, by July 1, 1982.

Criterion B-6:

- o A block diagram showing the interfaces between and among the onsite functional areas of emergency activity, licensee headquarter's support, and State and local government response organizations is not provided.

C. EMERGENCY RESPONSE SUPPORT AND RESOURCES

Planning Standard

Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's nearsite Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

Synopsis

- Radiological laboratories and their general capabilities and availability are specified.
- Nuclear and other facilities and organizations that can be relied upon in an emergency to provide assistance are identified. Letters of agreement are included.

Evaluation: The Plan fails to satisfy Planning Standard C for the following reasons.

DEFICIENCIES

Criterion C-1a:

- o The Plan does not clearly identify specific persons, by title, who are authorized to request Federal assistance from the Department of Energy-Interagency Radiological Assistance Plan (DOE-IRAP) or from other Federal organizations.

Criterion C-1b:

- o The Plan does not describe either the specific Federal resources expected from the DOE-IRAP and other Federal organizations or the expected times of arrival of such assistance.

Criterion C-1c:

- o The Plan does not adequately identify the types or scope of Federal assistance which may be requested during an emergency at the Cooper Station (see comment on C-1b). The Plan also fails to adequately address the NPPD (or other) resources available to support such assistance.

Criterion C-2b:

- o The dispatch of NPPD representatives to principal offsite governmental Emergency Operation Centers (EOC's) is not discussed, nor is there any indication of the training requirements for such persons.

D. EMERGENCY CLASSIFICATION SYSTEM

Planning Standard

A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

Synopsis

- An emergency classification scheme compatible with the scheme in Appendix 1, NUREG-0654, has been established.
- The initiating conditions listed in the Plan included most of the example initiating conditions listed in Appendix 1, NUREG-0654, including the postulated accidents in the FSAR.

Evaluation: The Plan satisfies Planning Standard D, except as noted below.

DEFICIENCIES

Criterion D-1:

- o General Comment: The licensee has prepared fairly good Emergency Action Level (EAL) sets; however the logical relationship between the EAL's within an EAL set is not always clear. Note 1 on page 4-13, states that "an implicit assumption is made in Tables 4.1 through 4.1-4 that alarms are confirmed to be valid by supporting observation or analysis as specified by abnormal, operating, or annunciator procedures." Note 1 is acceptable only if the confirmatory work does not delay the decision to declare an emergency by more than 15 minutes.

Notification of Unusual Events

- o Initiating Condition 1 (Emergency Core Cooling System (ECCS) initiation). The intent of this initiating condition is to declare an Unusual Event when there is ECCS flow to the reactor vessel under non-LOC conditions. Therefore, EAL's based on indications of ECCS flow to the reactor vessel along with a shift supervisor's opinion that a LOCA is not in progress is required.
- o Initiating Condition 4 (abnormal coolant parameters). EAL's should be added for low liquid level, high fuel temperatures, and high rate of coolant temperature change.
- o Initiating Condition 5 (exceeding primary system leak rate technical specification). The licensee's EAL has a typographical error. The number giving the maximum identified flow has been left out. The licensee should consider EAL's based upon reactor building equipment and floor drains, etc., for primary coolant leaks outside of primary containment. Also, isolation of a system (e.g., reactor core isolation cooling) by the leakage detection system would be grounds for declaring an Unusual Event.
- o Initiating Condition 6 (failure of a safety or relief valve to close). The licensee should consider adding an EAL based on lower than normal associated main steam line flow. Suppression pool temperature increase alone is sufficient evidence for declaring an Unusual Event; it is not necessary to "AND" it with an annunciator indication that a valve has failed to close.

- Initiating Condition 10 (fire). The initiating condition in NUREG-0654 should be used with the given EAL instead of the licensee's version which is nonconservative.
- Initiating Condition 11 (Loss of process or effluent parameters). The relevant Limiting Conditions for Operations (LCO's) should be listed. If these meet the intent of the initiating condition, the EAL is acceptable.
- Initiating Condition 13 (natural phenomena). EAL's are required for low water and for high winds.
- Initiating Condition 14 (other hazards). Nearsite explosions, toxic or flammable gas releases, unusual aircraft activity, and train derailments should be included.

Alert

- Initiating Condition 4 (steam line break with Main Steam Isolation Valve (MSIV) failure). The licensee's initiating condition is nonconservative. It reads "main steam line break in primary containment." NUREG-0654 states "steam line break"; i.e., not limited to main steam line within primary containment. The licensee's EAL set does not include a logical relationship between the EAL's; i.e., will any one of them suffice for an Alert or are they all required?
- Initiating Condition 10 (loss of any function needed for plant cold shutdown). The licensee should consider the suggestions in NUREG-0818 in preparing an acceptable EAL set.
- Initiating Condition 11 (failure to complete a scram). The licensee uses two EAL's relating to computer printout giving rod positions. These EAL's unnecessarily complicate the EAL set. All that is required is a valid scram signal and a neutron count rate that indicates that the reactor has not been brought subcritical.
- Initiating Condition 12 (fuel handling accident). The EAL set is acceptable if it is understood that the occurrence of any one of the five EAL's is sufficient cause for declaring an Alert.

Site Area Emergency

- Initiating Condition 1 (LOCA). The licensee requires that the ECCS be initiated and the reactor vessel water level falls below -145.5 inches. This is nonconservative. An appropriate EAL set would be where a Site Area Emergency would be declared if any one of the four events occur:
 - high drywell radiation
 - high drywell temperature
 - high drywell pressure
 - low reactor level

- Initiating Condition 4 (steam line break outside of containment without isolation). The licensee's version of the initiating condition is non-conservative. It reads "main steam line" instead of "steam line." The logical relationship between the EAL's are not given.
- Initiating Condition 9 (transient with failure to scram). The licensee's EAL set will be acceptable if the phrase "and no decrease in reactor power level" is changed to "and failure to bring the reactor subcritical."
- Initiating Condition 10 (major damage to spent fuel). The EAL set is acceptable if the licensee indicates that the occurrence of any one of the five EAL's will result in declaration of a Site Area Emergency.
- Initiating Condition 11 (fire compromising the function of safety system). The licensee's EAL set requires "the ability to initiate a safety system due to fire when a safety system is needed to maintain the station in a safe condition." This is clearly nonconservative; any evidence of compromise of a safety system from a fire, whether or not the safety system is needed, is grounds for declaring a Site Area Emergency.
- Initiating Condition 13 (natural phenomena). The initiating condition for an earthquake is nonconservative. It requires damage to the facility and core or safety systems. No damage is required by NUREG-0654, only an earthquake greater than Safe Shutdown Earthquake (SSE) levels. An EAL for low water is also required.

General Emergency

- Initiating Condition 2 (loss of two out of three fission product barriers). The EAL set needs to be rewritten to include the logical relationships between the individual EAL's.
- Initiating Condition 3 (loss of physical control). The EAL is acceptable as long as "loss of physical control" means "unauthorized personnel occupying the control room or any vital areas as described in the Modified Amended Security Plan."
- Initiating Condition 6 (BWR sequences). All the EAL sets (there are four BWR sequences) should be rewritten to indicate the logical relationships between individual EAL's. In addition, several of the licensee's EAL's are nonconservative. For example, under 6A (transient with failure to scram) the licensee requires that no decrease in reactor power level occur, whereas failure to bring the reactor subcritical (or at least to low power) is more in line with the intent of NUREG-0654. Another unacceptable EAL is the requirement of containment pressure exceeding design pressure following a small or large LOCA with failure of the ECCS. It is not necessary to wait for overpressurization of containment before declaring a General Emergency.

Criterion D-2:

The licensee did not prepare EAL sets for the following initiating conditions:

- Alert - 17, 18, 19, and 20
- Site Area Emergency - 17

E. NOTIFICATION METHODS AND PROCEDURES

Planning Standard

Procedures have been established for notification by the licensee of State and local response organizations and for notification of emergency personnel by all response organizations; the content of initial and followup messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway EPZ have been established.

Synopsis

- Procedures which describe mutually agreeable bases for notification of response organizations consistent with the emergency classification and action level scheme, including means for verification, are established.
- Procedures for alerting, notifying and mobilizing emergency response personnel are established.
- The contents of the initial emergency messages to be sent from the plant are established.
- Followup messages from the facility to offsite authorities are established. The contents of the messages are described in the EPIP's.
- The means for notifying the public within the plume exposure pathway EPZ are described.

Evaluation: The Plan satisfies Planning Standard E, except as noted below.

DEFICIENCIES

Criterion E-2:

- Notification Charts 7.3-1 and 7.3-2 do not include the USNRC.

Criterion E-6:

- The Plan does not adequately provide detailed information regarding the administrative means and the time required for notifying and providing prompt instructions to the public within the plume exposure pathway EPZ.

F. EMERGENCY COMMUNICATIONS

Planning Standard

Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

Synopsis

- Communications with State/local governments within the EPZ's are provided.
- Communications as needed with Federal emergency response organizations are provided.
- Communications between the nuclear facility, State and local EOC's, and radiological monitoring teams are provided.
- Provisions are made for alerting or activating emergency response personnel.
- Communications by the licensee with NRC headquarters and NRC regional office EOC's are provided.
- Periodic testings of communications systems are provided.

Evaluation: The Plan satisfies Planning Standard F, except as noted below.

DEFICIENCIES

Criterion F-1:

- o The 24-hour per day manning of communication links is not discussed, and organizational titles and alternates for both ends of the communication links are not given.

Criterion F-2:

- o No provisions are made for a coordinated communication link for fixed and mobile medical support facilities.

Criterion F-3:

- o No specific times are identified for equipment operability checks for mobile radio units.

G. PUBLIC EDUCATION AND INFORMATION

Planning Standard

Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency

(e.g., listening to a local broadcast station and remaining indoors); the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance; and procedures for coordinated dissemination of information to the public are established.

Synopsis

- A coordinated yearly dissemination of information to the public regarding how they will be notified and what their actions should be in an emergency is provided.
- Provisions are made for written material that is likely to be available both to resident and transient populations during an emergency.
- The points of contact and physical locations for use by news media during an emergency are designated.
- Information releases will be coordinated with the appropriate governmental authorities.
- An annual information program designed to acquaint the news media with emergency plans and procedures has been initiated.

Evaluation: The Plan satisfies Planning Standard G, except as noted below.

DEFICIENCIES

Criterion G-3b:

- o No provisions are made for space to be used by a limited number of media representatives at the licensee's Emergency Operation Facility (EOF).

Criterion G-4a:

- o The Plan does not state who will be the "official spokesperson" for NPPD during emergencies.

Criterion G-4c:

- o Coordinated arrangements for dealing with rumors are not established.

H. EMERGENCY FACILITIES AND EQUIPMENT

Planning Standard

Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

Synopsis

- A Technical Support Center (TSC), Operations Support Centers (OSC's), and a primary and alternate Emergency Operations Facility (EOF) have been established.
- Provisions have been made for timely activation and staffing of the Emergency Response Facilities (ERF's).
- Onsite geophysical, radiological and process monitoring, and fire and combustion detection systems have been established and identified.
- Arrangements have been made to secure geophysical data from offsite sources, if necessary.
- Offsite radiological monitors and sampling devices have been installed.
- Provisions have been made to obtain monitoring and analysis equipment from offsite sources.
- Arrangements have been made to obtain offsite laboratory services from the State Department of Health and the Fort Calhoun Nuclear Plant.
- Provision has been made to have radiological monitoring equipment available in the vicinity of the plant for use in offsite monitoring.
- Meteorological instrumentation and procedures which satisfy NUREG-0654, Appendix 2 criteria, are provided. Meteorological information can also be obtained, if necessary, from the Weather Service Forecast office in Omaha.
- The Health Physics office complex and the Instrument and Maintenance shops have been established as Operations Support Centers.
- Provisions have been made to inspect, inventory, and operationally check emergency equipment/instruments each quarter. Sufficient reserves are maintained to replace items removed for maintenance or calibration. Calibration will be done in accordance with Technical Specifications.
- Appendix E lists emergency kits by general content and location.
- The EOF has been established as the central point for the receipt, coordination, and analysis of all field monitoring data. This function will be assumed by the TSC until the EOF becomes functional.

Evaluation: The Plan satisfies Planning Standard H, except as noted below.

DEFICIENCIES

Criteria H-1 and H-2:

- Figures 7.2-1 and 7.2-2 references on pages 7-2 and 7-6 for the TSC and EOF, respectively, are not in the Plan. The Plan fails to indicate if the ERF's meet, or will be modified to meet, NUREG-0696 criteria.

Criterion H-4:

- The Plan does not provide adequate information regarding the projected time required to fully activate and staff the emergency response facilities (including the time required to move from the Primary EOF to the Alternate EOF). Nor is there an adequate description of the methods and procedures which will be used to assure that functional continuity will be maintained during these times.

Criteria H-5b, c and d:

- Although it appears that the intent of the Criteria has been met, more specificity is desirable. It would be helpful if the licensee would prepare a table for radiological, process, fire, and other monitoring detectors listing the instruments and their type, location, capability, and range.

Criterion H-6b:

- The Plan does not indicate if the radiological monitors and their locations meet, as a minimum, the NRC Radiological Assessment Branch technical position for the Environmental Radiological Monitoring Program.

Criterion H-9:

- The Plan does not give the size of the OSC's or indicate if the established locations can accommodate assigned personnel. Appendix E of the Plan and EPIP 5.7.21(c) are not completely consistent in their listing of emergency equipment. For example, Appendix E implies that communications equipment is available at all OSC's. EPIP 5.7.21(c) indicates that communications equipment (i.e., sound power sets) is available only at the I&C/Electrical OSC. Radios and cameras are not listed in either the Appendix or the EPIP. In addition, the Plan does not indicate if the equipment available at the OSC's is sufficient to meet the demands of assigned personnel, and if not, where additional equipment can be obtained. Further, the subject of real-time radiological monitoring in the OCS's is not discussed in adequate detail.

Criterion H-10:

- The Plan does not adequately provide, at least once each calendar quarter and after each use, for the physical inspection, inventory, and operational checking of emergency equipment, supplies, and instruments. The proposed plan of using seals on the doors of equipment lockers is not

adequate as it would indicate only the integrity of the inventory, but not the functional capability or accuracy of the equipment or instrumentation. The Plan also fails to provide sufficient information regarding the calibration of equipment.

I. ACCIDENT ASSESSMENT

Planning Standard

Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of radiological emergency conditions are in use.

Synopsis

- The licensee has established an emergency classification and plant parameter value system compatible with those in NUREG-0654 (see comments under Standard D).
- The licensee has the capability and resources to provide initial values and continuing assessment during an accident, including post-accident sampling, radiation and effluent monitors, in-plant iodine instrumentation, and containment monitoring.
- Methods and techniques have been established for determining the source term of releases within plant systems and the magnitude of the release based on plant parameters and effluent monitors.
- The licensee has the capability of acquiring and evaluating meteorological data sufficient to meet NUREG-0654, Appendix 2, and Regulatory Guide 1.23 requirements.
- The methodology for determining the release rate/projected dose if assessment instrumentation is offscale or inoperable has been established.
- The licensee has the resources and capability for field monitoring within the plume exposure EPZ.
- The methods and equipment for making rapid assessments of actual or potential radiological hazards in liquid and gaseous release pathways is addressed.
- The licensee has the capability to detect and measure radioiodine in the field as low as $10E^{-7}$ $\mu\text{Ci/cc}$.

Evaluation: The Plan satisfies Planning Standard I, except as noted below.

DEFICIENCIES

Criterion I-2:

- o The Plan does not indicate if the licensee can provide initial values and continuing assessment throughout an accident in accordance with NUREG-0578 and NUREG-0737.

Criterion I-3:

- ° The methods and techniques used to determine the source term and magnitude of releases are described in the Plan. However, it would be helpful if the licensee identified and addressed this subject in a specific subsection.

Criterion I-4:

- ° It is not possible to determine from Table 4.1-1 (referenced in the Cross Index for this criterion) if a relationship between effluent monitor readings and onsite and offsite exposures and contamination for various meteorological conditions has been established. A subsection specifically addressing this subject should be included in the Plan.

Criterion I-5:

- ° Although the Plan details the communication systems existing between the ERF's and offsite agencies, no specific mention is made of the licensee's capability to access meteorological data to the TSC and EOF or to provide these data to an offsite NRC center and to appropriate state/local authorities.

Criterion I-8:

- ° No mention is made of field team composition or expertise or the time required to deploy the team(s).

Criterion I-10:

- ° The Plan does not discuss the means used for relating various measured parameters to dose rates for key isotopes (Table 3, page 18, NUREG-0654). Although the Plan on page 6-21 contains a general statement concerning estimation of integrated dose, more specificity is required in order to determine if the Plan meets the intent of the criterion.

J. PROTECTIVE RESPONSE

Planning Standard

A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

Synopsis

- The means used to warn or advise onsite personnel of an emergency situation have been established.
- Evacuation routes have been established and provisions made for transportation of evacuated nonessential onsite personnel.

- Radiological monitoring of evacuated onsite personnel and their vehicles will be done at predetermined assembly areas.
- Provision has been made to complete initial accountability of onsite personnel within 30 minutes of declaration of an emergency and continuously thereafter.
- Provisions have been made to supply emergency workers with protective clothing, respiratory protection, and radioprotective drugs, if necessary.
- A mechanism has been established for recommending protective actions directly to State and local authorities, in accordance with provisions in NUREG-0654, Appendix 1, and Tables 2.1 and 2.2 of the Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (EPA-520/1-75-001).
- Maps showing evacuation routes, areas, preselected radiological sampling and monitoring points, and relocation centers are shown in Appendix C. The map of the radiological sampling and monitoring points includes designators as specified in Table J-1, NUREG-0654.
- The means used to notify the permanent and transient population have been established (sirens, emergency broadcast system, and notification by the local sheriff's office).
- The basis for the choice of recommended protective actions from the plume exposure pathway has been established. A table of shielding factors for reduction of gamma dose from a passing plume for residential units and other shelter locations is tabulated in EPIP 5.7.20, Attachment C.
- Time estimates for evacuation of personnel and population distribution within the 10-mile EPZ is shown in tabular form by sector in EPIP 5.7.20, Attachment D.

Evaluation: The Plan satisfies Planning Standard J, except as noted below.

DEFICIENCIES

Criterion J-1:

- o The time required to notify or warn onsite personnel of an emergency is not discussed. The means used and the time required to warn or notify individuals within the owner-controlled (exclusion) area is not addressed.

Criterion J-2:

- o The Plan does not provide adequate information including the projected numbers of evacuees, the time required to evacuate the site and gather the evacuees at a remote assembly area, and the handling and control of traffic flow.

Criterion J-4:

- o The Plan states that decontamination facilities are located onsite and offsite at the National Guard Armory and the Nemaha County Decontamination Center. The location of these facilities in relation to the assembly areas, other than the National Guard Armory which is both an assembly area and decontamination center, is not indicated. Further, the Plan fails to provide detailed descriptions of the manpower, equipment, and methods to be used to provide the capability to monitor and decontaminate the people and equipment evacuated from the site during an emergency.
- o The Plan fails to provide specific numerical radiological criteria on which to base decisions to evacuate personnel from different parts of the plant or the owner-controlled areas.

K. RADIOLOGICAL EXPOSURE CONTROL

Planning Standard

Means for controlling radiological exposures in an emergency are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with Environmental Protection Agency (EPA) Emergency Worker and Lifesaving Activity Protective Action Guides.

Synopsis

- Guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Actions Guides (EPA 520/1-75-001) have been established for onsite emergency exposures including lifesaving and other emergency activities.
- An onsite emergency radiation protection program has been developed including methods to implement exposure guidelines. Procedures for selecting and/or permitting volunteers to receive radiation exposure in excess of 10 CFR Part 20 limits have been established. The Emergency Director, or his designee, is authorized to approve exposures in excess of these limits.
- Provisions have been made for the determination of radiation dose to emergency personnel on a 24-hour per day basis. Both self-reading and permanent record dosimeters will be issued to emergency workers as required. Dosimeters will be processed at appropriate frequencies and individual dose records maintained.
- Provisions have been made for the decontamination of emergency personnel, wounds, instruments and equipment, and for waste disposal.

Evaluation: The Plan satisfies Planning Standard K, except as noted below.

DEFICIENCIES

Criterion K-5:

- The Plan does not specify numerical action levels for determining the need for decontamination, nor does it establish the means (equipment, manpower, supplies, and procedures) for such required decontamination with subsequent remonitoring.

Criterion K-6:

- The Plan does not establish a definitive program to govern the control of contamination during an emergency, nor the criteria for permitting returned areas to normal use.

Criterion K-7:

- The Plan does not include a detailed description of the means of providing the capability for decontamination of onsite personnel and equipment which may be required to be relocated offsite during an emergency, including the provision of extra clothing, decontaminants, and capabilities to detect and remove radioiodine contamination of the skin.

L. MEDICAL AND PUBLIC HEALTH SUPPORT

Planning Standard

Arrangements are made for medical services for contaminated injured individuals.

Synopsis

- Local and backup hospital and medical services having the appropriate capabilities are arranged for.
- Onsite first aid capability is provided.
- Arrangements have been made to transport victims of radiological accidents to medical support facilities.

Evaluation: The Plan satisfies Planning Standard L.

M. RECOVERY AND REENTRY PLANNING AND POST-ACCIDENT OPERATIONS

Planning Standard

General plans for recovery and reentry are developed.

Synopsis

- General plans and procedures for reentry and recovery are developed and the means are described by which decisions to relax protective measures are reached.

- The structure, functions, and membership of the facility recovery organization are described.
- A method for periodically establishing total population exposure is established.

Evaluation: The Plan satisfies Planning Standard M, except as noted below.

DEFICIENCIES

Criterion M-3:

- o The means for informing members of the response organizations that a recovery operation is to be initiated are not specified.

N. EXERCISES AND DRILLS

Planning Standard

Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

Synopsis

- An emergency preparedness exercise that simulates an emergency resulting in offsite radiological releases is provided.
- Exercises are conducted according to NRC and FEMA rules.
- Exercises will be conducted under a variety of weather conditions, on all work shifts during a 6-year period, and some exercises may be unannounced.
- A joint exercise to involve mobilization of State and local personnel and resources is provided.
- A critique of the annual exercise by Federal and State observers is provided.
- The scenario for the exercise will be varied each year to provide for testing all elements of the Emergency Plan within a 5-year period.
- Fire drills, in accordance with the Station Technical Specifications, are provided.
- A medical emergency drill will be conducted each year.
- Required radiological monitoring and health physics drills are provided.
- Exercise scenarios include the required information.

- A critique by government observers, resulting in a formal evaluation, is provided.
- Deficiencies are identified in a post-exercise critique, and proper corrective actions are determined by responsible plant staff.

Evaluation: The Plan satisfies Planning Standard N, except as noted below.

DEFICIENCIES

Criterion N-2a:

- ° The discussion of communications drills in the Plan does not address the matter of frequency of tests with Federal, State, and local ECC's. Also, the aspect of understanding the content of messages is not mentioned.

0. RADIOLOGICAL EMERGENCY RESPONSE TRAINING

Planning Standard

Radiological emergency response training is provided to those who may be called on to assist in an emergency.

Synopsis

- A program has been established for the training of all onsite personnel.
- Provision has been made to offer site-specific training to offsite response organizations. Training will include the items listed in Footnote 1, page 75, of NUREG-0654.
- Periodic practical drills for emergency team members will be included as part of the training program. Drills will be observed by an instructor who may provide on-the-spot correction of erroneous performance.
- A training program to instruct and qualify personnel who will implement the emergency response plans has been established. Initial training and annual retraining will cover the scope and nature of assigned responsibilities.
- Personnel with emergency response responsibilities will receive initial and annual retraining.

Evaluation: The Plan satisfies Planning Standard 0, except as noted below.

DEFICIENCIES

Criterion 0-3:

- ° The Plan does not indicate the type or quality of training given to members of first aid teams; i.e., Red Cross Multi-Media or equivalent.

Criterion 0-4g:

- o The Plan does not include Civil Defense/Emergency Service personnel in the training program.

P. RESPONSIBILITY FOR THE PLANNING EFFORT:
DEVELOPMENT, PERIODIC REVIEW, AND DISTRIBUTION OF EMERGENCY PLANS

Planning Standard

Responsibilities for Plan development and review and for distribution of emergency plans are established, and planners are properly trained.

Synopsis

- Training of the individual responsible for the planning effort is provided.
- An Emergency Planning Coordinator with the appropriate responsibilities has been designated.
- Periodic revisions of the Plan, as needed, including changes identified by drills and exercises, are provided.
- The distribution of Plans and approved changes to all organizations and appropriate individuals is provided.
- A detailed listing of supporting plans and their sources is given.
- A listing of the procedures required to implement the Plan is given.
- A table of contents and cross-references to NUREG-0654 are included.
- An independent review of the emergency preparedness program is provided.
- Telephone numbers associated with Emergency Plans will be reviewed and updated quarterly.

Evaluation: The Plan satisfies Planning Standard P, except as noted below.

DEFICIENCIES

Criterion P-2:

- o The Plan does not clearly identify, by title, the individual with the overall authority and responsibility for radiological emergency response planning.

Criterion P-7:

- o The listing of procedures does not include the section(s) of the Plan to be implemented.

Criterion P-8:

- The cross-reference to NUREG-0654 is both inadequate in its specificity and inaccurate. It should be revised.