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February 15, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Subject: Catawba Nuclear Station
Docket Nos. 50-413 and 50-414

Dear Mr. Denton:

Attached are Duke Power Company's plans for complying with the guidance for emergency response facilities as contained in NUREG-0696. These plans are a part of more extensive overall emergency planning which has been under formulation and implementation since September 1979. This planning has incorporated NRC and AIF guidance as it became available. All appropriate levels of corporate management have been and are involved in this Crisis Management Plan, which makes maximum use of existing facilities and recognizes the fact that accidents are not predictable. The organization, plan and supporting facilities are structured for maximum flexibility and are not dependent upon data system hardware for successful execution.

Duke's approach to emergency planning lead to the early operability of our emergency facilities (both Oconee and McGuire facilities were operable in early 1981 and Catawba's will be operable by the 4th quarter of 1983) and takes advantage of the large instrumentation data base available through existing computer systems. These computer systems are part of a family of similar systems which have been successfully applied in fossil, hydro and nuclear plant installations since 1963. Total availability of these systems, including those installed in the 1960's, averages approximately 99%. This availability factor considers computer outages during periods of no need (unit outages, etc.). Furthermore, very little additional training is required of plant operators since they are already familiar with existing computer systems and no new source of confusion will be introduced into the control room.

Duke's Crisis Management Organization and Nuclear Station Emergency Teams conducted four drills and two exercises during the time period from September 1980 to February 1981. Regulatory agency and internal review of these events has indicated adequate capabilities exist to protect the health and safety of the public in the event of an actual emergency. The data acquisition and transmission system described within this conceptual design description is adequate to allow those persons within the Technical Support Center (TSC), Control Room, and Crisis Management Center (CMC, i.e., Emergency Operations Facility) to perform their assigned roles.

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The availability of well-organized plant, meteorological, and radiological data in the TSC, Control Room, and CMC during these drills and exercises has enhanced the organizations' capabilities in accident assessment, in making timely protective action recommendations, and in radiological exposure control.

The combination of a well trained emergency organization and emergency facilities which enable timely review of present and past data satisfies the intent of NUREG-0696, while providing sufficient flexibility to deal with the unexpected.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

ROS:be

Attachment

cc: Mr. James P. O'Reilly, Regional Administrator
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DUKE POWER COMPANY
EMERGENCY RESPONSE FACILITIES
CATAWBA NUCLEAR STATION

I. Technical Support Center

Duke Power Company has established a Technical Support Center for Catawba Nuclear Station as identified, located and described in the Catawba Emergency Plan. The TSC is on the same elevation and within two minutes walking distance from the Control Room. The TSC has the following capabilities and characteristics:

1. Redundant two-way communication with the Control Room, the Crisis Management Center (Emergency Operations Facility) and the Nuclear Regulatory Commission Operations Center.

2. Monitoring for direct radiation and airborne radioactive contaminants, with local readout of radiation level and alarms if preset levels are exceeded. Laboratory analysis is required if it becomes necessary to detect radioiodines at concentrations as low as 10^{-7} microcuries/cc.

3. Display, printout or trending of comprehensive data necessary to monitor reactor systems status and to evaluate plant system abnormalities; in-plant and off-site radiological parameters and meteorological parameters are also available. This capability is provided via each unit's Operator Aid Computer, as described in Section VI.

4. Ready access to as-built plant drawings such as general arrangement, flow diagrams, electrical one-lines, instrument details, etc.

5. Habitability during postulated radiological accidents to the same degree as the Control Room

6. Provisions for staffing by the Station Manager, group superintendents, advisors and representatives from the stations' health physics, chemistry, performance, instrument and electrical and maintenance groups, the NSSS supplier and the Nuclear Regulatory Commission. Space for up to 25 persons plus the necessary instrumentation displays is provided and is sufficient for the personnel, activities and equipment necessary for response to emergencies.

II. Operational Support Center

The OSC is described in Section H of the Station Emergency Plan. The OSC is designated for use by Operations, I&E, Health Physics and others as necessary. The OSC is used to brief and prepare station personnel for work assignments in support of the emergency condition. It is located on elevation 594 near the control room and adjacent to the computer room. The OSC includes provisions for respiratory protection, protective clothing, portable lighting, portable radiation monitoring equipment, a camera and communications equipment.

III. Emergency Operations Facility

The Crisis Management Center consists of both a near-site facility and an off-site facility. For Catawba, the near-site facility is the Administration Building, located onsite, but outside the protected area boundary. Duke's corporate headquarters in Charlotte, N. C. serves as the off-site facility. The near-site and off-site facilities will be staffed by the Crisis Management Team according to the group plans. The Recovery Manager and his immediate staff may initially locate at either the near-site or the off-site facility depending upon specific circumstances. The remainder of the Crisis Management organization will locate at the off-site facility.

These facilities have the following capabilities and characteristics:

1. The CMC is a substantial structure, providing significant shielding (protection factor >50) from direct outside radiation.

2. The CMC is large enough to provide working space and facilities for at least 50 persons, including ten NRC personnel. Conference rooms are also available, one of which has been designated for media briefings. Anticipated occupants are the Recovery Manager and his advisors and staff, clerical support, crisis news representatives and appropriate local, State and Federal agency representatives.

3. Redundant, dedicated two-way communications with the TSC, Control Room, NRC and appropriate off-site support agencies (including local government agencies).

4. Provisions for receipt of periodic summaries of plant data sufficient to allow accurate and timely assessments of the actual and potential on-site and off-site environmental consequences of an accident. Timely plant systmes and meteorological data can be received periodically as described in Section VI; environmental radiation monitoring data is gathered by monitoring teams and provided to the CMC via radio. These capabilities are in accordance with the requirements of our corporate Crisis Management Plan.

5. Ready access to as-built plant drawings such as general arrangements, flow diagrams, electrical one-lines, instrument details, etc.

6. There is a possibility of a radiation release of sufficient magnitude to render the near-site facilities uninhabitable. Although this is an extremely unlikely event, alternate facilities have been designated as indicated below. During the evacuation from primary to alternate facility, control of emergency activities will be handled from the TSC.

   Catawba: Backup near-site CMC and media center = corporate headquarters approximately 19 miles away in Charlotte, N.C.

IV. Safety Parameter Display System

Duke Power Company is in the process of developing formats for displays of plant variables representative of the safety status of the plant. The

functional objectives and display techniques will be addressed as part of the final resolution of Duke's control room review plan and Supplement 1 to NUREG-0737, and will use those parameters determined by AIF/NSAC as being representative. Displays will be provided via the existing Operator Aid Computer, with data availability as discussed below. Displays will be available for callup in both the Control Room and the TSC. Displays in the Control Room are readily accessible and visible from the normal operation area. SPDS displays will not be provided in the CMC, since real-time data is not necessary to perform the required CMC functions.

V. Nuclear Data Link

Periodic snapshots of plant conditions will be provided via the data system described in the "Crisis Management Data Transmittal System" Manual held by your staff. This is a near-real time data system relying upon validation of data prior to release. Any real-time means of data transmission to the NRC would only serve to impact existing information available to the operator and add confusion in an emergency situation. Additional justification for this position was provided in W. O. Parker's April 3, 1981 letter to H. R. Denton.

VI. Data Acquisition and Transmission

Each unit's Operator Aid Computer (OAC) is utilized for the acquisition of data for the emergency response facilities. The capability exists to access and display/print thousands of parameters, individually or in groups. A CRT, operator panel and line printer are provided in the TSC such that this capability is independent of control room actions.

Duke Power's experience with similar process computer installations would lead to expectations of data availability in the TSC of over 99%, including the effects of power supply outages.

Power to the OAC is provided from an inverter, which is fed by a battery/charger combination. Automatic swapover to an alternate regulated source occurs in the event of inverter failure.

Scheduled outages cannot be limited to 16 hours nor can the capability to be fully operational within 30 minutes during these outages be assured. Overall unavailability, however, is expected to be less than 0.01 when the reactor is above cold shutdown status.

A combination of strip charts and event recorder and OAC printouts provides sufficient data to analyze an incident from a pre-event/post-event aspect. Circuit transients will not cause a loss of this stored data and will not affect vital TSC functions.

Data is provided to the Control Room, TSC and CMC via a combination of the OAC, laboratory analyses and manually gathered measurements. The Regulatory Guide 1.97 parameter set, display techniques and design criteria will be addressed in responses specific to that regulatory guide. Information and conclusions are transmitted to the facilities based upon the functions to be performed in each facility.

The OAC is utilized to acquire most of the data needed in offsite facilities. That data can either be printed in the TSC for subsequent transmission via telecopier or written on floppy discs for subsequent entry into local batch

terminals for additional calculations or transmission to corporate headquarters. Data which is not gathered by the OAC (samples, environmental radiation monitor readings, etc.) can be manually entered via keyboard.