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SUBJECT: Forwards written documentation of questions & answers re emergency plan submittal of 960508 on rev of Table B-1 (NUREG-0654),as discussed in 960522 telcon w/NRC.

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May 31, 1996

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

Subject: Catawba Nuclear Station
Docket Nos. 50-413, 50-414
License Nos. NPF-35, NPF-52
NRC TACs M92623, M92624
McGuire Nuclear Station
Docket Nos. 50-369, 50-370
License Nos. NPF-9, NPF-17
NRC TACs M92462, M92463
Oconee Nuclear Station
Docket Nos. 50-269, 50-270, 50-287
License Numbers NPF-38, NPF-47, NPF-55
NRC TACs M92485, M92486, M92487
Revision of Table B-1 (NUREG-0654)

Ref.: Emergency Plan Change Submittal dated May 8, 1995

Attached is written documentation of the questions and answers regarding our Emergency Plan submittal of May 8, 1995, which was discussed in a conference call with Bill Maier, EP Specialist, ONRR; Ed Fox, Senior EP Specialist, ONRR; and Peter Tam, Project Manager, ONRR on May 22, 1996. Please contact Tina Kuhr at (704) 382-3151 if there are any questions on this information.

Sincerely,

M. S. Tuckman

M. S. Tuckman
Senior Vice President
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Attachment

A045
1/1

xc:

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Attachment 1

Response to NRC Questions
on Table B-1 submittal dated May 8, 1995

Q1: Are the numbers listed in Attachment B of the proposal the number of responders for the entire site, or the number of responders per reactor at each site?

A1: The Control Room staffing (top row of table) is per unit. The other responders are on a "per site" basis.

Q2: If "per reactor," then are all numbers multiplied by 3 at Oconee and by 2 at McGuire and Catawba?

A2: No. See response to question #1.

Q3: Have any changes been made to the proposal since it was originally submitted?

A3: No changes have been made. Additional information was sent to Falk Cantor for explanation only.

Q4: Dose Assessment -- We published EPPOS #3 as guidance for our inspectors -- described a need to keep real-time meteorology dose assessment capability on-shift. Are you aware of this? If not, how does that affect the proposal?

A4: EPPOS #3 was published on 11/8/95, after our submittal was made. We were aware that it had been published.

Many changes have occurred in the area of emergency classification and immediate protective actions since NUREG-0654, Rev. 1 was published. NUREG-0654 and other NRC documents required dose projections to determine protective action recommendations. Duke Power no longer requires control room dose assessment to make protective action recommendations. Substantial core damage is necessary to create radiological effluents significant enough to exceed EPA Protective Action Guide levels offsite. Core damage can be clearly detected and determined in the control room. Core damage is only one of several indications upon which a General Emergency Classification is based. Duke Power has implemented guidance (effective 1/1/94 for McGuire and Catawba, in 1992 for Oconee) similar to that in the NRC's

Response Technical Manual (NUREG/BR-0150). This has significantly increased the conservatism in our protective action recommendations over previous guidance based upon Information Notice 83-28.

Upon entry into a General Emergency classification, our plants will recommend evacuation of the 2-mile radius and 5-mile downwind sectors, and recommend that the remainder of the 10-mile EPZ be sheltered. For wind speeds less than 5 miles per hour, all sectors are considered to be downwind, and the Operations Shift Manager/Emergency Coordinator would recommend evacuation of the 5-mile radius. Due to the complex meteorology at Oconee, the Operations Shift Manager/ Emergency Coordinator would always recommend evacuation of the 5-mile radius, with the remainder of the EPZ to be sheltered. Real time meteorological information (wind speed/wind direction) is available in the control room.

McGuire and Catawba have also implemented, effective 1/1/94, Radiological Effluent Emergency Classifications similar to the NUMARC/NESP-007, Rev. 2 guidance for the Site Area and General Emergency classifications. If site boundary dose is projected to exceed the EPA Protective Action Guide levels of 1 Rem TEDE or 5 Rem CDE (Adult Thyroid), then a General Emergency will be declared. These Radiological Effluent EALs include default monitor readings to be used by the Operations Shift Manager/Emergency Coordinator in the event that dose assessment capability is not available. Worst case annual average meteorological conditions were used to develop the default monitor readings. This is considered "adverse meteorology." The control room has the ability to determine if sectors beyond 5 miles are potentially affected based on core damage assessment (activity in containment greater than gap activity).

On 11/1/95, Oconee implemented an Emergency Classification scheme based upon NUMARC/NESP-007, Rev. 2. This scheme was reviewed and approved by the NRC on 4/10/95. If site boundary dose is projected to exceed the EPA Protective Action Guide levels of 1 Rem TEDE or 5 Rem CDE (Adult Thyroid), then a General Emergency will be declared. The Radiological Effluent EALs include default monitor readings to be used by the Operations Shift Manager/Emergency Coordinator in the event that dose assessment capability is not available, or a dose assessment cannot be completed

within fifteen minutes. There are monitor reading EALs based on readings for both the Containment Monitors and Unit Vent Monitors. The Containment Monitor readings are dependent on time after reactor trip (since that affects the core isotopic inventory). Annual average meteorological conditions, consistent with the ODCM as required by the NUMARC/NESP-007, were used to develop the default monitor readings. We performed a dose assessment to develop the Containment Monitor nomogram, which is an acceptable alternative to real time control room dose assessment.

With the combination of the Radiological Effluent EALs and default protective action recommendations, it is Duke Power's position that an assessment of offsite dose consequences has been made, eliminating the need for ad hoc dose assessment in the control room. Dose Assessment capability will be available from the TSC within 75 minutes of an Alert declaration.

Q5: Regarding the RP tech. staffing at the OSC, Att. A of the proposal states an additional RP techs would report to the OSC. Table faxed to the NRC on 12/19/95 says a <u>total</u> of 10 RP techs will report to the OSC within 75 minutes. Do those RP techs include the on-shift techs.

A5: Att. B shows 2 RP Techs on shift, with the ability to add 10 in 75 minutes, for a total of 12.

Q6: Tables for communicator on-shift do not list them as having other concurrent duties (i.e., no double asterisk). Proposal Att. A states that personnel from unaffected units handle communications until relieved by the TSC. Which is correct?

A6: Attachment B to the proposal dated 5/8/95 does have the double asterisk. See pages 13-14 of that submittal. Operations personnel from the unaffected unit or other station groups (e.g., McGuire uses the Work Control SRO) provide the communicator function.

Q7: If you <u>do</u> use personnel from the unaffected units to handle the communications, then how do you envision handling communications for an event that affects <u>all</u> units at the site (e.g. loss of offsite power, natural hazard, or security event?)

A7: Duke Power would consider those emergencies that affect multiple units to apply to the entire site. We would appoint one communicator and send one notification form to the offsite agencies, giving the status of all the units. Shift staffing is sufficient to have one communicator available.

Q8: Are control rooms at the sites readily accessible from each other?

A8: At Catawba and McGuire, both units share a control room. At Oconee, Units 1 and 2 share a control room, while the Unit 3 control room is nearby -- less than a two minute walk from the Unit 1&2 control room. Emergency response procedures and communications capability are also available in the Unit 3 control room.

Q9: Re: Attachment C of proposal, why is the figure for maintaining 4 RP techs on shift given at $128K, but only $28 for 2?

A9: Per Attachment C, the cost difference for maintaining four (4) on shift versus two (2) is strictly a function of overtime expense required to maintain the staffing level (coverage for vacation, holidays, sickness, etc.). For four (4) on shift the overtime cost is approx. $123.5K, and for two (2) on shift it is approx. $28.9K. Naturally, the overtime expense is typically only incurred during nights and weekends due to the flexibility to use day shift personnel on days. Note: The cost savings does not include any realized savings due to personnel staffing reductions because the intention is to increase the flexibility of the overall RP organization by using the freed-up shift resources elsewhere.

Q10: Re: count room tech -- was this individual cross-qualified for general RP tech duties, were they used as such, and does their elimination reduce the number of techs on shift by 2? Who will do the count room function?

A10: There is always at least one person on duty who is trained and qualified to perform the countroom function. This person would be one of the two RP techs assigned to shift. The countroom tech is cross-trained to perform other RP duties. The countroom person will be used to eliminate

one position by being able to perform other general RP duties.

Note: At Duke Power facilities, Chemistry pulls liquid samples. The countroom personnel only perform automated analysis of the liquid sample.

Q11: If the 45 minute responders are being kept on-shift, why was there a need to go to 45 minute response time instead of 30 minutes?

A11: We have not routinely put 45 minute responders on shift. We have taken credit for some positions (e.g. maintenance) being kept on shift for other reasons than emergency response. The 45 minutes (vs. 30 minutes) is an existing licensing agreement based upon the remote locations of Oconee, McGuire, and Catawba. The 45 minutes is timed from event declaration, not personnel notification.

Q12: Have you drilled with the proposed augmentation scheme?

A12: No. We did not plan to implement this change until it was approved. Oconee did a table top drill involving the new RP minimum staffing (2 RP technicians). During the table top, the RP techs discussed their responses to the scenario events and were able to manage the events until additional resources would have been available.

Q13: Have you validated procedures with the proposed augmentation scheme?

A13: Groups have evaluated the procedures and determined that the numbers are sufficient. Enough personnel are available to handle the requirements. Most procedures only require one person to perform them. Those that require more have been evaluated by I&E maintenance personnel and they have determined that sufficient resources are available. Duke Power uses group pages to alert all ERO members simultaneously. Personnel will begin arriving soon after they are notified. As a result of analyzing the staffing requirements in Table B-1, RP has concluded that two (2) techs on shift can meet the stated requirements. In addition, two (2) techs on shift can meet the established work requirements during routine plant operation.

Q14: Is the proposed Attachment B to the proposal the only change that will be made to the plan under this proposal? If not, I need to see the complete plan change.

A14: Duke Power plans to implement this as a stand alone plan change.

Q15: How do you ensure that people are informed of the local rad. hazard before the 75 minute time?

- Emerg. entry procedure?
- RWP surveys?
- Audibility of DADS?
- sensitivity?

A15: Duke Power performs a Site Assembly and activates all Emergency Response Facilities at the Alert Classification. After that time, personnel entry into the plant and into the RCA is controlled through the OSC.

Available information for personnel regarding radiological hazards is as follows:

1) In-Plant Radiation Monitoring Data -- Radiation Monitoring data is available on computers located in the TSC, OSC, EOF and the Control Room and can be accessed by any personnel operating from one of these facilities. These process and area monitors provide RP personnel an overview of radiological conditions in the plant and around the site. This data is an important tool for RP in establishing what access controls and RP coverage is warranted.

2) Electronic Dosimetry -- Electronic dosimetry (ED) is worn by personnel when in the RCA and is available at the access points to the RCA and in the OSC. These dosimeters have dose and dose rate readout functions with corresponding alarm setpoints. Using our automated access system, the setpoints for these alarms are set automatically depending on which Radiation Work Permit (RWP) is used.

   Personnel supporting the emergency are required to log on to Standing RWP (SRWP)#33 prior to entering the OSC. The setpoints established for this SRWP are 25 mrem

(dose alarm) and 100 mrem/hr (dose rate alarm). Depending on the job assigned to personnel, RP may direct personnel to use a different RWP with job specific setpoints. In addition, manual readers for EDs are available which can be used by RP to manually assign setpoints. These devices provide real time radiological data to the individual.

The audibility of the alarms for the EDs in large or high noise areas has been evaluated and determined to not be a problem.

Duke Power uses the Merlin-Gerin ED which uses a silicon detector. These devices are used to monitor gamma dose. Based on evaluation of accident scenarios, gamma sensitivity is expected to be sufficient to monitor and control personnel dose during emergency situations.

3) Planviews -- Elevations and individual rooms within the RCA are posted with a radiological planview which provides personnel information from the last survey performed in the area such as general area, contact, and hot spot dose rate information.

4) Future Plans -- McGuire is currently installing a Dose Rate Monitoring System that will provide multiple monitoring points throughout the RCA. Installation of the system is planned for May 1997 at Catawba and in 1998 for Oconee. The data from these monitors will be available on all site computers through the network.

The amount/type of RP job coverage provided will be determined based on the radiological conditions in the area from the information provided by the above data sources. The current operating philosophy of the OSC is that EDs can be used to provide coverage of OSC personnel without RP support as long as dose rates are less than 100 mrem/hr. If dose rates exceed 100 mrem/hr, then RP must evaluate jobs/ tasks for RP support. RP personnel on shift are qualified to provide this RP support.

Prior to personnel leaving the OSC to perform work, a pre-job briefing is completed. The depth of the briefing may

vary based on the radiological conditions at the work area. The briefing covers items such as:

- Criticality of work
- Plant status
- Radiological conditions in work area and travel path to area
- Turn back or Stop Work levels
- RWP to be used (if different from SRWP 33)
- ED setpoints
- Expected response of personnel to ED alarms or in-plant area monitor alarms
- Appropriate contamination controls
- Safety concerns

Q16: How long does it take for field monitoring teams to be completely mobilized?

A16: Our current requirement is to augment with 2 persons in 45 minutes and 2 more in 75 minutes. Mobilization of field monitoring teams within 75 minutes has not been a problem in demonstrated after hours activation drills or actual classified emergencies (ref. Oconee Alert 11/91).

During normal working hours, field teams can be fully mobile in approximately 45 minutes. During nights or weekends under this proposal, when field teams would be called in, personnel would respond within 75 minutes. We expect them to be able to deploy to the field within 10 minutes after arriving onsite.