



Federal Emergency Management Agency

Washington, D.C. 20472

JUN 19 1984

MEMORANDUM FOR: Edward L. Jordan
Director, Division of Emergency
Preparedness and Engineering
Response
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission

FROM: *Richard W. Krimm*
Richard W. Krimm
Assistant Associate Director
Office of Natural and Technological
Hazards Programs

SUBJECT: Final Report for the Brunswick
Nuclear Power Plant Exercise

Attached is the final report for the joint offsite radiological emergency preparedness exercise conducted on May 17, 1983, for the Brunswick Nuclear Power Plant with the State of North Carolina and New Hanover and Brunswick Counties. Also attached is the schedule of corrective actions which address each deficiency.

Although there were deficiencies observed at this exercise, they did not detract from the overall demonstrated capability by the State of North Carolina and New Hanover and Brunswick Counties to protect the health and safety of the public.

If you have any questions, please contact Mr. Robert S. Wilkerson, Chief, Technological Hazards Division, at 287-0200.

Attachments
As Stated

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North Carolina Department of

**Crime Control
& Public Safety**

116 West Jones Street

Raleigh 27611

James B. Hunt, Jr., Governor
Heman R. Clark, Secretary

Division of Emergency Management
(919) 733-3867

August 12, 1983

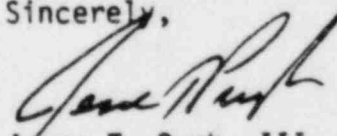
Mr. Glenn C. Woodard, Jr.
Federal Emergency Management Agency
Region IV
1375 Peachtree Street, N. E.
Atlanta, GA 30309

Dear Mr. Woodard:

Enclosed is the response to the final report for the Brunswick Nuclear Power Plant exercise. Each NUREG-0654 item listed in Sections IV and V of the report has been addressed. When appropriate, the dates for correcting the deficiencies have been indicated by underlining.

New Hanover County plans to more fully activate its EOC during the next exercise.

Sincerely,


Jesse T. Pugh, III

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Enclosure

BRUNSWICK NUCLEAR POWER PLANT -- 1983 EXERCISE

Correction Schedule - Significant Deficiencies

NORTH CAROLINA

Public Education and Information (G.4.b.): The SERT PIO will arrange a training conference for public information officers directly concerned with incidents at the Brunswick Nuclear Plant. This conference will be conducted prior to September 19, 1983.

NEW HANOVER COUNTY

Assignment of Responsibility (A.1.a.): The exercise in this county was intentionally designed to limit participants to selected agencies. The agencies selected to participate were identified and the extent of their involvement was decided prior to the exercise. A greater number of agencies will participate in the next exercise.

Public Education and Information (G.2.): Public information activities did take place during the exercise. The Public Information Officer wrote, coordinated, and released the first EBS message during the exercise. Thereafter, there was no public information that required a unilateral release by New Hanover County. An effort will be made to more fully demonstrate this function during the next exercise.

Public Education and Information (G.3.a., G.4.a., G.4.b., G.4.c.): The agency identified in the plan as being responsible for public information fulfilled that role during the exercise. The procedures regarding this function are clear and work well. In this case, the evaluator seemed to think that a single individual should be appointed as the public information officer. Very few county governments can afford such luxury. The plan does assign the responsibility and describe the manner in which the PIO function is to be accomplished. Also, as stated earlier, an effort will be made to more fully demonstrate this function during the next exercise. (See also Significant Deficiencies - North Carolina. The necessary training will be conducted by September 19, 1983.)

Protective Response (J.10.d.): The plan provides for protecting mobility-impaired people. It was not intended to exercise this portion of the plan. An effort will be made to more fully demonstrate this function during the next exercise.

Radiological Exposure Control (K.3.b.): The instruments being used were in current calibration (the evaluator might have been referring to an operational check). In any case, refresher training will be initiated by September 19, 1983. This training will include instruction in the proper use of the instrumentation and record-keeping by emergency response organizations.

Exercise and Drills (N.1.a. and N.1.b.): As stated earlier, an effort will be made to more fully demonstrate the ability of the county's staff during the next exercise. However, the evaluator who rated New Hanover County should take note of two facts: one, the exercise plan was approved by FEMA Region IV; and secondly, NUREG-0654 (N.1.b.) does not require that all major elements of plans and preparedness organizations be tested during every exercise. It appears that in this case, the evaluator's knowledge of requirements and response procedures was limited to a checklist.

BRUNSWICK COUNTY

Emergency Facilities and Equipment (H.3.): An effort to find a larger space in which to locate the county EOC is underway. The decision concerning this move will be made by September 19, 1983.

Public Education and Information (G.4.b.): See the comment under Significant Deficiencies - North Carolina. The necessary training will be completed by September 1, 1983.

Correction Schedule - Minor Deficiencies

NORTH CAROLINA

Emergency Communications (F.1.d.): Permanent antennas will be installed at the pre-selected State Emergency Response Team (SERT) operations facility in Wilmington. These antennas will be higher than the portable antennas previously used and should improve communication between SERT and the radiological mobile laboratory. The antennas have been ordered and should be installed by September 30, 1983.

Assignment of Responsibility (A.4.): The Radiation Protection Section has recently added four fulltime staff members qualified to serve as field survey team members. This addition gives us 13 fulltime technically qualified staff members; and, combined with 5 secretaries, we will possess a staff of 23 individuals who can serve as communications personnel during an emergency. Two additional staff members (one Deputy Chief and one Technical Planner/Trainer) are in the process of being hired. These additions will bring our personnel strength up to 25 members.

Our TOREV (Team of Radiological Emergency Volunteers) members from the Health Physics Society are programmed to augment our regular staff as communications and technical supporters during a continuous operations mode. TOREV support is currently estimated to be 32 individuals during a protracted situation. Monetary restraints restricted the numbers of communications personnel that could be committed to the May 17, 1983, Brunswick Exercise.

Further, a SERT Interagency Communication Support Team has been organized to provide support during protracted exercises or real emergencies. Adequate staffing, then, is already available.

Emergency Classification System (D.3.): Large, easily read plaques have been ordered to display the appropriate emergency classification in the SERT operation room. These plaques will be on hand by September 1, 1983.

✓ Public Education and Information (G.3.a.): Space for the media at the SERT facility is deemed adequate; it is the largest room available. Telephones were not installed for the exercise because of the expense and because media representatives were not expected (and did not visit) at the facility in great numbers. Within the limits imposed by physical restrictions, facilities for media representatives will be provided during real emergencies.

✓ Public Education and Information (G.4.a.): See the comment on G.4.b. under Significant Deficiencies - North Carolina. The necessary training will be conducted prior to September 19, 1983.

✓ Public Education and Information (G.4.c.): The rumor control function was not played during this exercise. It was emphasized during the Brunswick Exercise in August 1981. Rumor control procedures in the North Carolina Emergency Response Plan are considered adequate as written. Also see the comment under Significant Deficiencies - North Carolina; training in this functional area will be conducted by September 19, 1983.

Accident Assessment (I.8.): We do not agree that there was any confusion with respect to the difference between "population dose" and "individual dose" projections. No Radiation Protection Section staff member even considers "population dose" (meaning number of people multiplied by projected exposure) for the very reason that it can create a multitude of numbers subject to the confusion which the evaluators felt had occurred. We will continue to deal only in terms of INDIVIDUAL DOSE PROJECTION OFFSITE.

Nor does Carolina Power and Light Company employ a concept of "population dose" meaning population multiplied by the individual dose to a member of the population. The 70,000 REM iodine thyroid dose projection which was referred to actually occurred and in retrospect resulted from faulty controller information on radiation measurements in the field, which resulted in back calculations to disturbingly high numbers. These back calculations were later redone and came up with a lower number on the order of 7,000 REM thyroid dose.

With respect to these very high dose projections, both CP&L and the Radiation Protection Program personnel came up with comparable numbers. Again, there was never any consideration of "population dose." It was never interpreted to be "population dose," rather "individual dose."

Protective Response (J.10.m.): The Radiation Protection Section planned compliance with J.10.m. is by recommended protective actions, based on PAGs in the plume EPZ, to be available from three sources if needed, i.e., SERT Radiation Protection representative, Radiation Protection computer center at 1330 St. Mary's Street, and the mobile lab in the field. It is expected that the primary source of recommended protective actions will come from the Radiation Protection Section's representative in SERT who will most likely make use of computer and computation personnel at 1330 St. Mary's Street.

Better direction of mobile laboratory personnel is expected during future exercises as a result of a planner/trainer person being on the staff of the Radiation Protection Section. In addition, key personnel assigned to the mobile laboratory are now more familiar with their responsibilities.

Protective Response (J.9.): The Licensee advises that, according to the U. S. Nuclear Regulatory Commission report on the exercise, they followed their procedures correctly. However, in light of this comment, the Licensee will re-evaluate their procedures for recommending protective actions by September 1, 1983.

Protective Response (J.10.e.): Standard Operating Procedure (SOP) of the Radiation Protection Section requires that the decision to use Radioprotective Drugs (KI) be made at SERT by the Radiation Protection Section's representative. The Radiation Protection Section has the delegated authority to administer the first KI to its field personnel, based upon its own judgment. More training coupled with hardcopy communications will speed up the decision to dispense Radioprotective Drugs (KI) and implementation of the decision in future exercises or emergencies.

Recovery and Reentry and Postaccident Operations (M.4.): This function was not played during this exercise. Consideration will be given to demonstrating this function during the next full-scale exercise.

NEW HANOVER COUNTY

Assignment of Responsibility (A.4.): The exercise, as approved by FEMA Region IV, was not of sufficient length to require two or more shifts. Consideration will be given to demonstrating this capability in a future exercise. Also, see earlier comments on exercise design.

Assignment of Responsibility (A.1.d.): It is physically impossible to place a full emergency operation center staff in the 911 emergency communication center that functions as the county warning point. Therefore, even if the EOC was located in the same building, a split operation would result. Coordination between the two sites has been effective in the past. Careful attention will be devoted to the coordination between the two sites in future exercises.

Assignment of Responsibility (A.2.a.): See earlier comments on exercise design, requirements, staffing and future exercises.

Emergency Facilities and Equipment (H.4.): The complete emergency staff was alerted during the initial notification process, and the complete emergency staff was advised each time the plant emergency status changed. The evaluator must not have checked the logs. As earlier stated, the staff was mobilized on a selective basis. See earlier comments on exercise design, requirements, staff, and future exercises.

Emergency Classification System (D.4.): See earlier comments on exercise design, requirements, staffing, and future exercises.

Protective Response (J.10.c.): The exercise permitted free play by local government. Specific actions were to be demonstrated. Some of these actions were not evaluated because the single field evaluator became lost. Further, this function has been informally tested many times in prior exercises. It is our understanding that FEMA has not yet devised an accepted scientific method to test siren systems. In any case, this function will continue to be tested in future exercises.

Protective Response (J.10.g.): See earlier comments on exercise design, requirements, staffing, and future exercises.

Protective Response (J.10.e.): The sheriff's vehicle intended to pick up KI for emergency workers departed the sheriff's office on a back-up alerting task prior to receiving instructions regarding KI. The personnel responsible for this function have already been re-briefed.

Protective Response (J.10.j.): Because the federal evaluator lost his way, this action was carried out twice. In the judgment of local law enforcement officials, one officer at the control point in question was sufficient because of the small population involved, and because access to the area is limited. Further, additional traffic control personnel will be available if needed. Consideration will be given to a more extensive demonstration of this function in the next exercise.

Radiological Exposure Control (K.3.a.): Emergency response personnel will receive refresher training in the use of survey meters, dosimetry and dosimetry records. This training will be initiated by September 19, 1983.

Radiological Exposure Control (K.5.a.): An actual wash-down of a contaminated (simulated) vehicle was not scheduled as a part of the exercise. Consideration will be given to demonstrating this function during the next exercise.

Notification Methods and Procedures (E.2.): As stated earlier, the complete EOC staff was alerted when the exercise began and notified each time the emergency classification changed. Consideration will be given to participation by a larger part of the EOC staff during the next exercise.

BRUNSWICK COUNTY

Notification Methods and Procedures (E.5.): See the comment under Significant Deficiencies - North Carolina. The necessary training will be conducted by September 19, 1983.

Notification Methods and Procedures (E.7.): See the comment under Significant Deficiencies - North Carolina. The necessary training will be conducted by September 19, 1983.

Public Education and Information (G.4.c.): See the comment on G.4.c. under Minor Deficiencies - North Carolina. The necessary training will be conducted by September 19, 1983.

Protective Response (J.12.): The radiological monitor assigned to the West Brunswick High School did not report to the shelter. The Emergency Operations Center was not informed of this problem until near the end of the exercise. Assignments and procedures to report operational problems will be corrected during refresher training conducted by the county prior to September 30, 1983.

Protective Response (J.10.j.): An inventory of all radiological defense equipment and refresher training on the instruments will be completed by September 30, 1983.