

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DOCKETED
USNRC

In the Matter of)
UNION ELECTRIC COMPANY)
(Callaway Plant, Unit 1))

'82 NOV 16 P1:32
Docket No. STN 50-483 OL

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

JOHN G. REED'S RESPONSES
TO APPLICANT'S REVISED INTERROGATORIES

On 20 October 1982, Applicant submitted revised interrogatories to the undersigned, requiring Mr. Reed's answers be in writing and under oath or affirmation.

Mr. Reed herewith submits his responses to such questions, to include objections as he deems appropriate. Responses will be numbered in the same manner as Applicant submitted its interrogatories in an attempt to simplify identification of the question to which a response is intended.

RESPONSES TO INTERROGATORIES

1. Yes. If local governments are to accept the responsibility to protect its citizens in the event of a nuclear power plant radiological emergency (hereinafter identified as "an accident"), it must have the capability to provide such protection. To rely upon another entity for such protection is an abrogation of responsibility, once local government has taken on that job. Additionally, to accept such a responsibility for "one shift" (using your term for an unspecified period of time) only and finding, after the fact, that State personnel are not immediately available to replace local forces is an act of gross incompetence. The State should be relied upon to provide only a limited personnel force to augment the local government in areas where last minute manning shortages are found; otherwise all functions should be

given to the State to perform and local governments relieved of that particular function.

2. With a capability to operate on an 8 hour schedule and perform all functions, an agency has the ability to operate at a 12 hour schedule if manpower availability is curtailed during an emergency. If a 12 hour schedule is viewed at the outset of an emergency, and manpower shortages occur, the ability to perform the required tasks is reduced. Plans should be formulated so that unforeseen difficulties are overcome by built-in mitigation (similar to the safety factors designed in nuclear power plants which serve no other purpose than to mitigate the consequences of an accident). To fail to consider personnel shortages is, again, a sign of gross incompetence in planning and administration.

3. The timing of functions is not relevant to determining that task functions must be accomplished. The determination that functions might overlap or occur at the same time was based upon past military experience in communications operations and personnel management. It is possible that personnel needs for the functions in Contentions 1 and 2 are inadequate under conditions wherein full-scale exercises or an actual accident requiring evacuation existed because of a lack of training of the people involved. My judgement was based upon all personnel being fully trained and competent at their assigned tasks.

4. Object to this question, it is beyond the scope of this hearing which is limited to radiological emergency response planning only.

5. Object to this question, it is beyond the scope of this hearing which is limited to radiological emergency response planning only.

6. The Sheriff's Reserve is a volunteer organization and has not agreed to accept a role in supporting Union Electric Company's effort to

obtain an operating license for its Callaway Plant, Unit 1.

7. To my knowledge, the Fulton Police Department will not operate outside of the city limits of Fulton.

8. The Callaway Offsite Emergency Response Plan (Callaway Plan) clearly states (at 1.0 BASIC PLAN, F. Concept of Perations, 3. County/City Emergency Operations):

County/City government operations will continue to be performed in a normal manner to the fullest extent possible.

Also, the Sheriff of Montgomery County has informed me that he will not reduce his already limited force during an emergency because he believes that during such an emergency, increased criminal activity is a distinct probability. I expect this judgement to be supported by the other three Sheriffs, and personally consider it proper and prudent. Object to the portion of the question that deals with natural disasters, see 4. and 5., above.

9. Such logging is required (see SOP at page 2-3, 5.7 Communications, 5.7.3). The purpose of the existing and proposed communications systems is to enhance the emergency effort, therefore, use of such systems must be restricted to official use. Operators of such systems cannot know who is authorized to transmit traffic, therefore, messages to be sent must be screened by someone to assure that official messages only enter the system. This provides some degree of assurance on the part of the addressee that a written message is valid if it was received over one of the official means of communications. Addressees may not be at the EOC or other site on a 24 hour a day basis for the entire length of the emergency. The U.S. Army and other military services use this control procedure, as does many civil communications systems. Without a system

such as this, each message received by an addressee is subject to having its' validity questioned.

10. The Offsite Plan/SOP does not include provisions for carbon copies, or duplicates, so the message going to the Clerk's Office is the original copy prepared by the receive operator. I presume it is delivered to the addressee. No provisions are made for the retention of messages, once they are delivered, so I can not explain further what happens to the message. I consider the communications portions of the Offsite Plan and the SOPs to be unsatisfactory. It is apparent that the planners know nothing of communications control procedures or practices.

11. The SOP, at Procedure #2, 5.7.3, clearly states that a written copy of all messages incoming and outgoing will be given to the County Clerk. This must include messages received via the Command Net, intended for the Presiding Judge. Unless the Presiding Judge is going to be on the phone 24 hours a day, for the entire length of the emergency, operators will be required to man this circuit.

12. The movement of contaminated vehicles from the EPZ boundary to a designated area, if not controlled, can result in the needless spread of contamination. A function of emergency planning, as I understand it, is to control the spread of contamination which will result in controlling radiological exposures.

13. One officer supervises the vehicle impound area and provides security. The other officer supervises evacuees inside of the temporary evacuee holding area and maintains order.

14. I anticipate nothing, it is merely prudent to be prepared for situations which might arise when fear, panic, and short tempers may conflict with the orderly accomplishment of a mission. The capability

can be used to bring food or other supplies to road-blocks, etc. or serve as emergency transport when no other is reasonably available.

15. As such, they provide an added deterrent to violence and increase the security of the area by being a law officer.

16. It is not possible to agree with any of your estimated times for general functions without a full understanding of what was envisioned by the person making such estimates; however, manning of impound areas will be required as long as a vehicle remains parked in that area. Road-blocks will require manning as long as the EPZ is impacted by an accident, except for control points between the EPZ and impound areas which will need to be manned until all outbound traffic from the EPZ has ceased. The evacuation area, which may include all or part of the EPZ, must be secured until reentry/recovery is authorized. A reduced evacuation area is possible to establish, but plans predicated on a small area to be secured at the outset of an accident in order to reduce manning requirements in said plans is an evasion of the intent of plans preparations. Plans should be designed to assure that the entire EPZ can be handled in an emergency.

17. Yes.

18. The plan shows 4 traffic control points; however, there are additional access routes into the EPZ which are not covered or secure. In terms of area security, this is equivalent to locking the front door and leaving the back door wide open. It is my understanding that Osage County has yet to accept the proposed plan or SOP.

19. The proposed plan, at 1.0,F,3, states that government will continue to operate in a normal manner to the fullest extent possible. Since the County Clerk's office must continue to function, as such,

without the benefit of the full-time supervision of the County Clerk, to further reduce its work force will bring the office to a comparative stand-still. Testimony of at least two County Clerks can be expected to confirm this opinion.

20. Object, see 4 and 5, above.

21. Object, see 4 and 5, above.

22. Yes. An "available transportation list" is that list of vehicles that have been made physically available for use. Such list may or may not coincide with a transportation commitment list which was prepared at an earlier date and confirmed by letter of agreement. It is simply a roster of vehicles (with drivers) that are standing by awaiting dispatch from the vehicle staging area.

23. Evacuation may not be accomplished for an undetermined length of time, if shelter phase is initiated as a precautionary measure for health reasons. The resultant delay does not mitigate the need for the full operations capability; also, weather conditions can cause delays in evacuation that would necessitate time frames for such evacuation in excess of 8 hours. It depends upon the situation at the time.

24. Without a chart of estimated evacuees, operations control officials have no means by which they can rapidly determine the effectiveness of the evacuation effort. It serves as the primary aid in judgement calls as to whether or not added emphasis is needed to enhance the evacuation effort.

25. Without an understanding of the operational concept, the figures or other data on the chart will be meaningless and efforts to assure timely and accurate update of such information can be misdirected

or conclusions drawn from the information misinterpreted. Training in communications procedures and practices is a basic requirement for individuals using the communications systems. Such personnel should be trained in means identification and alternate routing, etc.

26. I expect to receive no requests for transportation assistance. The need for 3 to 4 operators to receive such calls is merely an initial estimate and may be inadequate under actual evacuation conditions, also, see 27, below.

27. Transportation requests are tied to the effectiveness of the entire evacuation effort. It is not impossible that phone lines may be tied up by individuals calling in for assistance and leaving their lines open until the requested transportation arrives. If the evacuation effort is delayed by sheltering needs, etc., the "call-in phase" will still be required and operators needed to man the phones. Again, it depends upon the situation at the time of the emergency.

28. The term was deemed to be synonymous with "resources" and was derived from the proposed Callaway Offsite Plan (at 1.0.E, page 1-5).

29. Object, such inquiry relates to subjects beyond the scope of this hearing which concerns radiological emergency response planning.

30. Object, see 29, above.

31. None to my knowledge.

32. None.

33. Object; the amount of time required to perform a function is directly related to the skill level attained by the person in performing such a function. My personal estimate of the time required to do a specific job would be based upon my capability which may or may not be relevant to another person.

34. It is my opinion that it will not be possible to obtain a qualified part-time, non-professional Emergency Management Director; one who is qualified and capable of performing the duties and assuming the responsibilities assigned to him in the Callaway Offsite Plan/SOP.

35. I know of no "incentive" inherent in the position of Emergency Management Director; just an opportunity to work for free to support Union Electric Company's commercial venture (the operation of the Callaway Plant, Unit 1). I venture the same opinion is held by Shaw, Pittman, Potts & Trowbridge and their employees. I am not aware that this company has offered their services without remuneration or incentive and are providing services because of some, yet unidentified, inherent incentive in performing the services they now provide to Union Electric.

36. Object to the first portion of this question, see 29, above.

37. There are none.

38. Not to my knowledge.

39. Yes, the Court, to the best of my knowledge, has made no decision in the matter.

40. It is possible, but much simpler, more practical, and clearer to identify such in the plan/SOP; so that with the passage of time and changes in personnel, the information does not get dropped or mis-interpreted.

41. Object; this interrogatory calls for a conclusion and a possible resolution to a problem. The undersigned is obligated only to prove that a contention is valid, not provide a resolution to a planning error or fault.

42. The location of a specific school bus at the time the sirens are sounded does not provide assurance that the bus is about to enter the plume pathway, exit from the pathway, be located within the plume, or be able to escape from the plume altogether. The sounding of the

sirens is intended to provide a signal for the population to turn on radios or televisions to obtain instructions relating to protective actions they must take. Defensive actions regarding closing windows and shutting of ventilation systems may be specified in prior training exercises, but knowing which way to drive the bus to escape the plume and its effects on the children is information which must be transmitted to the driver at the time the accident occurs. For this reason, a communications device is needed on the bus(es).

43. No. The siren does not specify where the plume is located or what its pathway will be; it simply sounds an alert signal.

44. Object, the undersigned is not basing any contention on a cost/benefit basis and does not accept Applicant's Response to Specified Reed Interrogatories served on the Callaway Court Administrative Judges and Emergency Management Coordinator, dated 23 July 1982, as a valid response from the persons on whom it was served; as such it is hear-say and has no basis in this hearing.

45. Object, see 41, above.

46. No, but neither am I aware of any state plan that provides for full protection of the public health and safety. My contentions and concern are limited to assuring that off-site plans and procedures relating to the Callaway Plant are adequate.

47. No. Who distributes KI or other protective devices is a matter of concern for the NRC, my interest is that such be made available in compliance with NRC policies, regulation, or planning standards/criteria as may be applicable.

48. The contention includes the possibility of evacuation through a radiological environment. This could occur after a release has ended,

but would not preclude secondary suspension of nuclides after deposition. Plans should be prepared that include more than ideal circumstances in which short term shelter is necessary. Such plans place the public health and safety in jeopardy if any circumstance exceeds the "ideal" limitation. I consider such plans to be grossly inadequate and unacceptable, and the planners who propose such plans to be incompetent. Such planning smacks of serving to placate the public by presenting simple emergency problems and simple solutions thereto.

49. None.

50. Specified in 7.A, read the situation. Evacuees enroute out of the EPZ may be caught in a "puff" and contaminated with an unspecified amount of an undefined radio-contaminant. In such cases, immediate or near immediate decontamination reduces the possibility of health damage from the external rad-contaminant and its possible ingestion by the person contaminated through inadvertant transfer of the contaminant to the food chain or other route into the body. It, also, reduces the fear factor of those contaminated and simplifies personnel management.

51. I would not do so, but this is an appropriate question to ask those who have authority to order evacuations.

52. My personal opinion would be to conduct such evaluation as rapidly as is humanly possible. Whether or not a person is located at the Callaway Plant or immediately down wind of a serious release of radio-nuclides seems, to me, to be immaterial. A person who is found to be contaminated should be rapidly evaluated for biological uptake or his external decontamination may not resolve his complete medical problem. It appears to be a matter of common-sense and readily understood by even a lay-person.

53. The planning standard in NUREG 0654, at II, L., requires:

Arrangements are made for medical services for post-accident contaminated injured individuals.¹

The footnote calls for an integrated emergency medical services system and a public health emergency plan serving the area in which the facility is located. Additionally, evaluation criteria number 1 requires that each organization shall make arrangements for local and backup hospital and medical services. I do not believe that transporting patients to Nebraska meets the established planning standard or criteria and I do not believe that nuclear power plants are certified as medical institutions.

54. Yes, and such should be included in training; however, written procedures should exist in plans/SC's so that such instructions are not forgotten in training or forgotten in time by emergency workers.

55. No. Such monitoring identifies contamination only. Once the vehicle leaves the traffic control points (the plan does not provide for further control), it simply becomes another car on the road.

56. The equipment currently available to emergency workers and proposed for their use are calibrated in Roentgens and/or milli-roentgens. For clarity's sake and simplicity, standards should be identified in terms that the equipment is capable of recording. The use of REMs (roentgen equivalent mammal) is more technically accurate in measuring biological effects of ionizing radiations; however, there is a difference between Roentgens per hour exposure and REMs per hour body damage. If a knowing error is to be committed to a plan, it should be one that does not confuse the field monitoring personnel. The technical experts can easily discern the differences, but a neophyte in the field is easily confused. Elimination of confusion is a key to preventing rumors

from getting started.

57. No, not to my knowledge. This is part of the planning process which has been undertaken by Union Electric Company (Messrs Stiller and White). Union Electric accepted this responsibility when it took over all local radiological emergency response planning for local governments. It is not my job.

58. Object, see 41, above. Additionally, this is part of the planning process, see 57, above.

59. Object, see 57 and 58, above.

60. Object, see 57 and 58, above.

61. Training could provide requisite knowledge and ability, but not commit a person to provide the requisite service desired. Only a letter of agreement provides an indication of a willingness to perform a task. Additionally, it verifies to the Commission and others that a task requirement has been filled (at least for the term of the letter of agreement).

62. No factual reasons, just strong impressions based upon past conversations with agents and employees of such ambulance districts.

63. Yes. Mutual aid agreements infer that service provided does not entail danger to ambulance employees or possible loss of a vehicle. The districts outside of the EPZ require the same consideration that districts inside the EPZ or in counties impacted by the PEP EPZ, if they are expected to respond to an accident at Callaway Plant, Unit 1.

64. See 63, above.

65. Read Contention 13, it clearly identifies insufficiencies.

66. Object, see 58, above.

67. Object, the answer calls for a conclusion based upon how Applicant appears to view a statement made independently of actual contentions.

68. No. They will respond more effectively if they have some capability to act in their own defense and do not have to wait upon decisions of persons outside their communities. The same concept is applicable to the counties if they were relegated to a non-action role, for the purpose of obtaining simplicity in plans preparation, and the State was made solely responsible for initiating all protective actions envisioned in the planning process.

69. No, see 68, above.

70. The use of local personnel is required to effectively evacuate the citizens in and around population centers. The fact that such towns do not have the equipment or formal organizations to commit to the response effort is prime-face evidence that they need to build a capability to protect their citizens in the event of an accident that involves the release of dangerous radio-nuclides. As towns or villages incorporated under Missouri State statute, they have a right to become involved in the planning effort.

71. Object, this question is without basis, since it is possible to envision the relief of all local governmental involvement in radiological emergency response planning if one eliminates consideration of the provisions of NUREG 0654, I, E., which states:

The concept of EPZs necessarily implies mutually supportive emergency planning and preparedness arrangements by several levels of government: Federal, State and local governments, including counties, townships and even villages. (emphasis added)

Incorporated villages are defined as part of the emergency planning

effort and must be included therein.

72. See the lists of such agencies and companies in the proposed local plan and each county SOP.

73. No. Without a formal agreement by an individual to participate in the Offsite Plan, no viable list of manpower is available, also, no roster of personnel is available to insure that appropriate individuals receive the specialized training necessary to perform their specific job.

74. See 61, above, the same reasoning applies. Object to the final portion of this question as frivolous and immaterial.

75. Object, this question is frivolous and immaterial.

76. Object, see 29, above.

77. Object, the form of this question takes in a multiplicity of overlapping areas that are affected by seasonal weather conditions which have, in the past and may in the future, preclude travel from residences for days at a time. Snow-falls and ice storms affect the entire region. additionally, this is a function of the planning process, see 57, above.

78. Instructions providing residents with information that they have been placed in a situation wherein no protection exists to assure the health and safety of themselves or their children if shelter exceeds one hour, more or less, if they have taken shelter in a building which is suitable for winter habitation and the windows are closed and the ventilation systems are shut off. The instructions should include notice that such protection is not provided for any time length if they are outside.

79. NUREG 0654, at I, E, page 20, indicate that sheltering, thyroid blocking, evacuation are immediate protective measures associated with the plume exposure pathway (PEP) EPZ, and at J, e. page 63, it calls for use of KI by personnel whose immediate evacuation may be infeasible or

very difficult. If individuals are placed in a position in which they are damned if they stay in shelter and damned if they leave; they should be told the truth and not deceived in order to cover-up incompetence by planners and/or elected officials.

80. Object, a person cannot be expected to identify that which he or she does not know to be in existence.

81. Yes. NUREG 0654, at I, 8, requires rapid assessment of actual magnitude and locations of radiological hazards. This precedes the requirement to measure radiiodines (at I, 9). The definition of "rapid" would appear to preclude waiting for a Federal team to arrive from Washington DC or elsewhere and deploy in an area with which they are unfamiliar before such measurements can be made. The location of radiiodine concentrations could have traveled many miles undetected before a Federal team arrived.

82. See the State RERP (at A1B.1 and A2B.1 -- A2B.2), the Bureau of Radiological Health has only enough equipment to field 8 persons within the 10 mile and 50 mile EPZs, they lack iodine detection equipment and the use of National Guard personnel is limited to areas wherein their personal safety from hazardous radiation is assured (see AG-7, Commander's Statement, dated 1 July '82). Additionally, such NG personnel are not proficient in the use of Civil Defense equipment, to date (see AG, Section II, Training).

83. See 82, above.

84. None at present, but such can be provided if the capability is built at the local levels of government as directed in NUREG 0654, II, I, 8.

85. There is no clearly outlined provision indicating how protective measures will be implemented as mandated in NUREG 0654, I, J, page 29, lines 10, 11, and 12.

86. Plans lack clear guidance as required in the reference in 85, above.

87. A local capability is required as cited in the contention, the undersigned does not see a necessity or requirement to argue or to disagree with Commission standards or criteria. See NUREG 0654, I, C, page 5, lines 13, 14 and 15.

88. Any methods which resolve the problem, this is a function of the planning process, see 57, above.

89. No. The problem is complex, but not without solution. Resolving this issue is part of the planning process, see 57, above. It must be resolved before the requirements of NUREG 0654, II, J, K, are to be met.

90. Object, see 41, above.

91. Section 10.0 fails to meet the standards of planning which requires a clear statement of how a function is performed, who performs it, when and where such function will be performed, etc. No basis for permitting excessive exposures, meeting this criteria, is delineated.

92. Annex D does not contain guidance for authorizing exposures in excess of EPZ general public PAGs including lifesaving activities (NUREG 0654, II, K.4).

93. Knowledge of how to safely function in a radiological environment is applicable to any such environment and does not depend upon the color or cut of the clothing worn by those who must perform such function. The degree of detail involved in a given function is established by the complexity of said function; failure to enumerate those details in a plan does not negate their existence or their need to be performed, if the function is to be accomplished. The ability to accomplish a given task (function) within a specified time frame and within established parameters

of accuracy is dependent upon what skill levels have been attained by the person involved, not where those skills were attained. The basic principles of biological defense against nuclear radiations are the same for soldiers, farmers, lawyers, and any human. Time, distance, and shielding, apply to protection of people (and other animals) from the dangers of radiation and knowledge of how to manipulate these principles, plus practical experience in the field is a basis for qualification. The nuclear industry eagerly accepts the military qualifications of service trained individuals who have experience in the "military nuclear field", e.g. nuclear submarine specialists, etc.

The appropriate level of detail in any plan, is that level at which guidance for those taking part in the plan is clear enough to insure they know what to do, how to do their assigned tasks, when and where such functions must be performed, and what relation their assigned jobs have to the "big picture". Sufficient detail must be established so that an operational concept is provided by the plan over time, so that the idea of how the mission will be accomplished does not slowly vanish as personnel changes occur in the operational leadership and proposed work force.

In a full-time military organization (which is a part of the civilian governmental organization), the operational leadership has been trained and is fully competent to plan and organize organizational missions that are within the technical limits of expertise available in the organization which the organizational leaders belong. If they must operate or function in situations which exceed their technical limits, they are provided the necessary training and/or equipment and personnel to accomplish the job. Wars are not conducted on a routine, daily basis; they are (for the most

part) serious, but highly infrequent emergencies at a national governmental level.

In contrast, civilian governmental organizations are headed by leaders who have not had extensive training in the skills needed to plan or execute a defense mission. This fault in leadership is, at the local levels of government, vividly apparent when discussing radiological emergency response; officials simply do not have the necessary technical expertise with which they can evaluate information and reach a decision on their own cognizance. As a result, they rely heavily upon "experts" to make the decisions and then perform a "rubber stamp" function by initiating actions based upon a decision that they do not understand and hope that all turns out well. The "expert", regardless of his actual capability, has control of the situation from the "cat-bird's seat"; he or she can blame their mistakes on others with impunity, simply because he or she is the "resident expert" and is all-knowing. Who, but another "expert", is qualified to challenge "Mr. Knowitall"?

Because of an absence of technical expertise in the ranks of local governmental officials (in areas of planning, operations, logistics, communications, and radiological defense, etc.) it is necessary that plans involving such areas be detailed enough to provide guidance as to how functions are to be performed, rather than simply indicate that something must be done and let it go at that. The "how to" portion of the plan/SOP serves as a training vehicle by which officials can become proficient in meeting their responsibilities. Plans which are over-generalized, are indicative of incompetence on part of the planner and those that approve such plans. The Commission basically agreed with this planning concept in NUREG 0654, I, J. The apparent problems have

arisen due to attempts by planners to circumvent the intent of O654 and meet as few standards and criteria as is possible so that an operating license can be obtained for the Callaway Plant, Unit 1. Training, which is of paramount importance in any operation that involves coordination of movements, is currently being considered and proposed by Union Electric Company planners at levels that are inadequate to do more than provide plan participants an introduction to the information they will need to become proficient in their assigned duties. In a situation such as is posed by a nuclear power plant accident and the potential for infrequent occurrence of such an accident, a viable, thorough training program is necessary in order to maintain a suitable level of proficiency on the part of those who will respond to such an accident. Without such a program, common sense dictates that initial levels of proficiency will drop until no capability (except one on paper) exists at all to protect the public health and safety.

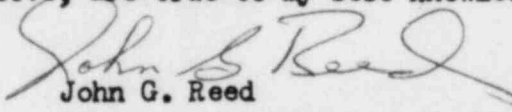
94. A formal witness list has not been prepared yet, but should consist of elected and appointed State and local officials (and myself).

95. I have received no assistance in answering these questions.

END OF RESPONSES TO INTERROGATORIES

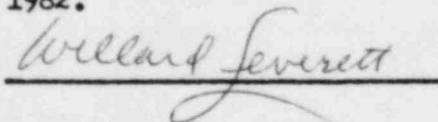
I affirm that the answers, above, are true to my best knowledge and belief.

Dated this 4 day
of November, 1982
at Kingdom City, MO.


John G. Reed
Citizen of the United States
of America

Subscribed and sworn before
me this 4th day of Nov.
1982.

RFD #1
Kingdom City, Missouri 65262
tel: (314) 642-2769



Willard Severett

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
UNION ELECTRIC COMPANY) Docket No. STN 50-483
(Callaway Plant, Unit 1))

CERTIFICATE OF SERVICE

I hereby certify that the document attached hereto was served this
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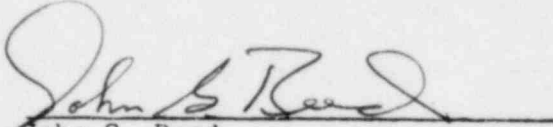
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