

October 20, 1982

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 OL  
(Callaway Plant, Unit 1) )

APPLICANT'S REVISED INTERROGATORIES  
AND REQUESTS FOR PRODUCTION OF DOCUMENTS  
OF INTERVENOR JOHN G. REED

Pursuant to 10 C.F.R. §§ 2.740b and 2.741, Applicant Union Electric Company hereby requests that Intervenor John G. Reed answer separately and fully in writing, and under oath or affirmation, each of the following interrogatories, and produce and permit inspection and copying of the original or best copy of all documents identified in the responses to interrogatories below.

These interrogatories are intended to be continuing in nature, and the answers should promptly be supplemented or amended as appropriate, should Mr. Reed or any individual acting on his behalf obtain any new or differing information responsive to these interrogatories.

As used herein, the following definitions shall apply:  
"emergency response plans for the Callaway Plant" include the Callaway Plant Radiological Emergency Response Plan and Appendices thereto (the "RERP"), the State of Missouri Nuclear Accident Plan (the "State Plan"), the Columbia and Jefferson City, Missouri Reception and Care procedures and the Callaway Offsite Emergency Response Plan (the "Offsite Plan"); the "county Standard Operating Procedures" or "SOPs" include the Standard Operating Procedures for Callaway County/Fulton City, Osage County, Gasconade County and Montgomery County; "NUREG-0654" is Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654, FEMA-REP-1, Rev. 1 (Oct. 1980).

INTERROGATORIES ON CONTENTIONS 1, 2 & 3  
(Staffing)

1. In your deposition, you defined continuous emergency response capability as the capability to respond for a two-week emergency period, 24 hours-a-day. Do you believe county organizations must have a continuous emergency response capability and, if so, explain why the State cannot be relied upon to provide assistance after county personnel have been on duty for one shift?

2. What is the basis for the assumption in Contentions 1, 2 and 3 that the length of one emergency shift will be eight

hours? Do you have any basis for objecting to the use of twelve-hour shifts? If so, please explain.

3. Explain how you have accounted, in your assessment of staffing needs in Contentions 1, 2 and 3, for the time required to accomplish tasks, the length of time of an emergency, the point in time during an emergency that a demand for each function will arise, and the potential for personnel to proceed to fulfill more than one assignment because of the passage of time.

4. Which, if any, of the Sheriff's responsibilities identified in your Contention 1.A would not arise in the event of a natural disaster such as a serious chemical spill (chlorine or ammonium nitrate), during transport by truck or rail, which required evacuation in some portion of Montgomery County?

5. Is the Montgomery County Sheriff's Office adequately staffed now to meet its responsibilities in the event of such a natural disaster? If so, explain in detail any basis for the proposition that a radiological emergency at the Callaway Plant would require more Sheriff's personnel to perform the functions listed in Contention 1.A than would be required to meet each of those functions in the event of a chemical spill requiring evacuation.

6. In Contention 1, why have you not considered the availability of the Sheriff's reserve in calculating the number

of personnel required in the Sheriff's office for each of the four counties in the EPZ?

7. In Contention 1.B, why have you not considered the availability of the City of Fulton Police Department?

8. What is the basis for your assumption in Contention 1 that the Sheriff's office must continue to function normally during an emergency and therefore could not divert the normal allocation of resources to emergency activities? Is the Sheriff staffed in the same manner for natural disasters?

9. In Contention 1.A.(3).(a) and in Contention 2.A.(2), you appear to be stating that all messages received by a dispatcher must first be hand carried to the County Clerk's office for logging prior to delivery to the addressee for action or information. Since this is not what the procedure requires (see SOP, Procedure #2), what is the basis for this requirement? To the extent that you are concerned about false or unauthorized messages entering the communications network and causing message flow problems or interfering with operations which are in progress, as stated in Contention 2.A.(1), explain why you believe this might occur, and what you believe the clerk screening the message could do about it which the message recipient could not do?

10. Does the copy of the dispatcher's messages that is going to the Clerk's office for logging serve any purpose other

than ensuring that a record is maintained so that post-accident reconstruction of events is possible (see SOP, Procedure #2; Contention 2.A.(1))? If so, please explain the other purpose(s) it serves.

11. In Contention 1.A.(5), you assert that one additional individual per shift will be necessary to function on the "command net" in order to receive, transmit and relay messages from the county on-site representative. Why would another individual be necessary to fulfill this function, when the SOPs (Procedure #3) require only that the county representative or Liaison Agent at the EOF keep the Presiding Judge advised by telephone? Wouldn't the Presiding Judge receive these calls? If not, why not?

12. State the basis for your concern in Contention 1.A.(7) regarding traffic control outside of the EPZ, which is not provided for in the emergency response plans for the Callaway Plant.

13. Why are two law enforcement officers required at each impound area, as stated in Contention 1.A.(7)?

14. In Contention 1.A.(8), you state that the Sheriff will need to transport personnel arrested at roadblocks. What event(s) are you anticipating which would require this capability?

15. Why do the radiological monitoring personnel located at the impound areas and at the roadblocks have to be members of the Sheriff's office?

16. For each of the following functions, state whether you agree with the estimated time necessary to do the job required and, if you disagree, please explain why.

- (a) Receipt of notifications from the Callaway Plant -- approximately one to five minutes at a time not more than four times a day;
- (b) Manning impound areas -- full time for five hours, maximum, but only while evacuation is ongoing;
- (c) Manning all roadblocks except EPZ perimeter roadblocks -- full time for five hours, maximum, but only while evacuation is ongoing;
- (d) Establish EPZ perimeter security -- full time for evacuated areas only, after evacuation had taken place.

17. In Contention 1.A.(9), you refer to SOP Procedure #10, Section 5.6.1, in support of your statement that personnel are required to ensure that evacuated areas are secure. Section 5.6.1 refers to the use of Sheriff's personnel, assisted by other resources, to patrol areas which are in the process of evacuating to provide information and assistance to evacuees. Is this the basis for your assertion that security

of evacuated areas may require roving patrols? If not, specify the basis for this assertion.

18. Doesn't Osage County have 4 roadblocks in its draft SOPs, not 8 roadblocks as stated in Contention 1.B?

19. Contention 2.A states that employees of the county clerk's office ". . . are required to maintain county records and can be spared to perform only the most trivial and least time consuming of additional duties." Does this statement refer to performance during an actual emergency? If so, explain any basis for the proposition that routine county clerk business could not be interrupted, and reconcile that proposition with the need for security at the EOC (Contention 1.A.(4)).

20. Which, if any, of the Clerk's responsibilities identified in your Contention 2.A would not arise in the event of a natural disaster such as a serious chemical spill (chlorine or ammonium nitrate), during transport by truck or rail, which required evacuation in some portion of Montgomery County?

21. Is the Montgomery County Clerk's Office adequately staffed now to meet its responsibilities in the event of such a natural disaster? If so, explain in detail any basis for the proposition that a radiological emergency at the Callaway Plant would require more Clerk's personnel to perform the functions listed in Contention 2.A than would be required to meet each of

those functions in the event of a chemical spill requiring evacuation.

22. In Contention 2.A.(3), you specify the need for "an available transportation list." Is this list different from a "transport pending chart," specified in Contention 2.A.(8)? If so, please explain what "an available transportation list" is and why it would not be prepared well in advance of an actual emergency.

23. Provide any basis for the proposition, implicit in Contention 2.A.(3), that evacuation will proceed for more than a single 8-hour shift.

24. Why is a chart of estimated evacuees needed?

25. Explain why, in Contention 2.A.(4), you believe maintenance of an estimated evacuee chart requires knowledge of the operational concept and training in communications procedures.

26. With reference to Contention 2.A.(7), approximately how many requests for transportation assistance would you expect to receive in each county? Relate that number to the total county population in the EPZ (choose and specify your own boundary from among those proposed), state any basis you have for your estimate, and explain why 3 to 4 operators would be required in each county.



27. Why would transportation assistance requests be made for a period of time greater than one shift?

28. Explain what you mean in Contention 2.A.(9) by "[t]he requirement for maintaining continuity of services."

29. Which, if any, responsibilities of the Emergency Management Director ("EMD") identified in your Contention 3.A would not arise in planning for, and in responding in the event of a natural disaster such as a serious chemical spill (chlorine or ammonium nitrate), during transport by truck or rail, which required evacuation in some portion of Montgomery County?

30. Is the Montgomery County EMD adequately staffed now to meet his responsibilities in planning for, and in responding in the event of such a natural disaster? If so, explain in detail any basis for the proposition that a radiological emergency at the Callaway Plant would require more EMD personnel time to perform the functions listed in Contention 3.A than would be required to meet each of those functions in planning for, and in responding in the event of a chemical spill requiring evacuation.

31. Is there any requirement by NRC or FEMA that the EMD be a full-time, professional? If so, please identify the source of the requirement.

32. Please identify those responsibilities of the Montgomery County EMD specified in Contention 3 which can be delegated to non-trained personnel.

33. For each EMD responsibility which requires attention prior to or after an emergency, specify the amount of time you believe each responsibility will take on an annual basis, and provide any basis for your estimate.

34. Is it your view in Contention 3 that it would not be possible for a part-time, non-professional Montgomery County EMD to fulfill the responsibilities assigned to him in the event of a radiological emergency at the Callaway Plant?

35. Why is any "incentive" (see Contention 3) beyond that which already is inherent in the position of EMD necessary for participation in radiological emergency response planning?

36. Describe the technical expertise and training, beyond that which exists, which the county EMD needs to cope with natural disasters with a probability of occurrence similar to an event at Callaway requiring evacuation? Are these qualifications different than those required for a Callaway Plant emergency and, if so, why?

37. Specify the activities of the Montgomery County EMD which, during an emergency, could not be performed without secretarial assistance.

38. Isn't it true that the Montgomery County EMD was assigned the Public Information Officer's responsibilities at the request of the county judges?

39. As the radiological emergency advisor to the Montgomery County Court, have you discussed with the Court your view that the EMD should not serve as the county's Public Information Officer? If not, why not? If you have, what was the Court's response?

INTERROGATORIES ON CONTENTION 4  
(Emergency Action Level Scheme/Worker Notification)

40. Could the need for emergency response personnel to know what actions to take when they are alerted be satisfied through training? If not, why not?

41. Specify the personnel and the actions which are not, and which you believe should be, included in the county SOPs. To the extent you are relying on documents to support your specification requirement, please identify the document(s).

INTERROGATORIES ON CONTENTION 5  
(Radio-Communications)

42. Why wouldn't pre-designated actions specified in prior training, combined with siren notification at the time of an emergency satisfactorily function to notify bus drivers what to do in the event of an emergency?

43. Wouldn't the siren system provide timely notification to a bus driver to avoid entering the plume or immediate plume pathway? If not, why not?

INTERROGATORIES ON CONTENTION 6  
(Protective Actions Against Radioiodines  
(Drugs & Equipment))

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44. Provide the technical basis for your disagreement with the State of Missouri that distribution of potassium iodide ("KI") is not in the best interest of the public, including emergency workers, on a cost (risk and disadvantages as well as financial)/benefit basis? Specifically address the negatives advanced in "Applicant's Responses to Specified Reed Interrogatories Served on the Callaway Court Administrative Judges and Emergency Management Coordinator," July 23, 1982, Answer to Interrogatory No. 13.

45. If KI is not distributed to members of the public or emergency workers, specify the protective equipment, if any, which you believe should be distributed, along with the time frame for such distribution, and the recipients of the equipment.

46. If you believe protective equipment should be distributed, are you aware of any state which follows the policy you have articulated in response to the previous interrogatory?

47. Is it your view that if the State of Missouri declines to distribute KI to the public or to emergency workers, it is obligated to provide the equipment specified in your answer to Interrogatory 45? If so, what is the basis for this obligation?

48. Your contention appears to assume evacuation through a plume. Explain why evacuation could not be accomplished prior to such a release. If there is a puff release only, explain why sheltering would not be effective.

INTERROGATORIES ON CONTENTION 7  
(Decontamination Facilities)

49. Specify the NRC requirement(s), if any, which mandates pre-sited decontamination facilities.

50. Specify the circumstances under which immediate decontamination, as stated in Contention 7.A, would be required.

51. Why would evacuation be ordered immediately after a "puff" release?

INTERROGATORIES ON CONTENTION 8  
(Radiation Detection Equipment)

52. In your opinion, how rapidly would it be necessary to conduct an evaluation of personal exposure to radiation or biological uptake of radionuclides for individuals not located

at the Callaway Plant? State the basis for your opinion, including the identification of any documents on which you are relying.

53. In your view, would it be acceptable for the State to rely upon Cooper Station bioassay equipment if there were an accident at the Callaway Plant, and visa versa? If not, why not?

INTERROGATORIES ON CONTENTION 9  
(Radiological Exposures)

54. Could training provide the necessary means to ensure that emergency workers read their dosimeters intermittently and not over-expose themselves to radiation while on duty during a radiological emergency? If not, why not?

55. Wouldn't the radiological monitoring at traffic control points serve the purpose of ensuring that contamination is not spread outside of the EPZ boundary? If not, why not?

56. Explain why measuring radioactivity in rems "tends to confuse the emergency worker and deny him information he may need to protect himself and his co-workers," as stated in Contention 9.D.

INTERROGATORIES ON CONTENTION 10  
(Medical Treatment)

57. Are you or another individual on behalf of Montgomery County and Gasconade County obtaining letters of agreement with hospitals and ambulance districts consistent with what you would require in Contention 10? If not, why not?

58. Specify the hospital space and resources, with which you are concerned in Contention 10.B, which are necessary to handle the potential volume of patients from the four counties in the EPZ.

59. What is the "potential volume of patients" on which your answer to the previous interrogatory is based? State any basis for your estimate.

60. In your view, are there insufficient resources or space at medical care facilities listed in the SOPs, Procedure #13 to handle the potential volume of patients from the four counties in the EPZ? If so, explain how you reached this conclusion.

61. In your view, could training suffice to ensure that ambulance personnel will have the requisite knowledge and ability to transport radiologically contaminated patients? If not, why not? If not, please also explain why a letter of agreement would be a better method of establishing these facts.

62. Do you have any factual reason to believe that ambulance districts within the EPZ will not respond when called upon during an emergency at the Callaway Plant? If so, please specify all such facts.

63. Is it your view that Mutual Aid agreements are insufficient to ensure that ambulance districts outside the EPZ would respond, if needed, during an emergency? If so, explain why these agreements would be insufficient.

64. If you answered the previous interrogatory affirmatively, specify the factual basis, if any, for your view that ambulance districts outside the EPZ would not respond when called upon to do so during a radiological emergency at the Callaway Plant.

INTERROGATORIES ON CONTENTION 13  
(Organizations Requiring SOPs)

65. Why isn't the concept of operations and responsibilities for each organization specified in Annexes A-D to the Offsite Plan sufficient?

66. Specify the emergency response efforts of the cities listed in Contention 13.B which you believe should be delineated in SOPs.



INTERROGATORIES ON CONTENTION 14  
(Incorporated Cities, Towns & Villages)

67. In your deposition, you agreed that the siren system should notify citizens located in each of the incorporated cities listed in Contention 13.B of a radiological emergency at the Callaway Plant. Nevertheless, you appeared to be of the view that letters of agreement between these cities and the county in which each city is located would not be sufficient to ensure protection of individuals located in these cities during a radiological emergency. Please explain the basis for this view.

68. Is it your view that the citizens of the subject incorporated cities, towns and villages will not respond appropriately to the siren system and the emergency response decisions of the responsible county officials? If not, why not?

69. Do you contend that these citizens would only respond appropriately to guidance from their mayors and town councils, and that they would not respond to direction from State and Federal officials? If so, state the basis for your position.

70. What resources, either in equipment or personnel, of the governments of the subject incorporated cities, towns and villages, are required to implement the emergency response plans for the Callaway Plant?

71. Is Contention 14 based upon your view of the legal "chain of command" within the subject incorporated cities, towns and villages? If the contention is based to any extent on principles of sound emergency planning, specify the function(s) in the emergency response plans for the Callaway Plant which can only be performed by the officials of the subject incorporated cities, towns, and villages, and in each case explain why the function cannot be fulfilled by others.

INTERROGATORIES ON CONTENTION 15  
(Letters of Agreement)

72. Specify all local government agencies and private companies from which you believe letters of agreement are required and presently do not exist. Specify with whom each such agreement should be made.

73. Do you interpret NUREG-0654 as requiring letters of agreement or rosters of signatures from every individual whose services might be called upon during an emergency? If so, specify the section(s) of NUREG-0654 on which you are relying. If not, state the basis for your opinion that individual signatures are necessary.

74. Why isn't the acceptance of a task assignment by the head of an agency or organization, followed by the participation of individual members in training and exercises, sufficient to provide reasonable assurance that they will

provide assistance in an emergency? In particular, describe any experience showing that letters of agreement make a difference in individuals' responses during an actual emergency.

75. Who is attempting "to force" assignments as you use the term in Contention 15.A? Explain how the Constitution has been or is being violated, and cite any case law which supports your assertion.

76. Are letters of agreement, such as you suggest in Contention 15, in existence for natural disasters such as a serious chemical spill requiring evacuation? If not, why should such letters be obtained uniquely for Callaway Plant emergency response planning?

INTERROGATORIES ON CONTENTION 16  
(Messages with Instructions for  
Long-Term Sheltering)

77. Specify by designation on the attached area map (or any other map of your choice) the specific area(s) within the Callaway Plant EPZ in which you believe residents might be required to shelter for as long as two to four days because of adverse weather conditions, as alleged in Contention 16.A.

78. What instructions to the public do you believe should be included in the Offsite Plans and SOPs with regard to long term sheltering, assuming KI is not available?

79. Is it your view that the instructions specified in response to the previous interrogatory are required by or exceed the criteria of NUREG-0654? If so, please specify the criteria on which you are relying. If not, state the basis for your opinion that the instructions you have specified are appropriate.

INTERROGATORIES ON CONTENTION 17  
(Radiological Monitoring)

80. Specify the "methods of communication" which you contend in Contention 17.A are not available or known to the organization receiving field monitor reports.

81. Do you contend that reliance by the State of Missouri on the U.S. Department of Energy to perform monitoring of radioiodine concentrations as low as  $10^{-7}$  uCi/cc is prohibited by the provisions of Criterion I.9 of NUREG-0654? If you do so contend, please explain why. If you do not so contend, why do you believe State reliance on DOE for this function is inadequate?

82. Specify how the state resources in trained personnel are inadequate, as alleged in Contention 17.C. What constitutes adequate resources in trained personnel?

83. Specify how state resources in radiation monitor equipment is inadequate, as alleged in Contention 17.C. What constitutes adequate resources in radiation monitor equipment?

84. What "support from local governments" (Contention 17.C) is available to the State for radiological monitoring? If State resources are indeed inadequate, why shouldn't improvements or augmentation be made at the State rather than the local level?

INTERROGATORIES ON CONTENTION 18  
(Protection Against Radioactive  
Contamination of Human Food and  
Animal Feed)

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85. Explain why, in your view, the Department of Agriculture SOPs in Annex A of the State Plan along with the Protective Action Guides for exposure from radioactively contaminated food contained in Section F of Annex B (pages B-7 through B-11) of the State Plan do not adequately establish a capability for implementing protective measures for the ingestion pathway. Include in your answer the information you believe is inappropriately absent from the State Plan.

86. What requisite implementing capability with respect to protection against the ingestion of radioactively contaminated human food and animal feed do you believe the State lacks?

87. State the basis for your assertion in Contention 18 that local capability is necessary to implement protective measures regarding radioactive contamination of human food and animal feeds. If adequate capability existed at the State

level, would you still maintain that local capability was either necessary or required? If you would, please explain why.

INTERROGATORIES ON CONTENTION 19  
(Impediments to Use of Evacuation Routes)

88. Specify what methods of identification of dealing with potential impediments to the use of evacuation routes you believe should be included in the Offsite Plan or the SOPs.

89. Do you agree that, due to variations in the location, type and severity of the impediment, along with weather conditions and other variables, it is impractical to account for all potential impediments and to specify contingency measures for each? If not, how do you propose to account for every possible event and still have a usable plan? If so, what are the events of sufficient probability of occurrence that should be accounted for in the emergency response plans for the Callaway Plant?

90. What contingency measures should be provided for in the Offsite Plan or the SOPs in the event of road impediments?

INTERROGATORIES ON CONTENTION 20  
(Authorization for Excess Radiological  
Exposures of Workers)

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91. Explain why, in your view, Section 10.0 of the Offsite Plan does not meet the requirements of Criterion K.4 of NUREG-0654 regarding the authorization of radiological exposures to emergency workers in excess of EPA protective action guidelines.

92. Explain why, in your view, Annex D to the State of Missouri Plan does not meet the requirements of Criterion K.4 of NUREG-0654.

GENERAL INTERROGATORIES  
(Applicable to All Contentions)

93. Explain in detail why you believe that your military experience is applicable to radiological emergency response planning in the civilian sector. In particular, compare what you perceive to be the appropriate level of detail for operational procedures prepared for use by a full-time military organization with a defense mission and those for civilian governmental organizations, one of whose missions is to prepare to respond to serious but highly infrequent emergencies.

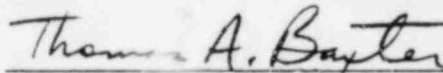
94. For each of your contentions, identify the witness(es), if any, you intend to call to testify on the contention, the subject area on which the witness will testify if it relates to only a part of the contention, and the witness'

address, subject area of expertise, applicable professional or technical qualifications, and current position of employment.

95. If anyone besides yourself provided information in answering these interrogatories, identify the name and address of each such individual and the applicable interrogatories.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE



Thomas A. Baxter, P.C.  
Deborah B. Bauser

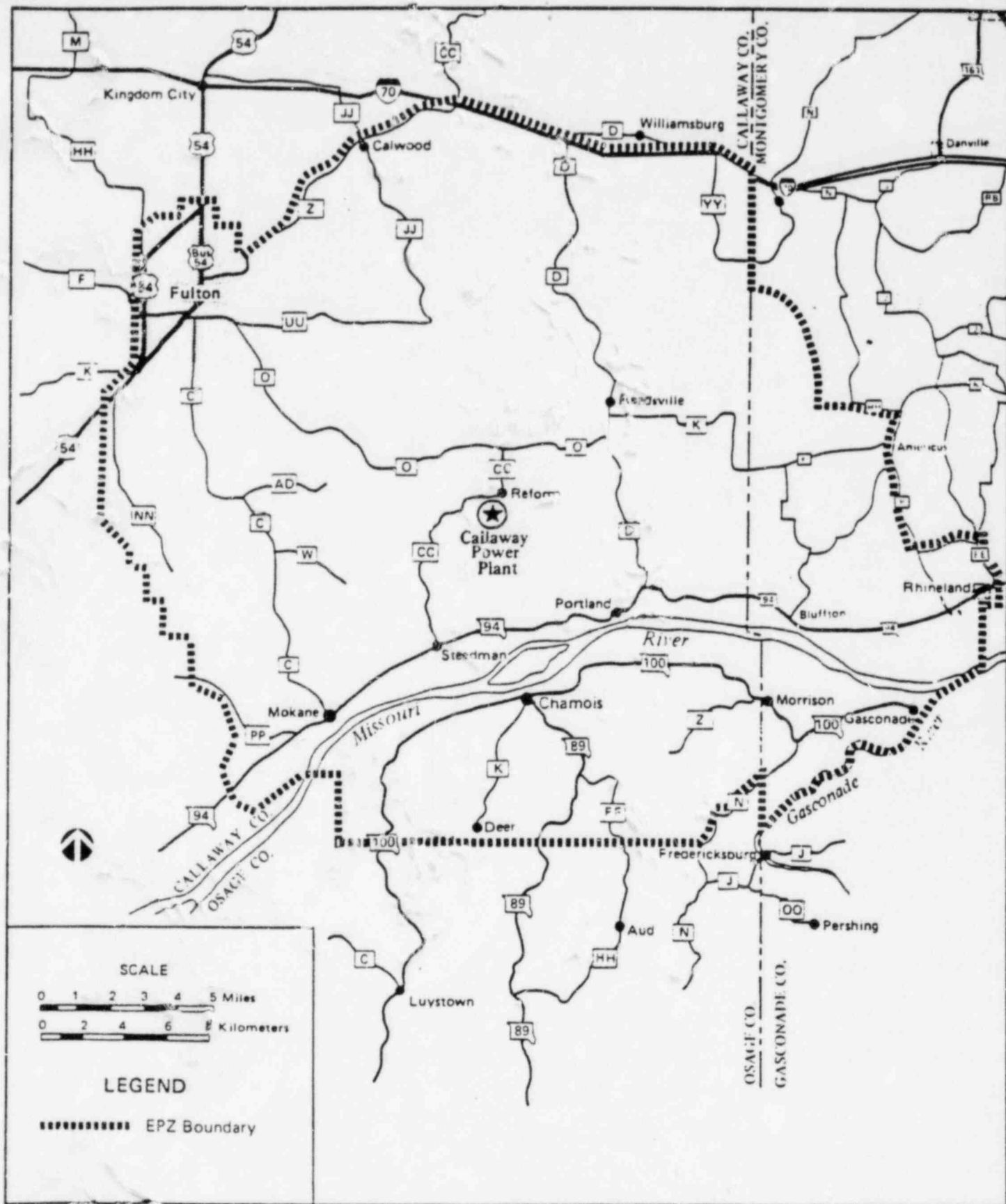
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Dated: October 20, 1982





Emergency Planning Zone (EPZ) Boundary Map