

May 20, 1983

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 MOTION FOR SUMMARY DISPOSITION
OF REED CONTENTION 10
(MEDICAL TREATMENT)

Pursuant to 10 C.F.R. § 2.749, Union Electric Company ("Applicant") moves the Atomic Safety and Licensing Board for summary disposition of Contention 10 advanced by intervenor John G. Reed. As shown below, summary disposition is appropriate because there is no genuine issue of material fact to be heard with respect to Contention 10. Accordingly, Applicant is entitled to a decision in its favor on Contention 10 as a matter of law.

This Motion is supported by Applicant's Statement of Material Facts On Reed Contention 10 As To Which There Is No

Genuine Issue To Be Heard (Medical Treatment), Applicant's Memorandum of Law In Support Of Motion For Summary Disposition On Emergency Planning Issues ("Memorandum of Law"), the Callaway Plant Radiological Emergency Response Plan ("RERP"), the Callaway County/Fulton Radiological Emergency Response Plan ("Callaway/Fulton Plan"), the Montgomery County Radiological Emergency Response Plan ("Montgomery Plan"), the Osage County Radiological Emergency Response Plan ("Osage Plan"), the Gasconade County Radiological Emergency Response Plan ("Gasconade Plan"), the Missouri Nuclear Accident Plan - Callaway ("State Plan"), the Affidavit of Walter M. Clark on Reed Contention 15 (Letters of Agreement) ("Clark-15"), the Affidavit of Roger E. Linnemann, M.D. on Reed Contention 10 (Medical Treatment) ("Linnemann-10"), and the Affidavit of Gerald W. Stanfill on Reed Contention 2 (Staffing-Clerk's Office) ("Stanfill-2"), all filed simultaneously herewith, as well as the pleadings and other papers filed by the parties in the proceeding.

I. Procedural Background

Mr. Reed's Contention 10 states:

Arrangements have not been made for medical treatment of local governments' (Montgomery, Gasconade, Osage and Callaway counties) contaminated, injured emergency workers or residents living within the plume exposure EPZ as required by 10 CFR, Part 50, Section 50.47(b)(12).

A. Letters of agreement between Montgomery County, other counties and hospitals are not included in the Off-site plan or the SOPs.

B. Without such letters or agreements, it becomes impossible to determine whether or not local medical facilities have the capability to handle such patients. If selected hospitals are to take care of these cases, agreements are necessary to assure that said selected hospitals have space and resources to handle the potential volume of patients that may come from a particular county.

C. No local letters of agreement exist between county government and local ambulance districts to transport radiological contaminated, injured patients.

(1) A letter of agreement indicates that such local ambulance district has the knowledge and resources to properly transport a contaminated, injured patient.

(2) The application for such a letter provides the ambulance district the opportunity to become aware of the special needs in such transport of radiologically contaminated patients and affords them a chance to indicate their equipment needs or other requirements prior to accepting this special responsibility.

D. Ambulance districts outside of the four counties impacted by the plume exposure EPZ have not agreed to provide transport for radiologically contaminated, injured individuals. The Off-site Plan and the SOPs do not reflect letters of agreement by any such ambulance district indicating they will provide such transport. Statements in "10.C(1) & (2)" apply to outside as well as local ambulance districts.

Final Particularization of Reed's Amended Contentions 1, 2 and 3, filed October 1, 1982. Neither Applicant nor the NRC Staff posed an objection to Contention 10, which was admitted to the proceeding by Board Memorandum and Order dated December 7, 1982.

II. Governing Legal Standards

The necessity for prior arrangements with medical facilities to treat members of the public who may be contaminated or exposed to radiation due to an accident at the Callaway Plant is based on the standard set forth in 10 C.F.R. § 50.47(b)(12), which requires that in on-site and off-site radiological emergency response plans, "Arrangements are made for medical services for contaminated injured individuals." This regulatory requirement is further delineated in the guidance provided in NUREG-0654/FEMA-REP-1 (Rev. 1), "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Nov. 1980) ("NUREG 0654"). See NUREG-0654, Section II.L.

The Commission recently has had the occasion to address the question of the scope of "arrangements . . . for medical services" that are needed for members of the public in the event of a nuclear plant accident in accordance with 10 C.F.R. § 50.47(b)(12). See Southern California Edison Company et al. (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-83-10, 17 N.R.C. ____ (April 4, 1983). In San Onofre, the Commission first determined that the "arrangements" in question refer to immediate or near term care, in contrast to long term care which can be handled on an ad hoc basis and does not require advance planning. San Onofre, supra, slip op. at 10.

It was never the intent of the regulation to require directly or indirectly that state and local governments adopt extraordinary measures. . . . The emphasis is on prudent risk reduction measures. The regulation does not require dedication of resources to handle every possible accident that can be imagined. The concept of the regulation is that there should be core planning with sufficient planning flexibility to develop a reasonable "ad hoc" response to those very serious low probability accidents that could affect the general public.

Id. at 8. After reviewing the medical assumptions underlying the regulation, the Commission determined that the scope of "medical services" to be provided must focus on the special hazards from radiation, which fall into two categories: (1) individuals who may become traumatically injured (non-radiation injuries for which emergency medical care is needed) who are also externally contaminated with radiation; and (2) individuals who may have been subjected to dangerous levels of radiation and who need medical treatment for that reason. Id. at 10-12. With respect to the former category, the Commission concluded that

[T]he arrangements that are currently required for onsite personnel and emergency workers provide emergency capabilities which should be adequate for treatment of members of the general public. Therefore, no additional medical facilities or capabilities are required for the general public. However, facilities with which prior arrangements are made or which have the capability to treat contaminated injured individuals should be identified.

Id. at 13. As to the second category of individuals needing medical treatment -- individuals subjected to dangerous levels of radiation -- the Commission determined,

[T]he treatment requires a lesser degree of advance planning and can be arranged for on an as-needed basis during an emergency. Emergency plans should, however, identify those local or regional medical facilities which have the capability to provide appropriate medical treatment for radiation exposure. No contractual agreements are necessary and no additional hospitals or other facilities need be constructed.

Id. at 13-14 (footnote omitted). In summary, because of a very limited immediate need for medical resources by members of the public during a radiological emergency, 10 C.F.R. § 50.47 does not require that elaborate arrangements for medical services be made beyond those arrangements specifically made for on-site personnel and emergency workers.

III. Argument

The standards governing summary disposition motions in an NRC proceeding are set forth in Applicant's Memorandum of Law. In summary, where, as here, a properly supported motion for summary disposition is made, the party opposing the motion must come forward with substantial facts establishing that a genuine issue of fact remains to be heard. In the absence of such a showing, the movant is entitled to a decision in its favor on that contention as a matter of law.

Applying the foregoing standards to this case, it is clear that Applicant's motion for summary disposition on Reed Contention 10 should be granted. Applicant does not contest the need for arrangements for medical services, which is the subject of Reed Contention 10. But it is clear from the State Plan, the radiological emergency response plans for the four counties in the Callaway Plant plume exposure pathway emergency planning zone ("EPZ"), and the affidavit of Dr. Roger E. Linnemann on the issue of necessary medical treatment, that more than adequate arrangements for medical services have been made for local governments' contaminated, injured emergency workers and members of the public. See Reed Contention 10. Accordingly, there are no material issues in controversy between Mr. Reed and Applicant with respect to arrangements for medical services. In making this judgment, it must be kept in mind that there are fewer than 17,000 residents in the entire Callaway Plant EPZ: approximately 15,300 in Callaway County, including Fulton, 860 in Osage County, 200 in Gasconade County, and 500 in Montgomery County. Stanfill-2, ¶ 4.

A review of the four EPZ county radiological emergency response plans and the State Plan establishes that adequate arrangements for medical services have been made. Annex K of the county plans is entitled Medical and Public Health Support. Annex K of the Callaway/Fulton Plan provides that in Callaway

County/Fulton, Callaway Memorial Hospital has been designated to receive and treat individuals with injuries, including those complicated by the presence of radioactive contamination or having significant overexposure to radiation. Callaway County/Fulton is obtaining a letter of agreement with Callaway Memorial Hospital. See Clark-15, Exhibit E. Applicant already has obtained and included in Appendix C of the RERP such a letter for on-site personnel. See Attachment 1. Callaway Memorial Hospital also will coordinate the provisions of hospital medical care and treatment in support of emergency response for an incident at the Callaway Plant. For Osage County and Gasconade County residents, this function is assumed by the Memorial Community Hospital in Jefferson City.^{1/} See Annex K, Section I.A of Osage Plan and of Gasconade Plan. For Montgomery County, Boone County Hospital in Columbia, Missouri will receive and treat individuals with injuries, including those complicated by the presence of radiological contamination or exposure. Montgomery Plan, Annex K, Section I.A. Should space at Callaway Memorial Hospital, Memorial Community

^{1/} In his deposition, Mr. Reed expressed concern about the ability of the Hermann Area Hospital to handle injuries complicated by contamination. Deposition at 306. While the Gasconade Plan provides that the Hermann Area Hospital will be the primary medical facility serving the County population, the contaminated or exposed individual will be sent to Memorial Community Hospital. Gasconade Plan, Annex K, §§ I.A and II.A. See also Montgomery Plan, Annex K, §§ J.A and II.A.

Hospital or Boone County Hospital become saturated, or the evacuation of Fulton be ordered, back-up medical facilities are located at St. Mary's Health Center and Charles E. Still Hospital in Jefferson City, as well as the University of Missouri Medical Center in Columbia, Missouri. All of these facilities are capable of evaluating radiation exposure and uptake, and include staff who are adequately prepared to handle contaminated individuals. See Annex K, Section II of each of the county plans. The State has obtained a letter of agreement applicable to the counties from Memorial Community Hospital and has requested letters of agreement with Boone County Hospital, St. Mary's Health Center and Charles E. Still Hospital. State Plan, Appendix 7 at pages 7.1 and 7.7.

In Callaway County/Fulton and in Montgomery County, the primary ambulance service serving the EPZ population is the Callaway County Ambulance District. In Osage County, this function is assumed by the Osage County Ambulance District; in Gasconade County, this function is assumed by the Hermann Ambulance District. See Annex K, Section III of each of the county plans. The primary ambulance service would coordinate and dispatch ambulances required to support local emergency response, provide first aid and emergency transportation for ill or injured individuals, including those complicated by the presence of radioactive contamination or having significant

overexposure to radiation and, if necessary, invoke agreements with ambulance services located outside of the EPZ. Id. at Section I.B.

Agreements that have been or will be obtained from ambulance services are listed in Appendix 4 of the Callaway/Fulton Plan. Those letters that already have been obtained are attached to the Affidavit of Walter M. Clark on Reed Contention 15 (Letters of Agreement) as Exhibit "D". In addition, Applicant has obtained a letter of agreement from Callaway County Ambulance District which is contained in Appendix C of the RERP (see Attachment 2), and the letter of agreement between the State of Missouri and Memorial Community Hospital includes the commitment of ambulance services. State Plan, Appendix 7 at 7.7.

Each of the county plans also provides that if transportation is needed beyond normal ambulance range, or if time is critical, air transport will be provided by the Missouri State Highway Patrol or the National Guard, as requested by the State Emergency Management Agency ("SEMA"). See Annex K, Section III.C of each of the four county plans. Letters of agreement from the Highway Patrol and the National Guard to SEMA are contained in Annex A of the State Plan and are appended hereto as Attachments 3 and 4.

The State Plan contains a list of medical facilities in the Callaway Plant area capable of handling radiologically injured or potentially radioactive contaminated patients. State Plan, Annex F, Attachment 1. See Attachment 5.

The sufficiency of the medical arrangements made for county emergency workers and members of the public who might need treatment as a result of a radiological accident at the Callaway Plant is confirmed by Dr. Roger E. Linnemann in his affidavit on Reed Contention 10. Dr. Linnemann is a medical doctor with particular expertise in the area of radiological health. Dr. Linnemann is the Vice Chairman of Radiation Management Corporation ("RMC"), a consulting firm that provides medical expertise and support in the event of an accident involving injury to workers at nuclear power plants. RMC's Emergency Medical Assistance Program provides 24-hour emergency support to some 20 nuclear power plant sites throughout the country. The Callaway Plant will participate in this program. Linnemann-10, ¶¶ 1, 18; RERP, § 5.3.5.

In his affidavit, Dr. Linnemann endorses the medical arrangements established in the RERP, the county plans and the State Plan for injured, contaminated and/or exposed individuals. Dr. Linnemann first explains the distinction between exposure and contamination. In the case of radiation exposure, the radiation passes through the body as it does in

medical x-rays. The patient suffers injury as a result of the energy deposited in the cells during the period of radiation, but the patient is not radioactive and presents no hazard to response personnel. Once the body has been irradiated, a predictable clinical course ensues which is directly correlated with exposure dose and dose rate. This clinical course cannot be interrupted and will evolve over a period of days and weeks. Linnemann-10, ¶ 4. Consequently, in the case of an irradiated patient who is also traumatically injured, treatment of the injury always takes precedence over treatment of the exposure. Id. at ¶ 8.

Contamination, on the other hand, results from loose radioactive particles adhering to the body. By definition, these particles emit radiation, and so exposure hazards remain until these particles are removed. Fortunately, radioactive contamination is easy to detect and decontamination is easily accomplished through removal of clothes and bathing. Again, whatever exposure is suffered through contamination will follow a predictable clinical course based on the exposure level of the dose and the dose rate. This course cannot be interrupted and will evolve over a period of time. Id. at ¶ 5.

In view of the difference between exposure and contamination, special emergency facilities are unnecessary for the exposed, injured individual. If however, it is determined that

the patient is contaminated, procedures are modified to control the spread of contamination and to reduce exposures to others. These procedures are not unique to medical radiological response planning. They are philosophically the same as used in dealing with chemical contamination or septic cases. Id. at ¶¶ 6-7.

Consistent with the Commission's position in San Onofre, Dr. Linnemann does not see a need for large numbers of hospital beds for an injured, exposed or contaminated population. Id. at ¶¶ 10-15. At most, selective medical tests will need to be performed; however, this can be done in an unhurried, organized manner in the days following the accident. Id. at ¶¶ 16-17. Arrangements can be made for any necessary treatment on an ad hoc basis following the accident. Id. at ¶¶ 20-22.

The Callaway Plant is in the process of becoming a part of RMC's national emergency medical assistance program. As a part of that program, Callaway Memorial Hospital and the Callaway County Ambulance District are the primary medical services that will be trained to be able to respond properly to the need to transport and treat contaminated, injured or exposed on-site personnel. RMC will back up this support at both the plant and Callaway Memorial Hospital with 24-hour medical and health physics expertise to consult on any type of radiation injury. This expertise consists of radiation medical physicians,

certified health physics technicians, and special instrumentation which can be transported immediately upon notification to the Callaway Plant or the Callaway Memorial Hospital. In addition, RMC maintains laboratory support for evaluation of a patient's exposures. An outline of the training program for Callaway Memorial Hospital is attached to Dr. Linnemann's affidavit on medical treatment as Exhibit "B". RERP, § 6.8.4; Linnemann-10 at ¶¶ 18, 24.

In Dr. Linnemann's professional opinion, Callaway Memorial Hospital can adequately handle any off-site contamination and injured patients that may result from the course of an accident at the Callaway Plant. Furthermore, other specified hospitals in the area as well as all ambulances that potentially will be required to respond to radiological emergencies as a result of an accident at the Callaway Plant will have the opportunity to participate in the medical training that will be provided to Callaway Memorial Hospital and the Callaway County Ambulance District. Id. at ¶¶ 23-24.

The medical arrangements described above more than satisfy the required degree of planning for medical arrangements established by the Commission in the San Onofre case as sufficient, pursuant to 10 C.F.R. § 50.47(b)(12). The on-site and off-site plans identify the primary local medical service facilities capable of providing support for on-site and

off-site contaminated injured individuals as well as back up facilities in the area. RERP § 6.8.4; County Plans at Annex K; State Plan, Annex F, Attachment 1 (Attachment 5 hereto). No special arrangements need to be made for the treatment of individuals with radiation injuries. Diagnosis and treatment could take place at most existing medical facilities. In addition, available if necessary are the medical facilities around the country with which RMC is affiliated. See Attachment 6 (letter of agreement).

IV. Conclusion

Arrangements for providing medical services to off-site emergency workers and the public have been made. Reed Contention 10 therefore has been fully satisfied because there

is no outstanding issue of material fact. Accordingly,
Applicant's motion for summary disposition should be granted.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE

Deborah B. Bauser

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

Counsel for Applicant

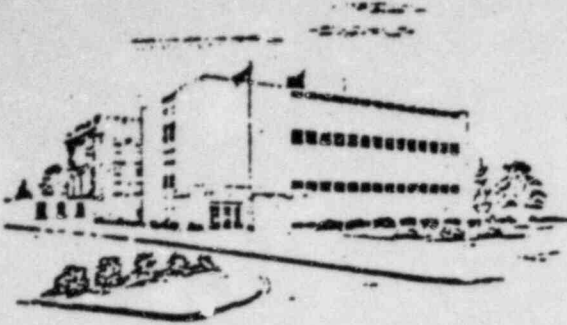
1800 M Street, N.W.
Washington, D.C. 20036

(202) 822-1000

May 20, 1983

CALLAWAY MEMORIAL HOSPITAL

828 JEFFERSON STREET
FULTON, MISSOURI 65251
TELEPHONE 314-642-3376



August 22, 1979

Mr. D. F. Schnell
Manager-Nuclear Engineering
Union Electric Company
P.O. Box 149
St. Louis, Missouri 63166

Dear Mr. Schnell:

Callaway County Memorial Hospital Board of Trustees and the Staff have discussed and expressed their willingness to provide health services for Union Electric employees, for either emergency or non-emergency care.

The Callaway County Memorial Hospital offers Emergency Room service twenty-four hours a day, with a doctor on call around the clock. We have a 4-bed Intensive Care Unit. Also, our X-ray and Laboratory departments have 24-hour coverage.

The Callaway County Ambulance Service is based at the hospital, with 24-hour coverage.

At some later date perhaps we could have a discussion regarding any special services needed by your company's employees.

Please feel free to call or drop by for any other information needed.

Sincerely,

Sharon R. Heinlen
Chief Executive Officer

SRH/mef

CALLAWAY COUNTY AMBULANCE DISTRICT
FULTON, MISSOURI 65251

May 18, 1982

Mr. Donald F. Schnell
Vice President
Union Electric Company
P. O. Box 149
St. Louis, Missouri

RE: Agreement between Callaway Ambulance and U. E.

Dear Mr. Schnell:

This letter will serve to notify you and Union Electric of the decision of the Callaway County Ambulance Board of Directors to provide service to the Union Electric Power Plant at Reform.

The Board in a vote of 3 in favor, 0 against, and 1 abstaining to provide the services in agreement to the letter attached. The Board understands that according to the attached letter, training and other needed items will be provided by Union Electric.

Attached please find a copy of the Special Board Meeting Minutes of March 30, 1982 and a copy of the letter to the County Court with attachments (This is the agreement we are speaking of).

Thank you again.

If there are any other questions, or comments, please do not hesitate to call on me.

Sincerely,

Marilyn Simcoe
Marilyn Simcoe, Chairman
Callaway County Ambulance
Board of Directors

cc: file
Milt Stiller
All Board Members

CONTENTION 10, ATTACHMENT 3



DEPARTMENT OF PUBLIC SAFETY
MISSOURI STATE HIGHWAY PATROL

A. S. Whitmer, Superintendent

1510 East Elm Street

Mailing Address:

Box 568

Jefferson City, Missouri 65102

Telephone 314-751-3313

June 29, 1982

Mr. William R. Beaty, Director
State Emergency Management Agency
Post Office Box 116
Jefferson City, Missouri 65102

Dear Mr. Beaty:

The Missouri State Highway Patrol agrees to support the total emergency response recovery effort of the State in the event of an accident involving a nuclear power plant in the following manner:

1. By providing emergency traffic control coordination.
2. By providing augmentation of local law enforcement.
3. By performing mobile radiological monitoring as needed.
4. By providing emergency communications for State operations.
5. By assisting in the evacuation of communities.
6. By providing emergency transportation by air or land for emergency teams if required.

Major J. H. Little has been designated to manage Patrol operations should such an accident occur. You can contact Major Little at the Highway Patrol General Headquarters.

Sincerely,

A handwritten signature in cursive script that reads "A. S. Whitmer".

A. S. WHITMER
Superintendent

DEPARTMENT OF PUBLIC SAFETY

HEADQUARTERS MISSOURI NATIONAL GUARD

Office of the Adjutant General
1717 Industrial Drive
Jefferson City, Missouri 65101
Phone 314 - 751-2321



TAG

12 July 1982

SUBJECT: Missouri Nuclear Accident Plan for Nuclear Power Plants

William R. Beaty, Director
State Emergency Management Agency
P. O. box 116
Jefferson City, Missouri 65102

1. The Missouri National Guard agrees to support the total emergency response and recovery effort of the State in the event of an accident involving a nuclear power plant, when ordered by the Governor, in the following manner:

a. Evacuation and security of communities to include augmentation of emergency traffic control.

b. Radiological monitoring by traffic control personnel and periodic reporting of radiological information using equipment provided by the MONET.

c. Emergency transportation of health physics personnel and other resources.

d. Transportation of emergency potable water.

e. Military assistance.

2. Procedures for implementation of the above can be found in the MOARNG State Emergency Duty SOP and the SOP for Nuclear Power Plant accidents/incidents.

3. Alerting procedures and Emergency Call List: Alerting or activation of personnel from the MONG will be accomplished by notifying one of the personnel listed below (in priority) at 751-2321. Activation of personnel will be accomplished in accordance with pertinent SOPs and regulations.

NUCLEAR ACCIDENT PLAN
ATTACHMENT 1 TO ANNEX F
MEDICAL CARE FACILITIES

Following are medical care facilities which have the capabilities to receive radiation injured or potentially radioactive contaminated patients.

CALLAWAY PLANT AREA

Callaway Memorial Hospital
828 Jefferson
Fulton, MO

Administrator: Sharon Heinlen
314/642-3376

Memorial Community Hospital
1432 Southwest Blvd.
Jefferson City, MO

Administrator: Gordon Butler
314/635-6811

Boone County Hospital
1600 E. Broadway
Columbia, MO

Administrator: Warren Rutherford
314/875-4545

Univ. of Missouri Medical Center
Stadium Drive
Columbia, MO

Director: Robert Smith
314/882-4141

St. Mary's Health Center
Jefferson City, MO

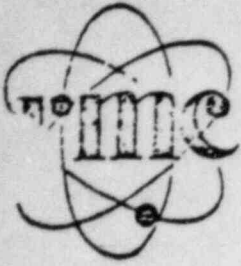
Administrator: Gary Stremel
314/635-8141

Charles E. Still Hospital
Jefferson City, MO

Administrator: James Cox
314/635-7141

NOTE: There are no hospitals in Missouri with whole body counters and only limited bioassay evaluation exists. Therefore, Missouri will depend upon the following resources for these services:

Radiation Management Corporation retained by Union Electric (if Callaway has an accident). RMC will provide mobile whole body counter on request from Union Electric.



August 29, 1979

Mr. D. F. Schnell
Manager, Nuclear Engineering Dept.
Union Electric Company
P.O.Box 149
St. Louis, MO 63166

Dear Mr. Schnell;

This letter confirms our support of the Union Electric Radiological Emergency Response Plan (RERP) at the Callaway Plant. We will cooperate in the implementation of the RERP by providing medical and health physics support as delineated in our Emergency Medical Assistance Plan. This support includes training of hospital and ambulance personnel, consultation to supporting hospitals concerning emergency medical treatment of contaminated patients, and provision for a radiation medical facility at Northwestern Memorial Hospital, in Chicago, or the Hospital of the University of Pennsylvania, Philadelphia.

Signed

Wayne Benson

Title

VICE-PRESIDENT - MW DIV.

**radiation
management
corporation**

Midwest Division
3356 Commercial Avenue
Northbrook, Illinois 60062
291-1030