October 1, 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)	)	

FINAL PARTICULARIZATION OF REED'S AMENDED CONTENTIONS 1, 2, AND 3

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AMENDED CONTENTIONS 1, 2, AND 3

Intervenor Reed hereby submits the following amended contentions, which are intended to support the more general assertions contained in Contentions 1, 2 and 3 submitted at the special prehearing conference of March, 1981. The amended contentions are grouped accordingly, but have been renumbered for ease of reference. A "Background Discussion" is provided with each of the three groups of contentions to enhance understanding of the specific contentions which follow.

GROUP 1 BACKGROUND DISCUSSION

Reed's original Contention No. 1 states as follows:

> "Applicant has not made sufficient arrangements with local governments or local agencies and organizations to meet the requirements of 10 CFR, Part 50, Section 50.47(b)."

Applicant must submit radiological emergency response plans (RERPs) of State and local governmental entities in the United States that are wholly or partially within the plume exposure pathway EPZ with its application for an operating

license (10 CFR, Part 50, Section 50.33(g), at 45FR55402 and Part 50, Appendix E, at 45FR55402 and 46FR28838).

No Federal or State of Missouri statute exists to mandate State or local governmental preparation of RERPs or emergency response preparedness to meet NRC standards to support commercial nuclear power plant operation, nor does the Commission have the authority to require RERPs or the establishment of such response preparedness by States or local governments.

The only regulatory authority in the area of radiological emergency response planning and preparedness rests with the Commission's ability to deny an operating license to an Applicant if such RERPs are not prepared and submitted as required above or said preparedness is not maintained to established standards for the operational life of the plant.

Since no obligation exists in law for States and local governments to prepare plans and upgrade preparedness to meet Commission standards, it appears, in the alternative, that the Applicant, alone, is responsible to actively seek and obtain voluntary emergency response support from State and local governments if it desires to obtain and retain an operating permit (license) from the Commission.

Without support in law to provide the Applicant the assistance it requires to operate, the Applicant must make arrangements with the State and all local governments to obtain their voluntary support. With this obligation to obtain support rests the pecuniary responsibility to provide State and all

local governments equipment, funding, or anything else such State or local governments require for their services in support of the Applicant's commercial venture. (see 10 CFR, pg. 50-SC-65, IX. Funding)

Failure of the Applicant to obtain the active participation of State and local governments in the preparation of RERPs and the upgrade of radiological emergency response capability to Commission standards for the lifetime of the nuclear power plant has the potential to restrict such plant operation. The Commission has supported this viewpoint in 10 CFR, Part 50, Statements of Consideration, at 45FR55402, published 8/19/80:

> "---the Commission has therefore concluded that adequate emergency preparedness is an essential aspect in the protection of the public health and safety. The Commission recognizes there is a possibility that the operation of some reactors may be affected by this rule through inaction of State and local governments or an inability to comply with these rules. The Commission believes that the potential restriction of plant operation by State and local officials is not significantly different in kind or effect from the means already available under existing law to prohibit reactor operation, such as zoning and land-use laws - - -." (see pg. 50-SC-60, col. 3)

RERPs are the basis for determination of the adequacy of all protective measures to protect the public health and safety in the event of a nuclear power plant accident. (see 10 CFR, Part 50, Section 50.47(a), (1) and (2).)

Commission standards for RERPs are contained in 10 CFR, Part 50, Section 50.47(b), (1-16); Part 50, Appendix E; and further by specified criteria in NUREG 0654 FEMA-REP-1, Rev. 1. (see said documents)

CONTENTIONS

#1. STAFFING - SHERIFF'S OFFICE

County Sheriff's Offices have insufficient personnel to perform duties assigned in the proposed Off-site Plan and SOPs:

A. Montgomery Sheriff's Office has 4 deputies and 4 radio dispatch operators, for a total of 9 persons (paid, full-time). The proposed Montgomery SOP requires the Sheriff to provide law enforcement, activate the warning system, provide and maintain communications with emergency response personnel, provide security for the EOC, receive notifications from the Callaway Plant, notify officials of emergency conditions at the plant, notify other officials of emergency classifications or the Presiding Judge's instructions, provide traffic control, establish and maintain traffic control points, provide security to evacuated areas, request assistance from other law agencies via the State EMA, and notify other emergency agencies of the traffic control points (see Montgomery County SOP, page 3). For the following reasons, the manning requirements for the Montgomery County Sheriff's Office is 89 persons (9+72+8=89) if the responsibilities outlined in the proposed SOP are to be met. This includes a conservative reserve estimate of 10% (8 persons). This indicates a shortage of 80 personnel in this office.

(1) Provide law enforcement: This is the normal function for which this office is funded and staffed. All full-time employees are needed to support this function if

current standards of law enforcement are to be maintained. No comparative degree of effectiveness of this office with like organizations is inferred; whatever level of effectiveness is being maintained is sufficient to fulfill a requirement that such office is presently providing its maximum level of law enforcement in its area of responsibility.

(2) To activate the warning system incurs no major obligation to this office unless the activation switch is located outside the immediate administrative area (communications room). The switch can be activated by existing personnel, if colocated with radio equipment.

(3) To provide and maintain communications with emergency response personnel involves more than simply speaking to a distant operator and recording a brief note of the call in a traffic log (as is done under existing procedure in the Sheriff's Offices).

(a) All messages being received must be written down by the operator on a prescribed message form (see Montgomery SOP, Proc. 2, 5.7 Communications), hand carried to the County Clerks Office for logging (see SOP, Proc. 2, 5.7.2 & 5.7.3) and delivered to the addressee for action or information.

(b) The operator working the emergency response radio/telephone network must be immediately available to receive or transmit message traffic in order to assure timely action by response personnel in the field and officials in the EOC. This communications net will require a fulltime operator at each

radio transmitter/receiver or telephone and because of operational stress, time limits for shift schedules should be limited to 8 hours per individual. This necessitates a minimum of 3 receive/transmit operators for each communications network which has a terminal station in the Sherriff's Office.

(c) To hand-carry messages from the Sheriff's Office to the message center in the County Clerk's Office will require at least one person per shift. If this responsibility is assigned to the Sheriff, an additional 3 persons will be required for a 24 hour period.

(4) Provision of security for the EOC (SOP, Proc. 2, 5.9 Security) requires a person at a predetermined access control point in the Courthouse to perform the duties outlined in SOP 5.9.2 and 5.9.3. If more than one access point exists for entry into the EOC, a possibility exists that more than one security guard will be necessary. Assuming an 8 hour shift, 3 individuals are required to meet this SOP provision.

(5) Receipt of notifications from the Callaway Plant, if such are limited only to emergency incident classifications changes, can be performed by the normal radio dispatch operator; however if such notices are messages from the county on-site representative or include moderately large volumes of messages, another operator will be required to function on this "command net", performing duties similar to those identified in ((3, a & b)) above. This will necessitate 1 person per shift for a total of 3 per day.

(6) Personnel needed for notification of other officials of emergency conditions at the plant or the Presiding Judges instructions will be determined by the location of such officials at the time of said notification. Notice may be accomplished by use of existing communications nets. Only in the event of having to hand-carry messages will additional personnel be required and possible use of a vehicle, if great distances are involved. Neither personnel or vehicles is anticipated to perform this function; however neither plan nor SOP is clear as to what is actually intended.

(7) Personnel for traffic control, if such involves traffic flow in corridors outside of the EPZ perimeters, will depend upon the length of the control corridor and ingress/egress points along which vehicular travel is anticipated. No estimate of manning can be made at this time due to insufficient data in the proposed plan and SOP. If, however; traffic control is tied to the EPZ road-block/security functions and is limited to controlling contaminated traffic to an impound area along a route with no ingress/egress points between the road-block and the impound area, an additional (2) 4 men will be required for each impound area (1 radiological monitor and 2 law enforcement officers plus a driver and vehicle to transport occupants of contaminated vehicles to a decontamination center). The actual number of men may be increased if personnel manning the impound area become contaminated and must be replaced. For a 24 hour period, a total of 12 men

are required to operate 1 impound area. If more areas are to be established, the figure must be increased proportionately.

(8) Establishment and maintenance of roadblocks in Montgomery County is based upon 8 presited locations (SOP, pg. 11-5). Need for 2 persons per roadblock (1 radiation monitor and 1 law officer) creates a need for 16 men to man the roadblocks. Working 8 hour shifts, 48 men, a minimum of 8 vehicles (with radios and associated roadblock equipment (SOP, pg. 11-4) is needed. To supply support for roadblocks, the Sheriff will need to supply meals to roadblock teams, relief teams, transport of personnel arrested at roadblocks, administrative support (to include radiation exposure records) and transport of contaminated evacuees from vehicle impound areas.

(9) Security of evacuated areas is provided by roadblock personnel, unless roving patrols are anticipated (SOP, pg. 10-3, item 5.6.1). Such patrols will require 1 vehicle and 2 men (1 driver and 1 radiation monitor) with radio contact with EPZ roadblocks. No roving patrol needs are included in this estimate.

(10) The patrolling of affected areas to ensure all persons have evacuated or taken shelter (proposed Offsite Plan, 9.0 Protective Pesponse, D. Evacuation/Sheltering Notification, page 9-2) will require an undetermined man-power pool and vehicles in excess of above estimates. Because of a lack of specificity in the referenced plan, it is not possible to determine needs, at this time.

B. The above manning is applicable to the counties of Gasconade, Osage and Callaway. The functions are the same, only the number of fulltime Sheriff's employees and the number of roadblocks differ:

- Gasconade County Sheriff's Office has 6 fulltime, paid employees: 2 deputies and 3 radio dispatch operators. Roadblocks number 2, requiring 12 men for a 24 hour period.

- Osage County Sheriff's Office has 8 fulltime, paid employees: 3 deputies and 4 radio dispatch operators. Roadblocks number 8, requiring 48 men for a 24 hour period.

- Callaway County Sheriff's Office has 12 fulltime, paid employees: 8 deputies and 3 radio dispatch operators. Roadblocks number 11, requiring 66 men for a 24 hour period.

#2. STAFFING - COUNTY CLERK'S OFFICE

County Clerk's Offices lack sufficient personnel to perform the duties assigned in the proposed Off-site Plan and SOPs.

A. The Montgomery County Clerk's Office has 2 fulltime, paid employees (deputy county clerks), for a total of 3 people. These employees are required to maintain county records and can be spared to perform only the most trivial and least time consuming of additional duties enumerated in the Off-site Plan or SOP. The Montgomery County Clerk's Office is required to maintain logs and copies of messages in the EOC (Montgomery SOP, pg. 4, item 7), provide logistical support for emergency operations, maintain transportation availability lists, maintain

evacuation estimates, keep lists of special equipment for transportation of handicapped and institutionalized patients, obtain transportation committments from transport agencies, receive requests for transportation assistance (from individuals within the EPZ - assumed), direct transportation to meet assistance needs and provide for continuity of resources (proposed Offsite Plan, pg. 105). Specific resources in the last item are not clearly defined.

(1) To maintain logs and copies of messages (incoming and outgoing) so that post accident reconstruction of events is possible (Mont. SOP, proc. 2, 5.7.4) will require one person. This function must include ascertaining that all outgoing messages are clearly written and from a person authorized to originate messages in order to prevent false or unauthorized messages entering the communications network and causing message flow problems or interfering with operations which are in progress. To operate on a 24 hour a day basis, this calls for 3 message clerks to be added to the Clerk's staff.

(2) Providing logistical support for emergency operations is not clearly defined, therefore, it is not possible to determine what, if any, personnel are needed to fulfill this function.

(3) Maintaining an available transportation list will require a minimum of 1 person per shift and a means of communication with the vehicle staging area so that the status of all vehicles can be posted on the vehicle availability chart in a timely manner. For 24 hour operations, this adds

3 more personnel to the Clerk's staff.

(4) Persons listed in (3), above, can maintain the chart of estimated evacuees if they get timely reports from road-block sites and passenger numbers from vehicles used for such transport from the vehicle availability pool. This job requires knowledge of the operational concept and training in communications procedures.

(5) Lists of special equipment (vehicles) to transport handicapped/institutionalized persons can be included in the list of available transportation in (3), above, and no additional personnel will be required.

(6) Obtaining transportation commitments can be performed by the County Clerk.

(7) Receipt of requests for transportation assistance will require a bank of 3 or 4 telephones and 1 operator for each telephone. Most requests for transportation from area residents will occur during the initial stages of the emergency. Without reasonably quick access to the transport office (County Clerk's Office or the Sheriff's Office in some operations concepts) the possibility of panic is enhanced. Each operator must answer the phone, obtain the address or location of the caller, get the number of passengers to be picked up, note special needs, if any of evacuees, write down this information and the time of the call, and assure that the information is given to the person who maintains the evacuation transport pending chart. This calls for 3-4 persons per shift and 9-12 if 24 hours operations is contemplated.

(8) The evacuation transport pending chart clerk will coordinate pick-up with the clerk in charge of vehicle dispatching. This may be the County Clerk or one of his assistants. In this manner, vehicles can be most efficiently used and time lost in evacuee transport be cut to a minimum. This job requires some degree of training and an understanding of the over-all operational concept. It will increase the Clerk's staff by 3 persons for 24 hour a day operations.

(9) The requirement for maintaining continuity of services is unclear and it is not possible to evaluate personnel needs at this time. Possibly some of the above staff may be used for this purpose after the initial 24 hour period has past and calls for evacuation transport have ceased. If shelter is considered in lieu of evacuation, the use of the above staff will be delayed until after evacuation is complete.

(10) The above designated tasks require a minimum of 21 persons in excess of the Clerk's current staff in Montgomery County.

B. These functions apply to Gasconade, Osage, and Callaway counties; the only difference may be in the allocation of some of these functions to other offices or agencies. The other counties are staffed as follows:

Gasconade County Clerk has 2 full-time, paid employees on staff.

Osage County Clerk has 2 full-time, paid employees.

Callaway County Clerk has 3 full-time, paid employees on staff.

#3. STAFFING - EMERGENCY MANAGEMENT DIRECTOR

The Montgomery County Emergency Management Director is an unpaid volunteer (as is the Director of EMA in Gasconade and Osage county). This job involves the development of a coordinated emergency preparedness program, development and scheduling of radiological emergency response training, maintenance of training schedules, attendance rosters and lesson plans, incorporation of changes to Off-site Plan and SOP prior to the existance of an emergency condition. During a radiological emergency, the Director, EMA is called upon to activate the EOC (pg. 2-2, SOP), assure the installation and operation of special equipment or services (SOP, pg. 2-2), procure food and beverage for EOC staff and others (SOP, pg. 2-5), notifiy support agencies of emergency (SOP, pg. 4-14), provide notice of siren activation (SOP, p. 5-4), cooperate with other agencies to minimize the radiation health hazard (Off-site Plan, pg. 12-2), provides assistance and advice to the Presiding Judge in coordinating emergency response (Off-site Plan, pg. C-1). Additional duties during pre-emergency periods include the planning, scheduling and coordinating drills and exercises involving radiological emergency scenarios (Off-site Plan, pg. 13-1 and Mont. SOP, pg. 16-1), storage and accountability of radiological monitor equipment (SOP, pg. 18-1), development of procedures to ensure establishment and operation of Reception and Care Center (SOP, pg. 19-1), coordination of

training of agencies in operations of reception and Care Centers (SOP, pg. 19-1), issuance of radiological monitor equipment (SOP, pg. 20-2), and during emergency, receive and report to State EMA radiological readings above normal background (SOP, pg. 20-3). In order to perform the above duties in an acceptable manner, the Emergency Management Director must have technical expertise in areas of radiological defense, personnel management, planning and operations, administration, training and instruction, and have a complete understanding of every aspect of the emergency operations procedures in order to advise the Presiding Judge of actions needed during the emergency. Additionally, this man must be in the EOC at all times in order to be kept abreast of changes in the field operations within the EPZ. Lack of knowledge of a change in a situation could result in misdirection of effort and disruption of a valid operation which may be underway. A full-time, professional EMA Director is essential to Montgomery (Gasconade and Osage counties, also) County if a Director of Emergency Management is expected to develop the required technical expertise and field qualifications outlined in the Off-site Plan and SOP. A part-time Director has no incentive to acquire such talents or maintain suitable standards of administration and training as is required in the proposed Off-site Plan or SOP.

A. The Montgomery County Emergency Management Director has no alternate or assistant. To expect him to operate on a 24 hour a day basis, without relief, will reduce his

judgment and efficiency thereby adversely affecting his effectiveness. A minimum of 1 alternate director, and preferably 2, is considered essential to effective operations of this office under emergency conditions.

B. During pre-emergency operations, unless the Director has administrative abilities and can type, a secretary or part-time secretary will be essential to the Emergency Management Agencies daily operations.

C. The Montgomery County Emergency Management Director has been assigned the added duties of Public Information Officer (SOP, pg. 1-9). This job, during the pre-emergency period, may be assumed by this Director, but during an actual emergency, the two functions conflict and the job of PIO calls for meetings with media, preparation of news releases and possible absence from the EOC. This situation places an excessive work load on the Emergency Management Director and must be changed.

#4. EMERGENCY ACTION LEVEL SCHEME/WORKER NOTIFICATION.

No emergency action level scheme is included in proposed Off-site Plan or SOP for Montgomery County as required by 10 CFR, Part 50 Section 50.47(b)(4) or emergency worker notifications as required by Section 50.47(b)(5). The Off-site Plan and the SOP for Montgomery County (also, Gasconade, Osage and Callaway counties) do not include specific actions to be taken by response personnel when they are alerted/notified or is there an indication of duty stations to which they report to perform said duties.

A. Notification (SOP, Proc. 4) and notification notices (SOP, pgs. 4-4, 4-6, 4-9, 4-10, 4-13, 4-14) indicate call-up of supervisory personnel only and do not indicate when augmentation (worker) personnel will be notified/alerted to report to work (man road-blocks, traffic control points, activate communications networks, perform EOC functions or other administrative duties as outlined above).

B. Planning standards of 10 CFR, Part 50, Section 50.47(b) are addressed by specific criteria in NUREG 0654 FEMA-REP-1 (see footnote #1, 10 CFR, page 50-16). NUREG 0654 FEMA-REP-1, Rev. 1 (hereafter identified as NUREG 0654) at page 29, lines 10-12, states:

> "- - plans should make clear what is to be done in an emergency, how it is to be done and by whom." (emphasis added by the undersigned)

C. Plans/SOPs indicate what is to be done by some principal response organizations, but fail to specify how it is to be done and does not indicate who performs specific duties. The timing of actions in a given scenario is the key to efficient operations and failure to indicate when the operations force (workers) is to be activated is inconsistent with the aim of achieving efficient emergency response and poses a potential hazard to public health and safety. Failure to indicate where personnel should report to perform duties may lead to needless confusion and delay in initiating the response effort in that they provide a method of assuring response roles are accepted and filled over the lifetime of the plan; during which elected officials and individuals/officials in private organizations can be

expected to change. Annual update of letters of agreement is a method of overcoming these kinds of difficulty. Plus, it shows that the responsible individual is aware of his task and its requirements.

#5. RADIO - COMMUNICATIONS

Provisions for prompt communications between principal response organizations and emergency response personnel do not exist as required by 10 CFR, Part 50, Section 50.47(b)(6) due to a lack of equipment.

A. Bus drivers need mobile transceivers when they are enroute to and from schools with students. If a release occurs at the plant during transport of students, it is possible for a bus to enter the plume or immediate plume pathway without warning. A mobile transceiver would permit the driver being alerted and provided with information regarding actions needed or recommended to protect the students on the bus. Lack of such communications leaves the safety of the students in the hands of a driver who may not have knowledge of proper responses needed in a radiological environment to prevent exposure to or ingestion of radio-nuclides.

B. Absence of transceivers at vehicle impound lots will hamper effective operations in that it becomes impossible to communicate rapidly with road-block personnel or vehicles used to transport contaminated evacuees to decontamination centers.

C. Because patrol or rescue vehicles entering the EPZ lack transceivers, during an emergency they will not have the capability to communicate with the road-block sites which represent the back-up support for such patrol or rescue vehicles in the event of an accident or problem once inside the EPZ.

#6. PROTECTIVE ACTIONS AGAINST RADIOIODINE (DRUGS AND EQUIPMENT)

A range of protection actions have not been developed for the plume exposure pathway EPZ for local emergency workers or the public which protect against direct or ingested radiation as is required by 10 CFR, Part 50, Section 50.47(b)(10) and NUREG 0654, II, J, which includes provisions for the use of radioprotective drugs, particularly for emergency workers and institutionalized persons whose immediate evacuation may be infeasible or very difficult. Such provisions must include quantities, storage, and means of distribution (see NUREG 0654, II, J, e).

A. Evacuation is considered the most protective action for members of the public in a radiological accident (SOP, pg. 8-4) but constraints and disadvantages may make it inappropriate, such as arrival of the plume in mid-evacuation, etc. Evacuation is a last resort (SOP, pg. 8-3).

B. Shelter is, therefore, the primary protective action but good protection in a dwelling is limited (EPA-520/1-75-001, 1.6.3.2):

> "- -, shelter provided by dwellings with windows and doors closed and ventilation turned off would provide good protection from inhalation of gases and vapors for a short period (i.e. one hour or less) but would be -- ineffective after about two hours --."

No effective course of action is proposed for sheltering after that period. Use of ad-hoc repiratory devices in lieu of other effective methods of preventing inhalation or ingestion of nuclides such as radioactive iodines for extended periods of time places public health and safety in jeopardy.

(1) Use of potassium-iodide as a protective option by residents in the plume exposure pathway EPZ is rejected in the proposed Off-site Plan, page 9-5, item I.

(2) Potassium-iodide is not provided for optional use by local emergency workers, nor is respiratory protection that meets NRC standards for use in a radiological environment.

(3) Local governments' proposed SOPs state that because of safety, economic and legal considerations, the decision to evacuate should be the protective action of last resort (see SOPs, Proc. #8, 4.3). Of the two options discussed in the SOPs, shelter and evacuation, the State has decided to evacuate rather than issue KI; however, shelter without the benefit of KI is the primary protective action to be considered in an accident involving a release of nuclides from the plant. Pre-school children, pregnant women and all females of child-bearing age who are advised to stay indoors (shelter mode) without KI or respiratory protection are subject to thyroid damage or its destruction in themselves and/or the children in utero.

C. The State of Missouri has refused to provide radio-protective drugs, e.g. prophylactic iodine, for either emergency workers or the general public. The Bureau of Radiological Health has decided that evacuation is a more feasible logistical response for protection against radioiodine than is issue of potassium iodide (KI) (see State of Missouri RERP, page B11, H.).

(1) Radioiodines contribute significant exposure modes to whole body exposures, thyroid exposure and lung exposure (see NUREG 0654, page 18, Table 3).

(2) The principle inhalation dose will be from iodines and particulate material in the plume. Due to the ability of the thyroid to concentrate iodine, the thyroid dose resulting from inhalation of radioiodines may be several times greater than the corresponding whole body external gamma dose that would be received (State RERP, Annex B, C.2).

D. Selection of two options as a range of protective actions without including suitable protective support equipment or chemical prophylaxis to enhance the effectiveness of a selected option over time renders said option to be ineffective under the definition of the two options contained in the SOP, pages 8-3, 8-4, and 8-5.

E. The U.S. Food and Drug Administation has found the use of potassium-iodide (KI) to be safe and effective as a thyroid blocking agent to prevent the uptake of radioactive iodines by the thyroid glands. Since said Federal agency has publically rendered such judgment on the use of KI, it

is felt that said KI should be made an optional defensive measure that the general public can take in a sustained shelter situation to protect against thyroid damage or loss, especially in children/infants. Public warnings on packages/bottles can advise of possible reactions to use of this drug by persons who are allergic to KI (similar to the warnings on cigarettes and patent medicines), if officials are concerned about ingestion of KI by alergenic residents of the EPZ.

F. NUREG 0654, page 63, J. Protective Response, e, states:

> "Provisions for the use of radioprotective drugs, particularly for emergency workers and institutionalized persons within the plume exposure EPZ whos immediate evacuation may be infeasible or very difficult, including quantities, storage, and means of distribution."

Such evaluation criteria is applicable to State and Local governments and indicates that use of KI or similar drugs is a required criteria for a satisfactory plan (see NUREG 0654, page 5, lines 13-15):

> "FEMA and NRC regard all of the planning standards identified herein as essential for an adequate radiological emergency plan."

G. Common sense and reason indicates that a situation such as this is not in the best interest of providing protection for the public health and safety. If a situation precluding evacuation is possible, and shelter phases may exceed two hours (the effective limit of homes -- see SOP, Procedure #8, 5.1.1) and the public is to be afforded protection from radioiodines, KI or some other thyroid protective drug or device must be made available to shelterees.

#7. PRE-SITED DECONTAMINATION FACILITIES

Pre-sited decontamination facilities are not established or identified for use by contaminated emergency workers or evacuees.

A. During the initial stages of an emergency, after a "puff" release from the plant, evacuees leaving the EPZ may require immediate decontamination. Without pre-sited decontamination centers, they will be required to wait at some yet unspecified location until portable military field type shower units or other decontamination facilities can be delivered, erected, or otherwise located.

B. Reception and Care facilities have been pre-sited and the direction of travel of evacuees is estimated to be toward such care facilities. Most such care facilities are school buildings or other buildings near school grounds. The pre-selection of school shower units as temporary decontamination facilities (or permanent ones) will provide immediate capabilities to decontaminate evacuees.

#8. RADIATION DETECTION EQUIPMENT

Facilities for evaluation of personal exposures to radiation or biological uptake of radio-nuclides do not exist in the State of Missouri, except for Union Electric's on-site equipment (see footnote on page F1.1 of the State RERP).

A. Use of Applicant's on-site equipment by State or local governments is not authorized by letter or agreement in such

plans or SOPs; use of Cooper Station equipment is not authorized either.

B. During evacuation of the plume exposure EPZ, it appears counter-productive to transport contaminated individuals back through a contaminated zone from which they have been removed for safety's sake to obtain a bio-assay, etc.

C. Without a method to determine degree of exposure or radio-nuclide uptake, proper medical counter-measures to expedite bodily excretion of nuclides or render adequate treatment for cellular damage will not be reasonably effective.

#9. RADIOLOGICAL EXPOSURES

Means for controlling radiological exposures of local emergency workers has not been established as required by 10 CFR, Part 50, Section 50.47(b)(11).

A. Montgomery emergency workers are provided dosimeters before going on duty and such are read after returning to the EOC after said duty is performed (page 18-3, SOP). Worker could have exceeded a lethal radiation dose during his or her shift and would not become aware of such exposure until after his or her duty shift was completed.

B. Emergency workers will be monitored for contamination at the EOC (page 18-3, SOP). Failure to monitor for contamination at a site near where duty is performed results in the spread of such contamination to areas outside of the immediate EPZ boundary and can result in added contamination of persons at

the EOC which is over 20 miles away from the Union Electric Company's plant. Montgomery County EOC is some 21 air miles from the plant, Gasconade County EOC is approximately 19 air miles from the plant, Osage County's EOC is 20 miles, more or less, from the plant, and Callaway County's EOC is about 11 miles from the plant. These distances are based upon anticipated sites of proposed EOCs in the Off-site plan and SOPs.

C. Instructions specifically directed to all emergency workers must be included in plans/SOPs to provide guidance on what actions to take when radiological monitoring equipment readings reach critical readings (in Roentgens per hour), so that they easily understand what they must do and why it must be done.

D. All radiological readings or established levels should be reduced to values in Roentgens or Roentgens per hour because all monitor equipment in the hands of the workers are designed to measure radiation levels or exposure in terms of Roentgens or Roentgens per hour (R/hr). To include measurements in Rems or counts per minute (CPM), while more technically appropriate, perhaps, tends to confuse the emergency worker and deny him information he may need to protect himself and his co-workers. The plan should be readily understandable by any emergency worker if it is to be effective over time; in addition it should be clear and concise (see NUREG 0654, page 29, lines 8-12).

#10. MEDICAL TREATMENT

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 capabiilty 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 radiologically 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.

#11. REENTRY/RECOVERY

No specific plans for recovery or reentry have been developed by local governments as required by 10 CFR, Part 50, Section 50.47(b)(13).

A. Reentry/recovery is generally defined in the proposed Off-site plan, pages 12-1 and 12-2 and is based upon plant stability and residual radiation not exceeding 1-5 rems for the general public and 25 rems for emergency workers.

(1) No time frame for exposure is given for radiation levels, without which it becomes impossible to establish a basis for reentry and recovery.

(2) A basic ground contamination level reading must be established and a reentry time frame formulated before either of the dose levels indicated in A, above, have relevance as protective measures.

B. Recovery, as discussed in the Montgomery County SOP is based upon plant releases to the environment being under control (?) or having ceased (see SOP, page 14-7) and that radiation levels in all areas are stable and within guidelines

set forth in 10 CFR, Part 20 or are decreasing with time.

(1) Releases from the plant can be hazardous and still be under control. This statement must be further clarified to be meaningful.

(2) Guidelines set forth in 10 CFR, Part 20 must be included as part of the SOP and must be clearly defined so that local officials will have an understanding of actual ground radiation levels at which recovery can begin.

(3) Criteria for contamination zones (SOP, page 14-9) are incorrect. Type of radiation is listed as Beta-Gamma, but is measured in uCi/cc (3×10^{-9}). Such measurement is reserved for source measurements, not type of radiation. Radiation is usually measured in Roentgens or by counts per minute, or sub-measurements of these two methods.

C. Failure to specify a standard of acceptable radioactive contamination for an area in which reentry and/or recovery is intended can result in occupants of the area being allowed into areas which are unsafe due to detection being made without an adequate planning basis.

D. No provisions for decontamination of the ground is discussed or are other measures necessary to return the area to its pre-emergency condition covered in the Montgomery County SOP or other SOPs.

E. Reentry/recovery personnel will obtain required equipment from some unspecified source (SOP, page 14-6, item 5.4.5), but no location of kits or sources are identified. Failure to

identify the location of such equipment effectively prevents its use by reentry/recovery personnel.

F. Because of the ambiguities contained in reentry/recovery portions of the Off-site plan and the SOPs, no firm action can be taken by either the EOC officials or emergency workers required to implement these actions.

GROUP 2 CONTENTION

Reed's original Contention No. 2 is retained, renumbered, and states as follows.

#12. FUNDING

Funding of local government to meet radiological safety response capability has not been adequately addressed by NRC, FEMA, or other Federal Agency. Failure to resolve the problem of funding for emergency planning and response capability at the local level of government will result in a placing of responsibility for supporting commercial nuclear power plants upon governmental jurisdictions which do not have the financial ability to meet established NRC criteria for the protection of public health and safety. This is a contradiction of Commission policy and intent (PS-31, 44 FR 61123, 10/23/79). To defer action on this matter until after the Callaway Plant is in operation can adversely affect the health and safety of the public as regards any radiological incident due to the operation of this facility.

BACKGROUND DISCUSSION

The Commission has acknowledged an immediate need at all levels of government, beginning at the lowest and going to the highest, for access to immediate additional funds to upgrade response capabilities. This is clearly delineated in 10 CFR, Part 50, Statements of Consideration, pg. 50-SC-62, Issue L: Funding, at 45 FR 55402; and NUREG 0553, Beyond Defense-In-Depth, a final Commission Staff Report on cost and funding of State and local government radiological emergency response plans and preparedness in support of commercial nuclear power stations, it was found that in the issue of funding, there were basically three central issues: (Ch. 7, pg. II-100)

> "The assurance of adequate funds to the local Civil Defense/Emergency Services in the jurisdiction that is hosting the nuclear power station and receiving taxes, or the equivalent, from the operating utility.
>
> The assurance of adequate funds to local Civil Defense/Emergency Services in jurisdictions neighboring the host jurisdication that are not receiving taxes, or the equivalent, from the operating utility.
>
> The assurance of continuity over time of adequate funds to the local Civil Defense/Emergency Services of all impacted jurisdictions."

It was concluded that NRC should draft and propose legislation that would create a fund for State and local governments. Such recommendation has not been taken seriously, nor has such legislation been drafted or proposed for passage by the Federal Government.

In a letter to Honorable Paul McCloskey, U.S. House of Representatives, dated 26 June 1979, Mr. Joseph M. Hendrie, then Chairman of the NRC, said,

> "I also want to note the very important question of providing financial assistance for some States and local governments to put in place effective emergency planning measures. - - - The question of funding for emergency planning, at least at the local level, would seem to be an appropriate matter to include in our rule-making proceeding.--."

Such letter was incorporated into Union Calendar No. 234, 96th Congress, 1st Session - House Report No. 96-413, NRC Oversight - 4th Report.

Without an adequate source of funding at the local level of government to implement the protective actions indicated in RERPs, such plans are reduced to administrative assignments of responsibilities that cannot be fulfilled. While minor drills and incomplete exercises may be conducted on a piece-meal basis to show some degree of response proficiency, no real evaluation of response effectiveness will be made until an accident occurs and the paper-work plan is tested under real conditions. It is then, that the inability to implement the required protective response actions will be seen; unfortunately, it will be too late to effectively correct the situation so that the public health and safety is assured.

Proper planning for any operation consists of determining what is to be the intent of the mission or task, deciding how to best accomplish the task, evaluating the manpower and equipment needed, figuring out the time needed to accomplish the mission, making arrangements for logistical support over that time frame, assuring adequate communications exist at all echelons, and insuring that sufficient funding is available

to obtain and retain all of the men and material needed for training and to accomplish the mission.

A deficiency in any of these areas reduces the effectiveness of the entire operation; funding is the basis for all aspects of the mission, for without money, planners cannot be hired, equipment cannot be purchased, emergency workers cannot be hired/paid, instructors cannot be hired, workers cannot be trained, retrained or proficiencies maintained over time.

To approve radiological emergency response plans which do not have the support of "full funding" is, therefore, an acceptance of sub-standard plans and is in contradiction to the mission of the Commission to protect the public health and safety.

GROUP 3 BACKGROUND DISCUSSION

Reed's original Contention No. 3 states as follows:

> "There has not been an adequate definition of the allocation of responsibilities for offsite emergency planning between state and local organizations, as provided in NUREG-0654."

NUREG 0654 FEMA-REP-1, Rev. 1, November 1980 (identified as NUREG-0654, hereafter) clearly states that guidance contained therein is final guidance (see NUREG-0654; I; B. Background; paragraph 2; line 1).

FEMA and NRC regard all of the planning standards identified and contained in NUREG-0654 as essential for an adequate radiological emergency plan (see NUREG-0654; I; C. Scope, paragraph 2, last sentence).

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 (see NUREG 0654; I; E. Contiguous-Jurisdiction Governmental Emergency Planning; sentence 1).

While it is not possible to totally specify each class or type of organization that may be involved in the total emergency planning and preparedness scheme, nor is it possible to define the particular roles, function and responsibilities of "principal organizations" and "sub-organizations"; where the "guidance" in NUREG 0654 indicates a function that must be performed, emergency planners at all levels, must decide and agree among themselves, which organization is to perform such function. As a minimum, one lead agency at the State level and one lead local government agency having 24 hour manning is required (see NUREG 0654; Appendix 5; Private Sector (organizations); entire paragraph following this definition).

"Planning Standard" is defined as the standard that must be met for onsite and offsite emergency plans and preparedness (see NUREG 0654; Appendix 5; definition on page 5-4). Such "planning standards" are contained in NUREG 0654; II. Planning Standards and Evaluation Criteria. The evaluation criteria used to assure compliance of such planning standard is included in the section referenced above, as are indicators of the applicability of such standards and evaluation criteria. The letter "X" placed beneath the column identified as "Applicability

and Cross Reference to Plans", under sub-columns titled "Licensee", "State", and "Local" indicates whether or not the planning standard applies to all governmental entities and the licensee or to only selected entitites or the licensee. Example: Planning standard II, B. Onsite Emergency Organization (NUREG 0654, pages 34 through 39) applies to Licensee exclusively. Such intent is clearly shown by the placing of the letters "X" under the sub-column "Licensee" and the omission of such marks under the other 2 sub-columns. Planning Standard II, G. Public Education and Information (NUREG 0654, pages 49 through 51) applies to "Licensee", "State", and "Local" in that the letters "X" appear under each title below the column marked Applicability and Cross Reference to Plans. The exception to all of this evaluation criteria being so applicable, is the elimination of the letters "X" under the sub-columns "State" and "Local" under evaluation criteria 3.b. This criteria states that "Each licensee shall provide space --." which clearly excludes placing any requirement on State or local governments. Planning Standard II, J. Protective Response (NUREG 0654, page 64, item 11) Item 11 states, "Each State shall --.", and the letter "X" is placed only under the sub-column marked "State"; clearly providing guidance that this item applies exclusively to the State and State, alone.

The placement of these letters "X" under the sub-columns identified above, clearly fulfills the requirement of "guidance" as indicated in NUREG 0654, Appendix 5. Since such "guidance" mandates one lead agency at the State level and one lead local

government agency having 24 hour manning (as a minimum) be available to perform a required function, the absence of such a capability at either State or local level of government will validate Mr. Reed's Contention No. 3. Because of a lack of adequate definition of responsibiliites by planners, the following inadequacies in State and local planning exists and can only be corrected by application of the full guidance and intent of the Commission as clearly indicated in the above cited documentation.

The following inadequacies in State and local governmental emergency response capabilities or in local planning/plans clearly indicates that the minimum of one lead agency at the State level and one lead local government agency having 24 hour manning to perform a necessary function does not exist as required.

CONTENTIONS

#13. ORGANIZATIONS REQUIRING SOPs.

Each organization and suborganization (as defined in Appendix 5, NUREG 0654) having an operational role in the emergency response efforts have not specified their individual concept of operations and its relation to the total effort as required in NUREG 0654, II, Alb.

A. The absence of SOPs of county agencies, that have been assigned a role in the response plan, as stipulated in the proposed Offsite plan (see Offsite Plan, page 1-3, D.1. and page 1-4, D.2.) validate this fact.

B. Failure to include SOPs of the cities/towns/villages of Mokane (Callaway County), Chamois (Osage County), Morrison and Gasconade (Gasconade County), and Rhineland (Montgomery County) indicating how they will function in a radiological emergency response effort or what the relationship of their efforts are to the total effort is verified by the lack of SOPs or other documentation in proposed plans/SOPs.

C. Absence of documentation/SOPs of hospitals, ambulance districts, volunteer fire departments, bus companies, trucking companies, and school districts named in individual county SOPs (proposed SOPs) will confirm this fact.

#14. INCORPORATED CITIES, TOWNS AND VILLAGES

Incorporated cities/towns/villages (identified in 13.B), above) are not included in the response effort. Neither the proposed Offsite plan or the SOPs of the respective counties, impacted by the plant, contains information concerning alerting and notification of said cities/towns/villages (hereafter called towns), communications available for town use in a radiological emergency, transportation of residents, to include non-ambulatory individuals, or methods and means for their determination of the need for and/or implementation of radiological exposure controls as mandated by NUREG 0654, II, A2a nor is the legal basis for their exclusion from said plan and SOPs specified as required by NUREG 0654, II, A2b. The protection (to include evacuation) of citizens within the towns is the legal

responsibility of the mayors and town councils of said towns. Assurance of the complete evacuation of the citizens in these towns is most rapidly performed by the mayors or members of the councils. If shelter is to be selected in lieu of evacuation, the assurance that proper protective measures have been implemented by all citizens is again best performed by the mayors or members of the councils. Since the town governments are responsible for the safety of their citizens in the same manner that county courts are responsible for the safety of citizens in the unincorporated portions of their counties, failure to include emergency plans for the towns can result in delay in protective response. The use of local resources (included manpower) within said towns is essential if public health and safety is to be assured. Such resources are under the control of town governments.

#15. LETTERS OF AGREEMENT

The proposed Offsite Plan and SOPs identify local government agencies and private companies that may be relied upon to provide assistance in an emergency, but such identification is not supported by appropriate letters of agreement as required by NUREG 0654, II, C4.

A. Assignment of a task without its acceptance by an individual/agency/organization does not constitute a valid task assignment. To attempt to force such assignment is a

violation of Articles XII, Section 1, and Article V of the Constitution of the United States of America. Letters of agreement serve additional roles in that they provide a method of assuring response roles are accepted and filled over the lifetime of the plan; during which elected officials and individuals/officials in private organizations can be expected to change. Annual update of letters of agreement is a method of overcoming these kinds of difficulty. Plus, it shows that the responsible individual is aware of his task and its requirements.

B. Letters of agreement from private companies should include a list of named drivers and other individuals who will be expected to function in a radiological environment, if necessary, so that a headcount of personnel available is possible. Such headcount, by name, will simplify the determination of who needs training in radiological defense and associated equipment. Failure to be this specific, chiefly in the transportation effort, will complicate the training effort, possibly lead to an assumption that a greater transportation capability is in existance than facts will support and place public health and safety in jeopardy.

#16. MESSAGES WITH INSTRUCTIONS FOR LONG-TERM SHELTERING

State and local governments shall provide written messages intended for the public which shall include the appropriate aspects of sheltering, ad hoc respiratory

protection, thyroid blocking or evacuation (see NUREG 0654, II, E.7.). Messages contained in the proposed Offsite Plan does not provide for instructions relating to thyroid blocking or respiratory protection if prolonged sheltering is necessitated.

A. Ad hoc respiratory protective devices (handkerchief or towel over mouth and nose, etc.) are known to be less effective than filter-type respirators whose effective lifetime under use is from 2 to 3 hours (see EPA-520/1-75-001, Chapter 1, 1.6.3.4, page 1.40, lines 13 & 14) and shelter in buildings suitable for winter habitation (see SOP, Procedure #8, 5.1.1) will provide reasonably good protection for about two hours. Given these facts, reasonably adequate respiratory and thyroid protection is provided if shelter is restricted to two or three hours. In cases of flooding, snow and/or ice on area roads; travel in rural areas of all counties have been curtailed for days. In the event of an accident/release of nuclides, shelter must be considered necessary for as long as two to four days. In such circumstances, residents are placed in a situation wherein they cannot move out of the area and do not have protective options which insure their safety if they stay. This situation clearly places public health and safety at risk.

B. Instructions in the Offsite Plan and SOPs must be rewritten to include instructions for the provision of long term shelter instructions which are available to residents who will be advised to take shelter versus evacuation in the event of an accident/release of nuclides at the plant.

#17. RADIOLOGICAL MONITORING

Proposed SOPs and the Offsite Plan place the responsibility for environmental monitoring upon the State of Missouri (see Offsite Plan, Section 8 and Radiological Monitoring procedures in SOPs). State Plans do not include how many monitor teams would be activated, how they would be notified, how many personnel would be included in each field team, how they would be transported to the affected area, what type of communications equipment they would use or radio frequencies available for use by teams, the type of monitoring equipment they would have available and most importantly, what their estimated deployment times would be after notification of an accident/release of nuclides as required by NUREG 0654, II, I.7&8.

A. Protective responses are based upon rapid, accurate information from monitor personnel/equipment. Failure to designate the information listed above, can result in an inadequately manned team being fielded or teams being sent out without proper equipment or both. Also, an inability to communicate with Applicant's EOF or other information collection point may result if methods of communications are not available or known to the organization receiving field monitor reports. Failure to indicate deployment times and modes of transportation can result in local governments being forced to make decisions based upon no knowledge of the expected departure/arrival times of the only environmental monitoring teams to be fielded by agencies or organizations other than the Applicant.

B. Failure of the State of Missouri to have the capability to measure radioiodine levels as low as 10^{-7} uCi/cc under field conditions as required by NUREG 0654, II, I.9 (see Missouri RERP, page A2B.2) clearly indicates that monitoring teams sent out by State are inadequately equipped to perform their required function (see NUREG 0654, Part I, Table 3) which is to detect and measure radioiodines as well as other radionuclides which contribute to dominant exposure modes.

C. State resources in trained personnel and radiation monitor equipment are inadequate to properly perform monitoring tasks in the plume exposure EPZ and the ingestion exposure EPZ without support from local governments.

#18. PROTECTION AGAINST RADIOACTIVE CONTAMINATION OF HUMAN FOOD AND ANIMAL FEEDS

Each State and local organization shall establish a capability for implementing protective measures regarding radioactive contamination of human food and animal feeds under the provisions of NUREG 0654, II, J.9 & 11. No capability exists at any county government to implement such measures and neither the State RERP nor the Offsite Plan/SOPs contain procedures for the initiation of such actions.

#19. IMPEDIMENTS TO USE OF EVACUATION ROUTES

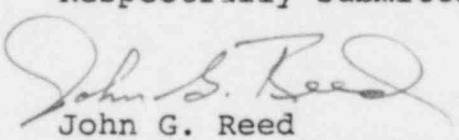
Methods of identification of means of dealing with potential impediments (e.g., seasonal impassibility of roads) to use of evacuation routes, and contingency measures for

resolving such problems as required by NUREG 0654, II, J.k. are not included in the Offsite Plan or the SOPs.

#20. AUTHORIZATION FOR EXCESS RADIOLOGICAL EXPOSURES OF WORKERS

Each State and local organization shall establish the decision chain for authorizing emergency workers to incur exposures in excess of the EPA General Public Protective Action Guides including lifesaving activities (NUREG 0654, II, K.4) and shall specify action levels for determining the need for decontamination (NUREG 0654, II, K5a). No such decision chain for authorizing exposures in excess of EPA PAGs or specification of action levels for the determination to decontaminate are included in the proposed Offsite Plan or the SOPs. Without formal procedures indicating how excess exposures of emergency workers will be authorized, haphazard decisions regarding excess exposures may be made by personnel who have no knowledge of the effects such exposures may have on the emergency workers.

Respectfully submitted,



Dated this 01st day
of October, 1982, at
Kingdom City, Missouri

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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)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "Final Particularization of Reed's Amended Contentions 1, 2, and 3" were served this 1st day of October, 1982, by deposit in the U.S. mail, first class, postage prepaid, upon the following:

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