

December 27, 1983

FILE OF S.  
DOCKETING &  
BRA

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

KANSAS GAS AND ELECTRIC CO., et al.

(Wolf Creek Generating Station,  
Unit No. 1)

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Docket No. STN 50-482

APPLICANTS' DIRECT  
TESTIMONY ON EMERGENCY  
EVACUATION PLAN ISSUES

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1(a). The format and content of the notification message by KG&E has not been determined by the Sheriff, Emergency Preparedness Coordinator, and KG&E. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 25; 5/12/83 Response, at 4]

RESPONSE 1(a). [Lewis] The format and content of standardized notification messages have been pre-arranged by the County Sheriff, the Emergency Preparedness Coordinator, and KG&E.



1(c). The County Plan does not specify what the Sheriff is to do if he is not able to make the notifications listed in Table 3-1. (C, § 1.2.2) [4/7/83 Answers, at 15]

RESPONSE 1(c). [Freeman] Table 3-1 of the County Plan specifies those individuals and organizations that the Sheriff's office is responsible for notifying. The County Procedures for the Sheriff's dispatcher include call lists with alternates. The procedures specify that the dispatcher attempts to call each individual primary contact at his office or home. If three attempts to reach an individual primary contact are unsuccessful, the procedures call for the dispatcher to begin contacting alternates in the order listed in the call lists. If the dispatcher is unable to contact County Emergency Response Organization personnel because the telephone system is unavailable, the County Procedures provide for personal notification by messenger, instructing them to proceed to the Sheriff's office immediately.

1(d). The County Plan is deficient because it does not specify how the County Sheriff will contact the schools in the 10-mile EPZ if there is an emergency. Telephones may not be sufficient because they could be busy because of the accident. The evacuation time will therefore be longer than estimated. (C, §§ 3.3.1, 3.2) [4/7/83 Answers, at 25,29; 5/12/83 Response, at 4]

RESPONSE 1(d). [Wilcox] Normal contact with the school superintendents will be by the Sheriff's dispatcher using commercial telephone. In addition, each superintendent's office and each principal will have a commercial grade tone alert radio. All schools are within range of the sirens. Sounding of the tone alert radios and/or sirens alerts the superintendents and principals. EBS announcements would be received on tone alert radios.

1(e). The County Plan does not make adequate provision for how the Sheriff will notify the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and the Kansas Fish and Game Commission when the warning function is activated. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 26; 5/12/83 Response, at 4]

RESPONSE 1(e). [Wilcox] The U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and the Kansas Fish and Game Commission will be notified by the Sheriff's dispatcher by commercial telephone. All three agencies also have radio communications capability with the Sheriff's dispatcher. In addition, the Corps' and the Fish and Game's headquarters are located in the immediate proximity of one of the sirens. All three agencies will have commercial grade tone alert radios.

1(f). It is not specified in detail what the Emergency Preparedness Coordinator is to tell the persons he notifies under Table 3-1. There is no provision about what is to be done if the people cannot be contacted or are not available. (C, § 1.2.3) [4/7/83 Answers, at 16]

RESPONSE 1(f). [Wilcox] The contents of the notification message are specified in the County Procedures. Except for the Kansas Division of Emergency Preparedness (which has a 24 hour per day duty officer), all other persons whom the Coordinator is to notify have alternates identified in the Procedures who are called if the primary contact cannot be reached.

1(g). The provision to notify the hospitals and nursing homes is not adequate because the Emergency Preparedness Coordinator will be too busy with other duties to do this, and telephone communications will be difficult because the lines will be busy. No other means of communications is provided for. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 27; 5/12/83 Response, at 4]

RESPONSE 1(g). [Wilcox] The Coordinator's first duty after activating the EOC is to notify six persons, one of whom is the Health and Medical Management Team Leader. The Team Leader in turn is responsible for notifying the Coffey County Hospital and the Golden Age Lodge nursing home. The normal communications method is by commercial telephone. In addition, there will be a direct radio link between the EOC/Sheriff's dispatcher and the Coffey County Hospital (both the switchboard and emergency room). Also, the hospital and nursing home are in immediate proximity to the sirens. Finally, both the hospital and the nursing home will have tone alert radios, enabling them to receive messages via EBS.

1(i). The County Plan does not specify who the Fire Leader is to notify if a fire chief is not available. (C, § 1.2.6) [4/7/83 Answers, at 19]

RESPONSE 1(i). [Wilcox] The Fire Leader will call the "fire number" for each fire department, which automatically rings the fire phones of fire chiefs and alternates. This will be set forth in the County Procedures.

1(j). It is not specified what the fire chiefs of the various cities are to do when they are notified by the Fire Leader. (C, § 1.2.6) [4/7/83 Answers, at 19]

RESPONSE 1(j). [Wilcox] The responsibilities of the fire department personnel, directed by the fire chiefs, are to provide notification of residents of Burlington and LeRoy who (due to deafness, etc.) cannot hear the tone alert radios or sirens (County Plan § 3.2), and to provide decontamination of vehicles leaving the controlled area subsequent to an evacuation (County Plan § 3.7). In addition, they would be available for normal fire fighting duties.

1(k). The County Plan does not provide who will be responsible for the 24 hour per day manning of the communications links that the Sheriff is responsible for. (C, § 1.2.2)  
[4/7/83 Answers, at 14]

RESPONSE 1(k). [Freeman] The Sheriff is responsible for communications links between Coffey County and Wolf Creek, and between Coffey County and the State. These links will be manned 24 hours per day by the Sheriff's dispatchers, who are already on duty 24 hours per day. There are 5 dispatchers. For any long-term staffing, additional personnel, if needed, could be brought in from other Sheriff's offices in other counties.



1(1). The County Plan does not consider what happens if communications equipment is not available to the Sheriff to provide communications between Coffey County and Wolf Creek and between Coffey County and the State. There is not adequate backup equipment. (C, § 1.2.2) [4/7/83 Answers, at 14]

RESPONSE 1(1). [Wilcox] There are multiple, independent communications links between the County, the State and Wolf Creek. Between the County and Wolf Creek, communications can take place over commercial telephone and over the direct radio link between EOC/dispatcher and the plant. Between the County and the State, communications can take place over commercial telephone and by radio between the EOC/dispatcher and the Division of Emergency Preparedness. In addition, radio communication can take place between EOC/dispatcher and the Kansas Highway Patrol. The dispatcher also has a terminal for ASTRA (Automated Statewide Telecommunications and Records Access), a teletype network through the State's Computer Center to the State EOC.

2(b). Ten or twelve additional people will be required to handle telephone calls at the Coffey County Emergency Operations Center. None of these people are available.  
[4/7/83 Answers, at 2, 5]

RESPONSE 2(b). [Wilcox] The EOC presently has four telephone lines; the new EOC will have ten telephone lines. The Sheriff's office has five additional lines. When the EOC is activated, there will be more than enough people to man these lines. These include the Coordinator, assistant Coordinator/Radiological Defense Officer, assistant Radiological Defense Officer, secretary to the Coordinator, County Engineer (and/or alternate), Shelter Systems Officer (and/or alternate), County Treasurer, County Attorney, County Commissioners, state personnel, Sheriff's dispatchers, and other personnel as needed.

2(c). The telephone system will not be adequate. There will not be enough lines in the event of an emergency. (C, § 4.2.1) [4/7/83 Answers, at 41]

RESPONSE 2(c). [Wilcox] See Response 2(b). When combined with the County-wide radio system, ASTRA, and EBS, the telephone system will be adequate to handle emergency communications.

3(a). The Sheriff needs radio equipment that will permit him to talk to the Wolf Creek Plant and all of Coffey County. (C, §§ 1 2.2, 4.2.2) [4/7/83 Answers, at 7, 15, 41]

RESPONSE 3(a). [Freeman] Radio equipment now on order will allow the Sheriff to talk directly to Wolf Creek and to reach the entire County.

4(a). There is not an adequate source of emergency power at the Coffey County Emergency Operations Center. The emergency generator located in the County EOC has not operated properly. There is no assurance that it will operate properly in the event of an emergency. (C, § 4.1) [4/7/83 Answers, at 9, 41]

RESPONSE 4(a). [Wilcox] The presently installed emergency generator has been repaired, and is now functioning properly. In addition, the design of the new County EOC includes a new emergency generator.

5(a). Due to insufficient staffing, Coffey County cannot provide security for the Coffey County Courthouse in the event of an emergency. Although 6 persons are needed to fill this function, none are presently available. [1/22/82 Answers, at 3, 4]

5(b). The Sheriff has not assigned any person to be responsible to control access to the County Courthouse and County EOC during an emergency. (C, § 1.2.2) [4/7/83 Answers, at 14]

RESPONSES 5(a)-(b). [Freeman] The Sheriff is responsible for controlling access to the Courthouse. Sufficient staffing is available to provide security for the County Courthouse. Once the EOC is activated, all doors to the Courthouse will be locked. One member of the Sheriff's staff will be stationed at the main entrance to the Courthouse. Additional personnel will be readily available after the first few hours. These personnel could be supplied from the Kansas Highway Patrol or Sheriffs of neighboring counties.

6(b). The County Plan is deficient because it does not clearly define who will decide which of the protective actions in Section 3.0 will be implemented. It is too vague to say that the "Emergency Response Organization will decide." The evacuation time will be longer than estimated, for this reason. (C, § 3.2) [4/7/83 Answers, at 25; 5/12/83 Response, at 4]

6(c). The County Plan is deficient because Table 1-1 and other parts of the plan do not make it clear whether the Sheriff or the County Commissioners are responsible for making a decision about evacuation. (C, Table 1-1) [4/7/83 Answers, at 24]

RESPONSES 6(b)-(c). [Wilcox] The responsibility for making a decision about protective actions, including evacuation, rests with the Sheriff until the Chairman of the County Commission has notified the Sheriff that he is assuming his responsibilities in accordance with the Plan and has declared a State of Local Disaster Emergency. County Plan, § 3.1. The order of succession in the absence of the Chairman is specified in § 1.3 of the Plan.

6(d). The State Plan says that the Governor can order an evacuation. On the other hand, the Coffey County Plan says that Coffey County will decide about an evacuation. The plans must be made consistent in regard to this responsibility. Also, other responsibilities delegated to the Governor are in conflict with the Coffey County Plan. (K, Tab B) [4/7/83 Answers, at 44]

RESPONSE 6(d). [Mannell] The timing of a given emergency event and the availability of responsible officials determines which official makes protective action decisions. County Plan, § 3.1. After a State of Disaster Emergency has been declared, the decision to evacuate will be made by the Governor, where time permits. If time and circumstances do not permit, the County Commissioners (or, in the early stages of an event, the County Sheriff) will make the decision to evacuate the public from the plume exposure pathway Emergency Planning Zone. See State Plan, Tab J, § 1.1.2. Thus, the powers of the Governor and the County officials with regard to ordering an evacuation are consistent. Similarly, the other powers of the Governor defined in Tab B of the State Plan are dependent on his declaration of a "State of Disaster Emergency." There is, therefore, no conflict between the other powers of the Governor and those of local officials.



6(e). According to Figure B-2 of the State Plan, the decision about evacuation is the primary responsibility of the Division of Emergency Preparedness. This conflicts with other parts of the State Plan which indicate the Governor will make the decision, and it conflicts with the Coffey County Plan. (K, Tab B) [4/7/83 Answers, at 45]

RESPONSE 6(e). [Mannell] After a State of Disaster Emergency has been declared, the Kansas Division of Emergency Preparedness ("KDEP") and the Bureau of Radiation Control ("BRC") are jointly responsible to make recommendations to the Governor upon which his decision to evacuate will be based. See State Plan, Tab J, § 1.1.2. Where time and circumstances do not permit the Governor to make the decision, the County Commissioners (or, in the early stages of an event, the County Sheriff) will make the decision to evacuate the public. See Response 6(d). Thus, there is no conflict as to who makes the decision to evacuate.

6(f). The County Plan is deficient because it places the County Clerk above the Emergency Preparedness Coordinator in the chain of command and line of succession. (C, § 1.3)  
[4/7/83 Answers, at 23]

RESPONSE 6(f). [Wilcox] In approving § 1.3 of the Plan, the County Commissioners decided that the County Clerk, an elected official, is best suited to be next in the line of succession.

6(g). Due to insufficient staffing, Coffey County cannot adequately direct the evacuation. Although 2 personnel are required to perform this function, only the Sheriff is presently available. [1/22/82 Answers, at 1, 4]

RESPONSE 6(g). [Freeman] Only one individual is needed to direct the evacuation. The Sheriff (and in his absence, the Undersheriff) is available to carry out that function.

6(h). There are no details in the County Plan about what protective actions the Emergency Preparedness Coordinator will assist the Sheriff with. (C, § 1.2.3) [4/7/83 Answers, at 16]

RESPONSE 6(h). [Wilcox] The protective actions will be either evacuation or sheltering.

6(n). The County Engineer has more responsibilities than he will be able to handle. (C, § 1.2.5) [4/7/83 Answers, at 18]

RESPONSE 6(n). [Bowers/Wilcox] The County Engineer's responsibilities involve notification of those outside the cities of Burlington and LeRoy needing special notification, road clearing, roadblocks, transportation assistance for those needing it, arranging additional transportation assistance for schools, rescue functions, and evacuation confirmation. To meet these responsibilities, the County Engineer has a full-time staff of 49 people (excluding the County Engineer and the Road and Bridge Supervisor), with 23 licensed vehicles (18 of which have two-way radios) and 15 unlicensed vehicles (primarily road graders) which have two-way radios. This is more than enough manpower and equipment to meet his responsibilities, particularly since these functions will not be taking place simultaneously. Notification of those needing special notification would be undertaken first. The County Survey indicates that only about 10 households may require this type of notification by the Engineer. Once this function was in progress, road clearing (if necessary) and roadblocks would be initiated. The four priority roadblocks to be manned by County Engineer people would require four individuals with four vehicles. The setting of the secondary roadblocks would take two crews of two men each. The County Engineer is responsible only for clearing county roads; road clearing, if needed, would take 17 men and 15 pieces of equipment. If a severe winter

storm occurred, however, evacuation would not be the protective action to be taken. The County Engineer's functions in arranging transportation for those needing it and additional transportation for schools is a coordination function that would not utilize County Engineer manpower (except for the communications/coordination effort) or equipment. The County Engineer (at the EOC) and the Shop Foreman and one other staff person at the County Shop will be able to handle these functions. The final function for the County Engineer would be evacuation confirmation. Since this would take place after the other functions have been completed (except for the four individuals manning the priority roadblocks), the County Engineer would have more than enough resources to carry out this function. Evacuation confirmation would also be occurring at least several hours after evacuation. By this time, large numbers of additional personnel (State, National Guard, other counties, etc.) would be available if any further assistance were needed.

6(o). The County Plan does not make allowance for the fact that the Engineer and the Shop Foreman may both be unavailable at the same time. (C, § 1.2.5) [4/7/83 Answers, at 19]

RESPONSE 6(o). [Bowers] The County Engineer has a routine internal procedure which establishes a "call down" list if both the County Engineer and the Shop Foreman are simultaneously unavailable. This list will be included in the County Procedures.

6(p). The County Plan does not make provision for the absence of both the Sheriff and the Under Sheriff. (C, § 1.2.2) [4/7/83 Answers, at 15]

RESPONSE 6(p). [Freeman] The Sheriff's normal procedures establish that the next ranking officer takes over if both the Sheriff and the Undersheriff are absent. However, either the Sheriff or the Undersheriff are in telephone or radio contact on a 24 hour/day basis. The County Procedures include all deputy sheriffs as alternates on the Notification Call List.



6(q). The County Plan does not provide who will take over the Emergency Preparedness Coordinator's responsibilities if he is not available or needs to be relieved. (C, § 1.2.3) [4/7/83 Answers, at 16]

RESPONSE 6(q). [Wilcox] The Radiological Defense Officer assumes the Coordinator's responsibilities in his absence or if the Coordinator needs to be relieved.

6(r). The County Plan does not make allowance for the absence of the County Clerk or who will assume his duties when he is relieved. (C, § 1.2.4) [4/7/83 Answers, at 17]

RESPONSE 6(r). [Scott] An alternate Public Information Officer has been designated to assume the Public Information Officer's duties in his absence, and to relieve him in the course of an extended emergency.

7(a). NUREG-0654 indicates that plans should contemplate that releases after an accident occurs at the site can begin within one-half hour and spread to over five miles in 0.5 - 2 hours and to 10 miles in 1 - 4 hours: the evacuation times indicate that many people will not be evacuated within those time limits. Therefore, they can receive serious radiation exposure and injuries. The County Plan does not adequately consider how this kind of situation will be handled and the consequences of it. (C, Table 3-5) [4/7/83 Answers, at 40]

RESPONSE 7(a). [Lewis] In the event that an accident occurs in which significant releases could take place before evacuation could be completed, § 3.3 of the County Plan contemplates that protective actions other than evacuation would be adopted. The time periods referenced in the contention are cited in NUREG-0654 as a basis for the criteria for notification capabilities. NUREG-0654, pp. 13-14. Neither NUREG-0654 nor NRC regulations establish time periods within which evacuation must be completed.

7(c). Table 1-1 of the County Plan provides that there will be personnel evacuation, but there is no detail about this in the plan itself. There should be criteria specified so that the person responsible for making this decision will know when and how to do it. (C, Table 1-1) [4/7/83 Answers, at 24, 25]

RESPONSE 7(c). [Wilcox] Personnel evacuation refers to evacuation of the population within the plume exposure pathway EPZ. The terminology of Table 1-1 has been changed from "personnel evacuation" to "evacuation" to avoid any confusion. Information on the criteria for selecting evacuation as the protective action is included in § 3.3 of the County Plan.

7(d). The County Plan is deficient because it does not contemplate how to evacuate after there has been a period of shelter. (C, Table 3-2, Sheet 6 of 15) [4/7/83 Answers, at 38]

RESPONSE 7(d). [Wilcox] If the initial protective action is sheltering, subsequent evacuation (if any is required) would be carried out in the same manner as an initial evacuation.

8(a). The County Plan is deficient because it does not provide evacuation time estimates for a winter night evacuation under average or adverse weather, and it does not provide for a summer night evacuation under adverse weather conditions. (C, § 3.3, Table 3-5) [4/7/83 Answers, at 28, 39]

RESPONSE 8(a). [Stern] Separate time estimates for winter night evacuation under average or adverse weather conditions and summer night evacuation under adverse weather conditions are not needed because the time estimates are the same as those provided for the adverse and average cases. The estimated times for adverse and average weather are independent of the season or time of day because the road speeds and load factors are the same.

8(b). Evacuation times for an evacuation on a winter day under average weather conditions and under adverse weather conditions are virtually identical. This is not realistic and therefore the plans are deficient. (C, Table 3-5) [4/7/83 Answers, at 40]

RESPONSE 8(b). [Stern] The response to 8(a) addresses the revised evacuation time estimates.

The difference between the average and adverse weather condition analysis assumptions is the reduction in the assumed road capacity of 20%, from 850 vehicles per hour per lane to 680 vehicles per hour per lane, and an assumed reduction in vehicle speed during evacuation from 30 mph to 20 mph. The road capacity for average weather is as specified in FEMA guidance "Guide for Crisis Relocation Contingency Planning," CPG2-8-C, for two-lane roads with opposing traffic. The assumed vehicle speed and the assumed capacity of the roads for adverse weather provides a spacing between vehicles of more than 140 feet which provides nearly a five second gap between vehicles.

Adverse weather conditions do not result in a substantial increase in evacuation times. The assumed reduction of 20% in road capacity of the evacuation routes results in a 20% increase in the time to have all general vehicles moving toward the plume exposure pathway EPZ boundary. The travel time is also influenced by the adverse weather. The reduction in the assumed vehicle speed from 30 mph to 20 mph increases the travel time to the plume exposure pathway EPZ boundary by 50%. Table K-7 indicates that the combined effect of travel time and reduced road capacity for the subzone including Burlington is

0.3 hours. Evacuation times from other subzones are also increased, on the order of a tenth of an hour, to reflect the reduced road speeds. The increases in evacuation times for adverse conditions are not greater because adverse weather affects only that portion of the evacuation time representing travel time, and because no significant traffic congestion occurs due to the very low population involved.

Should extremely severe weather conditions exist during an emergency warranting evacuation, the County Plan (Section 3.3) provides the option of recommending sheltering until conditions improve. The analysis assumed speeds of 20 mph on the evacuation routes for adverse weather. When weather conditions are adverse to the extent that travel at a speed of 20 mph is unsafe, consideration of sheltering is appropriate.



8(c). The County Plan does not provide an estimated evacuation time for individuals who do not have their own private automobiles for transportation. There is no estimate of evacuation time for them. (C, § 3.3) [4/7/83 Answers, at 28]

RESPONSE 8(c). [Stern] Times for evacuation times for special populations are included in the County Plan, Table K-7. With respect to non-auto owners, data for Coffey County indicates relatively few households without at least one vehicle. Although data is not available for the EPZ, for the County there are 7,626 cars and 5,857 trucks registered for the population of 9370 (in 3856 households). This figure does not include farm vehicles (such as trucks, tractors, etc.) which are not registered.

9(a). The County Plan is not precise about which evacuation routes that people in various subzones will follow. (C, § 3.3) [4/7/83 Answers, at 27]

RESPONSE 9(a). [Wilcox] Recommended evacuation routes for subzones are identified in Figure 3-2 and Table 3-4 of the County Plan.

9(c). The County Plan is deficient because the evacuation routes send the evacuees downwind and create greater risk to them in many instances. The plan needs to give adequate consideration to wind directions and possible changes in wind direction during an evacuation. (C, § 3.3) [4/7/83 Answers, at 29]

RESPONSE 9(c). [Stern] The County and State plans are designed so that if evacuation is necessary, people will be moved out before any significant release of radioactivity occurs. If there is a significant chance that a substantial release will occur prior to or during an evacuation, sheltering would be the appropriate protective action in the downwind sectors.

The use of designated evacuation routes also serves to facilitate public response during an accident. Trying to adjust evacuation routes to wind conditions during an evacuation would also be subject to shifts in wind direction while the evacuation was underway.

Finally, with the predominant wind direction at the Wolf Creek site, a release from the plant would not intersect any of the designated evacuation routes at least until there was a substantial opportunity for dispersion of the radiation.

9(e). The County Plan does not provide for alternate evacuation routes that will be necessary if there is heavy snow, rain, flooding, or fog. [5/12/83 Response, at 5]

RESPONSE 9(e). [Wilcox] In the event of any conditions that make travel too difficult, sheltering will be the preferred protective action. Because of the extensive road system, alternate evacuation routes are not necessary.

10(a). The County Plan does not indicate in detail how the County Engineer will get information about road conditions. (C, § 1.2.5) [4/7/83 Answers, at 18]

RESPONSE 10(a). [Bowers] The County Procedures provide that if an evacuation is being considered and weather conditions are inclement to the extent that conditions of roads are questionable, the County Engineer will dispatch crews to determine road conditions. This information is radioed in to the County Engineer.

10(b). Due to insufficient staffing, Coffey County cannot clear and sand evacuation routes in the event of snow and adverse weather in a reasonable amount of time. In order to clear the roads of snow, a total of 50 - 75 people would be required, to do the job in a reasonable amount of time. There are only 22 people on the County Road and Bridge Crew who can perform this task. (C, § 1.2.5) [1/22/82 Answers, at 3,4; 4/7/83 Answers, at 4,18]

RESPONSE 10(b). [Bowers/Wilcox] The County has 13 snow plows mounted on road graders and two truck mounted plows with salters/sanders. For a normal snow storm, the major evacuation routes can be kept open. The major highways used as evacuation routes (Highways 57, 75 and 31) are kept open during a normal winter storm by the Kansas Department of Transportation. If road conditions do not permit evacuation, evacuation would not be the appropriate protective action.

10(c). Coffey County does not have enough snow plows, desalting trucks, and other snow removal equipment to clear the roads for an evacuation in a reasonable amount of time. (C, § 1.2.5) [4/7/83 Answers, at 7, 18]

RESPONSE 10(c). [Bowers] Information on snow plows and road clearing is set forth in the preceding answer. The County has two salting/sanding trucks. All paved county roads in the plume exposure pathway EPZ can be salted within 2 hours. In the case of State maintained highways (Routes 31, 57 and 75, and I-35), snow removal is accomplished by the Kansas Department of Transportation ("KDOT"). KDOT has a snow removal vehicle available for an average of every 25 miles of state roadway. KDOT's snow removal vehicles are ordered into action as snow starts during any sizeable storm, and these vehicles begin immediate salting, sanding, and/or plowing operations. Highways are generally closed only under two conditions: first, if low visibility prohibits safe driving and, second, if stalled vehicles along a route present hazards. Otherwise, KDOT can keep all state highways open. It is unlikely that evacuation would be considered if heavy snow storm conditions existed within the plume exposure pathway EPZ. In addition, KDOT could assist the County in clearing county roadways if requested to do so by the State.

10(d). The County Plan does not specify the priority for the cleaning of evacuation routes. (C, § 1.2.5) [4/7/83 Answers, at 18]

RESPONSE 10(d). [Bowers] The priority for clearing evacuation routes would be the priority normally used for clearing -- the more heavily trafficked roads would be cleared first.



11(a). The County Plan is deficient because it is not possible under the plan to notify 100% of the population within five miles of the site within a fifteen minute period, and it is not possible to assure 100% coverage within 45 minutes for those persons who do not receive the initial notification and are within the ten mile EPZ. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 26; 5/12/83 Response, at 4]

RESPONSE 11(a). [Swing/Wilcox] There is no requirement that 100% of the population within 5 miles be notified within 15 minutes or that the Plan must assure 100% coverage within 45 minutes of those within the plume exposure pathway EPZ. NRC regulations establish a "design objective" to "essentially complete" initial notification of the public within "about 15 minutes." 10 C.F.R. Part 50, App. E § IV.D.3. The further guidance recommended by NUREG-0654 establishes as "minimum acceptable design objectives" (1) the direct coverage of "essentially 100%" of the population within 5 miles within 15 minutes, and (2) "special arrangements to assure 100% coverage within 45 minutes of the population who may not have received the initial notification within the entire plume exposure EPZ." NUREG-0654, App. 3, § B.2. The design objectives do "not, however, constitute a guarantee that early notification can be provided for everyone with 100% assurance ...." NUREG-0654, p. 3-1. The alert and notification system for the Wolf Creek plume exposure pathway EPZ is described in Appendix H of the County Plan. The system consists of 6 acoustical sirens which comply with the initial alerting requirements of NUREG-0654, approximately 750 residential grade tone alert radios, and

twenty commercial grade tone alert radios. The fixed sirens will cover the City of Burlington (2 sirens), LeRoy, New Strawn and Sharpe (one siren each). One siren is placed near the John Redmond dam. All residences outside of the siren coverage will receive tone alert radios. Individuals requiring special notification would be notified by personnel under the direction of the Fire Leader (for Burlington and LeRoy) and personnel under the direction of the County Engineer (for other areas within the plume exposure pathway EPZ). Persons requiring special notification are identified through the County Survey, an attachment to the public information brochure, the County Health Nurse and family members.

11(b). The sirens that are installed for warning purposes will not cover the entire emergency planning zone under all circumstances. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 27; 5/12/83 Response, at 4]

RESPONSE 11(b). [Swing] Areas not covered by the sirens are covered by tone alert radios.

11(c). Coffey County does not have sufficient sirens needed to warn people in the event of an emergency. Twenty will be required. [1/22/82 Answers, at 9]

RESPONSE 11(c). [Swing] See Response 11(a).

11(d). The ability of the public to hear the warning sirens will be more adversely affected by weather conditions than the plan contemplates. [5/12/83 Response, at 5]

RESPONSE 11(d). [Swing] The analytical procedures employed to determine the range of outdoor sirens for the plume exposure pathway EPZ included techniques to account for fixed propagation losses (including sound absorption by the atmosphere) and variable propagation losses (including refraction by temperature and wind gradients, scattering effects of turbulence, absorption by fog, and temporal and spatial changes in weather). Maximum values for sound absorption by the atmosphere are used in this analysis. Wyle Research Report, WR 82-36 (June 1983). Under worst case weather conditions (such as tornadoes), the vast majority of people would be indoors and listening to radio or television for weather information.

11(e). There is no provision about how to make the warning if one or more sirens fail to operate. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 27; 5/12/83 Response, at 4]

RESPONSE 11(e). [Wilcox] Because of their frequent testing and use, siren failure in an emergency is unlikely. The two Burlington sirens will be used for fires and every day for morning and noon whistles. So will the LeRoy siren. All sirens will be used for tornado alerts. This is in addition to the routine maintenance and testing program for the sirens.

11(f). Due to insufficient staffing, Coffey County cannot make the initial notification of an emergency in the required time. Although 67 personnel are required to perform this function, only 10 Sheriff's Department personnel and 3 Burlington Police are presently available. [1/22/82 Answers, at 1, 4]

RESPONSE 11(f). [Wilcox] The only personnel needed for notification are those used to notify persons needing special notification assistance. Based on the County Survey, it is estimated that approximately 50 households may require special notification. As set forth in the County Plan, personnel under the direction of the Fire Leader will carry out these notifications in Burlington and LeRoy (approximately 40 households). Personnel under the direction of the County Engineer will carry out these notifications in other areas of plume exposure pathway EPZ (approximately 10 households). The Fire Leader will be able to call upon the 18 members of the Burlington Fire Department, and the 39 members of the LeRoy Fire Department to make these notifications. The adequacy of County Engineer personnel is demonstrated in Response 6(n).

11(g). The Coffey County Sheriff's Department does not have sufficient equipment for warning people in the event of an emergency requiring an evacuation. In order to provide for proper notification and communication, the following are required: vehicles with loudspeakers - 57; and tone alerts for each home - 3500. [1/22/82 Answers, at 9]

RESPONSE 11(g). [Wilcox] The Alert and Notification system does not contemplate the use of vehicles with loudspeakers to provide warning in an emergency -- except within the John Redmond Reservoir area. See Responses 17(a)-(f). Tone alert radios will be provided to all residences outside the coverage of the fixed sirens, totaling about 750. County Plan, § 3.2, App. H, § 3.0.



11(h). Tone alerts have not been made available to County residents who will not be able to hear the sirens when they are evacuated. The County Plan does not indicate how many of the tone alerts will be required. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 26; 5/12/83 Response, at 4]

RESPONSE 11(h). [Swing] All residences outside the coverage of the fixed sirens and within the plume exposure pathway EPZ will receive tone alert radios. County Plan § 3.2. About 750 residential tone alert radios will be distributed. County Plan, App. H, § 3.0.

11(i). The County Plan makes no recommendation about how an up-to-date listing of those needing tone alerts will be maintained. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 27; 5/12/83 Response, at 4]

RESPONSE 11(i). [Wilcox] New residences (including trailers) in areas not covered by sirens will be identified from information obtained from the County Appraiser and County Treasurer. Rural utilities (electric, water) will also be surveyed for new customers. This information will be obtained on a monthly basis and tone alert radios supplied to these residences. County Plan, App. H, § 3.0.

11(j)). There is no provision for testing or maintenance of the tone alerts. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 27; 5/12/83 Response, at 4]

RESPONSE 11(j)). [Wilcox] EBS conducts a weekly test that activates the tone alert radios. Persons receiving tone alert radios will be instructed to obtain replacements for radios which do not function from the Emergency Preparedness Coordinator.

11(k). The County Plan is deficient because it does not make any provision for notifying persons who because of occupation, deafness, or other reasons, cannot hear the sirens or the tone alerts. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 26; 5/12/83 Response, at 4]

RESPONSE 11(k). [Wilcox] The County Survey provides an estimate of the number of households within the EPZ that may require special notification. Individual alerting will be arranged through the County Engineer and the Fire Leader. Burlington and LeRoy Fire Department personnel will individually alert those households in Burlington and LeRoy who have been identified as requiring individual notification. County Engineer personnel will perform the same function in other areas of the plume exposure pathway EPZ. Lists of those individuals will be developed from the County Survey, an attachment to the public information brochure, the County Health Nurse and family members. From the Survey it is estimated that 50 households may require this notification. Similarly, persons who -- for reasons other than hearing impairment -- might not hear sirens or tone alert radios would learn of the alert through family members, friends or neighbors who would hear the sirens or tone alert radios.

12(b). The County Plan indicates that the Public Information Officer will engage in "several activities" to assure that emergency planning educational information is easily accessible to the general public. This is too vague and the activities should be specified in detail. (C, § 5.3) [4/7/83 Answers, at 43]

RESPONSE 12(b). [Scott] The major pre-emergency public information activity of the County Public Information Officer ("PIO") is the development of printed emergency public information materials, in cooperation with KG&E and the State. These public information materials will include a brochure to be mailed out annually to residents, as well as supplied to area motels, and billboards at Redmond Reservoir, to provide emergency information to transients. Emergency public information will also be included in local telephone directories, for ease of reference. In addition, the County PIO is conducting public meetings to further explain local emergency preparedness measures and to answer any questions.

12(c). The County Clerk has not been adequately involved in the preparation of the emergency planning educational information to be distributed to the public. (C, § 1.2.4) [4/7/83 Answers, at 17]

RESPONSE 12(c). [Scott] The preparation of the emergency public information materials is a cooperative effort of the County, the State, and KG&E. The County PIO has had numerous meetings with the other organizations involved, initially to discuss the general concepts of public information, and, more recently, to review and comment on drafts of emergency public information materials. Thus, the County PIO has played an active role in the development of the emergency public information materials.

12(d). The public information and emergency planning education materials should be set forth in the County Plan. (C, § 5.3) [4/7/83 Answers, at 43]

RESPONSE 12(d). [Scott] It is not necessary that emergency public information materials be included in the County Plan. Federal emergency planning regulations and guidance do not require that the materials be included in the plan, and the plan does not typically include that level of detail. The emergency public information materials (such as the brochure) are not a part of the plan, but rather an adjunct to the plan -- the vehicle by which the plan itself is communicated and explained to the general public.

12(e). There is no detail about how the education information will be provided to transients. (C, § 5.4) [4/7/83 Answers, at 43]

RESPONSE 12(e). [Scott] Large public information billboards will be posted in Redmond Reservoir to provide emergency public information to transients there. In addition, a supply of emergency public information brochures will be provided to area motels for their guests.



12(f). The County Plan is deficient because it does not provide how the public will be kept advised of plan changes that will affect them at the time of an evacuation. [5/12/83 Response, at 5]

RESPONSE 12(f). [Scott] The public will be advised of emergency plan changes through the emergency public information brochure, which will be distributed annually. Any changes to the plan which occur between the annual revisions of the brochure would be explained to the public in the EBS announcements which would be broadcast at the time of the emergency.

12(g). The County Plan should provide methods by which it can be determined if the public is aware of the public information and emergency planning education materials and if they understand how they are to respond in the event of an emergency. (C, § 5.3) [4/7/83 Answers, at 43]

RESPONSE 12(g). [Mileti] No expert in the area of human behavior in emergencies would discourage emergency planners and others concerned with preparedness from providing the public with pre-emergency information and education. Nevertheless, research findings to date indicate that pre-emergency education and information make no statistical difference in public response to an actual emergency. There are two reasons this is true. First, public response to a given emergency is largely determined by factors that characterize the actual emergency situation, for example and especially, the information that the public receives during the emergency. A good public emergency information system at the time of an emergency will elicit a good public response even in a public not previously targeted by a pre-emergency education and information campaign. However, a poor public emergency information system during an emergency will likely not elicit a good response even in a public which has received extensive pre-emergency education and information. Second, the public quickly forgets pre-emergency education and information, if it is not needed frequently. Thus, the role of pre-emergency education and information is limited to "priming" a public to more readily turn to the situation-specific information which would be disseminated at the time of an actual emergency.

[Scott] In any event, the emergency public information brochure for Wolf Creek will be mailed out annually, to reinforce residents' awareness of its availability. The brochure will include a list of organizations the public can contact in advance of an emergency to obtain additional information or to pose questions about appropriate emergency response. The inclusion of emergency public information in local telephone directories -- a frequent reference for most persons -- will also increase public awareness of the most important emergency planning information. The County Public Information Officer's public meetings provide another opportunity to assess and enhance public knowledge of emergency preparedness. And, finally, media coverage of events such as the testing of the Alert and Notification System, periodic emergency planning exercises, and the commencement of operation of Wolf Creek can be expected to heighten public interest in emergency public information.

12(1). The County Clerk has not determined how news bulletins will be forwarded to public shelters and to other agencies that are to receive such bulletins. (C, § 1.2.4) [4/7/83 Answers, at 17]

RESPONSE 12(1). [Scott] The County PIO would forward all news bulletins to registration centers and congregate care facilities by a telephone call to the Reception and Care Coordinators, or from County Sheriff to County Sheriff by radio or ASTRA teletype, or by dispatching someone to deliver the bulletins to the registration centers and congregate care facilities. The County PIO would hand-deliver all news bulletins to the KG&E PIO if both are stationed at the Wolf Creek Emergency Operations Facility ("EOF"). If the County PIO is stationed at the County Emergency Operations Center ("EOC"), the news bulletins would be transmitted to the EOF by telephone or by Sheriff's radio. Similarly, if the State PIO (the KDEP contact) is stationed at the State EOC in Topeka, news bulletins will be provided by telephone, or via the Sheriff's radio or the ASTRA system; and if the State PIO is at the EOF, he will receive the bulletins by hand delivery (if the County PIO is also present at the EOF), or by telephone or Sheriff's radio (if the County PIO is at the County Courthouse).

12(n). The County Plan is deficient because to the extent that it relies on the Emergency Broadcasting Service, it will not provide information to individuals who do not have access to television or radio. (C, § 3.4) [4/7/83 Answers, at 31]

RESPONSE 12(n). [Scott] According to County Survey data, 99.6% of Coffey County residents have a radio or television. In addition, all tone alert radios are radios, so that all residents who receive them will be able to listen to Emergency Broadcast System ("EBS") announcements on their tone alert radios. In any event, even should someone not have immediate access to a radio or television when the Alert/Notification System is activated, if that person knows that the activation of the Alert/Notification System means to turn to the Emergency Broadcast System for further information, he can listen to the broadcasts at the home of a friend, neighbor or relative.

12(o). There is no indication that radio station WREN in Topeka has the details of the County Plan and will know how to respond if it receives an emergency message from the Public Information Officer. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 26; 5/12/83 Response, at 4]

RESPONSE 12(o). [Scott] The County Public Information Officer ("PIO") has met with the management of WREN to discuss procedures for the use of the Emergency Broadcast System ("EBS"). Copies of the standard EBS announcements will be provided to WREN prior to commencement of operation at Wolf Creek. Upon notification of an emergency, and completion of a decoding sequence to verify authenticity, WREN will broadcast the specified EBS announcement at a time designated by the emergency planning authorities to correspond appropriately with the sounding of the sirens.

12(p). The County Plan is deficient because it does not indicate who will decide which of the messages listed in Table 3-2 will be used. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 26; 5/12/83 Response, at 4]

RESPONSE 12(p). [Scott] The appropriate announcements for release via the Emergency Broadcast System ("EBS") are determined either by KG&E's declaration of an emergency of a particular level or by the selection of the protective action -- a decision which is made by either the County Commissioners (or, in the early stages of an event, the Sheriff), or, after the declaration of a State of Disaster Emergency, by the Governor.

12(r). In the message at Table 3-2, Sheet 12 of 15, the details about the evacuation routes and sectors will be too long and confusing. People will, therefore, not follow the instructions. (C, Table 3-2, Sheet 12 of 15) [4/7/83 Answers, at 39]

RESPONSE 12(r). [Scott] Both the brochure and the emergency public information published in the telephone directory will include a map of evacuation routes, so that members of the public will have a map to refer to as they listen to the Emergency Broadcast System ("EBS") announcements. Reference to such a map will clarify the detailed instructions of the EBS broadcast. In addition, the EBS announcements have been organized to enhance public comprehension of the emergency message. Moreover, listening to the EBS announcements is comparable to listening to the announcements of school closings due to winter storms; that is, people will monitor the entire announcement, but will pay close attention only to that part of the announcement which pertains to them, so that the length and detail of other parts of the announcements will not confuse them. This is particularly true in an emergency situation, where the public can be expected to be highly motivated to listen for safety information. Finally, the EBS announcements will be repeated numerous times, so that members of the public will have multiple opportunities to listen for information they may have missed the first time they heard the announcement broadcast.



12(s). The County Plan is deficient because in Section 3.3.1 the Public Information Officer will advise the parents where children have been evacuated to. This information should have been supplied to the parents at an earlier time. The plan does not make provision for providing such information. (C, § 3.3.1) [4/7/83 Answers, at 30]

RESPONSE 12(s). [Scott] The brochure to be distributed annually to area residents will advise parents of the host county facility to which their school children would be evacuated in an emergency. This same information would be repeated to parents via Emergency Broadcast System ("EBS") announcements at the time of an actual emergency.

12(t). One telephone number where the public can inquire for information will not be adequate. The County Plan needs to specify how many numbers and lines will be needed. These numbers should be listed for public use. (C, § 1.2.4) [4/7/83 Answers, at 17]

RESPONSE 12(t). [Scott] The County Plan no longer provides for a "general information" telephone number for use in an emergency. Instead, the County will emphasize pre-emergency public information materials, in addition to public reliance on the Emergency Broadcast System and follow-up releases by the Public Information Officers ("PIOs"), to provide a continuing stream of information about the emergency. The public will be expressly directed not to use the telephone lines (except to request special assistance) so that all lines will be available for official emergency business.

13(a). There is no provision for the evacuation of pregnant women and small children even if shelter is considered for others. (C, § 3.3) [4/7/83 Answers, at 28]

RESPONSE 13(a). [Lewis] There are no foreseeable circumstances in which evacuation for pregnant women and small children would be ordered while others were being ordered to take shelter. Shelter as a protective action is recommended when there would not be enough time to evacuate the population before a significant release, or in the situation where adverse weather would prevent a timely evacuation. Therefore, if shelter would be the appropriate protective action, evacuation of women and small children would be inappropriate.

13(b). The County Plan does not provide for transportation for the evacuation of pregnant women and small children if they are evacuated before others. If buses or other means of transportation are used for them, then that transportation might not be available to others when there would be a full evacuation. (C, Table 3-2, Sheet 8 of 15) [4/7/83 Answers, at 9, 38]

RESPONSE 13(b). [Wilcox/Stern] Very few pregnant women or women with small children will not have access to cars or other private vehicles. To the extent that bus transportation is needed, school buses from Unified School Districts 243, 244 and/or 245 would be used. If evacuation were to occur during school hours, a second "lift" for the school buses could be used after school children in these districts had been taken home. The maximum times set forth in the evacuation time estimate study (i.e., 2.5 hours) already accommodate a second round trip for these buses.

14(a). The teachers, school administrators, and children have not been trained about how to handle the evacuation, and there are no plans in the County Plan to specify how they will be instructed to deal with an emergency evacuation. (C, § 3.3.1) [4/7/83 Answers, at 29]

RESPONSE 14(a). [Wilcox] The Burlington and LeRoy schools already have general evacuation plans in place, which were developed for use in fires and other emergencies. Table 5-1 of the County Plan indicates the special training school superintendents, principals, and bus drivers will receive. State law requires schools to conduct a fire drill once a month. In addition, tornado drills are conducted twice a year. Teachers and students need no special training beyond this for an evacuation in an emergency at Wolf Creek.

14(b). There are not enough school buses available to evacuate school children. (C, § 3.3.1) [4/7/83 Answers, at 8, 29]

14(c). The County Plan does not make provision for buses not being available at the time of evacuation. (C, § 3.3.1) [4/7/83 Answers, at 29]

RESPONSES 14(b)-(c). [Bowers] See Response 14(d).

14(d). The County Engineer does not have the means to provide transportation assistance to school districts who will need additional transportation in the event of an evacuation. (C, § 3.3.1) [4/7/83 Answers, at 29]

RESPONSE 14(d). [Bowers] Adequate school bus transportation exists. The LeRoy school district has a current school enrollment of approximately 225 and has 5 buses with a nominal capacity of 200. The Burlington school district has a current school enrollment of approximately 750 and has 10 buses (with a nominal capacity of 497), and three smaller vehicles with a nominal capacity of 27. If students were seated three abreast, 747 Burlington students could be evacuated in a single lift. Any remaining students would be evacuated by a school bus from one of the surrounding districts. These additional bus resources are as follows: 5 buses from the Gridley schools (nominal capacity 200 seats), 5 from the Lebo schools (nominal capacity 216 seats), and 5 from the Waverly schools (nominal capacity 210 seats). These buses would be available since these schools would not be evacuated.

15(a). The County Plan does not detail what type of health services will be provided for persons who are in institutions or under care on an outpatient basis prior to the accident. It does not specify which hospital they will be taken to. The plan does not consider the number of patients to be cared for. (C, § 1.2.7) [4/7/83 Answers, at 20]

RESPONSE 15(a). [Mueller] There are existing arrangements between Coffey County Hospital and hospitals in Ottawa, Garnett, Emporia, and Iola which contemplate patients from Coffey County being transferred there in emergency situations. All of these hospitals have available beds. There are more than enough beds in the surrounding hospitals to accommodate the average patient load (12) of the Coffey County Hospital or its capacity (26). Since the Coffey County Hospital provides primary care (and does not have long-term patients, psychiatric cases, or cases involving neurosurgery, dialysis, open heart surgery, or other relatively complicated treatments), evacuation and transportation of its patients pose no particular difficulty. Any persons under care on an outpatient basis prior to an accident at the plant would evacuate as members of the general public, and would require no special health services as part of the evacuation.



15(c). Coffey County does not have sufficient transportation (ambulances, buses, etc.) to evacuate people from nursing homes and the Coffey County Hospital. (C, §§ 1.2.7, 3.3.2) [4/7/83 Answers, at 8, 20, 30]

RESPONSE 15(c). [Bowers/Mueller] Sufficient transportation will be available to evacuate the hospital and the nursing home. The average patient load at the hospital is 12 (it has a total of 26 beds). The Golden Age Lodge nursing home in Burlington has a capacity of 115 residents. Ambulatory patients would be evacuated using school buses, of which there are more than enough (using a second lift if necessary). See Response 14(d). The nursing home estimates that only 25% of the residents would need to be transported by ambulance. Coffey County has two ambulances. Under existing arrangements with surrounding counties, Coffey County can (and regularly does) call on their ambulance resources through telephone and radio links. These available ambulances are in Anderson County (2), Lyons County (3), Woodson County (1), as well as ambulances in Humboldt (1), Iola (2) and Osage County (2). Beyond these resources, the Burlington funeral director has available vehicles which can carry up to ten stretchers (three 2-bed station wagons, one hearse and one funeral coach). Other area funeral directors have vehicles with the capacity to handle 36 stretchers. Finally, the Military Assistance to Safety and Traffic (MAST) program based at Fort Riley, Kansas has a fleet of 6 ambulance helicopters. Fort Riley is about 70 air miles from Coffey County. One of these helicopters is on 24 hour/day

alert status, and would arrive within 45 minutes of notification. A second would arrive within 1 hour and 15 minutes after notification. Four others would arrive within 1 hour and 45 minutes of notification. Each helicopter will hold 3 litters and 4 ambulatory patients. The MAST helicopters and Fort Riley can be reached by commercial telephone as well as radio links to the Sheriff's dispatcher/EOC.

15(e). The County Engineer will not be able to provide transportation to evacuate people from nursing homes and the Coffey County Hospital because of other duties that he has in the time of an emergency. (C, § 1.2.7) [4/7/83 Answers, at 20]

RESPONSE 15(e). [Bowers] The transportation via ambulance and ambulance helicopter of people from the nursing home and the hospital will be handled directly by the Health and Medical Management Team Leader. The County Engineer's responsibilities for evacuating these individuals will involve the dispatch of school buses if needed. That function is essentially the same as his other transportation assistance responsibilities and will therefore not conflict with his other responsibilities.

15(g). Due to insufficient staffing, Coffey County cannot assist with evacuation of nursing homes. Although 15 personnel would be required to fill this function, none are presently available. [1/22/82 Answers, at 3, 4]

RESPONSE 15(g). [Mueller] Nursing homes are required by Medicare/Medicaid regulations to have evacuation policies and procedures to handle emergencies such as fires, etc. The Golden Age Lodge nursing home has the same staff available to handle evacuation resulting from an accident at Wolf Creek as they would have in the event of an emergency such as a fire. All residents are either ambulatory or could be moved in wheel chairs. In the event that the nursing home needed assistance, the Health and Medical Management Team Leader could take his staff to the nursing home once the hospital had been evacuated.

15(h). Due to insufficient staffing, Coffey County cannot provide ambulances for emergency patients and at the same time provide for evacuation of hospital patients. Although 6 personnel would be required to fill this function, none are presently available. [1/22/82 Answers, at 2, 4]

RESPONSE 15(h). [Mueller] Coffey County would not be dependent upon the two County ambulances in the event that ambulances were needed for both emergency patients and evacuation. See Response 15(c). If transportation resources were limited, the most critical situation would be given preference, just as it is in any other situation.

15(i). Due to insufficient staffing, Coffey County Hospital cannot provide for the special treatment of emergency patients and at the same time assist with evacuation of its regular patients. Although 6 personnel would be required to fill this function, none are presently available. [1/22/82 Answers, at 2, 4]

RESPONSE 15(i). [Mueller] If the hospital were being evacuated, emergency patients would be sent directly to hospitals outside the plume exposure pathway EPZ, not to the Coffey County Hospital.

15(k). The County Plan is deficient because it indicates that the patients at hospitals and nursing homes may have their evacuation delayed or postponed until dose rates of radiation at the facility result in projected doses for evacuation. There is no means to check when the dose rates reach such a level and such a concept endangers the patients. (C, § 3.3.2) [4/7/83 Answers, at 31]

RESPONSE 15(k). [Mueller] The decision on whether to evacuate the hospital and nursing home will be made based on dose projections determined by the Wolf Creek Radiological Release Information System and confirmed by the radiation monitoring teams.

15(1). The County Plan is deficient because the Health and Medical Management Team is supposed to have access to the Coffey County Ambulance Service, but there is no provision about what to do if the Coffey County Ambulance Service is required to assist with other duties during an evacuation. (C, § 3.3.2) [4/7/83 Answers, at 30]

RESPONSE 15(1). [Bowers/Mueller] More than enough transportation resources are available if the County Ambulance Service is required to assist with other duties. See Response 15(c).



15(n). The County Health Nurse has not compiled a list of county residents who are shut-ins or who may need special evacuation assistance. (C, § 1.2.7) [4/7/83 Answers, at 21]

15(o). The County Plan does not make adequate provision for preparing a list of county residents who are shut in or who may need special evacuation assistance, and does not make adequate provision for updating the list as changes occur. (C, § 1.2.7, 3.5) [4/7/83 Answers, at 21, 32]

RESPONSES 15(n)-(o). [Wilcox] Those persons requiring special emergency transportation or other special evacuation assistance are identified by the County Survey in conjunction with the list of "home help" patients normally maintained by the County Nurse and information supplied by family members. The annual mailing of the emergency public information brochure will include a request for updated information on such individuals. Information supplied in response to the annual mailing, together with information supplied by the County Nurse and family members will be used to update the list of individuals requiring special evacuation assistance.

16(a). The County Plan does not detail how many individuals will need transportation assistance that the County Engineer is to provide for an evacuation. There is inadequate detail about how the Engineer will know who to evacuate. (C, § 1.2.5) [4/7/83 Answers, at 18]

RESPONSE 16(a). [Wilcox] A list of those needing transportation assistance will be prepared from the information described in Responses 15(n)-(o). The County Engineer will have this list and its updates. A special telephone number at the County Shop will be published in the emergency public information brochure and broadcast on EBS announcements for persons requiring transportation to call. From the County Survey, it is estimated that approximately 120 individuals may require transportation assistance.

16(b). Coffey County will not be able to identify in advance the people who will need emergency transportation, because it is not adequately staffed. [4/7/83 Answers, at 2]

RESPONSES 16(b). [Wilcox] See Responses 15(n)-(o).

16(d). There are no people available to coordinate the evacuation of individuals without transportation. Ten or more people would be required for this function. [4/7/83 Answers, at 5]

RESPONSE 16(d). [Bowers] Based upon the County Survey, it is estimated that approximately 120 individuals may need transportation assistance. Seventy percent of these are located in Burlington, twelve percent in LeRoy, and eighteen percent in the balance of the plume exposure pathway EPZ. A special telephone number at the County Shop will be published in the emergency public information brochure and broadcast on EBS announcements for persons requiring transportation assistance to call. With the relatively small number of people needing assistance, the Shop Foreman and one other County Engineer employee will be able to coordinate the evacuation of those residents needing transportation assistance.

16(e). Because of other duties, the County Engineer will not be able to provide the emergency transportation in the event of an evacuation. (C, § 3.5) [4/7/83 Answers, at 32]

RESPONSE 16(e). [Bowers] See Response 6(n).

16(h). Due to insufficient staffing, Coffey County cannot adequately aid in providing transportation for evacuation for those who do not have their own means of transportation. At a minimum, 100 people will be required to perform this function. At least 10% of the people to be evacuated will be without transportation. None of the people required to perform this function are available. [1/22/82 Answers, at 2,4; 4/7/83 Answers, at 3]

RESPONSE 16(h). [Bowers] See Responses 6(n), 16(d).

16(i). The Engineer does not have control over fire personnel. Therefore, he will not be able to direct them in regard to transporting individuals who do not have a private automobile. (C, § 1.2.5) [4/7/83 Answers, at 19]

RESPONSE 16(i). [Bowers] Fire department personnel will not be used for transporting those who do not have their own means of transportation.

16(1). There are not enough vehicles available to provide transportation for those who do not have their own means of transportation. (C, § 3.5) [4/7/83 Answers, at 8, 32]

RESPONSE 16(1). [Wilcox/Bowers] As confirmed by the County Survey, transportation for those without their own means of transportation will in most cases be by those relatives, neighbors and friends who normally provide such transportation. Based on the County Survey, it is estimated that approximately 120 individuals may need transportation assistance. School buses will also be available to provide transportation after school children have been evacuated or taken home (if school is in session); the buses would be available even sooner if school is not in session. School buses from Unified School Districts 243, 244 and 245 would be available and would have capacity far in excess of that needed. See Response 14(d). Ambulance resources are addressed in Response 15(c).



16(m). The Engineer has not made arrangements to obtain school buses. (C, § 1.2.5) [4/7/83 Answers, at 19]

RESPONSE 16(m). [Bowers] Agreements have been prepared and are being reviewed which would provide for the availability of school buses from Unified School Districts 243, 244 and 245 for emergency transportation needs.

16(n). The County Plan is deficient because the school buses listed in Table 3-8 will be required for evacuation of school children and will not be available to provide other emergency transportation. (C, §§ 1.2.5, 3.5) [4/7/83 Answers, at 19, 32]

RESPONSE 16(n). [Bowers] If school is in session, the school buses from Unified School Districts 243, 244 and 245 will be available for emergency transportation after they have taken their school populations out of the plume exposure pathway EPZ. If school is not in session, the buses would be available even sooner. See Response 16(m).

17(a). The County Plan is deficient because the federal and state agencies responsible for John Redmond Reservoir do not have plans for distributing emergency planning information, evacuation confirmation, access control, and warning and notification of the transient populations at the reservoir. (C, §§ 1.4.3, 5.3) [4/7/83 Answers, at 24, 43]

RESPONSE 17(a). [Wilcox] The three agencies with responsibilities for the John Redmond Reservoir area are the U.S. Corps of Engineers (John Redmond Reservoir), the U.S. Fish and Wildlife Service (Flint Hills National Wildlife Refuge) and the Kansas Fish and Game Commission (Otter Creek Game Management Area). Each agency has a procedure for responding to emergencies at Wolf Creek, including warning and notification of transients and evacuation confirmation. Permanent signs will be posted throughout the Reservoir area to provide emergency planning information to persons using the recreational facilities. Access control will be handled at the perimeter of the evacuated area.

17(b). There is no indication how the John Redmond agencies will coordinate their response to an accident with the response by Coffey County. (C, § 1.4.3) [4/7/83 Answers, at 24]

RESPONSE 17(b). [Wilcox] In an Alert, Site Area or General Emergency, the County Sheriff's Office will contact each of the three agencies with jurisdiction over Redmond Reservoir. In addition, the Sheriff's office will contact them when protective actions are being recommended. The three agencies are supplied with commercial grade tone alert radios. This notification will ensure that the agencies' response will be coordinated with the Coffey County response.

17(c). There are no detailed letters of agreement between the County emergency response organization and those agencies responsible for evacuation of John Redmond transients. (C, § 1.4.3) [4/7/83 Answers, at 24]

RESPONSE 17(c). [Wilcox] The Kansas Fish and Game Commission and the U.S. Fish and Wildlife Service have approved evacuation procedures for an emergency at Wolf Creek. See County Plan, Appendix I. Both agencies have provided letters of agreement to the Coffey County Commission. The U.S. Army Corps of Engineers at John Redmond Reservoir ("JRR") has reviewed a draft evacuation procedure, which has been sent to the Tulsa District Office for final approval. When requested changes have been made, and approved by the District Office, the JRR Project Manager has agreed to write a letter to the Coffey County Commission, which will state that he will determine to activate his evacuation procedure upon notification by the County Sheriff's office of an emergency at Wolf Creek.

17(d). The County Plan does not provide how the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and the Kansas Fish and Game Commission will notify persons within their respective jurisdictions. The evacuation time will therefore be longer than estimated. (C, § 3.2) [4/7/83 Answers, at 26; 5/12/83 Response, at 4]

RESPONSE 17(d). [Wilcox/Lewis] Most transients using the John Redmond Reservoir ("JRR") use the two improved campgrounds (the Riverside West and Damsite areas). These areas are near the Redmond dam and are within range of the New Strawn and Redmond sirens. During peak season (Memorial Day to Labor Day), campground attendants reside at these two areas 24 hours/day and would provide additional evacuation information to visitors at these areas. The Riverside East campground, an unimproved facility, is also within range of the Redmond siren. The two other unimproved campgrounds (Otter Creek and Hickory Creek) are low-use areas and would be alerted by U.S. Army Corps of Engineers ("USACE") personnel. Notifying these areas would involve USACE personnel traveling about 7 miles on paved roads and about 9 miles on dirt roads from their headquarters. Notifying visitors in the Kansas Fish and Game Commission ("KF&G") Otter Creek Game Management Area would involve KF&G personnel traveling about 9 miles on paved roads and about 12 miles on dirt roads. The U.S. Fish and Wildlife Service ("USFWS") has only a small portion of its Flint Hills National Wildlife Refuge within the plume exposure pathway EPZ, on the north and south sides of JRR. Notifying visitors in these areas would involve USFWS personnel traveling about 2 miles on

paved roads and about 16 1/2 miles on dirt roads. Agency personnel will leave preprinted warning flyers on any unoccupied vehicles. Notification of boaters will be by siren. Few boats use the Reservoir because of its shallowness, high wind potential, and difficult access. The few boats that do use the Reservoir typically use the part near the dam and are thus within siren range. Boats in other areas, if any, would be notified by portable sirens or bullhorns. Using available resources identified in the agencies' procedures (included in the County Plan, Appendix I), the agencies have estimated that they can notify their respective areas within 45 minutes. In addition, each agency has agreed to help the other agencies notify their areas if resources are available.

17(e). The U.S. Corps of Engineers, the U.S. Fish and Wildlife Service, and the Kansas Fish and Game Department cannot educate the transients around John Redmond Reservoir about the evacuation and emergency plans, cannot provide adequate warning when there is an accident, and cannot evacuate up to 10,000 transients at the reservoir because each of those agencies does not have sufficient staff. [4/7/83 Answers, at 3]

RESPONSE 17(e). [Wilcox/Lewis] Signs informing transients of emergency procedures will be posted throughout the Reservoir area. Notification by agency personnel will be done from agency vehicles using sirens, public address systems, and word of mouth. Evacuation of 10,000 transients will not be necessary. Surveys counted a maximum of less than 1100 at any given time on the peak 1983 holiday (Memorial Day, 1983). Because of the many roads in and around the Reservoir, no agency staff would be required for evacuation. In any case, during peak Reservoir use periods (summer days), the Corps has 11 staff at work, while the Fish and Wildlife Service and the Fish and Game Commission have 6 and 3, respectively.



17(f). The State and the Federal agencies that have the responsibility for the emergency planning and evacuation at John Redmond Reservoir would need 40 or 50 people to make the additional warning, confirm the evacuation, provide transportation for those without it, and direct traffic. Intervenor's do not know how many of these people are available. [4/7/83 Answers, at 5]

RESPONSE 17(f). [Wilcox] The emergency procedures for the agencies with jurisdiction over Redmond Reservoir call for vehicles to traverse all the roads to notify transients and to confirm that they are evacuating on the return trip. Adequate personnel exist. See Responses 17 (d) and (e). No personnel would be required to provide transportation for transients without it; since all transients would have needed transportation to get to the Reservoir, they would use the same transportation to leave. As for traffic control, no traffic control is needed within the Reservoir area because of relatively small number of vehicles.

18(a). The County Plan does not provide for enough traffic control. There is too little traffic control provision within the ten mile EPZ. (C, § 1.2.2) [4/7/83 Answers, at 14]

RESPONSE 18(a). [Freeman] Because of the large number of roads in the plume exposure pathway EPZ, little (if any) traffic control will be necessary. Only five traffic control positions are contemplated for an evacuation of the entire plume exposure pathway EPZ. Three of these are placed outside the plume exposure pathway EPZ at locations suitable for turnaround of tractor/trailers, and are not required for controlling auto traffic. Traffic control positions will be manned in the sequence indicated in the County Procedures as personnel become available. Two of the Sheriff's deputies would be available for traffic control almost immediately. In addition, Kansas Highway Patrol officers would be responsible for traffic control on State and federal highways. Within Division IV of the KHP, an average of 25 officers are on duty at any time. Approximately 10 of those are within a 35 mile radius and could arrive within approximately 45 minutes. The remainder of these 25 would be expected to arrive within one to three hours. These forces would provide more than enough manpower for any foreseeable traffic control needs. In the somewhat longer term, additional KHP officers would also be available.

[Stern] The Evacuation Time Estimate Study (County Plan, App. K) indicates an average speed of 30 miles per hour and an average inter-vehicular distance of 12 car lengths. This provides enough room to allow the merging of traffic from the

sparsely-populated rural areas into the outgoing traffic pattern without the assistance of extensive traffic control.

18(c). The County Plan is deficient because it does not specify where and how other law enforcement agencies will assist in the control of evacuation routes. (C, Table 1-1) [4/7/83 Answers, at 25]

RESPONSE 18(c). [Freeman] Personnel from other law enforcement agencies, particularly the Kansas Highway Patrol ("KHP"), will be used to man traffic control positions. There are 5 traffic control positions which have been designated at or near the perimeter of the EPZ. The location of the 5 traffic control positions are: (1) intersection of Highways 50 and 75; (2) intersection of Highways 57 and 75; (3) intersection of Highways 54 and 75 (in Woodson County); (4) intersection of Highways 169 and 57 (in Anderson County); (5) on Highway 75 just south of Beto Junction. Coffey County deputies will initially man 2 traffic control positions. Two of the remaining traffic control positions would initially be set by Woodson County Sheriff's personnel and by Anderson County Sheriff's personnel, who would be contacted by the Coffey County Sheriff's office. KHP will take over manning these traffic control positions and man the remaining position. KHP is dispatched to these positions by the Division IV KHP headquarters in Chanute.

18(d). The County Plan does not indicate how a status log for each roadblock will be maintained. (C, § 1.2.5) [4/7/83 Answers, at 18]

RESPONSE 18(d). [Bowers] The status of roadblocks will be marked on maps of the plume exposure pathway EPZ at the EOC, based upon information radioed to the EOC by the County Engineer crews who are placing, moving or removing roadblocks. The date and time at which secondary roadblocks are set and dismantled will be recorded in the log kept by the County Engineer in accordance with the County Procedures. Priority roadblock logs are maintained in the same manner as secondary roadblocks, except that the person manning the priority roadblock will report the date and time at which he begins manning the roadblock and the date, time and by whom he is relieved.

18(e). Due to insufficient staffing, Coffey County cannot provide adequate traffic control and roadblocks. Approximately 222 to 227 personnel will be required to perform these functions. [1/22/82 Answers, at 2, 4; 4/7/83 Answers, at 3]

RESPONSE 18(e). [Bowers/Freeman] Initially, only the 6 priority roadblocks (which are also the access control positions) will be manned. Four of these 6 will be manned 24 hours per day for the duration of the emergency by Coffey County Engineer personnel. The other 2 will be manned only for a short period of time (about 1 hour) by County Sheriff's deputies, until they are permanently relieved by Kansas Highway Patrol ("KHP") officers. The secondary roadblocks will be unmanned until the National Guard arrives. Except for about 1 hour post-notification, KHP will be responsible for traffic control at the 5 traffic control positions. See Responses 18(a) and 18(c). Coffey County, Anderson County, and Woodson County Sheriff's personnel will be responsible for traffic control in their counties until relieved by KHP. See Response 18(c). Assuming 12 hour shifts, to perform all of the above duties, Coffey County would need to supply only 8 County Engineer personnel for the duration of the emergency and 2 Sheriff's deputies for about 1 hour. See Response 6(n).

18(k). Because there are not enough law enforcement people for traffic control, too many people may use one evacuation route and not the one they are supposed to. This will substantially increase the evacuation time. (C, § 3.3) [4/7/83 Answers, at 27]

RESPONSE 18(k). [Stern] Very little traffic control would be needed in the event of an evacuation. There is no reason that people would use only one evacuation route and not the route designated. Even if individuals tended to use any one evacuation route, and that route were to become congested, they would naturally switch to one of the several alternative routes. For example, if Route 75 were to become congested southbound, drivers would tend to switch to FAS 10, FAS 1844, or State Highway 57.

[Freeman] Adequate law enforcement personnel are available for traffic control. See Responses 18(a) and 18(c).

18(1). The County Plan does not specify the type of equipment that will be needed at the roadblocks and at traffic control locations. (C, § 1.2.2) [4/7/83 Answers, at 14]

RESPONSE 18(1). [Bowers] At each priority and secondary roadblock and at traffic control positions, a sawhorse with a "Road Closed" sign will be placed. Some traffic control positions may use banners to indicate that the road is closed. These will be replaced by KDOT with signs if the emergency lasts more than 24 to 48 hours.



18(m). The County Engineer does not have enough vehicles, equipment, and barricades to handle the roadblocks required under the provisions of the County Plan. (C, § 1.2.5) [4/7/83 Answers, at 18]

RESPONSE 18(m). [Bowers] A vehicle will be placed at each of the four priority roadblocks to be manned by County Engineer personnel. In addition, 2 vehicles will be used to set secondary roadblocks. The County Engineer has more than enough vehicles for this purpose. See Response 6(n). About half of the required sawhorses and signs are now available; the remainder will be obtained this winter.

18(p). The County Plan should specify how many people will be required and the equipment that will be required to maintain access control. (C, § 3.6) [4/7/83 Answers, at 33]

RESPONSE 18(p). [Freeman/Bowers] The six access control positions (which are also the priority roadblocks) are manned by Sheriff's deputies, Kansas Highway Patrol officers, County Engineer personnel and County radiation monitoring personnel. Four access control positions are manned by a County Engineer staff member and a radiation monitor each; two access control positions are manned by a law enforcement officer and a radiation monitor each. No special equipment other than radiation monitoring equipment is needed. The availability of radiation monitoring equipment is described in Responses 19(r)-(s).

18(q). The County Plan is not sufficient because it does not contemplate the amount of resources that will be required from the State to assist with access control. (C, § 3.6)  
[4/7/83 Answers, at 33]

RESPONSE 18(q). [Freeman/Mannell] There are six access control positions (which are also the priority roadblocks). The only State resources needed are Kansas Highway Patrol ("KHP") officers and KDOT personnel. See Responses 18(e) and 31(n).

18(r). The County Plan is deficient because it does not provide that the entire evacuated area will be blocked. It only contemplates that it will be blocked as resources become available. (C, § 3.6) [4/7/83 Answers, at 33]

RESPONSE 18(r). [Bowers] All roadblocks can be placed within four hours. Even with all roadblocks in place, it would be impossible to totally prohibit access, since individuals could simply drive across fields. However, the inability to totally prohibit access and the time to put roadblocks in place will not interfere with evacuation of the plume exposure pathway EPZ. As available, National Guard personnel will man all secondary roadblocks. All priority roadblocks are manned as described in Response 18(p).

18(s). The Sheriff does not have the personnel available to handle access control to the area evacuated. (C, § 3.6)  
[4/7/83 Answers, at 32]

RESPONSE 18(s). [Freeman] Sheriff's deputies initially man 2 access control positions (which are also traffic control positions), until relieved by KHP. One deputy mans each position. The Sheriff has seven deputies. Therefore, the Sheriff, has ample personnel to handle his duties. See Response 18(a).

18(t). The County Engineer does not have sufficient personnel to supplement or relieve the Sheriff's Office personnel in maintaining access control. (C, § 3.6) [4/7/83 Answers, at 33]

RESPONSE 18(t). [Bowers] The County Engineer has sufficient personnel to man their assigned 4 priority roadblocks/access control positions. See Response 6(n). The Sheriff has no responsibility to man any roadblocks other than the two which are temporarily assigned to him until relieved by KHP.

RESPONSE 18(u). Because the Radiation Monitoring Team may be required to do other things, it will not be possible for it to provide dosimetry for access to an exit from the evacuated area. (C, § 3.6)

RESPONSE 18(u). [Lewis] Section 1.2.10 of the County Plan lists the two responsibilities of the County radiation monitoring personnel. One is to supply a radiation monitor to each of the seven joint radiation monitoring teams. The other is to provide a radiation monitor to each of the six access control positions. These two responsibilities will require 13 radiation monitoring personnel. Currently, there are 35 trained radiation monitors in Coffey County.

[Naylor] See Responses 19(i)-(j).

18(v). The Sheriff does not have the equipment available to handle access control to the area evacuated. (C, § 3.6)  
[4/7/83 Answers, at 32]

RESPONSE 18(v). [Freeman] Sheriff's deputies will use their patrol cars. Each deputy has his own patrol car.



18(w). The Engineer has not obtained the resources needed to set up barricades for 24 hours per day following an evacuation. There is not enough communications equipment for use at the roadblocks. (C, § 1.2.5) [4/7/83 Answers, at 18]

RESPONSE 18(w). [Bowers] The resources used to set up roadblocks on a 24 hour/day basis in the event of an accident are the same used for snow removal and similar emergency work, also on a 24 hour/day basis. The availability of equipment for roadblocks is set forth in Responses 6(n) and 18(m). All vehicles to be used at roadblocks have radios which can communicate with the EOC, the County Shop and the Sheriff's dispatcher.

18(y). The County Plan must specify who will be responsible for providing security for the evacuated area on a 24 hour per day basis and the details of what will be done. (C, § 1.2.2) [4/7/83 Answers, at 15]

RESPONSE 18(y). [Freeman] The County Sheriff has primary responsibility for providing security for the evacuated areas on a 24-hour per day basis. See County Plan, § 1.2.2; Table 1-1. Confirmation of evacuation would establish that all who are not officially authorized to be inside the evacuated area have in fact left the area. Priority roadblocks will be maintained by the KHP and County Engineer personnel, who will control entry to the plume exposure pathway EPZ. The secondary roadblocks manned by the National Guard at the perimeter of the evacuated area would provide further security, to prevent unauthorized persons from entering the evacuated area. Sheriff's deputies would patrol the evacuated area to further assure security. In addition, KHP will station 3 officers with vehicles at the State Forward Staging Area in New Strawn. These officers will be available to assist the Sheriff's deputies in controlling unauthorized entry into the plume exposure pathway EPZ.

18(aa). The Sheriff does not have enough personnel to secure the evacuated area on a 24 hour per day basis. (C, § 1.2.2) [4/7/83 Answers, at 15]

RESPONSE 18(aa). [Bowers/Mannell/Freeman] Security for the evacuated area is provided by manned roadblocks and roving patrols. The secondary roadblocks will be manned by the National Guard. The remaining roadblocks will be manned by Kansas Highway Patrol officers (2 roadblocks) and County Engineer personnel (4 roadblocks). Three KHP officers will be stationed at the State Forward Staging Area to assist with security as necessary. Sheriff's personnel will patrol the evacuated area. Adequate numbers of County Engineer personnel and Sheriff's deputies are available. See Responses 6(n) and 18(a). The National Guard will have more than enough personnel to man all secondary roadblocks.

19(d). The detail of the duties of the Radiological Defense Officer during an accident are not sufficiently specified. (C, §1.2.10) [4/7/83 Answers, at 22]

RESPONSE 19(d). [Naylor] The County Plan describes all activities to be performed by the Radiological Defense Officer. See County Plan, §§ 1.2.10, 3.6.3, 3.9, 3.10, 4.3.1, 5.1. Further detail is provided in the County Procedures.

19(e).. There is no person designated or trained to act for the Radiological Defense Officer if he is not available or is to be relieved during an accident. (C, § 1.2.10) [4/7/83 Answers, at 22]

RESPONSE 19(e). [Naylor] An alternate to the Radiological Defense Officer has been selected. The County Plan provides for the alternate to carry out the Radiological Defense Officer's functions if he is unavailable or must be relieved during an incident. § 1.2.10.

19(f). The County Plan does not contemplate what to do if members of the Radiation Monitoring Team are not available. (C, § 3.10) [4/7/83 Answers, at 38]

RESPONSE 19(f). [Naylor] There will be more than enough County members for the joint radiological monitoring teams. Fourteen members will be available. At most, only seven are needed, one for each of the maximum of seven teams planned to be in the field. KG&E estimates that at most five teams would be needed, but seven are planned to be conservative.

19(g). The County Plan indicates that the Radiation Monitoring Team personnel can be on the scene within 45 minutes after notification. This is too long a period. (C, § 3.10) [4/7/83 Answers, at 38]

RESPONSE 19(g) [Lewis] If radiation is released from the plant during an accident, the plume would be tracked from the beginning of the release by the computerized Radiological Release Information System, using on-site meteorological data. The purpose of the radiation monitoring teams is to verify the computer projection. The first radiation monitoring team could be in the field within 30 minutes.

19(h). The County Radiation Monitoring Team has not been selected. (C, §§ 1.1, 1.2.10) [1/22/82 Answers, at 6; 4/7/83 Answers, at 12, 22]

RESPONSE 19(h). [Naylor] Coffey County currently has about 35 people who have had the FEMA Radiological Monitoring training course and eight hours of classroom training in the use of radiation monitoring instruments. The County plans to train an additional 25 people. Of this group, 14 will be selected for additional training to qualify them for off-site monitoring and sample collection.



19(i). The County Plan is deficient because it does not state how many members of the Radiological Monitoring Team will be required, and does not contemplate enough people to handle the duties of the Radiological Monitoring Team. (C, §§ 1.1, 1.2.10) [4/7/83 Answers, at 12, 23]

19(j). Due to insufficient staffing, Coffey County cannot provide radiological monitoring. Although 45 persons are needed to fill this function, only 1 Radiological Monitor is presently available. [1/22/82 Answers, at 2, 4]

RESPONSES 19(i)-(j). [Naylor] Seven persons from the County are required to meet the County's radiation monitoring duties for the joint radiological monitoring teams. Fourteen will be available. See Response 19(h). Six monitors will be needed for the access control positions. These would be chosen from the 28 trained monitors not involved in the joint radiological monitoring teams.

19(k). Coffey County will not be able to perform decontamination and radiation checks within the County and at evacuation centers, because it is not adequately staffed. There is no provision in the County Plan for an adequate number of personnel to supplement the County Radiation Monitoring Team in order to check evacuees and vehicles at shelters for contamination. The Coffey County Plan shows 104 people will be needed at the evacuation centers for contamination checks (page 3-8). None of these are available. At least 150 will be needed for this. The plan does not specify how they will be recruited. Also, there are no people available at the evacuation centers to handle decontamination. It is possible that as many as 100 people will be required for decontamination. (C, § 3.7)  
[4/7/83 Answers, at 2, 4-5, 34]

RESPONSE 19(k). [Naylor] Monitoring of evacuees and decontamination at registration centers will be carried out by radiological monitors from the four host counties. County Plan, § 3.10. Twenty-four people are needed to carry out this function and will be trained before full power operation of Wolf Creek. The RDO could also dispatch members of the Coffey County radiation monitoring personnel to registration centers to assist host county personnel.

19(l). The Fire Leader does not have enough personnel to conduct the decontamination activities. (C, §3.7) [4/7/83 Answers, at 34]

19(m). Fire Department personnel may be needed elsewhere at the same time they are needed for decontamination purposes. (C, § 1.2.6) [4/7/83 Answers, at 19]

19(o). Due to insufficient staffing, Coffey County cannot provide for decontamination at roadblocks. Although 16 personnel are needed to fill this function, only 8 Burlington Fire Department personnel are presently available. [1/22/82 Answers, at 2, 4]

RESPONSES 19(l), (m) and (o). [Wilcox] Neither the Fire Leader nor the fire department personnel will have any decontamination responsibilities during initial evacuation. Decontamination by fire department personnel at access control positions would only be performed after evacuation. County Plan § 3.7. The County fire departments have adequate personnel (approximately 110 members) and equipment (about 24 vehicles) to conduct decontamination activities while carrying out any other activities.

19(p). The County Plan does not provide for the number of radiation monitoring personnel that will be required to check vehicles and people for contamination at access points. (C, § 3.7) [4/7/83 Answers, at 34]

RESPONSE 19(p). [Naylor] Monitoring of vehicles and personnel for contamination at access control positions will only occur subsequent to an evacuation. County Plan § 3.7, p. 3-11. Following an evacuation, there will be a radiation monitor at each of the six access control positions. More than enough personnel are available. See Responses 19(i)-(j).

19(q). The State radiation monitoring equipment is not sufficient to deal with the type of emergency that can occur at Wolf Creek. (K, Tab A) [4/7/83 Answers, at 9, 44]

RESPONSE 19(q). [Mannell] The State radiation monitoring survey equipment available for use in an emergency at Wolf Creek is listed in Tables H-1 and H-2 of the State Plan. This equipment, along with the seven air samplers being provided by KG&E, will provide adequate monitoring capability to protect the public health and safety.

19(r). The Coffey County Radiation Monitoring Team does not have proper radiation monitoring equipment to monitor radiation in the event of an evacuation. (C, §§ 1.2.10, 3.0) [1/22/82 Answers, at 10; 4/7/83 Answers, at 22, 38]

19(s). Coffey County does not have enough radiation monitoring equipment to monitor in the County, to check evacuees for contamination, and to monitor roadblocks and access points. [4/7/83 Answers, at 8, 9]

RESPONSES 19(r)-(s). [Naylor/Lewis] Coffey County currently has 41 sets of radiation monitoring instruments. Only 7 sets are needed for off-site monitoring, 8 sets for the Sheriff and the Sheriff's deputies, and an additional 6 for use at access control positions. Host counties will provide monitoring instruments for use at registration centers. Twenty-four sets are needed (Allen County, 4 sets; Anderson County, 6 sets; Franklin County, 4 sets; Lyon County, 10 sets). Allen County has 15 sets, Anderson County 6 sets, Franklin County 38 sets, and Lyon County 44 sets. The State has committed to furnish as many more as any county needs.

19(t). The County Plan is deficient because it does not indicate how the 30 Radiation Monitoring Kits that Coffey County has will be distributed. If the kits are matched with the number of people required to implement the plan and their duties, there will be an insufficient number of kits and equipment. (C, § 4.3.1) [4/7/83 Answers, at 41]

RESPONSE 19(t). [Naylor] Each County member of the joint radiation monitoring team will receive a radiation monitoring kit, as will each access control position monitor, the Sheriff and each sheriff's deputy. County Plan, § 4.3.1.

19(w). The Coffey County Sheriff's Department needs radiation monitoring equipment. [1/22/82 Answers, at 9]

RESPONSE 19(w). [Naylor] The Sheriff and each sheriff's deputy will have a radiation monitoring kit. County Plan, § 4.3.1.



19(x). There is no adequate provision for insuring that the County radiation monitoring equipment is properly tested and maintained so that it will be in working condition at the time of the emergency. (C, § 4.3.1) [4/7/83 Answers, at 41]

RESPONSE 19(x). [Naylor] Radiation monitoring equipment is tested quarterly by the Radiological Defense Officer. Equipment is calibrated by the Kansas Division of Emergency Preparedness. County Plan, § 4.3.1.

19(y). The Radiation Monitoring Teams do not have enough vehicles for transportation to various sites in the County. The County Plan contemplates that Radiation Monitoring Team members will use their personal vehicles or County vehicles for transportation. There will not be enough County vehicles available and there are no plans to insure that the personal vehicles of the monitoring team will be available. (C, § 3.10) [4/7/83 Answers, at 9, 37]

RESPONSE 19(y). [Naylor] Since a maximum of only seven joint radiation monitoring teams are planned, only seven vehicles are needed. Many more will be available from among the KG&E, County and State vehicles as well as the personal vehicles of the KG&E and County team members.

19(z). The Coffey County Radiation Monitoring Team should be equipped with portable communications equipment for contacting others involved in an emergency or an evacuation process. Communications equipment for 18 people is required. [1/22/82, at 10]

RESPONSE 19(z). [Lewis] Each joint radiation monitoring team will have a portable radio for communicating directly with the EOF from anywhere in the plume exposure pathway EPZ. County radiation monitoring personnel assigned to access control positions will have radio communication to the EOC or State Forward Staging Area through the County Engineer personnel or law enforcement personnel stationed at each access control position.

19(aa). The Coffey County Radiation Monitoring Team does not have the communications equipment it needs to keep in touch with the County Emergency Operations Center and others. The Coffey County Plan is deficient where it provides that the Radiation Monitoring Team will communicate with the County EOC by telephone. In all likelihood, there will not be enough telephone lines available so that prompt communication can be accomplished. (C, § 3.10) [4/7/83 Answers, at 9, 37]

RESPONSE 19(aa). [Lewis] Joint radiation monitoring teams will be in direct radio communication with the EOF. Information on team progress, summary data, dose projections, and plume direction will be supplied from the EOF to the Radiological Defense Officer at the EOC via the radio and/or telephone links between the EOF and the EOC.

19(cc). There is no agreement between the County and the fire departments about the use of fire department vehicles for decontamination responsibilities. (C, § 1.2.6) [4/7/83 Answers, at 19]

RESPONSE 19(cc). [Wilcox] Letters of agreement between the County and the County fire departments will provide for the use of fire department vehicles for decontamination at access control positions.

19(dd). There are not enough vehicles and decontamination equipment available to meet the decontamination responsibilities at roadblocks, access points, and evacuation centers. (C, § 3.7) [4/7/83 Answers, at 8, 34]

RESPONSE 19(dd). [Naylor] Decontamination will take place at registration centers and access control positions, not at roadblocks, and only after evacuation. Decontamination equipment at registration centers will be provided by the host counties. Decontamination of vehicles at registration centers will be accomplished by use of water hoses available at each center. There are six access control positions at which decontamination following an evacuation would be provided where requested by radiation monitoring personnel. The County fire departments have more than enough fire department vehicles to perform any necessary decontamination. For example, the LeRoy fire department alone has six fire trucks which carry their own water supplies; Gridley has four; Waverly has five; Lebo has five; and Burlington presently has four (with a fifth being purchased for Burlington by KG&E). In addition, fire department vehicles from outside the County could be called in as necessary under the Mutual Aid Agreements.

19(hh). The State Plan does not assume all evacuees will be checked for contamination. The Coffey County Plan does so. The County Plan is deficient because it does not require that all evacuees go to the designated shelter area outside the evacuation zone for a contamination check. Once the evacuees are out of the area, it will not be possible to adequately notify them to go for a contamination check. It must be clear in the plans that all evacuees will be checked for contamination. (C, § 3.7; K, Tab K) [4/7/83 Answers, at 33, 47]

RESPONSE 19(hh). [Wilcox] All evacuees will be directed to registration centers. County Plan, App. L, EBS Announcement #6. If the potential for contamination exists, all evacuees at the registration centers will be monitored. Otherwise, evacuees will be monitored on a random basis. There is no conflict between the State and County Plans. State Plan, Tab K, § 3.1; County Plan, § 3.8.

[Mileti] Public information during an emergency is the central determinant of public behavior in an emergency. Extensive research and evidence have conclusively established the characteristics of information which elicits appropriate public response. It has long been established that emergencies command public attention and trigger affirmative acts on the part of a public to get more information during an emergency. These principles, alone, would almost certainly insure not only that evacuees would hear about the availability of contamination checks at registration centers, but also that they would obtain such checks (to gain additional information about the emergency's effect on them personally). This conclusion is further supported by research into the utilization of a variety of health services, which indicate that people are likely to

seek out medical or health services when they (1) perceive the treatment as important because of some risk or threat to themselves, (2) perceive the treatment as attractive, for example, that it will work or is low cost, and (3) perceive the treatment to be appropriate to themselves (for example, that they may have been exposed to radiation). Principles such as these would operate in an emergency at Wolf Creek, and assuming information disseminated at the time of an emergency explained the nature of the hazard posed to individuals and the availability and efficacy of the contamination checks, these principles would lead the public to seek out and use radiological monitoring services at registration centers.



19(jj). The County Plan is deficient because it contemplates the impoundment of automobiles. There is nothing in the plan that indicates to the public that this will occur or there is no adequate provision to deal with situations where the public does not want to have the vehicles impounded. (C, § 3.7) [4/7/83 Answers, at 34]

RESPONSE 19(jj). [Naylor] Section 3.7 of the County Plan states that contaminated vehicles will be impounded by the host county sheriff until they can be washed down. Since the Plan is a public document, the Plan indicates to the public that impoundment may occur. In the event that an individual does not want to have his vehicle impounded, he will have to discuss the matter with the sheriff of the host county.

[Mileti] There is a wide prevalence of gross misperception about the behavior of the American public in emergencies. This is the case despite long-established knowledge in the social sciences, in an emergency, that members of the public behave in ways that are consistent with helping each other and their community and in ways which reduce risks and problems for others. This conclusion rests on the findings from investigations of many different kinds of emergency events, as well as different kinds of behavior within events. Similarly, the conclusion holds in any emergency where some event is posing or has posed a community-wide threat. To the best of my knowledge, there are no studies which have examined specifically public response to the impoundment of automobiles during emergencies. However, given the wide applicability of the above stated principles of public emergency behavior, and

the breadth and variety of the emergency situations on which those principles are based, there seems little doubt that in an emergency the public would readily permit the temporary impoundment of their cars if the vehicles posed a health threat to themselves or others.

19(kk). The County Plan is deficient because it does not provide for disposal of contaminated equipment, vehicles, decontamination water, or any other materials that might be contaminated. (C, § 3.7) [4/7/83 Answers, at 35]

RESPONSE 19(kk). [Naylor] The Radiological Defense Officer, with the assistance of KG&E, will retrieve any contaminated material from the registration centers for subsequent disposal. County Plan, § 3.10. Clothing can be washed and returned. Vehicles can be decontaminated by washing. Water would be released and is not likely to be a public health or safety problem -- personal health and safety of evacuees would be the initial concern.

19(11). The time required to provide radiation monitoring of evacuees at shelters will be greater than estimated. It will not be possible to use all the County's radiation monitoring equipment because it will be needed elsewhere. The time is in excess of the time allotted by NUREG-0654. (C, § 3.7) [4/7/83 Answers, at 34]

RESPONSE 19(11). [Naylor/Lewis] Criterion J.12 of NUREG-0654 uses 12 hours as a guideline for providing radiation monitoring of evacuees. As stated in Section 3.7 of the County Plan, it would take about 315 instrument hours to monitor the entire permanent population of the plume exposure pathway EPZ (6000), together with the peak transient population (1500). Using the radiation monitoring equipment which the host counties already have, this monitoring could be completed in less than the 12-hour guideline. However, the 7500 population to be monitored is highly conservative. Peak population counted in 1983 at Redmond was less than 1100. Except for one or two days a year, the transient population at Redmond would a small fraction of that number. It is highly unlikely that the entire plume exposure pathway EPZ could be contaminated -- contamination even of half is unlikely. If it appeared that monitoring would take more than 12 hours at a particular center, additional radiological monitors could easily be dispatched to that center from the EOC, other registration centers, or the State. The time will therefore be less than the guideline value of NUREG-0654.

20(b). The temporary managers of each shelter have not been selected. (C, § 3.8) [4/7/83 Answers, at 35]

RESPONSE 20(b). [Fritz] Under the current concept of operations for the management of public shelters, there is no need for temporary shelter managers. In an emergency, each of the four host counties (Lyon County, Anderson County, Franklin County, and Allen County) would have one registration center, which would be activated by the respective host county Reception and Care Coordinator. These registration centers could serve as congregate care facilities. Additional congregate care facilities have been identified in each of the host counties, and would be activated and staffed as necessary by the respective host county Reception and Care Coordinators.

20(c). The Shelter Managers at the evacuation centers have not been designated and selected. (C, §§ 1.1, 1.2.8) [4/7/83 Answers, at 12, 21]

RESPONSE 20(c). [Fritz] Under the current concept of operations for the management of public shelters, there is no need to predesignate a manager for each potential congregate care facility. Instead, each host county will operate one facility as a registration center, which could be used as a congregate care facility, and which will be managed by the respective host county Reception and Care Coordinator. A Reception and Care Coordinator has been designated for each of the four host counties. Additional congregate care facilities have been identified in each host county and would be activated as necessary by the respective host county Reception and Care Coordinator and staff. Before an evacuation were well underway, additional State and private relief organization personnel would be available to help manage additional congregate care facilities, if needed.

20(d). There are no people available to provide management at the evacuation centers. Up to 9,000 people would be evacuated. One person for each 50 people evacuated will be needed. Therefore, 180 people are required. [4/7/83 Answers, at 1, 4]

RESPONSE 20(d). [Fritz] Management of the four host county registration centers and the corresponding congregate care facilities would be provided by the respective host county Reception and Care Coordinators and staff. There is no need to provide a ratio of one manager to each 50 evacuees, particularly since the vast majority of the evacuees will only register at the registration center, then proceed to the homes of friends and family or to a hotel or motel for shelter. See Response 20(i). Later in an evacuation, should a need develop for additional congregate care capacity, additional personnel would be available to perform management functions. See Response 20(c).

20(e). There are no details of plans or agreements about plans with the Red Cross or the State Department of Social and Rehabilitation Services. (C, § 3.8) [4/7/83 Answers, at 35]

RESPONSE 20(e). [Fritz] Under the current concept of operations for the management of registration centers and congregate care facilities, the host counties provide the primary staffing for the respective registration centers and congregate care facilities. The American Red Cross, the Salvation Army, local civic organizations and church groups, and the State Department of Social and Rehabilitation Services ("SRS") would provide only supplemental assistance, as needed. County Plan, § 3.8. In any event, the public shelter planning reflected in the State and County Plans (including the four host county Shelter Plans), as well as the host county Crisis Relocation Plans, has been developed in cooperation with SRS. Thus, SRS is aware of its function to coordinating relief activities with the American Red Cross and other relief organizations, and with providing personnel to assist in the operation of host county registration centers and congregate care facilities in an emergency, as necessary. See State Plan, Tab B, § 2.1.2.11; Figure B-3; Host County Shelter Plans, § 2.1 (at County Plan, Appendix J). Planning has also been coordinated with the Red Cross, which is similarly aware of its responsibilities under the plans. See State Plan, Tab C, §§ 3.0, 3.2; Tab CC, at CC-3 et seq.; Host County Shelter Plans, § 2.1 (at County Plan, Appendix J).



20(g). The Kansas Chapter of the American Red Cross is not adequately staffed or equipped to provide the tasks specified in Section 3.2 of Tab C. (K, Tab C) [4/7/83 Answers, at 45]

RESPONSE 20(g). [Fritz] Under the Shelter Plans for the four host counties, the host county organization has primary responsibility for the operation of the registration centers and congregate care facilities. Key host county personnel will include the Reception and Care Coordinator and the Personnel and Materiel Resource Coordinators. The host county organizations place primary reliance on local resources for emergency response. For example, all four host counties have made arrangements with local merchants (grocers and restaurants) for the availability of food in an emergency. The host counties could also draw upon school supplies or available government stocks of food, if needed. The need for bedding will be minimal, since most evacuees will not stay at public congregate care facilities. Moreover, both the emergency public information brochure and the EBS announcements instruct the evacuating public to pack sufficient bedding for their own use during the evacuation. In any event, the host counties' civil defense organizations have 70 cots for use if needed.

Under the new concept of operations, private relief organizations (such as the Red Cross) will provide supplemental assistance as requested by the host county organizations. See County Plan, Appendix J. The Red Cross has resources available to it which could be used in an emergency. Franklin County has

approximately 150 Red Cross volunteers. Lyon County has approximately 34 Red Cross volunteers, as well as a permanent staff member in Emporia. Anderson County has approximately 30 to 50 Red Cross volunteers. There are approximately 155 volunteers in the Neosho Valley Red Cross Chapter (which includes Allen County). That Chapter has a permanent staff of two in Chanute. Prepositioned supplies in Chanute include 50 cots, 3 cases of blankets, 5 cases of pillows, 2 cases of bed sheets, and 1 case of pillow cases. Equipment which could be brought in from the regional office in Topeka includes 150 cots and at least 150 blankets. The regional office in Wichita could supply 180 cots and blankets. In addition, the Topeka office could provide at least 150 volunteers, and the Wichita office could provide at least 20 to 30 volunteers, in addition to ten permanent staff.

Finally, the Salvation Army could make available, in necessary, additional personnel, mobile kitchens, canteens, cots, and other supplies, as well as counseling and long-term shelter.

20(i). The County Plan is insufficient because it does not contemplate shelter for all of the people to be evacuated from the emergency planning zone. Not enough shelter sites have been specified. (C, §§ 1.2.3, 1.2.8, 3.8) [4/7/83 Answers, at 15, 21, 35]

RESPONSE 20(i). [Mileti] Shelters provided for an evacuating public are always underused. This conclusion is applicable for climatological emergencies (for example, hurricanes and floods), geological emergencies (for example, earthquakes and volcanoes), and technological emergencies (for example, toxic spills). The underuse of public shelters also occurred during the Three Mile Island accident. The preference of evacuating American publics is to find shelter with friends and relatives and on their own (for example, motels and hotels) rather than use public shelters. The proportion of evacuees using different forms of shelter varies from evacuation event to event depending on factors such as time of evacuation, distance traveled, length of time available to evacuate in, and the duration of the evacuation. However, one principle always holds: public shelters are grossly underused during evacuations. A typical public shelter use rate is approximately 20% of an evacuating public. This underutilization of public shelters is well documented and generally acknowledged, and is taken into account by many groups and organizations who run public shelters, such as, the American Red Cross. Thus, an emergency plan which does not contemplate the provision of shelter for all potential evacuees is most likely not an insufficient plan, but rather one which seeks to make realistic, efficient and prudent use of the available resources.

[Fritz] The four host counties have identified congregate care facilities that could accommodate well over 100,000 evacuees if needed. Using only 11 of Allen County's identified congregate care facilities, 3,285 evacuees could be accommodated. In Anderson County, 15 of the county's identified congregate care facilities could accommodate 4,143 evacuees. Twelve of the congregate care facilities identified in Franklin County could accommodate 3,310 evacuees. Lyon County has identified 15 congregate care facilities at Emporia State University that could accommodate 22,879 evacuees. When the University is in session, 25 of the other congregate care facilities in Emporia would accommodate 9,368 evacuees.

20(j). There is no provision for the type of services that will be provided at a shelter. (C, § 1.2.8) [4/7/83 Answers, at 21]

RESPONSE 20(j). [Fritz] The host county Shelter Plans (included in the County Plan, Appendix J) and the underlying host county Crisis Relocation Plans detail the types of services that could be provided at the host county registration centers and congregate care facilities. The services would include registration of evacuees, radiological monitoring and decontamination, food services and sleeping accommodations, sanitary facilities, and information and communications facilities.

20(k). There are not enough shelter facilities for 9,000 evacuees at the shelter center. This will require sleeping, food preparation, medical, sanitation, and other facilities if the shelter needs are to be met. The County Plan does not provide details about the extent of the resources required for food, sleeping, safety, health and sanitation, communications, recreation and religious affairs. (C, §§ 1.1, 3.8) [4/7/83 Answers, at 7, 12, 35]

RESPONSE 20(k). [Fritz] Although public congregate care facilities for 9,000 persons will not be required, the four host counties have already identified congregate care capacities far in excess of 9,000 persons. See Response 20(i). The identified congregate care facilities are large public buildings -- generally schools, churches, and even a university -- with the extensive facilities for communications (such as public telephones), public health and sanitation (including showers and toilets), and mass food service typically associated with such large operations. Food for evacuees would be procured by the host county Materiel Resources Coordinator, through local merchants or from school supplies or available government stocks, as necessary. Any necessary bedding could be supplied by the host counties or by private relief organizations (such as the Red Cross and Salvation Army). See Response 20(g). The host counties will provide for the stationing of host county law enforcement personnel at the registration centers and congregate care facilities, as needed, for public safety. Recreational and athletic equipment will already be available at the registration centers and congregate care facilities which normally function as schools, as well as at

some churches; additional recreational activities, games and entertainment could be provided on an ad hoc basis, as necessary. Evacuees would attend the established religious services customarily attended by host county residents.

20(1). The County Plan does not adequately contemplate a lengthy shelter. (C, § 3.8) [4/7/83 Answers,

RESPONSE 20(1). [Fritz] The County Plan does not contemplate a shelter of any specified period. However, the four host county Crisis Relocation Plans -- on which the host county Shelter Plans are based -- were developed for implementation in the event of a nuclear war. Thus, each of the host counties has developed plans to shelter for extended periods (at least a matter of weeks) numbers of persons far in excess of the numbers who would seek public shelter in the event of an emergency at Wolf Creek.



20(m). There has been no provision made about paying shelter owners for the use of their site or services. (C, § 3.8) [4/7/83 Answers, at 36]

RESPONSE 20(m). [Fritz] The host county Crisis Relocation Plans emphasize the need for emergency personnel to maintain detailed and accurate documentation of all emergency-related expenditures, to facilitate later reimbursement by appropriate organizations and authorities.

20(o). The County Plan is deficient because the shelters may be downwind from the Wolf Creek Plant site and this could cause additional radiation injuries. (C, § 3.8) [4/7/83 Answers, at 36]

RESPONSE 20(o). [Fritz] Joint FEMA/NRC emergency planning guidance provides for the location of evacuee registration and shelter facilities at least 5 miles beyond the plume exposure pathway EPZ. At this distance, consideration of wind direction in siting shelters is not required. See NUREG-0654, Criterion J.10.h. The registration centers and congregate care facilities which have been identified by the four host counties meet this federal regulatory guidance.

21(b). The County Health Officer has not organized volunteer teams to provide medical care and first aid. (C, § 1.2.7) [4/7/83 Answers, at 20]

RESPONSE 21(b). [Mueller] Teams have already been established. These are the disaster response teams established by the Coffey County Hospital emergency plan. County Plan, § 1.2.7.

21(c). The Kansas Department of Health is not prepared to provide the primary responsibility for adequate medical emergency services as specified in Figure B-2. (K, Tab B) [4/7/83 Answers, at 45]

RESPONSE 21(c). [Mannell] The Kansas Department of Health and Environment ("KDHE") has primary responsibility only for the coordination of emergency medical support services rendered by others. State Plan, Tab B, § 2.1.1.2. A list of local and regional medical facilities has been prepared. See Response 22(a).

22(a). The State and Coffey County have not adequately identified local or regional medical facilities which have the capabilities to provide appropriate medical treatment for persons with dangerous radiation exposure or who are contaminated, injured individuals. [5/12/83 Response, at 5; ASLB 7/28/83 Memorandum and Order]

RESPONSE 22(a). [Mannell/Wilcox] Local and regional medical facilities with the capability to treat contaminated, injured persons and those who may have been over-exposed to radiation are identified in the State Plan, Table L-1. See also County Plan, § 3.11.

23(a). The County Plan is deficient because it specifies that the County Engineer will be responsible for rescue in the evacuated area, but there is no detailed plan about how he will be able to do this when he has so many other responsibilities. (C, Table 1-1) [4/7/83 Answers, at 25]

RESPONSE 23(a). [Bowers] The rescue function concerns handling emergencies such as automobile mishaps, cars running out of gas, etc. It is neither necessary, nor appropriate, nor possible to provide a detailed plan to deal with such emergencies. The County Engineer has a wide range of equipment capable of handling any eventuality, including a winch truck for stuck vehicles, three trucks with gas supplies for vehicles which may run out of gas, etc., and adequate manpower to operate that equipment. See Response 6(n).

24(a). The County Plan does not specify in detail the activities that the Emergency Preparedness Coordinator is to perform in connection with evacuation confirmation. (C, § 1.2.3) [4/7/83 Answers, at 16]

24(b). The people needed to handle the confirmation activities have not been selected. County law enforcement and Fire Department personnel are not adequate to handle the activity. (C, § 1.2.3) [4/7/83 Answers, at 16]

24(c). The County Plan does not adequately specify who or how many people will be involved in conducting a house to house search of the evacuated area. (C, § 3.3) [4/7/83 Answers, at 28]

24(d). There are no people available to provide evacuation confirmation. The County Plan (Table 3-5) shows 31 are required. The evacuation confirmation time parameters indicate that the confirmation will not be completed for up to 10.5 hours. This means that some individuals will not be out before then. The time must be reduced. Therefore, twice as many people are probably required. (C, §§ 1.2.3, 3.3, Table 3-6) [4/7/83 Answers, at 2, 4, 28, 40]

RESPONSES 24(a)-(d). [Wilcox] As stated in § 3.3 of the County Plan, the Coordinator will initiate a house-to-house evacuation confirmation under the direction of the County Engineer. The EBS announcements will state that persons evacuating should place a white towel or cloth on their mailbox (in rural areas) or on their front door (in the cities). County Plan, App. L, p. L-14. Table 3-5 of the County Plan shows that 31 individuals are needed to complete the evacuation confirmation of the plume exposure pathway EPZ within 10.5 hours. Since this effort will occur well into the emergency, there will be no shortage of emergency workers from among County Engineer personnel, Kansas Highway Patrol and others. There is no regulatory requirement that evacuation confirmation be completed in less than 10.5 hours. Indeed, the only regulatory

guidance concerning evacuation confirmation is to include in the evacuation time estimate study an estimate of the time needed to carry out an evacuation confirmation. NUREG-0654, App. 4, § V. [CPIP § 17.3.13].



25(a). The County Plan is deficient because it does not provide for relocation of the Coffey County Emergency Operations Center in the event that it becomes necessary to evacuate it. It is unlikely that people will want to remain in the Emergency Operations Center when other offices in the Courthouse have radiation levels that are unacceptable. (C, § 4.1) [4/7/83 Answers, at 40]

RESPONSE 25(a). [Mileti] Disaster research literature establishes conclusively that people who have specific emergency responsibilities (such as the persons who would work in the Coffey County Emergency Operations Center ("EOC")) behave in very predictable and consistent ways in the performance their emergency work. Emergency posts are never abandoned by the people who hold them, provided that those workers have a clear idea of their emergency roles and are properly trained. This generalization is perhaps among the most certain that can be made by the social sciences about human behavior. This principle would clearly hold true for people who have jobs in the EOC, where work is obviously central to emergency response, and would especially be the case for any persons already at the EOC doing their work when the rest of the Courthouse is evacuated.

This is not to say, however, that emergency workers would remain in buildings that, for example, are under water in a flood, fallen down in an earthquake, or unsafe in a nuclear power plant accident. However, if the shelter potential of a building is sufficient, and workers know that it is, and they are provided with dosimetry to independently monitor their exposure, those workers will not abandon their jobs in an EOC during a nuclear emergency. They will continue to do their

jobs even if less safe areas of the building, and people with jobs not central to the emergency response, have been evacuated.

[Wilcox] There is no requirement in NUREG-0654, or elsewhere, for a backup EOC. If it were necessary to evacuate the EOC, it could be removed to the State EOC in Topeka or to the Lyon County EOC in Emporia.

25(b). The County Plan is deficient because it does not provide how the emergency response organization will function if the Coffey County Courthouse Center must be evacuated. (C, § 1.3) [4/7/83 Answers, at 23]

RESPONSE 25(b). [Wilcox] See Response 25(a). If the EOC had to be evacuated, everything else in the plume exposure EPZ would also have been evacuated and there would be no need for continued EOC operation.

26(a). The public will not respond as anticipated. They may use non-designated evacuation routes. They may not evacuate when directed. They may pick up children at school or other persons at other locations. They may evacuate earlier than desired. They may not report to shelter centers after leaving Coffey County. [5/12/83 Response, at 5]

RESPONSE 26(a). [Stern] Should members of the population employ routes in addition to those designated to exit the plume exposure pathway EPZ, the result within the EPZ will be to reduce the traffic on the designated evacuation routes. Should this happen in and around Burlington, the evacuation time for Burlington might be somewhat shorter. In other locations, the designated evacuation routes are already below their capacities, so that further reducing the traffic loading will not reduce the evacuation time. If members of the population evacuate "earlier than desired," the traffic on the roads would also be reduced. This would reduce the evacuation time for those few areas where road congestion might otherwise result in minor delays already reflected in the evacuation time estimate study.

[Mileti] For more than three decades, social scientists have systematically studied emergencies (both natural and technological) as well as public response to emergencies. This body of research has established what an American public does and does not do during emergencies. In addition, and perhaps more important, it has established why some people behave in one way during an emergency, while others do not. The "why" of public response is important because it can be considered in

the development of emergency plans to help insure public safety in future emergencies. Similarly, historical research has established that some aspects of human behavior in emergencies cannot be changed. With this knowledge, emergency plans can be developed assuming these behavioral patterns rather than trying to change them.

The "thin veneer" of civilization is not stripped away from people in an emergency; in fact, it is temporarily strengthened. The character of the human spirit is strong when faced with emergencies, and most people rise to the situation to help themselves and others. The public does not act in irrational, anti-social, or selfish ways, but rather behaves in ways that are altruistic and beneficial for the community as a whole.

Despite these general principles, however, it would be possible for some members of the public to engage in what casual observers of public emergency response might label as selfish or irrational acts like: (1) not using designated evacuation routes, (2) picking up their children at school, (3) picking up persons at other locations, and (4) evacuating early. Behavior such as that listed in the contention is not behavior which always occurs in emergencies; and sufficient knowledge exists about why some people might behave in such a manner and others would not to enable emergency plans to minimize counterproductive behavior such as this to levels which do not detract from public safety in an emergency and, perhaps, even to eliminate much of such behavior entirely.

People do what they think or "perceive" is right to do in emergencies. Public response in emergencies is therefore largely determined by what people "perceive" the risk to be and what people "perceive" are appropriate responses to it. These perceptions are largely determined by the information that the public receives during the emergency. Emergency information that is consistent, confirmatory, certain, clear and credible does the most to help a public understand and respond well in emergencies. If public emergency information clearly addresses appropriate evacuation routes such that the public understands the why and how of evacuation, the use of other than designated evacuation routes will be minimal. The same would be true for picking up students at school, and other persons at other locations.

The adequacy of emergency public information is also the key to understanding why early evacuation sometimes does and sometimes does not occur, as well as the extent to which it occurs when it does occur. The public is not like soldiers who do what they are told to do and, then, only when they are told to do it. Premature evacuation can occur when the emergency information being provided to the public leads some people to form "definitions of the situation" or "perceptions" that the prevailing risk is sufficient to warrant evacuation. This can occur if emergency information seems so confused and inconsistent that no one seems to really know what is happening or could happen. For example, this was one of the major reasons

given for evacuation by persons who evacuated during the Three Mile Island accident. Early evacuation can be minimized in any emergency if the emergency information provided to the public is sound.

Because public response to an emergency is based almost exclusively on the emergency information that the public receives at the time of the emergency, information will also be the key determinant of whether people will report to registration centers after leaving an evacuated area. If the information provided to a public at the time of an emergency clearly explains the reasons for stopping at such a center as linked, for example, to checking on their health and safety, the public would report to the center. (Only a small portion of evacuees, however, would report to a registration center solely for the purpose of assignment to a public shelter. See Response 20(i).)

In sum, the degree to which an American public responds well in an emergency depends almost solely on the adequacy of the emergency information which they receive at the time of the emergency. When that information is sound, public response on all fronts is sound.

27(a). Many emergency workers will not respond as they would in a non-nuclear emergency. They will not do so because of a fear of radiation exposure and injury or in order to help friends and family evacuate. They will not report or will stop work after reporting. [5/12/83 Response, at 4]

RESPONSE 27(a). [Mileti] The notion that emergency workers will not respond in a nuclear emergency as they would in a non-nuclear emergency -- i.e., the notion that they will abandon their jobs in the middle of them, and that they will not report to work in order to help friends and families evacuate and because of a generic fear of radiation exposure -- is unfounded. This notion also contradicts the character of human nature, and is disproved by evidence from past emergencies involving both natural and technological hazards, including the Three Mile Island accident. All of this is not to say, however, that some people do not leave their jobs in emergencies. These people, for example store clerks, have no defined emergency roles, and are not emergency workers (for whom the emergency takes priority). The priority attached to the emergency operates as one of the key factors that keep emergency workers doing emergency work.

Abandoning emergency roles. It is important to distinguish between "role strain", which is a state of mental stress caused by worry about one's family and friends (for example, in an emergency) and "role abandonment", which is the act of abandoning one's emergency post. In the history of research on emergencies prior to the Three Mile Island accident, only about a dozen cases were documented where an emergency worker left



his post. In each of these cases, however, the worker left only after it was clear that others staying were able to do the work and were willing to have their colleague leave to tend to some other matter. The purported "flight" of hospital workers out of the EPZ during Three Mile Island also fits this profile. Some hospital personnel did evacuate, but only after a reduced patient load and the arrival of the weekend shift "allowed" them to leave. The few observed cases of leaving an emergency job behind, including those at Three Mile Island, all have one thing in common: the workers leaving their positions knew their emergency work would still be performed by others willing and able to do it. Thus, these few cases where people left emergency-related jobs are not true instances of "role abandonment". Rather, they occurred only after it was clear that the emergency work would still get done.

However, emergency workers in any kind of emergency may experience "role strain", and wish that they could be, for example, with their family to play the role of "parent" at the same time they are playing the role of "emergency worker." Role strain of this sort is common not only in emergencies but also everyday life. Role strain in emergencies is always resolved by people playing their emergency role while, at the same time, devising a way to check on the safety of those important to them. In any emergency situation, including those that might surround a nuclear power plant accident, "role strain" is a psychological phenomenon only, not a behavioral problem that detracts from the performance of emergency work.

Assuming emergency roles. People who are off-duty when an emergency begins are in a different position than counterparts already at work. The behavior of two types of emergency workers who are off when the emergency begins is relevant: shift workers and those with unique emergency roles like, for example, the director of local emergency response. A few emergency workers who are part of an off-shift may occasionally delay in reporting for work when the news of the emergency breaks. Those who do delay do so because they continue to play out the roles which they are performing when the emergency begins -- for example, father, husband, wife, mother, etc. These roles are filled as families make decisions that enable them to feel free to separate family members from one another. Delays such as this are typically brief since: (1) most emergencies do not begin with the need for dramatic actions like evacuation that can take more time to plan for, (2) most emergency workers are married to people who are competent, that is, able to drive, listen to emergency information, and make decisions, and (3) emergency workers are typically anxious to resolve other responsibilities and report to their emergency stations. Cases where shift workers have delayed in volunteering for work early in an emergency have never detracted from the ability of their organization to do its emergency work, because a shift is already on duty. In fact, historically, the problem with off-duty shift workers in emergencies is that many report to work before their shift is scheduled to

come on duty, creating the potential for an overcrowded work setting.

Emergency workers with unique roles to play in an emergency who are off duty when the emergency begins are different from shift workers in that their job is not being performed by others already on duty. Workers such as these are quick to report to their job without significant delay. These workers have clear and prime emergency responsibilities that create clear direction for their behavior. In addition, they have clear responsibilities to overall emergency response in the community and to co-workers. These factors motivate workers with unique emergency roles to quickly report to their posts.

Fear of radiation. The transferability of principles of human behavior in emergencies are questioned by some for emergencies involving nuclear power plants. The claim is made that radiation is somewhat unique and different enough from the risks posed in other types of emergencies that human behavior would be different. The determinants of human behavior in emergencies in contemporary America are, however, transferable from one type of emergency to another. This is not to say that the descriptive accounts of how people respond to emergencies will be the same from one emergency to another; rather, it is that the reasons why people respond in different ways to emergencies are consistent across emergency types.

Two arguments could be voiced against the notion that there is a known "equation" that explains human response to all

emergencies including nuclear power plant emergencies. It could be said that nuclear emergencies are so unique a set of events as to render them analogous to no other events in the history of human behavior. Such a position argues against the basic premise on which the social sciences rest: that there are patterns in human behavior that are discoverable through systematic scientific inquiry. The second argument appears more viable, but only on the surface. This proposition is that there are determinants of human behavior in emergencies which are knowable, but that people are fearful enough of radiation because of its "unique" characteristics that, while the ordinary principles that explain human behavior would still apply, the behavior itself would be different from behavior in non-nuclear emergencies. The proposition has some elements of truth. Indeed, radiation is invisible, unlike tornadoes and hurricanes. It may also be true that public understanding of the risks involved in nuclear emergencies is different from its understanding of the risks associated with floods. The potential list of "differences" which could be developed could be long. However long this list, it is not true that the "qualities" in the human response "equation" would be different for nuclear plant emergencies as opposed to other types. For example, the "unique invisible character of the radiation hazard" is not unique in terms of explaining human response in emergencies. The "character of the hazard" has long been included in understanding human behavior in emergencies. It is a

well established determinant of human response. On this factor, a nuclear reactor accident is something like a flash flood that occurs on a sunny day. Thus, if radiological emergencies are unique, its only because the "values" or "quantities" that determinants of human response can take are unique -- or further from the mean -- and not because the list of relevant determinants is unique.

What is important for preparedness to insure public safety in emergencies of all types -- including anticipating the response of emergency workers -- is that the factors which determine behavior are known and transferable across emergency types. Stated simply, the "what", "how", "when", "where" and "why" of emergency preparedness are known, and planners can take into account variation in the "quantity" of each determinant across different types of emergencies to draft sound plans for response to all types of emergencies. All types of emergency workers -- including those who have unique jobs and those who do not, those who work in shifts and those who do not, etc. -- will be able to perform the necessary emergency response functions in a nuclear emergency if plans adequately address the appropriate factors.

Two of the key factors that, if adequately addressed, will lead to emergency workers adequately performing emergency work during a nuclear emergency are: (1) adequate training so that workers clearly understand that they have an emergency job, and what the job requires them to do, so that they develop an

understanding of the importance of their job to overall community safety and to their work group, and (2) enabling workers to understand what risks they are and are not taking while doing their work -- for example, providing pre-emergency education about radiation, the use of dosimeters, or other ways to achieve this same objective.

28(a). The County Plan does not specifically detail how many dosimeters will be needed and what kind will be used. (C, §1.2.10, 3.9) [4/7/83 Answers, at 23, 37]

28(b). There are not enough dosimeters for emergency personnel. [4/7/83 Answers, at 8]

28(c). Even though the Coffey County emergency workers are supposed to have self-reading dosimeters, the State and Coffey County have not made provision for these dosimeters, and the County Plan does not contemplate enough of them to be available for each of the workers. (C, §3.9) [4/7/83 Answers, at 36]

RESPONSES 28(a)-(c). [Naylor] The County currently has 214 self-reading dosimeters. County Plan, Table 4-1. KG&E is providing 200 thermoluminescent dosimeters to the County. County emergency workers receiving dosimetry will include Sheriff's deputies, the County Engineer's staff, radiological monitors, school bus drivers, ambulance drivers, fire personnel, nursing home and hospital staff, and members of the emergency response organization, totaling approximately 150 people. There is thus enough dosimetry for County emergency workers.

RESPONSE 28(c). [Mannell] The State could supply an additional 100 self-reading dosimeters within approximately 2 hours in the event of an emergency at Wolf Creek. This is many more than is needed for County emergency workers, particularly since it is not necessary that each individual worker have his own dosimeter. Workers who are traveling as a group or working in the same general location may rely on a single dosimeter.

28(d). There is no plan specified for issuing dosimeters to County emergency workers. (C, §§ 1.2.10, 3.9) [4/7/83 Answers, at 22, 37]

RESPONSE 28(d). [Naylor] County procedures will provide for prepositioning of dosimetry at the EOC, the County Shop, Burlington and LeRoy fire departments, the Hospital, Golden Age Lodge nursing home, in Sheriff's patrol cars, and in Burlington school buses. All emergency workers will be trained in the location and use of these dosimeters.



28(e). The Radiological Defense Officer has not developed a system for controlling radiological exposure of emergency workers. (C, §1.2.10) [4/7/83 Answers, at 23]

RESPONSE 28(e). [Lewis] The computerized Radiological Release Information System at the EOF will generate isodoses for the plume exposure pathway EPZ. When the doses are projected to exceed 50% of the applicable Protective Action Guide, the EOF will notify the EOC and the joint radiation monitor teams and recommend that emergency workers withdraw from those areas.

[Naylor] County Procedures provide that emergency workers read the self-reading dosimeters every hour while in the controlled area. If the reading exceeds 10% of the PAG, the worker is instructed to report the exposure to the RDO who will inform the Bureau of Radiation Control. If the reading exceeds 50% of the PAG, the worker is instructed to withdraw from the area. Radiological training of emergency workers will include instruction in this procedure.

28(f). The County Plan is deficient because it does not make specific enough details about how the doses received by emergency workers will be recorded and monitored. (C, §3.9) [4/7/83 Answers, at 36]

RESPONSE 28(f). [Naylor] As set forth in County Procedures, each emergency worker receiving a self-reading dosimeter will receive a radiological exposure record which will be filled out at the beginning and end of the worker's shift. Thermoluminescent dosimeters will be read at the end of the event or after one week, whichever is shorter, unless a more frequent schedule is appropriate based on self-reading dosimeter readings. The RDO will collect and collate all exposure data. At the end of the emergency, the RDO will forward the data to the County Health Officer for retention.

29(a). There is no adequate arrangement between Coffey County and the State to provide radiological emergency response training for State and local emergency organization personnel. (C, §5.1) [4/7/83 Answers, at 42]

RESPONSE 29(a). [Lewis] KG&E, the County and the State have developed a Joint Training Program for State and local emergency organization personnel. The program consists of eight modules: basic radiation effects and protection, basic nuclear plant concepts, overview of KG&E, County and State emergency plans, self-protection radiation monitoring, radiation survey instrumentation, medical treatment of radiation exposed personnel, basic plant and emergency information, and position role in emergency plan. A matrix identifies the groups of personnel who receive training in the appropriate modules. See County Plan, Table 5-1. Scheduling of training is coordinated by the KG&E Emergency Planning Coordinator.

Additional training provided by the County and State supplements that of the Joint Training Program. The Kansas Radiological Systems Administrator, the County Emergency Preparedness Coordinator and the Radiological Defense Officer maintain certification to provide a radiological monitoring course. In addition, the County Emergency Preparedness Coordinator and the Shelter Systems Officer are FEMA-certified to teach the FEMA shelter leader course. These courses are available at the County, host county and State levels to further supplement their training.

29(b). Due to insufficient staffing, Coffey County cannot provide training for personnel in evacuation procedures and other procedures required for personnel to implement an evacuation plan. Although 2 persons are needed to adequately perform the training function, only 1 (the Emergency Planning Coordinator) is presently available. [1/22/82 Answers, at 1,4]

RESPONSE 29(b). [Wilcox] Coffey County personnel will provide training for radiological monitors and registration center personnel. The Radiological Defense Officer will provide radiological monitor training. He is certified by FEMA to provide such training. The Emergency Preparedness Coordinator and the Shelter Systems Officer will provide the registration center personnel training. Both are certified by FEMA to conduct this training. All other training is carried out under the Joint Training Program.

29(c). The Coffey County Emergency Preparedness Coordinator has not developed the training programs needed to implement the County Plan, and has not made adequate plans to familiarize Coffey County personnel with the plan and their responsibilities. (C, §§ 1.2.3, 5.1) [4/7/83 Answers, at 42, 16; 5/12/83 Response, at 4]

RESPONSE 29(c). [Lewis] The Coffey County Emergency Preparedness Coordinator has reviewed and commented upon the scope and outline of the Joint Training Program. Two of the training modules familiarize County personnel with the Plan and their responsibilities. The course content of the Joint Training Program, complete with learning objectives, lesson plans, supplemental materials and implementation schedule, is being developed. These materials will be reviewed by the County, State and KG&E, and will be utilized to prepare County emergency response personnel.

29(d). The County Plan does not contemplate training as many individuals as will actually be needed if the plan is to be implemented. (C, §1.2.3) [4/7/83 Answers, at 16]

RESPONSE 29(d). [Wilcox] All people who have a role in carrying out the County Plan will be trained. County Plan, Table 5-1.

29(e). There is no provision in the County Plan to indicate who will actually do the teaching. (C, §1.2.3) [4/7/83 Answers, at 17]

RESPONSE 29(e). [Lewis] Under the Joint Training Program, instruction is provided by the State, County and KG&E. The State and County emergency response organizations are presently planning to provide instructors for training associated with the overview of their plans, and individual roles and responsibilities. KG&E is planning to provide the remainder of the training through use of its own staff and/or professors from a local university.

29(f). The key personnel within the Coffey County government who occupy positions in the emergency response organization are not aware enough of their duties under the plan. There must be some assurance in the County training program that the Emergency Preparedness Coordinator knows that the individuals understand their responsibilities and that they are adequately trained. (C, §§ 1.1, 5.1) [4/7/83 Answers, at 12, 42]

RESPONSE 29(f). [Lewis] Members of the County Emergency Response Organization have been directly involved in the development of the County Plan and Procedures and, as a result, have developed a familiarity with their duties under the Plan. The Joint Training Program also provides that these individuals, including the Commissioners themselves, receive training on their individual duties and responsibilities, and on the contents of the State, County, and KG&E plans, radiation protection, and general nuclear plant information. This training and understanding will be verified through their participation in drills and exercises.



29(g). The County Plan should specify in detail the type and amount of training that individuals will receive. The training to be provided to the positions listed in Table 5-1 should be specified in detail. (C, §5.1, Table 5.1) [4/7/83 Answers, at 42, 43]

RESPONSE 29(g). [Lewis] A matrix describing the Joint Training Program is included in the County Plan, Table 5-1. The details of the course content are not appropriate for inclusion in the Plan, but are set forth in lesson plans in the Joint Training Program.

29(h). The following local personnel lack sufficient training to perform their assigned functions and should be trained in the identified areas:

- (1) The Coffey County Emergency Preparedness Coordinator. Advice to Sheriff about protective action to take; locating, storing, and distribution of emergency equipment; training personnel about evacuation duties and emergency equipment; have knowledge about radiation monitoring, decontamination processes, and use of protective gear; understanding duties of each person involved in the plan; conducting evacuation drills; training public about how to respond to an emergency; evacuation of people who lack transportation; implementing the guidelines to be used to determine when emergency workers should conduct activities that will result in exposures in excess of 25 REM. (C, §3.9) [1/22/82 Answers, at 4,5; 4/7/83 Answers, at 36]
- (2) Coffey County Commissioners. [4/7/83 Answers, at 6]
- (3) Coffey County Clerk. [4/7/83 Answers, at 6]
- (4) Coffey County Sheriff. Coordination of evacuation process; knowledge of plan to advise people about duties and how to implement their duties; training of personnel to conduct evacuations; conduct of evacuation plan drills; notification of radiological emergency; management of roadblocks and traffic control; security of evacuated area; evacuation of persons without transportation. [1/22/82 Answers, at 4, 5]
- (5) Coffey County Sheriff's Department personnel. [4/7/83 Answers, at 6]
- (6) Coffey County Engineer. Cleaning and maintaining of roads in bad weather; operation of roadblocks and traffic control. [1/22/82 Answers, at 4, 6]
- (7) Coffey County Engineer's staff. Rescue functions. (C, Table 1-1) [4/7/83 Answers, at 25]
- (8) Personnel of the Coffey County Road Department. Management and assistance at roadblocks. [1/22/82 Answers, at 5, 7]

- (9) The Burlington City Police Department and other police departments within Coffey County. Giving of initial warnings; security of area after evacuation; traffic control, and management of roadblocks. [1/22/82 Answers, at 5, 7]
- (10) Personnel of the City of Burlington Fire Department and the personnel of other fire departments within Coffey County. Decontamination process at roadblocks and checkpoints; use of protective gear during the evacuation process. (C, §1.2.6) [1/22/82 Answers, at 4,6; 4/7/83 Answers, at 20]
- (11) Traffic control personnel. (C, §1.2.2) [4/7/83 Answers, at 14]
- (12) Coffey County Health Officer. [4/7/83 Answers, at 6]
- (13) Volunteer teams to provide medical care and first aid (to be trained by the County Health Officer). (C, §1.2.7) [4/7/83 Answers, at 20]
- (14) Coffey County Health Nurse. [4/7/83 Answers, at 6]
- (15) Nursing home administrators and staff. [4/7/83 Answers, at 6]
- (16) Coffey County Hospital Staff. Evacuation of patients at hospital. [1/22/82 Answers, at 4,6; 4/7/83 Answers, at 6]
- (17) Coffey County Ambulance Service. Evacuation of patients at hospital and coordination of that duty with treatment of individuals injured in an emergency. [1/22/82 Answers, at 4, 6]
- (18) Radiological Defense Officer. (C, § 1.2.10) [4/7/83 Answers, at 6, 21]
- (19) Coffey County Radiological Monitoring Team. Taking an evaluation of radiation levels; operation of radiological monitoring equipment; knowledge about allowable radiation dosages; use of protective gear. (C, §§ 1.2.10, 3.0) [1/22/82 Answers, at 4,6; 4/7/83 Answers, at 22, 38]
- (20) Personnel assisting the Radiation Monitoring Team with radiation monitoring checks. (C, §3.7) [4/7/83 Answers, at 34]

- (21) Shelter Leader. (C, §1.1) [4/7/83 Answers, at 6, 12]
- (22) Temporary Shelter Managers. (C, §3.8) [4/7/83 Answers, at 6, 35]
- (23) Shelter Managers and shelter staff. (C, §1.2.8) [4/7/83 Answers, at 6, 21]
- (24) Bus drivers. About their duties and to assure that they will respond. [4/7/83 Answers, at 30]
- (25) Personnel to perform confirmation of evacuation. (C, §1.2.3) [4/7/83 Answers, at 16]
- (26) Volunteers and other personnel yet to be recruited who will have responsibilities under the plan. [4/7/83 Answers, at 6]

RESPONSE 29(h). [Wilcox/Lewis] Training identified in the County Plan, Table 5-1, is under development, so that many personnel have not received it. However, this training will be completed prior to the full-scale exercise. The scheduled training of Table 5-1 was specifically matched to the roles and duties of emergency response personnel under the County Plan. Some of the areas of training identified in the contention are inappropriate for the particular individual either because that individual does not have responsibilities in that area or because the function is part of the individual's regular duties.

1. The Coordinator does not have the responsibility for "locating, storing and distributing emergency equipment." The only equipment which is unique to the nuclear aspects of the County Plan is the dosimetry and radiation monitoring equipment, which is the responsibility of the RDO. The Coordinator does not need to be trained in "training public about how to respond to an emergency." "Evacuation of people who lack transportation" is the responsibility of the

County Engineer, not the Coordinator. The Coordinator has already been trained on "implementing guidelines ... to determine when emergency workers should conduct activities that will result in exposures in excess of 25 REM"; this training is part of the RDO course which the Coordinator has completed.

4. Several of the areas identified for the Sheriff to be trained in are functions which are a part of his regular duties (roadblocks, traffic control, security); he is thus already trained in these areas. Other areas are outside his responsibilities under the County Plan (drills, evacuation of persons without transportation).
6. The County Engineer as part of his regular duties cleans and maintains roads in bad weather and operates roadblocks; no additional training is therefore needed. Traffic control is the responsibility of the Sheriff, not the County Engineer; therefore the County Engineer requires no training in that area.
9. The police departments within Coffey County do not have any responsibilities in the County Plan and thus need not be trained.
16. County Hospital Staff do not require additional training on evacuating patients from the hospital; this is already part of their responsibilities.
17. Coffey County Ambulance Service moves hospital patients as part of their regular functions. Thus they do not need additional training in this area.

29(i). The County Plan is deficient because the training of emergency workers about the effects of large doses of radiation is not specified in the plan. (C, §3.9) [4/7/83 Answers, at 36]

RESPONSE 29(i). [Lewis] The Joint Training Program will include training on the effects of large doses of radiation.

29(j). The Coffey County emergency workers do not have any training program organized to teach them how to use the dosimeters. (C, § 3.9) [4/7/83 Answers, at 36]

RESPONSE 29(j). [Lewis] The use of dosimeters is covered in the State Radiation Monitor Course and the Joint Training Program.

29(k). The training program does not adequately consider how to deal with changes in personnel and in volunteers who are trained. There will be a very substantial turnover that must be dealt with. (C, §§ 1.2.3, 5.1) [4/7/83 Answers, at 17, 42]

RESPONSE 29(k). [Wilcox/Lewis] There is no reason to expect that there will be very substantial turnover among personnel involved in implementing the County Plan. New personnel will be trained using videotapes of appropriate portions of the Joint Training Program and self-study materials as well as periodic retraining in the Joint Training Program, drills and exercises.



29(1). The Coffey County Emergency Preparedness Coordinator is not prepared to conduct annual training sessions reviewing the elements of the County Plan and the responsibilities of each position. (C, §5.1) [4/7/83 Answers, at 42]

RESPONSE 29(1). [Lewis] Lesson plans and course materials for the annual training are being developed. The County Emergency Preparedness Coordinator will review this material. Instructor training will prepare him and members of his staff to conduct training sessions reviewing the elements of the County Plan and the responsibilities of each position. Additional instructors are available from KG&E to support this training effort, upon request.

29(m). Inadequate consideration has been given to the amount of time annual training will take and the imposition it places upon the emergency response personnel. (C, §5.1) [4/7/83 Answers, at 42, 43]

RESPONSE 29(m). [Lewis] Annual training will be designed to minimize the impositions on individuals to be trained. The annual training season is estimated to take an average of about 12 hours. Training will be done during normal work hours of the personnel being trained. The modular training concept assures that individuals will only receive the training which is relevant to their responsibilities, thus avoiding unnecessary training time. Flexible class hours and use of video tapes will further maximize the efficiency of the training process.

29(n). The State of Kansas is supposed to be able to supplement Coffey County emergency services but the State personnel who would be doing this are not familiar with the Coffey County Plan. They will not know how to work with the County Plan. Many of these State people are not adequately trained to respond to radiological emergencies. (K, Tab A) [4/7/83 Answers, at 44]

RESPONSE 29(n). [Mannell] State personnel who will participate in emergency response activities will receive training as a part of the Joint Training Program. State Plan, Table O-1. State personnel have been involved in the development of the County Plan and will gain additional familiarity through participation in drills and exercises.

29(o). The State indicates that it will implement training programs for emergency workers, but it will not be able to do so because the people to provide the training have not been selected and the training courses are not developed. (K, Tab A) [4/7/83 Answers, at 44]

RESPONSE 29(o). [Mannell] State training will be provided through the Joint Training Program described in Response 29(a), which will include instruction by State personnel. In addition to the Joint Training Program, State personnel will carry out training for certain specific activities, for example, the State radiological monitoring program and fire service hazardous materials course. The training programs for these areas have been developed.

29(p). The State of Kansas Department of Emergency Preparedness is not adequately staffed to provide the necessary training for personnel involved with the emergency evacuation plan and it does not have sufficient personnel to conduct emergency preparedness drills. Although 3 persons are needed to adequately perform the training function, none is presently available. [1/22/82 Answers, at 2]

RESPONSE 29(p). [Mannell] The Kansas Department of Emergency Preparedness ("KDEP") has 3 personnel involved in emergency response training programs. In addition, 5 KDEP personnel are involved in the conduct of emergency preparedness drills. Thus, KDEP is adequately staffed to perform its training functions and to conduct emergency preparedness drills.

29(q). The State does not have adequate plans to train State personnel having emergency responsibilities. The Bureau of Radiation Control is responsible for supporting and developing conduct of radiological emergency response training but has not established plans or courses for providing such training. (K, Tab O) [4/7/83 Answers, at 47]

RESPONSE 29(q). [Mannell] See Response 29(o).

29(r). Only "selected state and local emergency response personnel" will receive the initial forty hour course designated to accomplish the training objectives of the State. All such personnel should receive this training or at a minimum the number and types of personnel who will receive this training should be specified in the State Plan. (K, Tab O) [4/7/83 Answers, at 48]

RESPONSE 29(r). [Lewis] The initial 40 hour course referenced in the contention has evolved into the Joint Training Program. Personnel attending the training and their modules have been assigned by State, County and KG&E emergency planning officials, based on the roles identified in the plans. State personnel scheduled for training are identified in Table O-1 of the State Plan, local personnel in Table 5-1 of the County Plan. State and local emergency personnel will receive all training necessary for the performance of their emergency duties. See Response 29(h).

29(s). The following State personnel lack sufficient training to perform their assigned functions and should be trained in the identified areas:

- (1) State Department of Emergency Preparedness personnel. Training of people involved in the plan and the conduct of emergency planning drills. [1/22/82 Answers, at 5, 7]
- (2) Kansas Department of Health and Environment personnel. Familiarity with State and Coffey County Plans, so can meet its primary and support responsibilities as specified in the State Plan. (K, Tab B) [4/7/83 Answers, at 45]
- (3) Kansas Bureau of Radiation Control personnel. Determining existence of offsite contamination. (C, §3.7) [4/7/83 Answers, at 33]
- (4) Kansas National Guard Unit in Burlington, Kansas. Management of roadblocks and traffic control; evacuation of nursing homes and others; use of protective gear. [1/22/82 Answers, at 4, 6]
- (5) Kansas Highway Patrol personnel. Responsibilities specified in the State Plan. (K, Tab B) [4/7/83 Answers, at 6, 45]
- (6) Kansas Department of Transportation personnel. Responsibilities specified in the State Plan. (K, Tab B) [4/7/83 Answers, at 6, 45]
- (7) Kansas Department of Social and Rehabilitation Services. [4/7/83 Answers, at 6]
- (8) Kansas Fish and Game Commission personnel. [4/7/83 Answers, at 6]

RESPONSE 29(s). [Lewis/Manell] State personnel who will participate in emergency response activities will receive training for their responsibilities specified in the plan as part of the Joint Training Program. Some of the personnel listed are already trained for the activities described. For example, Bureau of Radiation Control personnel have previously



been trained and certified in the skills required for "determining existence of offsite contamination." Many of the activities identified in the contention would involve the regular duties of the individuals, and therefore would not require additional training. For example, the responsibilities of Kansas Highway Patrol personnel under the plan include traffic control -- one of the typical activities for members of the Highway Patrol.

29(t). The State Plan talks about annual retraining programs that will be prepared for State emergency response personnel. These programs have not been prepared and the personnel have not been trained. (K, Tab O) [4/7/83 Answers, at 48]

RESPONSE 29(t). [Lewis] The Joint Training Program is an ongoing effort which provides for annual retraining of emergency workers. Lesson plans for retraining will not be developed until after the initial training and exercise, so that feedback from these activities can be incorporated.

29(u). The following federal personnel lack sufficient training to perform their assigned functions:

- (1) U.S. Army Corps of Engineers personnel [4/7/83  
Answers, at 6]
- (2) U.S. Fish and Wildlife Service personnel [4/7/83  
Answers, at 6]

RESPONSE 29(u). [Lewis] U.S. Army Corps of Engineers personnel and U.S. Fish and Wildlife Service personnel will receive training as part of the Joint Training Program.

30(a). The planning for the drills and exercises by Coffey County is not adequate. (C, § 5.2) [4/7/83 Answers, at 43]

RESPONSE 30(a). [Wilcox] The first exercise involving the County is scheduled for early June 1984. The formal exercise for NRC/FEMA review is scheduled for early July 1984. Scenario development is scheduled for completion by April, 1984. Drills leading up to the initial exercises will be scheduled following classroom training. County Procedures set forth details on County planning for, participation in, and evaluation of drills and exercises.

30(b). The planning for the drills and exercises by the State is not adequate. [5/12/83 Response, at 4]

RESPONSE 30(b). [Mannell] The State's five years of experience in planning and participating in drills and exercises with respect to the ingestion exposure pathway EPZ for Cooper nuclear station provide a solid basis for planning drills and exercises in support of Wolf Creek. Periodic exercises are conducted to evaluate emergency response capabilities. A bi-annual state coordinated exercise will be conducted to simulate state emergency response to an accident at Wolf Creek, and will include mobilization of state and local resources to verify the capability to respond. The exercise will be varied so as to test, over a five year period, all major components of the emergency response plans and the preparedness of organizations with emergency responsibilities. The timing of the exercise will be consistent with the exercise time schedules programmed by KG&E, and in conformance with the requirements of 10 CFR Part 50, Appendix E. In addition, the State scenario will be based upon and consistent with the KG&E scenario. FEMA representatives will be invited to observe, and a critique will be conducted following the exercise. Any deficiencies and problems identified in the critique will be timely resolved. In addition, periodic drills are conducted for state and local response organizations. These drills are designed to evaluate specific portions of the overall emergency response capability, such as communications and radiological and health physics.

The drills, like the exercises, are critiqued to identify any problem areas for resolution.

30(c). The Emergency Preparedness Coordinator has not made arrangements to coordinate training drills and exercises with KG&E and the State agencies. (C, § 1.2.3) [4/7/83 Answers, at 16]

RESPONSE 30(c). [Wilcox] KG&E, the County and the State have developed a coordinated schedule for the initial exercises. See Response 30(a). Drills leading up to the initial exercises will be scheduled with KG&E, the County and the State as appropriate. The first County drills are scheduled for early April 1984.

30(d). The details of the drills should be specified in the County Plan and there should be specifics about the goals of the drills so that the Emergency Response Coordinator can measure the results to determine if the personnel and equipment are adequate to deal with an emergency. (C, § 5.2) [4/7/83 Answers, at 43]

RESPONSE 30(d). [Wilcox] The County Plan should not contain the details of the drills. This level of detail would make the Plan unworkable. Neither should the Plan specify the goals of drills; each drill would have different acceptance criteria, depending upon the nature of the drill. The County Plan specifies the frequency of drills. The County Procedures contain guidelines on the development of scenarios and acceptance criteria.



31(a). The personnel, materials, etc. required for the emergency response should be detailed more, and the person responsible for the control of the personnel and materials should be designated in more detail. (C, § 1.1) [4/7/83 Answers, at 12]

RESPONSE 31(a). [Wilcox] County Administrative Procedures will specify the personnel, equipment and materials available, including the persons responsible for control. These at least meet the requirements to implement the Plan.

31(b). The County Plan is deficient because it does not adequately indicate the number of the various types of equipment (other than dosimetry) that will need to be issued to County emergency workers. (C, § 1.2.10) [4/7/83 Answers, at 23]

RESPONSE 31(b). [Wilcox] The numbers of the types of equipment that will need to be issued will be specified in the County Administrative Procedures.

31(c). The fire departments of Burlington and other cities in Coffey County do not have radio equipment which is needed to communicate with the Sheriff's Office. [1/22/82 Answers, at 9]

RESPONSE 31(c). [Wilcox] The new County radio system will enable all fire departments in the County to communicate with the Sheriff's office.

31(d). The Coffey County Road Department needs radio equipment for its vehicles to communicate with the Sheriff and others in the event of an emergency. [1/22/82 Answers, at 9]

RESPONSE 31(d). [Bowers] The County Engineer's vehicles will have radio equipment to communicate with the Sheriff's dispatcher and the EOC.

31(f). Protection gear for protection against radiation is needed for all workers who are involved in the evacuation plan. Three hundred fifty people will be involved in three shifts. If so, 116 sets of protective gear are required. [1/22/82 Answers, at 10]

RESPONSE 31(f). [Naylor/Lewis] Protective gear is not required for emergency workers. If the dose levels are high enough, emergency workers would be evacuated. In any event, KG&E has 100 sets of anti-contamination clothing, which could be made available to any emergency worker, should the need develop.

31(h). The Chairman of the County Commission is not capable of assuring that the portions of the emergency response organization which require 24 hour per day coverage are staffed or that the required resources are requested from the State. The County Plan needs to set forth how he will accomplish this in relation to other people involved in the plan. (C, § 1.2.1) [4/7/83 Answers, at 13-14]

RESPONSE 31(h). [Wilcox] The staffing of the emergency response organization is contained in the County Plan, which has been approved by the County Commission and signed by the Chairman. All portions of the emergency response organization which might have to function on a round-the-clock basis during an accident have adequate staffing for 24 hour per day coverage, especially during the early hours of an accident. During an accident, emergency workers would be on 12 hour on/12 hour off shifts. After the first several hours, significant additional resources from state, federal, other counties, and KG&E resources would be readily available. Requests for additional resources from the State would be channeled through the Emergency Preparedness Coordinator to the Kansas Division of Emergency Preparedness, except for requests for law enforcement assistance, which would be made by the County Sheriff. County Plan, § 1.4.1.

31(i). The County Plan is deficient because it does not describe the resources of the State of Kansas that are available to the emergency response organization and how they will be made available to the emergency response organization. (C, § 1.4.1) [4/7/83 Answers, at 23]

RESPONSE 31(i). [Wilcox] The resources of the State available to the emergency response organization are described in the State Disaster Emergency Plan. There is no need that they also be described in the County Plan.

31(j). The State Plan should detail how many people and how much equipment are needed to respond to the emergency at Wolf Creek. (K, Tab A) [4/7/83 Answers, at 44]

RESPONSE 31(j). [Mannell] Although lists of the personnel and equipment which would be available in an emergency are often valuable additions to plans or procedures, the number of people and the amount of equipment which might be "needed" in an emergency cannot be included, since those "needs" must necessarily be determined by the situation-specific facts of the actual emergency -- e.g., the classification of the emergency, the protective action selected, the time of the day and the year, and the weather at the time of the emergency. In any event, the State Plan is written at a conceptual level, and should not be burdened with the level of detail which would be associated with lists of hypothetical "needs." However, administrative procedures will incorporate lists of available resources.

[Mileti] Emergency planning and preparedness are familiar processes applicable to a wide range of events. A large body of experience with preparedness and plans has established several significant principles about the character of plans (for example, the level of needed detail), how the character of plans affects actual states of readiness (for example, knowing what one should know in order to be able to respond well in a future emergency), and how the character of plans affects actual emergency response (for example, what people and organizations actually do when emergencies occur).



An important purpose of any emergency plan is to acquaint emergency workers with what they should do in an emergency, to explain the relationship of their work to the work of others, and to give everyone an overview of the entire emergency response effort. Very lengthy plans will likely not be read or remembered and so will not serve this purpose. Long plans are also too burdensome to be turned to and used for reference in an actual emergency (if necessary). Therefore, brief plans are most useful in actually effectuating a good emergency response. At the same time, however, the operating procedures which accompany plans should include sufficient detail to outline each emergency task for those who must become acquainted with the specific aspects of their emergency roles. Thus, while an emergency plan should provide only a general overview of the whole emergency response effort so that all organizations and workers can understand it and see how they fit into it, the level of detail necessary to accomplish each specific task or job should be incorporated into operating procedures.

Flexibility in doing emergency work, however, is an essential ingredient to design into both emergency plans and procedures. It would be inappropriate, for example, for emergency procedures for fire department personnel to describe how fires should be extinguished. The circumstances of the emergency dictate to professional personnel who know how to put out fires (because they do that job routinely) how a particular fire is best extinguished. Thus, the efficacy of emergency

plans and procedures in an actual emergency would be dramatically reduced if this sort of flexibility were removed by specifying precisely how tasks or functions are to be performed, thereby robbing professionals of the ability to exercise their expert judgment by taking into account the circumstances of the actual emergency.

31(k). The emergency equipment described in Section 1.6, page H-5, of the State Plan will not be adequate to handle an emergency. More equipment will be required. (K, Tab H) [4/7/83 Answers, at 46]

RESPONSE 31(k). [Mannell] The State Plan provides for more than enough radiological monitoring and survey equipment to handle an emergency. The Kansas Division of Emergency Preparedness ("KDEP") has 50 CDV-700 G.M. instruments, and the Bureau of Radiation Control ("BRC") has 4 G.M. instruments in addition to its 5 civil defense kits (which each include two CDV-700 G.M. instruments). Each of the approximately seven monitoring teams will have two CDV-700s; the remainder of those instruments will be available to monitor persons and vehicles for contamination. KDEP also has 100 pocket dosimeters in the 0-200 mR range, and 100 in the 0-20 R range; this dosimetry is reserved for State personnel, since the County will have its own dosimetry available locally. The Kansas Department of Transportation is the only major state agency which would draw on this State reserve. The Kansas Highway Patrol has its own dosimetry, and BRC already has 10 pocket ion chambers for its own use. In addition, each of BRC's 5 civil defense kits includes 3 0-20 R pocket dosimeters and 3 0-200 mR pocket dosimeters, which would be available. BRC also has 1 NaI instrument and 1 portable air sampler available for use in an emergency. This equipment, along with the seven air samplers being provided by Applicants, will provide adequate monitoring capability to protect the public health and safety.

31(1). None of the equipment described in Section 1.6, page H-5, of the State Plan is located in Coffey County; it will not be available to Coffey County emergency personnel in a short enough period of time. (K, Tab H) [4/7/83 Answers, at 46]

RESPONSE 31(1). [Mannell] The equipment listed in the State Plan is not relied upon for the initial local response to an emergency. It is for the use of State emergency workers, and for reserve. The dosimetry for County emergency workers will be available in the County, and an adequate supply of radiation monitoring equipment will be available in the County for the use of the radiation monitoring teams.

31(m). There is no plan specified for issuing equipment to County emergency workers. (C, § 1.2.10) [4/7/83 Answers, at 22]

RESPONSE 31(m). [Wilcox] County Procedures specify the plans for issuing equipment to County emergency workers.

31(n). The State Department of Transportation personnel are not equipped to perform responsibilities specified in the State Plan. (K, Tab B) [4/7/83 Answers, at 45]

RESPONSE 31(n). [Mannell] In an emergency at Wolf Creek, Kansas Department of Transportation ("KDOT") would augment emergency response by providing traffic barriers and signs, construction equipment, communications support, and radiological monitoring. Thus, KDOT's emergency functions would closely parallel its normal day-to-day responsibilities throughout the State. Therefore, KDOT has equipment far in excess of that necessary to perform its functions under the State Plan. KDOT has innumerable traffic barriers and signs. KDOT also has large numbers of a broad spectrum of types of road construction equipment available to supplement the County's equipment. KDOT construction equipment available within the County includes one three-quarter yard loader, three medium dump trucks, and one three-quarter ton pickup. Other equipment from throughout the State could readily be made available, as necessary. Communications support could be provided by the approximately 12 radio-equipped KDOT vehicles within the district. Finally 13 certified KDOT radiation monitoring personnel will be trained in the Joint Training Program, and will be available to serve as radiation monitors at two access control positions. A radiation monitoring kit will be available for each position.

31(o). The Kansas Highway Patrol personnel are not equipped to carry out all the responsibilities specified in the State Plan. (K, Tab B) [4/7/83 Answers, at 45]

RESPONSE 31(o). [Mannell] In an emergency at Wolf Creek, the Kansas Highway Patrol ("KHP") would assist in emergency response by providing traffic control coordination, augmentation of local law enforcement, maintenance of 24-hour communications and communications support, and evacuation assistance. Thus, KHP's emergency functions would also closely parallel its normal day-to-day responsibilities throughout the State. Therefore, KHP too has equipment far in excess of that necessary to perform its functions under the State Plan. Troopers would likely use their patrol cars as barriers, though the State Department of Transportation has sawhorses available for this purpose as well. Each patrol car is radio-equipped, and each of the 8 KHP division headquarters has a base station, which is manned 24 hours a day.

31(p). The plan is deficient because it does not provide for the means to check and maintain equipment that will be used to implement the plan. [5/12/83 Response, at 5]

RESPONSE 31(p). [Wilcox] Most equipment used to implement the plan is used on a regular basis and is maintained accordingly (for example, County vehicles, school buses, etc.). Radiological monitoring equipment and dosimetry is maintained as stated in Response 19(x). Monthly communication drills will be conducted as stated in § 5.2 of the Plan. The testing and use of the sirens and tone alert radios is described in Responses 11(e) and (j).

[Mannell] The State Plan provides that the equipment listed in Tables H-1 and H-2 will be inventoried and inspected quarterly, and after each use. State Plan, Tab H, §1.6.

[Wilcox] Similarly, the County Plan tasks the Radiological Defense Officer with responsibility for checking the contents of each radiation monitoring kit and testing the operability of each detector at least once a calendar quarter. County Plan, § 4.3.1.



31(q). The plan is deficient because it does not provide for backup equipment when radiation monitoring equipment, transportation equipment for evacuation of people, and communications and warning equipment is not available or is inoperable. [5/12/83 Response, at 6]

RESPONSE 31(q). [Wilcox] Adequate backup equipment is available for radiation monitoring, transportation, communications and warning. The County has more than enough radiation monitoring equipment to meet its needs. See Responses 19(r)-(s). Additional equipment would be readily available from KG&E and the State. There are more than enough school buses to provide transportation both for students and for others needing transportation assistance. See Response 14(d). The communications network includes telephone, radio and teletype links. See, e.g., Responses 1(d), (e), (g), (l), 2(c). The sirens and tone alert radios are tested and maintained on a sufficient frequency to be very reliable. See Responses 11(e) and (j). If a siren were to fail, law enforcement and fire department vehicles could be dispatched to provide warning.

31(r). The Kansas Department of Health and Environment does not have enough people to perform the functions specified in Section 2.1.1.2, page B-16 of the State Plan. [4/7/83 Answers, at 2, 5-6]

RESPONSE 31(r). [Mannell] The Kansas Department of Health and Environment ("KDHE") employs hundreds of people statewide, who could be made available in an emergency at Wolf Creek to perform the emergency response functions assigned to KDHE -- serving as the lead state agency for operational response, conducting radiological monitoring, assessing environmental contamination, coordinating emergency medical support, and providing information and guidance to the public through the Division of Emergency Preparedness. Most of KDHE's functions during an evacuation are administrative (with the exception of radiological monitoring and assessment of environmental contamination), require few personnel, and would be performed outside the plume exposure pathway EPZ. Thus, there are KDHE personnel available far in excess of the number necessary to perform the assigned administrative duties. In addition, KDHE would supply 7 personnel from the Bureau of Radiation Control to form joint radiation monitoring teams with representatives of the County and KG&E. Finally, one KDHE representative will be stationed at the Emergency Operations Facility, to assess contamination of the environment.

31(s). The Kansas Department of Transportation does not have enough staff to perform all of the functions specified in Section 2.1.2.2, page B-17, of the State Plan. [4/7/83 Answers, at 2, 5-6]

RESPONSE 31(s). [Mannell] In an emergency at Wolf Creek, the Kansas Department of Transportation ("KDOT") would augment emergency response by providing traffic barriers and signs, construction equipment, communications support, and radiological monitoring. KDOT employs hundreds of persons statewide. Therefore, there are KDOT personnel available far in excess of the number needed to supplement (if required) other State and County personnel. Many KDOT personnel operate construction equipment regularly in the course of normal day-to-day business and could be made available in an emergency. KDOT personnel who are in the field can provide communications support via the radios in their vehicles. Moreover, the State Plan, Table F-1, expressly provides for the availability of 15 mobile KDOT units in the event of an emergency at Wolf Creek. Finally, 13 KDOT personnel are available to assist with radiological monitoring at access control positions. See Response 31(n). Thus, KDOT is adequately staffed to perform its functions under the State Plan.

31(t). The Kansas Highway Patrol does not have sufficient staff to perform all of the functions specified in Section 2.1.2.1, page B-17, of the State Plan. (K, Tab B) [4/7/83 Answers, at 2, 5-6, 45]

RESPONSE 31(t). [Mannell] The Kansas Highway Patrol ("KHP") estimates that 50 mobile units will be available for duty in the plume exposure pathway EPZ in an emergency. See State Plan, Table F-1. This is an adequate number of personnel to assist other State and County personnel in performing the evacuation-related functions listed in the State Plan -- traffic control coordination, augmentation of local law enforcement, and general evacuation assistance. In addition, all KHP Division Headquarters routinely maintain round-the-clock communications capabilities, and would therefore have personnel available at all times to provide 24-hour emergency communications and emergency communications support.

31(u). The Kansas Department of Social and Rehabilitation Services does not have sufficient staff to perform all of the functions specified in the State Plan. [4/7/83 Answers, at 5-6]

RESPONSE 31(u). [Mannell] Under the current concept of operations for the management of registration centers and congregate care facilities, the Kansas Department of Social and Rehabilitation Services ("SRS") provides only supplemental assistance to the host countries, as needed. See Response 20(g). SRS employs hundreds of persons statewide, who could be made available in an emergency at Wolf Creek to perform the emergency response functions assigned to SRS in the State Plan -- coordinating relief activities with the American Red Cross and other relief agencies, and providing personnel to assist in operation of registration centers and congregate care facilities. Thus, there are SRS personnel available far in excess of the number needed to supplement host county, and private organization personnel (if required).

31(v). The plan is deficient because it does not provide for the replacement of emergency workers who are not available or who fail to appear for work. [5/12/83 Response, at 6]

RESPONSE 31(v). [Wilcox] All key members of the Emergency Response Organization have alternates. There are more trained radiological monitors than are required to implement the County Plan. See Responses 19(h)-(j). The County Engineer has a staff larger than is needed to meet his responsibilities. See Response 6(n). The resources of the Kansas Highway Patrol, the National Guard, and other state-wide resources would also be available if needed. See County Plan § 1.4.1. See generally State Plan.

[Wilcox/Mannell] Emergency planning for Wolf Creek has accounted for the unavailability of emergency workers, because many more personnel have been identified as resources than would actually be necessary to implement an evacuation.

[Mannell] In addition, past experience has demonstrated that, typically, more volunteers respond in an emergency than are actually needed, out of a desire to participate in the action while being of service to their community.

[Mileti] In the history of investigated emergencies in the United States -- this research began with a small effort in the early part of the century and has flourished since the 1950's -- not one example has been discovered where emergency work has suffered because emergency workers were not available or because of failure to appear for work. The reason is that emergency workers, who know that they have an emergency job to

do, interpret an emergency as a time when they are needed to do their job. In a nuclear power plant emergency, emergency workers will make themselves available for their jobs and show up for work. This outcome is doubly likely if those workers are trained and provided dosimeters.

32(a). Coffey County needs \$4,153,000 in additional funds (for the first 5 years of plant operation) for successful implementation of the evacuation plan. These funds are needed for:

Firetrucks for use at roadblocks (5)	\$100,000
Loudspeakers for warning cars	11,400
Warning tone alerts for residences and businesses	105,000
Litter buses for nursing home evacuation	25,000
Litters	1,500
Monitors (radiological)	25,000
Road barriers for roadblocks	4,600
Protective gear	58,000
Communications equipment	50,000
Additional telephones and telephone communication equipment	15,000
Additional communications equipment for 60 roadblocks	60,000
Decontamination equipment (200 sets) for evacuation centers	200,000
Radiation monitoring equipment (100 sets) for decontamination centers	100,000
Additional snow removal equipment (10 trucks and blades)	200,000
Rental of emergency transportation vehicles (200 vehicles x \$50 each)	10,000
Rental of vehicles for the Radiation Monitoring Team (10 vehicles x \$50 each/day x 5 days)	2,500
Shelter for 9,000 people at evacuation centers (9,000 people x \$50 each/day x 5 days)	2,250,000



Emergency medical care and evacuation for 1,000 radiological injuries	500,000
Sirens	160,000
Annual maintenance of equipment (5 yr. x \$10,000/yr.)	50,000
Compensation - Emergency (300 workers x \$100 each/day x 5 days)	150,000
Training (5 yr.)	75,000

These costs must be covered. If not, the plan cannot be implemented. The Coffey County Commissioners have not provided for the cost and must make a commitment to do so. [1/22/82 Answers, at 10-11; 4/7/83 Answers, at 10-11; 5/12/83 Response, at 7]

RESPONSE 32(a). [Wilcox] The Coffey County Board of County Commissioners, by Resolution No. 180, dated June 6, 1983, (County Plan, App. B; pp. B-16-24), codified the establishment of the Emergency Preparedness Office and the responsibilities and powers of various County officials in connection with emergency preparedness and emergencies. The resolution provides that

The Board of County Commissioners shall provide for and maintain the necessary resources to carry out the purpose of this resolution.

This commitment assures that necessary financial resources will be available. In addition, most of the items identified in this contention are either not needed or are already available.

1. Fire trucks for use at roadblocks:  
These are already available. Response 19(dd).

2. Loudspeakers for warning cars: All patrol cars for Sheriff's deputies have loudspeakers.
3. Tone alerts: All tone alert radios (commercial and residential) will be supplied by KG&E.
4. Litter buses: None are needed. See Response 15(c).
5. Litters: None are needed. See Response 15(c).
6. Radiological monitors: The County already has radiological monitoring equipment. Responses 19(r)-(s). The State provides this equipment.
7. Road barriers: About half are already available. Response 18(m). The remainder are included in the Road and Bridge budget.
8. Protective gear: Protective gear is not needed. Response 31(f). If it were needed, KG&E would make such gear available to the County.
9. Communications equipment: The County has budgeted funds for and placed an order for a new \$260,000 radio system.
10. Telephones: The County general fund includes \$300 per month for operation of the Emergency Preparedness Coordinator's telephones. The additional phones for the new EOC are under study. Federal matching funds are available for the new phones.
11. Additional communications equipment for roadblocks: No additional communications equipment is needed. Response 18(w).
12. Decontamination equipment for registration centers: No special equipment is needed. Each host county registration center has shower facilities. Existing hoses would be used for vehicle decontamination. Response 19(dd).

13. Radiological monitoring equipment for registration centers: This equipment is furnished by the State to the host counties.
14. Additional snow removal equipment: No additional equipment is called for by the Plan or needed.
15. Emergency transportation vehicle rentals: No such vehicle rentals would be needed.
16. Rental of vehicles of Radiation Monitoring Teams: No such rentals would be needed. Response 19(y).
17. Shelter for 9,000 people: These costs, even if real, would only occur in the event of an accident requiring evacuation. They would therefore not be budgeted in advance. In any case, shelters are provided by the host counties. Response 20(i). Furthermore, shelter for only a small fraction of the plume exposure pathway EPZ population of 6000 would be required. Response 20(i).
18. Sirens: All sirens will be furnished by KG&E.
19. Annual maintenance of equipment: The County Office of Emergency Preparedness has no significant responsibilities for maintenance of equipment. Any funds expended for maintenance on an ad hoc basis would be an insignificant share of the overall County budget.
20. Compensation: The only additional compensation would be for overtime for County employees in the event of an emergency. Such funds would therefore not be budgeted in advance.
21. Training: Training for emergency workers will involve minor additional costs to the County, as most workers will be trained during normal work hours. Mileage will be paid for

certain trainees (for example host county personnel who travel to Coffey County for training), but that cost, which would be an incidental expense, may be reimbursed by the State.

32(b). The Kansas Emergency Preparedness Office needs \$127,000 in additional funds (for the first 5 years of plant operation) for successful implementation of the evacuation plan. The funds are needed for:

Training - Initial	\$ 27,000
Annual (5 yr. x \$20,000)	100,000

RESPONSE 32(b). [Mannell] The annual FEMA funding to the State includes \$22,000 for the training of State agency personnel (about one-fourth of whom would be involved in the response to an emergency at Wolf Creek), as well as upper-level County emergency personnel. This amount does not include any expenditures for the Wolf Creek Joint Training Program. The \$22,000 in funding is sufficient for initial training for successful implementation of the response to an emergency at Wolf Creek. The State's need for training funds in subsequent years will be significantly reduced, because the State will be primarily concerned with retraining (in addition to the training of replacement personnel). The State anticipates no difficulty in obtaining adequate funding for this subsequent training.