

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Clay C. Warren
Chief Operating Officer

SEP 18 1998

WO 98-0087

U. S. Nuclear Regulatory Commission
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- References:
- 1) Letter WO 97-0058, dated August 6, 1997, from C. C. Warren, WCNOG, to USNRC
 - 2) Letter WO 98-0007, dated January 27, 1998, from C. C. Warren, WCNOG, to USNRC
 - 3) Letter WO 98-0022, dated March 19, 1998, from C. C. Warren, WCNOG, to USNRC

Subject: Docket No. 50-482: Proposed Revisions To The WCNOG Radiological Emergency Response Plan

Gentlemen:

This letter provides proposed RERP changes that were discussed during a meeting held with the NRC staff on August 6, 1998. The proposed WCNOG RERP changes are being submitted in accordance with 10 CFR 50.54 (q) for prior NRC approval. This submittal contains only those changes that WCNOG has determined require prior NRC approval, and replaces the previous submittals referenced above in their entirety.

Attachment 1 provides background information, a description of the proposed changes, and justification for the changes. Attachment 2 contains a list of the commitments made in this submittal. Revised RERP pages necessary to implement the described changes are provided as an enclosure to this letter.

Reference 1 submitted a proposed change to the Wolf Creek Generating Station Radiological Emergency Response Plan (RERP). Reference 2 submitted additional information requested in a telephone conversation between Wolf Creek Nuclear Operation Corporation (WCNOG) personnel and the NRC Staff on January 5, 1998. Reference 3 provided supplemental information to address issues discussed in a telephone conversation between WCNOG and the NRC Staff on February 4, 1998.

If you have any questions regarding this submittal, please contact me at (316) 364-8831, extension 4485, or Mr. Michael J. Angus at extension 4077.

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Very truly yours,

Clay C. Warren
Clay C. Warren

CCW/rlr

Attachment 1 - Change Discussion and Justification
Attachment 2 - List of Commitments
Enclosure 1 - Revised Pages; WCGS Radiological Emergency Response Plan

cc: W. D. Johnson (NRC), w/a, w/e
E. W. Merschoff (NRC), w/a, w/e
B. A. Smallbridge (NRC), w/a, w/e
K. M. Thomas (NRC), w/a, w/e

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Background and Description of Proposed Changes

By References 1, 2, and 3, WCNOG submitted proposed changes to the Wolf Creek Generating Station (WCGS) Radiological Emergency Response Plan (RERP). Some of these changes, as noted in the submittals, were determined to involve a reduction in the effectiveness of the WCGS RERP. Telephone conversations were held January 5, 1998, January 29, 1998, February 4, 1998, and, July 14, 1998, to discuss these changes. During a meeting with the NRC staff held on August 6, 1998, WCNOG proposed modifications to the changes previously requested. Based on NRC staff feedback during that meeting, WCNOG has further modified the changes being requested. Therefore, this submittal replaces the previously submittals in their entirety.

This attachment provides the basis for each change for which approval is being requested. Revised pages reflecting the proposed changes are provided in the enclosure to this letter.

During the licensing phase of WCGS, WCNOG committed to meeting the guidance contained in NUREG-0737, Clarification of TMI Action Plan Requirements. WCNOG uses NUREG-0696, Functional Criteria for Emergency Response Facilities, and NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, as guidance when developing emergency planning activities. A discussion of how each change relates to the appropriate criteria of these NUREGs is provided in the justification for the proposed changes.

The changes being submitted for consideration are identified by bolded text and annotated by revision bars on the pages provided in the enclosure. The changes include: 1) an increase in the activation time for the Technical Support Center (TSC); 2) a change in the specific required positions for activation of the TSC; and 3) deletion of the administrative Emergency Planner position from the WCNOG Emergency Response Organization (ERO).

Two additional changes associated to timing of exercises were previously determined, in accordance with 10 CFR 50.54(q), not to be a reduction in the effectiveness of the plan. However, based on discussion with NRC Region IV personnel, the changes may be considered a reduction in the effectiveness of the plan and are therefore being submitted for approval. These changes are: 1) a reduction in the frequency of required exercises from annually to once every 2 years (biennially); and, 2) a reduction in the frequency of the ingestion pathway exercise from once every 5 years to once every 6 years. These changes reflect recent rule changes to 10 CFR 50, Appendix E.

Specific Changes Submitted for Consideration and Approval

1. Technical Support Center Activation Time

WCNOC proposes to increase the activation time for the TSC during off-normal working hours from the current time of 60 minutes to a goal of 75 minutes. This change is annotated in Step 6.6.1 of the enclosed RERP.

The requirements of 10 CFR 100 encourage remote siting of nuclear power plants. Wolf Creek is remotely sited in Coffey County, Kansas, which has a total population of approximately 8,600 and an average population density of 13 persons per square mile within 10 miles of the plant. The largest city within 60 miles is Topeka, Kansas, with a 1996 population of 120,000. Emporia, Kansas, is the next largest town with a 1996 population of 26,000, followed by Ottawa, Kansas, with a 1996 population of 5,500. Burlington, Kansas is a small town located within 10 miles of the plant with a 1996 population of 3,000.

The majority of the incorporated towns within 60 miles have less than 1,000 people. The road distances to Topeka, Emporia, Ottawa and Burlington are 60, 41, 44, and 10 miles, respectively. Figure 1 shows towns and cities in the area, the major routes to the site, and the approximate distances from the towns and cities.

Recent drill performance at WCGS indicates that it takes approximately 15 minutes to activate the TSC once personnel have arrived at the facility. Therefore, in order to consistently achieve both staff augmentation and activation of the TSC within the current 60 minute goal, the staff must be able to respond to the TSC in 45 minutes. Research has determined that (excluding drive time) a 16 minute block of time is required for a typical employee to respond to the plant, independent of their location. This 16 minute block includes: 5 minutes from the time of event declaration to activation of the Automatic Dialing System and personnel call reception; 7 minutes to respond to the call and begin driving to site; and, 4 minutes to walk to the TSC once vehicles are parked. Adding this 16 minute block to the 15 minutes necessary for effective activation of the TSC leaves a driving time of approximately 29 minutes [$60 - (16 + 15) = 29$].

Based on existing speed limits, in order to consistently achieve both augmentation and activation within the 60 minutes currently allotted, WCNOC TSC personnel would be required to live within approximately 30 miles of the site on an improved, paved road. However, the necessary volume and variety of housing are not available within a 29 minute drive time of the plant. In addition, shopping, housing, cultural events, and spousal job opportunities are limited within a 30 mile radius of the plant. As a result, most ERO personnel live outside of a 29 minute driving time.

WCNOC off-normal hour mobilization drills have reflected an ongoing difficulty in meeting the 60 minute TSC activation requirement. The average TSC activation time for the last four mobilization drills has been 75 minutes. Only once in these drills has the 60 minute TSC activation time been achieved. Because of the remoteness of the site, effective corrective actions have been difficult to implement. It is possible, to staff and activate the TSC with people who live close to the plant site. However, to distribute the ERO responsibilities to include other staff, allowing multiple ERO teams, it is necessary to expand the living radius for employees. In addition, WCNOC does not believe it is in the long term interest of the Corporation to require current or future staff to live within a 30 mile radius of the plant. A

requirement of this nature would greatly impact our ability to attract and maintain the talent pool necessary to assure long term high performance.

Separating the activation time of the TSC from the augmentation time requirement of 60 minutes and allowing an additional 15 minutes for activation of the TSC would improve the safety of the ERO responding to the TSC in that the employees would not feel the need to violate speed limits or otherwise jeopardize their personal safety to meet an overly restrictive time limit. The additional 15 minutes for activation would, based on current speed limits and primary travel routes, allow employees living within 50 miles of the site to successfully support the ERO and TSC activation. This increased radius improves the housing selection by allowing employees to live in Emporia, Ottawa, Burlington, and on the south side of Topeka. Having this range of living options for ERO personnel will enhance Wolf Creek's ability to attract and maintain talented employees, and improve our consistency in meeting activation requirements.

In support of this change, WCNOG reviewed the control room staffing both in effect today and that which was in place at the time of initial licensing and RERP approval (see tables below).

Operations Crews On-shift Capability (Current)

	Crew A	Crew B	Crew C	Crew D	Crew E	Crew F
Shift Supervisor	1	1	1	1	1	1
Shift Engineer (STA)	1	1	1	1	1	1
Supervising Operator	1	1	1	1	1	1
Reactor Operator	3	2	3	3	3	2
Non-Licensed Operator	6	7	7	6	6	6
Total	12	12	13	12	12	11

Operations Crews On-shift Capability (3-11-85)

	Crew A	Crew B	Crew C	Crew D	Crew E
Combined Role Shift Supervisor/STA	1	1	1	1	1
Supervising Operator	1	1	1	1	1
Reactor Operator	3	3	4	2	3
Non-Licensed Operator	4	4	4	6	3
Total	9	9	10	10	8

As indicated by the tables, the size of the shift operations staff available to respond to emergencies has increased since the time of licensing. One significant change in staffing involved the addition of a Shift Engineer. This individual fulfills the Shift Technical Advisor (STA) function during an emergency, eliminating the need for having the

STA function as a concurrent role of the Shift Supervisor. With the addition of a Shift Engineer on each operating crew, the Control Room is better able to retain overall command and control of the event while the TSC completes the activation process. Therefore, a 15 minute increase in TSC activation time will not have a significant affect on the ability of the WCNOE Emergency Response Organization (ERO) to protect the health and safety of the public. Attachment D to the WCNOE RERP contained in the enclosure to this letter (the NUREG-0654, Table B1 equivalent) has been revised to reflect WCNOE's commitment to maintain one individual, currently the Shift Engineer, qualified to perform the functions of the Shift Technical Advisor on each operating crew.

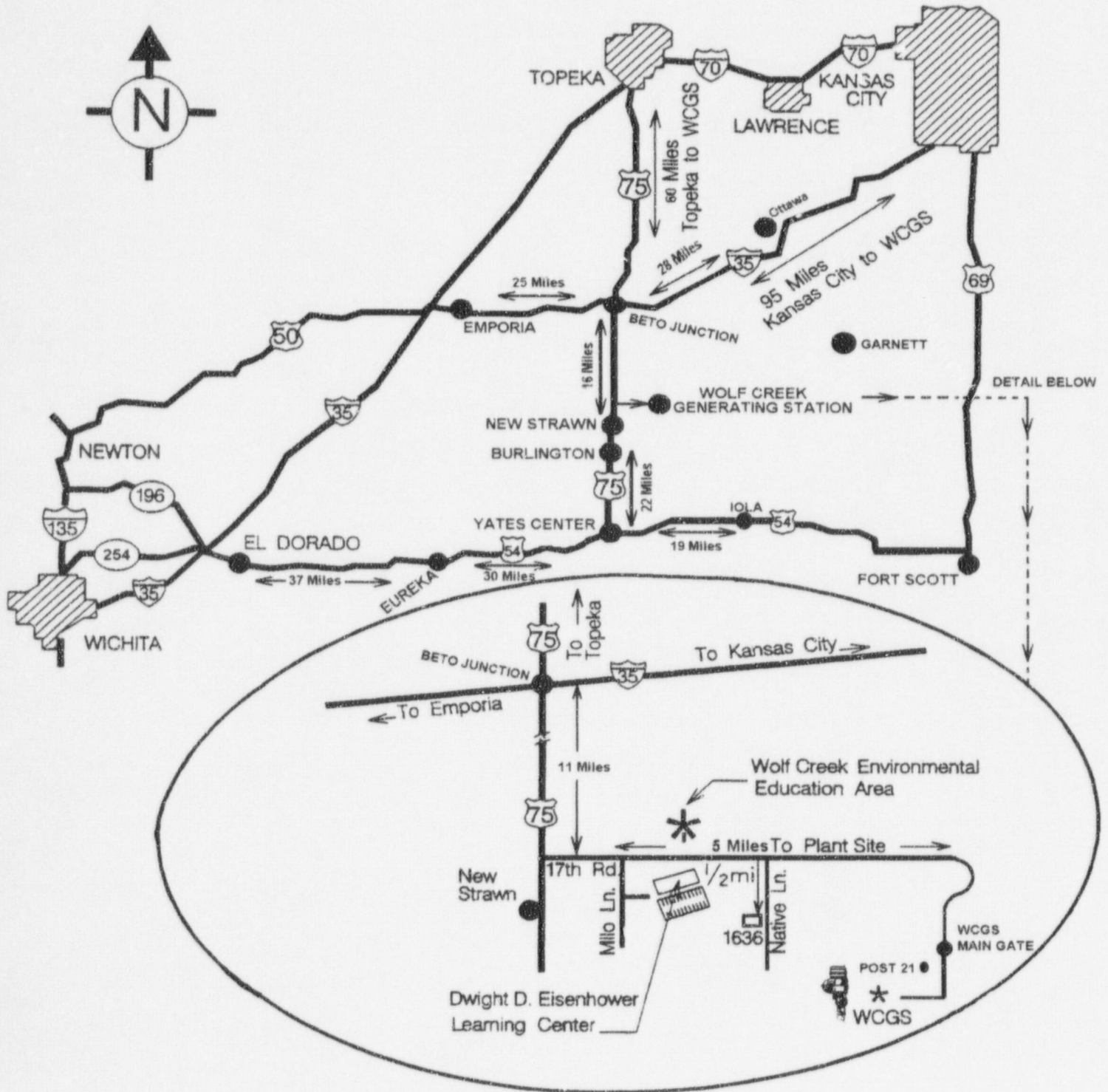
WCNOE also reviewed the ability of WCNOE ERO personnel to respond to the TSC. Augmentation of the shift staffing in accordance with Attachment D to the RERP submittal can be accomplished in 60 minutes. This is a very aggressive, but achievable goal. However, WCNOE believes achieving both activation and augmentation in 60 minutes is not practicable at WCGS.

The activation goal of 75 minutes is consistent with the intent of NUREG-0737 relative to activation of the TSC. Item 8.2.1 of NUREG-0737, Supplement 1, TSC Requirements, Part j, states, "Staffed by sufficient technical, engineering, and senior designated licensee officials to provide needed support, and be fully operational within approximately 1 hour after activation." WCNOE believes that activation of the TSC within 75 minutes, for the WCGS site, is consistent with this provision.

This change is also consistent with the intent of NUREG-0654, which states in evaluation criteria 4, "Each organization shall provide for timely activation and staffing of the facilities and centers described in the plan." WCNOE believes that activation of the TSC within 75 minutes, for the WCGS site, constitutes timely activation.

In conclusion, a 15 minute increase in activation time of the TSC meets the intent of NUREG-0654 and NUREG-0737. The safety of the responding ERO personnel would be improved, and the long term health of the corporation preserved. The addition of a Shift Engineer enhances the ability of the Control Room to effectively maintain the overall control of the emergency for an additional 15 minutes following an event. Therefore, the overall protection of the health and safety of the public is not affected by this change.

Figure 1



2. Positions Required to Activate the TSC

This proposed change revises the specific positions required to activate the TSC by removing the "Table 1.1-1 required personnel" from the activation requirement. In the currently approved plan, five specific positions and the augmentation table positions are required to activate the TSC. This requirement was based on the concept that augmentation of staff and activation of the TSC are linked together. Wolf Creek now considers these as separate activities. Emergency staff augmentation is initiated whenever an emergency is declared and the Duty Emergency Director in the control room deems it necessary to add to the on-shift staffing levels. This augmentation may occur at any time or emergency classification level.

The function of the TSC is to provide control of the emergency and thus remove this burden from the control room. To perform this function, the TSC must have key, core capabilities. WCNOG would activate the TSC when these capabilities are met without waiting for the arrival of other TSC personnel.

Activation of the TSC depends on the five specific position holders accomplishing their activation steps, reporting their readiness to the Duty Emergency Director (DED), and subsequently, the DED declaring the facility activated. The activation steps performed by the five positions include determining that sufficient personnel with the right skills are available, such as engineers. The activation steps also include: accountability responsibilities; verification of communication links; assessing plant conditions; determining that required functions under their direction are in place and capable of taking over responsibility from the control room; and, receiving turnover of plant conditions and response actions currently underway. These steps are delineated in the WCNOG Emergency Plan implementing procedures.

WCNOG believes TSC activation should be based on the ability of the TSC to perform its intended functions for a given event. Activation should be based on the personnel and activities necessary to be carried out by the facility. For example, during a non-radiological emergency such as a tornado that severely damages the turbine building, there is no need to delay activation of the TSC because the full complement of Health Physics technicians has not made it to the site. Relieving the external communication function from the control room once the TSC has the capability would enhance the overall effectiveness of the ERO by improving our flexibility to respond to the nature of the individual event.

This change meets the intent of NUREG-0737 relating to staffing of the TSC. NUREG-0737, Step 8.2.1, TSC Requirements, part j, states, "Staffed by sufficient technical, engineering, and senior designated licensee officials to provide needed support, and be fully operational within approximately 1 hour after activation." With the proposed change in place, activation will be based on the capability of the TSC to perform its intended functions. Procedure guidance for activation of the facility ensures that personnel necessary to support the TSC duties for a specific event are in place.

This change also meets the intent of NUREG-0696. The table below provides TSC functions listed in NUREG-0696, Item 2.1, and the corresponding WCGS TSC positions.

NUREG-0696	Responsible WCNO Position
Provide plant management and technical support to plant operations personnel during emergency conditions.	Duty Emergency Director (DED) Operations Emergency Coordinator (OEC) Radiological Emergency Coordinator (REC) Maintenance Emergency Coordinator (MEC)
Relieve the reactor operators of peripheral duties and communications not directly related to reactor system manipulations.	DED, OEC, Administrative Emergency Coordinator (AEC), REC, MEC
Prevent congestion in the control room.	DED, OEC, AEC, REC, MEC
Perform EOF functions for the Alert Emergency class and for the Site Area Emergency class and General Emergency class until the EOF is functional.	DED, OEC, AEC, REC, MEC
Provide sufficient engineering support to the Control Room.	OEC

NUREG-0696 also states in Item 2.3, Staffing and Training, "The licensee-designated TSC staff shall consist of sufficient technical, engineering, and senior designated licensee officials to provide the needed support to the control room during emergency conditions." The proposed change meets the intent of this NUREG in that the DED, OEC, AEC, REC, and MEC constitute senior designated licensee officials. The technical and engineering support are functions that report to the REC and OEC.

This change also meets the intent of NUREG-0654 guidance, which states in evaluation criteria 4, "Each organization shall provide for timely activation and staffing of the facilities and centers described in the plan." Timely activation and staffing of the emergency facilities will be based on the specific event and the ability of the facility to perform its duties.

In conclusion, the intent of the NUREGs continues to be met. Relieving the control room of overall coordination of the emergency response should be accomplished once the five position holders complete their activation steps, indicate readiness to the DED, and the DED declares the facility activated. Implementation of this change will allow for additional flexibility for the WCNO ERO in fulfilling its obligations and will not impact the organization's ability to protect the health and safety of the public.

3. Elimination of the Emergency Planner position at the TSC.

WCNOC proposes to eliminate the Emergency Planner position in the TSC. This is a WCGS specific position, added in 1994 as an organizational enhancement due to drill performance concerns. The position was intended to: be an "in-facility" consultant to address emergency planning questions; double check to ensure task completion, monitor various functions to ensure completion; and, lend assistance as requested or directed.

The Emergency Planner monitor and assist functions are defined in procedures. However, the responsibility for these functions is actually assigned to other positions, as shown in the following table:

Emergency Planner Function	Actual Responsible Position
Set up of frisker	HP Technician
Synchronize Clocks	OEC
HEPA, Iodine Monitor	OEC
Door signs	Accountability Clerk
Facility Staffing Board	AEC
Status Boards	Clerk/Logkeeper, Operations Status Board Recorder, Field Team Communicators, OEC, Engineers
Accountability	Accountability Clerk
Communications	All position holders
Facility Briefings	DED
Protective Action Recommendations	DED
Control Room Support	DED, OEC, Engineers, MEC, Operations Status Board Recorders
Team Activities	MEC, Onsite Survey Team Director, OSC Supervisor, REC, Field Team Communicators
Public Information	Onsite Public Information Coordinator
Offsite Notifications	AEC, TSC Communicator
EOF Status	DED, AEC, REC, OEC
Transition to Recovery Organization	DED, Engineering Coordinator, AEC
Facility shutdown	OEC
Collection of emergency response documentation	AEC

The results of our most recent training, drills and exercises indicate that TSC position holders no longer need the "in-house" consultant to remind and assist them in their duties. In addition, the time spent in training for ERO positions has increased from 6-8 hours per person per year to 24 hours per person per year.

In conclusion, the Emergency Planner position is a WCGS specific position that is no longer considered necessary. The NUREGs do not suggest the need for this position or its function, the duties assigned to Emergency Planner are being successfully performed by other TSC positions, and this position is not necessary to ensure the health and safety of the public.

4. Changes to Exercise Frequency to Reflect Revised Regulation

Two changes that could be considered reductions in effectiveness based on discussions with the Region IV NRC personnel, also included in this submittal are:

Revised Step 6.19.2 of the enclosed RERP submittal states, "Exercises will be conducted biennially to test the on-site and off-site emergency plans." The currently approved plan states that exercises will be conducted yearly. This change is in accordance with 10 CFR 50 Appendix E, Part F, paragraph 2b. and 2c. which now requires each licensee to conduct an exercise of its onsite and offsite emergency plan once every two years.

Revised Step 6.19.3 of the enclosed RERP submittal states, "To meet NRC and FEMA requirements, the exercises are varied so as to test, at least once every six years, all the major components of the WCGS, State, and County plans and response organizations." Additionally, Step 6.19.3.3 states, "At least once every six years an ingestion pathway exercise shall be conducted." The currently approved RERP states the frequency for these exercise requirements is five years. This change is in accordance with 10 CFR 50 Appendix E, Part F, paragraph 2d which requires an ingestion pathway exercise once every six years. This change is also in accordance with NUREG-0654, Supplement 1 guidance which states in Section N., Exercise and Drills, Evaluation Criteria 1b., "The scenario should be varied from exercise to exercise such that all major elements of the plans and preparedness organizations are tested within a six-year period."

In conclusion, these two changes were identified in previous supplemental submittals. However, they were not determined to reduce the effectiveness of the plan. Subsequent discussion with Region IV NRC personnel suggested that these changes may be perceived as a reduction in the effectiveness of the plan due to the overall reduction in frequency over the life of the plant. The changes have been determined to be in accordance with 10 CFR 50 Appendix E requirements and NUREG 0654 Supplement 1.

LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation (WCNOC) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be commitments. Please direct questions regarding these commitments to Mr. Michael J. Angus, Manager Licensing and Corrective Action at Wolf Creek Generating Station, (316) 364-8831, extension 4077.

COMMITMENT	Due Date/Event
WCNOC will maintain one individual, currently the Shift Engineer, qualified to perform the functions of the Shift Technical Advisor on each operating crew.	Effective upon implementation of this submittal.