APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION REGION IV

NRC Inspection Report: 50-482/86-24

LP: NPF-42

Docket: 50-482

Licensee: Kansas Gas and Electric Company (KG&E) Post Office Box 208 Wichita, Kansas 67201

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: Wolf Creek Site, Coffey County, Burlington, Kansas

Inspection Conducted: October 5 to 31, 1986

E. Cummins, Senior Resident Inspector, Inspectors: Operations, (pars. 2, 3, 4, 5, 7, 8, 10, and 11)

B. L. Bartlett, Resident Reactor Inspector, Operations, (pars. 3, 4, 5, 6, 7, 8, 9, 10, and 11)

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R. P. Mullikin, Project Engineer (par. 9)

Approved:

D. R. Hunter, Chief, Project Section B

Reactor Project Branch

8612050018 86112 PDR ADOCK 05000482 PDR

11/2/86 Date 11/25/86 Date 11/25/14 Date

Inspection Summary

Inspection Conducted October 5-31, 1986 (Report 50-482/86-24)

<u>Areas Inspected</u>: Routine, unannounced inspection including plant status; followup of previously identified NRC items; operational safety verification; engineered safety features system walkdown; monthly surveillance observation; monthly maintenance observation; onsite event followup; preparation for refueling; and refueling activities.

<u>Results</u>: Within the ten areas inspected, two violations were identified (failure to control combustible material in accordance with procedures, paragraph 4, and failure to lock valves in accordance with procedures, paragraph 5).

DETAILS

1. Persons Contacted

Principal Licensee Personnel

- G. L. Koester, Vice President-Nuclear
- J. A. Bailey, Interim Site Director
- + F. T. Rhodes, Plant Manager
- +*G. D. Boyer, Deputy Plant Manager
- + R. M. Grant, Director-Quality
- *M. Estes, Superintendent of Operations
- M. D. Rich, Superintendent of Maintenance
- +*M. G. Williams, Superintendent of Regulatory, Quality, and Administrative Services
- O. L. Maynard, Manager Licensing
- + K. Peterson, Licensing
- +*G. Pendergrass, Licensing
- +*W. M. Lindsay, Supervisor Quality Systems +*C. J. Hoch, QA Technologist

- + W. J. Rudolph, QA Manager-WCGS *J. W. Johnson, Chief of Security
- H. Chernoff, Licensing Engineer
- T. S. Morrill, Chemistry Supervisor
- J. Ives, Site Health Physicist
- *V. MacTaggart, Results Engineering Supervisor
- + R. L. Logsdon, Site Chemist
- *J. L. Blackwell, Fire Protection Coordinator
- *T. L. O'Hearn, Lead Engineer, NPE
- R. M. Stambaugh, QA Supervisor-Audits
- G. W. Reeves, QC Supervisor
- J. Houghton, Operations Coordinator, Operations
- C. G. Patrick, Superintendent of Quality Evaluations

NRC Personnel

- +*J. E. Cummins, Senior Resident Inspector
- +*B. L. Bartlett, Resident Inspector
- + R. P. Mullikin, Project Engineer
- + R. C. Stewart, Project Inspector *L. D. Gilbert, Project Inspector

The NRC inspectors also contacted other members of the licensee's staff during the inspection period to discuss identified issues.

+Denotes those personnel in attendance at the exit meeting held on October 24, 1986.

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*Denotes those personnel in attendance at the exit meeting held on November 6, 1986

2. Plant Status

During this report period, the plant operated in Mode 1 until October 16, 1986, when it was shutdown for the first refueling outage. The refueling outage is scheduled to las⁺ approximately 55 days.

3. Followup On Previously Identified NRC Items

(Closed) Unresolved Item (482/8616-02): Deficiencies in System Checklist

The NRC inspector verified by review of the revised checklists and observation of replaced identification labels on the switchgear that the deficiencies had been corrected and were of minimal safety signifiance. Additionally, the Superintendent of Operations issued WCGS Standing Order 21 which provided specific, detailed instructions for performing 2-year procedure reviews. Procedure quality should be improved by the instructions detailed in Standing Order 21. This item is closed.

(Closed) Violation (482/8616-01): Failure to Adequately Isclate Safety-Related Equipment Prior to Maintenance.

The licensee discussed this event with electrical craftsmen at a training session and added a precaution (section 3.20) to Procedure MGE EOOP-02, Revision 5, "Limitorque Adjustments, Repair, and Service." The added step cautioned craftsmen that work performed on certain valves, specified in the procedure, had the potential for causing an engineered safety features actuation. This item is closed.

(Closed) Violation (482/8608-02): Failure to Maintain Ausiliary Building Buttress Penetrations In Accordance With Fire Hazards Analysis.

The NRC inspector verified through field inspections and by review of Work Request (WR) 02920-86, "Fire Protection Of Hatch Covers In Auxiliary Building," that the "C" containment tendon buttress fire barriers were properly fire proofed. In addition the NRC inspector verified, through a random sample, that plant modification requests (PMR's) received an appropriate determination of TS applicability. This item is closed.

No violations or deviations were identified.

4. Operational Safety Verification

The NRC inspectors verified that the facility is being operated safely and in conformance with regulatory requirements by direct observation of licensee facilities, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and limiting conditions for operations, and reviewing facility records. The NRC inspectors, by observation of randomly selected activities and interview of personnel, verified that physical security, radiation protection, and fire protection activities were controlled.

The NRC inspectors confirmed the operability of the residual heat removal system by observing accessible components for correct valve position and electrical breaker position, and by observing control room indications. The NRC inspectors also visually inspected safety components for leakage, physical damage, and other impairments that could prevent them from performing their designed functions.

Selected NRC inspector observations are discussed below:

During plant tours, the NRC inspector observed the following instances where combustible material was not being controlled in accordance with the requirements of Licensee Procedure ADM 13-102, Revision 5, "Control of Combustible Material":

- Step 3.2.1 of ADM 13-102 required that all wood used in safety-related areas be treated with a flame retardant material. Contrary to this on October 22, 1986, the NRC inspector observed a wooden box (approximately 2.5 ft.X 5 ft.X 5 ft.) made of untreated lumber stored in the train "A" ESF switchgear (No. 3301) on the 2000 ft. level of the control building and on October 26, 1986, the NRC inspector observed four crates made of untreated lumber and four blocks of untreated wood on the 2047 ft. level of the reactor building. The approximate sizes of the crates were 3 ft.X 3 ft.X 3 ft. (two crates), 1 ft.X 2 ft.X 2 ft., and 1 ft.X 1 ft.X 30 ft. The approximate size of each of the blocks of wood was 4 in.X 6 in.X 12 in.
 - Step 5.3.1 of ADM 13-102 required that all provisions and precautions of a combustibles material permit be strictly adhered to. Contrary to this on October 26, 1986, the NRC inspector observed an unlocked temporary flammable liquid storage cabinet containing alcohol and acetone located on the 2047 ft. level of the reactor building. The Combustible Material Permit (86-40) for this temporary storage cabinet required that the cabinet be locked.

The above instances where the requirements of ADM 13-102 were not complied with is an apparent violation (482/8624-01).

5. Engineered Safety Features System Walkdown

The NRC inspectors verified the operability of ESF systems by walking down selected accessible portions of the systems. The NRC inspectors verified valves and electrical circuit breakers were in the required position, power was available, and valves were locked where required. The NRC inspectors also inspected system components for damage or other conditions that could degrade system performance. The ESF system walked down during this inspection period and the documents utilized by the NRC inspectors during the walkdown are listed below:

System

Documents

Diesel Generator NEO1

Checklist CKL KJ-121, Revision 5, Diesel Generator NEO1 and NEO2 Valve Checklist

Drawing M-02KJ01(Q), Revision 5, Piping and Instrumentation Diagram Standby Diesel Generator "A" Cooling Water System

Drawing M-12KJ02(Q), Revision 1, Piping and Instrumentation Diagram Standby Diesel Generator "A" Intake Exhaust, F.O. and Start Air System

Drawing M-O2KJO3(Q), Revision 7, Piping and Instrumentation Diagram Standby Diesel Generator "A" Lube Oil System

Selected NRC inspector observations are discussed below:

- Identification tag for Valve KJ KV44B was hung on Filter FKJ13A rather than the valve.
- Identification tag for Valve KJ KV44A was hung on Filter FKJ13A rather than the valve.
- Identification tags for Valves KJ KV42A and KJ KV40A were swapped. Identification tags were also incorrectly labeled as KJ MV rather than KJ KV.
- Identification tag on Valve KJ-V780A incorrectly identified the valve as KJ-V783A.

The licensee initiated action to correct the above deficiencies and the NRC inspector has no further questions concerning them.

^o During Diesel Generator NEO1 walkdown, on October 22, 1986, the NRC inspector observed that the locking devices on Valves KJ-V767A and KJ-V768A were inadequate in that the locking wire on Valve KJ-V767A had slipped off the operating handle and the locking wire for Valve KJ-V768A was so loosely installed that it could be slipped off and on the valve operating handle without disturbing the locking seal. This failure to adequately lock these valves as required by Checklist CKL KJ-121 is an apparent violation (482/8624-02). The shift supervisor was informed of this condition by the NRC inspector and had the lockwires corrected.

6. Monthly Surveillance Observation

The NRC inspectors observed selected portions of the performance of surveillance testing and/or reviewed completed surveillance test procedures to verify that surveillance activities were performed in accordance with TS requirements and administrative procedures. the NRC inspectors considered the following elements while inspecting surveillance activities:

- Testing was being accomplished by qualified personnel in accordance with an approved procedure.
- ^o The surveillance procedure conformed to TS requirements.
- Required test instrumentation was calibrated.
- Technical Specification limiting conditions for operation (LCO) were satisfied.
- Test data was accurate and complete. Where appropriate, the NRC inspectors performed independent calculations of selected test data to verify their accuracy.
- The performance of the surveillance procedure conformed to applicable administrative procedures.
- ^o The surveillance was performed within the required frequency and the test results met the required limits.

Surveillances witnessed and/or reviewed by the NRC inspectors are listed below:

0	SPE PE-013, Revision 0, "TENO Oct	2B Tank Pressure Test," performed ober 18, 1986
0	SPE PE-016, Revision 0, "TENO Oct	2A Tank Pressure Test," performed ober 20, 1986
o	STS BB-204, Revision 2, "RCS Oct	Inservice Valve Test," performed ober 17, 1986
0	STS IC-540, Revision 2, "Chan Sys Oct	nel Calibration Auxiliary Feedwater tem Generator C," performed ober 14, 1986
0	STS IC-504B, Revision 3, "Rea Ca	ctor Coolant Flow Transmitter libration," performed October 22, 1986
0	STS RE-004. Revision 5, "Shut Oct	down Margin Determination," performed
0	STS SE-001, Revision 6, "Powe	er Range Adjustment to Calorimetric," formed October 10, 1986

SYS EJ-120, Revision 6, "Startup of a Residual Heat Removal Train," Performed October 17, 1986

No violations or deviations were identified.

7. Monthly Maintenance Observation

The NRC inspector observed maintenance activities performed on safety-related systems and components to verify that these activities were conducted in accordance with approved procedures, Technical Specifications, and applicable industry codes and standards. The following elements were considered by the NRC inspector during the observation and/or review of the maintenance activities:

- LCOs were met and, where applicable, redundant components were operable.
- Activities complied with adequate administrative controls.
- Where required, adequate, approved, and up-to-date procedures were used.
- Craftsmen were qualified to accomplish the designated task and technical expertise (i.e., engineering, health physics, operations) was made available when appropriate.
- Replacement parts and materials being used were properly certified.
- Required radiological controls were implemented.
- Fire prevention controls were implemented where appropriate.
- Required alignments and surveillances to verify post maintenance operability were performant.
- Quality control hold points and/or checklists were used when appropriate and quality control personnel observed designated work activities.

Selected portions of the maintenance activities accomplished on the WR listed below were observed and related documentation reviewed by the NRC inspector:

No.

Title

- WR 03551-86, "GT System/Cnmt Shutdown Purge, Roll Spectacle Blinds In Lines 054-, 055-, 057-, and 059-HBD-36 During Refueling"
 - WR 03980-86, "Limitorque Operator ALHV009, Implement PMR 1722"

o	WR 60271-86,	"Safety Valves/AB V049, 5 Year Setpoint and Operability Verification of AB V059"
0	WR 60273-86,	"Safety Valves/AB V069, 5 Year Setpoint and Operability Verification of AB V069"
0	WR 07852-85,	"BBPCV 456A Pzr Pwr Open Relief Valve Disconnect Valve Solenoid To Allow Repair"
0	WR 60032-86,	"Snubber Mechanical-BG09R519 Implement STS MT-027 for the Snubber"
0	WR 60348-86,	"5 Year Setpoint and Operability Verification of AB VO47 STS MT 008-VO47, Main Steam Safety Valve"
0	WR 08616-85,	"BB System RVLIS Implement PMR 1036"

Selected NRC inspector observations are discussed below:

On October 15, 1986, during a routine plant tour, the NRC inspector observed a portion of the work being performed for WR 03551-86 on the 36-inch containment purge exhaust line spectacle flange outside of containment. The plant was in Mode 1 at 100 percent power preparing for a refueling outage scheduled to start the next day. TS 3.6.1.7 states, in part, "Each 36-inch containment shutdown purge supply and exhaust isolation valve shall be closed and blank flanged . . . with a 36-inch containment purge supply and/or exhaust isolation valve open or not blank flanged, close and/or blank flange that valve or isolate the penetration(s) . . . " The NRC inspector went to the control room to verify that the action statement to TS 3.6.1.7 was being followed and determined that the shift supervisor (SS) had received guidance from plant management saying that by leaving the purge valves closed the penetration was "isolated." Discussions with the two operations coordinators confirmed this. The NRC inspectors discussed this TS with the Office of Nuclear Reactor Regulation (NRR) Project Manager and Regional Management and then informed the plant manager that NRC's position was that with the blank flange removed action statement a., which required the plant to be in cold shutdown within 40 hours, had been entered. The plant manager stated that they had responded to the concern by issuing orders to have the blank flange rolled back and would comply with all time limitations required by the TS. The NRC inspectors verified the blank flanges were reinstalled within all TS time requirements.

No violations or deviations were identified.

8. Onsite Event Followup

The NRC inspector performed onsite followup of non-emergency events that occurred during this report period. The NRC inspector (when available) observed control room personnel response, observed instrumentation

indicators of reactor plant parameters, reviewed logs and computer printouts, and discussed the event with cognizant personnel. The NRC inspector verified the licensee had responded to the event in accordance with procedures and had notified the NRC and other agencies as required in a timely fashion. Engineered safety feature actuations that occurred during the report period are listed in the table below. Where applicable, the NRC inspector will review the LER for each of these events and will report any findings in subsequent NRC inspection reports.

Date	Event*	Plant Status	Cause
10/13/86	FBVIS	Mode 1	Radiation monitor taken out of bypass while alarm condition was present due to a surveillance in progress

*Event

FBVIS - Fuel building ventilation isolation signal

Selected NRC inspector observations are discussed below:

The NRC inspector performed onsite followup of a loss of the operating residual heat removal (RHR) loop that occurred on October 26, 1986. At the time, the plant was in Mode 6 (reactor head detensioned but still on the reactor vessel) with reactor coolant water level at half pipe. When discharge pressure from the "B" RHR pump (operating pump) dropped to 0 psig and RHR flow dropped to O gpm, the reactor operators switched RHR cooling to the "A"' RHR loop. Followup investigation by the licensee indicated that the loss of "B" RHR was due to cavitating of the pump caused by air being sucked from the reactor coolant system into the pump suction header. The "B" pump was vented and surveillance performed prior to being put back into operation. To prevent a reoccurrence the licensee increased the half pipe water level approximately four inches and after "B" pump was proven to be operable, both RHR pumps were put in operation with the discharge valve "throttled" and each supplying half the required flow. No further problems were experienced.

No violations or deviations were identified.

9. Licensee Event Report (LER) Review

- A. During this inspection period, the NRC inspectors performed followup on selected Wolf Creek LERs. The LERs were reviewed to ensure:
 - Corrective action stated in the report has been properly completed or work is in progress.
 - Responses to the events were adequate.

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- Responses to the events met license conditions, commitments, or other applicable regulatory requirements.
- The information contained in the report satisfied applicable reporting requirements.
- ^o That any generic issues were identified.
- ^o The report conformed to the guidelines contained in NUREG-1022 and Supplements 1 and 2.

The LERs reviewed and closed this report period are listed below grouped according to broad categories (e.g., fire protection, control room ventilation isolation). In most cases the licensee's defect/deficiency report (DDR) was also reviewed. A DDR is the licensee's internal review and closure document for reportable events.

	No.	Title
0	482/85-047-00	An hourly fire watch was not performed as required by TS, DDR 85-078
0	482/85-059-00	An hourly fire watch for 2 rooms was not performed as required by TS, DDR 85-107
0	482/85-068-00	An hourly fire watch was not performed as required by TS, DDR 85-123
0	482/85-070-00	A licensed operator failed to record hourly containment temperature readings as required by TS, DDR 85-110
0	482/85-077-00	An hourly fire watch was omitted when the fire barrier to AL HV-32 was removed, DDR 85-133
0	482/86-005-00	An hourly fire watch was not performed as required by TS, DDR 86-007
0	482/86-014-00	An hourly fire watch required due to inoperable fire dampers was inadvertently cancelled, DDR 86-016
0	482/86-027-00	A security officer did not take his log sheet with him and missed one area required to be checked hourly for fires

The following ! ERs related to reactor trips were reviewed and closed:

0	482/85-049-00 482/85-049-01	A loss of programmed steam generator (S/G) level resulted from removal of test equipment causing a reactor trip, DDR 85-89
0	482/85-050-00	Feedwater control valve problems caused multiple reactor trips on S/G level deviations, DDR 85-090, 85-092, and 85-093
0	482/85-054-00	Loss of governor control power to main feedwater pump "B" caused a reactor trip, DDR 85-102
0	482/85-058-00	A spike on the power range nuclear instrumentation (NIs) caused a reactor trip, DDR 85-106
0	482/85-064-00	S/G level swings during control (EHC) oil pressure caused a turbine trip/reactor trip, DDR 85-117
0	482/85-065-00	Low electro-hydraulic control (EHC) oil pressure caused a turbine trip/reactor DDR 85-121
0	482/85-067-00	Failure of a controller card for S/G "D" feedwater control caused a reactor trip, DDR 85-121
0	482/85-069-00	Aquatic plants fouled the traveling screens at the circulating water screen house causing the operators to manually trip the reactor, DDR 85-125
0	482/85-007-00	A circuitry failure in the EHC system caused a reactor trip on S/G level, DDR 86-009
0	482/85-018-00	A personnel error in the switchyard caused generator trip/turbine trip/reactor trip, DDR-86-025
0	482/86-020-00	A normal plant evolution resulted in an unplanned reactor trip while putting S/G in wet lay-up, DDR 86-028

The following LERs which have miscellaneous causes were reviewed and closed:

0	482/85-048-00	The reactor was opeated above 15 percent power without performing a daily calorimetric, DDR 85-079
٥	482/85-066-00	Surveillance test TST EJ-100 was written such that each time it was performed, both residual heat removal (RHR) trains were made inoperable. This happened twice each time for 20 minutes so that even though the operators were unaware they were doing so, they complied with TS 3.0.3, DDR 85-119
0	482/85-074-00	A procedure to vent containment allowed backflow of some containment atmosphere to the iniet plenum, DDR 85-130
0	482/85-075-00	Three 4-way valves which conrol the main steam isolation valves (MSIVS) failed, DDR 85-131
0	482/85-076-00	Preparation for a plant modification caused the start of the turbine-driven auxiliary feedwater pump (TDAFWP), DDR 85-132
0	482/85-079-00	The power range high neutron flux setpoints were not reduced with the TS time limits, DDR 85-139
0	482/85-080-00	Monthly checks of 2 valves in the fire suppression water system were not performed, DDR 85-136
0	482/85-084-00	The combined allowable time interval for 3 surveillance tests of 3.25 times the specified interval exceeded, DDR 85-150
0	482/86-003-00	Surveillances on the particulate and iodine monitoring skid sample flow rates was not performed, DDR 86-003
0	482/86-011-00 482/86-011-01	Partial loss of offsite power due to personnel error in the switchyard,, DDR 86-013
0	482/86-016-00	During troubleshooting of a failed-15 volt power supply a engineered safety features actuation (ESFAS) occurred, DDR 86-021 and 86-022
0	482/86-024-00	S/G level swell caused a turbine trip/feedwater isolation, DDR 86-035

o	482/86-073-00	A TS violation occurred when 5 transmitter/ receivers associated with the control room fire control panel were disabled, DDR 85-128
0	482/85-086-00	Required fire dampers were not installed in 2 ventilation penetrations, DDR 85-152
0	482/86-010-00	An hourly rather than the required continuous fire watch was established, DDR 86-012
The	following LERs r	elated to a CRVIS were reviewed and closed:
0	482/85-055-00	Radiation Monitor GK RE-05 indicated high radiation levels due to a nearby lightning strike, DDR 85-108
0	182/85-057-00 482/85-057-01	A hardware/software mismatch caused GE RE-04 to initiate a spurious alarm, DDR 85-097
0	482/86-006-00	Troubleshooting of GK RE-05 took longer than one hour requiring a manual CRVIS, DDR 86-008
0	482/86-009-00	A manual CRVIS was initiated when sample flow to GK RE-04 and GK RE-05 was lost, DDR 86-011
0	482/85-062-00	A CRVIS was automatically initiated when a bulb in GK AITS-2 burned out, DDR 85-114
0	482/85-001-00	A CRVIS was automatically initiated when the sample pump to GK AITS-3 failed, DDR 86-01
0	482/86-015-00	A CRVIS was automatically initiated when a fuse to GK AITS-3 failed, DDR 86-20
0	482/85-053-00	A faulty bypass switch resulted in a CRVIS when GK RE-055 was removed from service, DDR 85-098
0	482/86-021-00	While performing a surveillance, an unplanned CRVIS occurred, DDR 86-029 and 86-030
0	482/86-022-00	A fuse blew due to a faulty thyristor causing a CRVIS, DDR 86-031

- 482/86-026-00 Containment visual inspections and containment airlock surveillances were not performed as requied by TS, DDR 86-047
- 482/86-030-00 A feedwater isolation signal (FWIS) was generated on high S/G level, DDR 86-044

 482/86-032-00 A TS Surveillance on containment isolation valves was not performed when required, DDR 86-049

B. The following LERs correspond to NRC violations. These LERs are closed based on the fact that the corrective action will be reviewed during the NRC closure of the violations.

0	482/86-017-00 (Violation 482/860-02)	"Fire barrier inoperability due to design oversight"
0	482/86-033-00 (Violation 482/8617-01)	"Technical Specification violation-late verification of fuel oil properties"
0	286/86-035-00 (Violation 482/8616-01)	"Engineered safety features actuation"

No violations or deviations were identified.

10. Preparation For Refueling

The NRC inspectors verified that the licensee had established and implemented controls in the following areas related to the refueling outage through observation, discussions with cognizant licensee personnel and review of documents. Selected documents reviewed and observations made are referenced with the related area:

- Clear definition of lines of authority
- Communications
- Shift manning requirements-Operations
- ^o The NRC inspectors reviewed KG&E Letter OPSHO 86-036, "Refueling Schedule." Operations had set up a work control group to process work requests and clearance orders so that traffic and distractions in the control room were minimized during the outage.

° Training and qualification of personnel

 ^{482/85-023-00} Both control room intake chlorine monitors were left in bypass for longer than one hour, DDR-86-033

The NRC inspectors reviewed Special Order 22, Revision 19, "Fuel Handling Equipment Qualification."

Quality Assurance (QA)

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The NRC inspectors reviewed the following information:

- Audit and Surveillance schedule August through December 1986
- Outage preparation memos for QA personnel
- ° QA Report, KG&E Letter KQWLKS 86-046, dated October 7, 1986
- QA Surveillance Report TE:53359 S-1465, "Reactor Vessel Head Removal Procedure"
- QA Surveillance Report TE:53359 S-1464, "HP Equipment Calibration"
- QA Surveillance Report TE:53359 S1466, "New Fuel Receipt"
- Quality Control (QC)

The NRC inspectors reviewed and noted the following regarding QC:

- QC Organizational Chart for outage
- Nineteen additional QC inspectors were trained and certified by Wolf Creek for the outage
- Radiological controls
- ^o Fuel handling equipment checkout
- Casualty procedures
 - The NRC inspectors reviewed the procedure OFN 00-018, Revision 2, "Fuel Handling Accident."

The NRC inspectors verified that the licensee had established procedural controls for the plant conditions listed below:

- Shutdown margin and reactivity monitoring
- Radiation monitoring
- Reactor water level control
- Decay heat removal (RHR)
- Containment integrity

No violations or deviations were identified.

11. Refueling Activities

The NRC inspectors observed refueling activities related to reactor vessel head removal, retracting flux mapping thimbles, installation of the reactor cavity seal ring, flooding of refueling pool, and removal of the upper internals. The NRC inspectors also observed fuel handling operations in the reactor and the spent fuel pool area while the fuel assemblies were being transferred from the reactor vessel to the spent fuel pool. The refueling activities were performed in accordance with Licensee Procedures FHP 02-001, "Refueling Procedure," and FHP 02-011, "Fuel Shuffle and Position Verification."

The NRC inspectors verified the following by observation and review of documents:

- Operability of refueling-related equipment was periodically verified.
- Fuel handling operations were conducted in accordance with approved procedures.
- Technical Specification requirements were met.
- Good housekeeping and loose object control were maintained in the refueling cavity and the spent fuel pool areas.
- Licensed and/or qualified personnel performed tasks and manned stations where required by TS or procedures.

During discussion the NRC inspector noted the licensee had performed a safety evaluation in accordance with 10 CFR Part 50.59 for the new core load.

No violations or deviations were identified.

12. Exit Meeting

The NRC inspectors met with licensee personnel to discuss the scope and findings of this inspection on November 6, 1986. The NRC inspectors also attended entrance/exit meetings of the NRC region based inspectors identified below:

Inspection Period	Lead Inspector	Area Inspected	Inspection Report No.
10/06-10/86	R. Baer	Prerefueling Health Physics -	86-25
10/14-16/86	G. Pick	Surveillance Procedure Review	86-26

10/20-24/86	R. Mullikin	LER Followup	86-24 (par. 9)
10/20-24/86	R. Stewart	Calibration	86-29
10/06-08/86	S. Cooley	Operator License Exams	