

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION
Thomas E. Murley, Director

In the Matter of
KANSAS GAS AND ELECTRIC COMPANY,
KANSAS CITY POWER & LIGHT COMPANY,
KANSAS ELECTRIC POWER COOPERATIVE, INC.)

) Docket No. 50-482

(Wolf Creek Generating Station))

) (10 CFR 2.206)

DIRECTOR'S DECISION UNDER 10 CFR 2.206

I. INTRODUCTION

By petition dated November 12, 1987, and submitted to the Commission pursuant to 10 CFR 2.206, Ms. Stevi Stephens and Mr. Robert V. Eye, on behalf of the Nuclear Awareness Network (NAN), allege that members of the public are trespassing on the Wolf Creek Generating Station (Wolf Creek) restricted areas to fish in the Wolf Creek cooling lake. NAN claims that these trespassers may be exposed to undue radiation during normal operation of the facility and that Wolf Creek emergency plans may not be adequate to ensure that trespassers are notified and evacuated during a radiological emergency. It further claims that this trespassing represents a security breakdown that could be exploited by terrorists and, when included with several other past security problems that have occurred at the site, is symptomatic of an overall security breakdown at Wolf Creek.

NAN requests that the NRC investigate whether this trespassing violates any NRC regulations or conditions of its license, and, if so, that appropriate enforcement and corrective actions be taken. It specifically suggests that there may be violations of 10 CFR 20.3(14), 10 CFR 50.47, 10 CFR Part 50,

Appendix E, 10 CFR 73, 10 CFR 100.3(a), and Wolf Creek Technical Specifications 5.1.1 and 5.1.3 and Technical Specifications Figures 5.1-1.

By letter dated December 16, 1987, I acknowledged receipt of this petition and informed NAN that appropriate action would be taken within a reasonable time. A discussion of the issues involved and my decision in these matters follows.

II. DISCUSSION

The results of the NRC staff's investigation of each of NAN's requests and the determination of compliance with the applicable regulations is provided below:

A. Trespassing on the Wolf Creek Site

The Wolf Creek site consists of 9,818 acres of owner-controlled property, which contain the 5,090-acre cooling lake. The plant's owners include Kansas Gas and Electric Company, Kansas City Power and Light Company, and Kansas Electric Power Cooperative, Inc. (licensees). The plant is located on a point of land that extends into the cooling lake and is surrounded by the lake on three sides. In accordance with 10 CFR 20.3(a)(14), the licensee has designated a 1200-meter-radius circle around the containment as the restricted area for the purpose of protecting individuals from radiation and radioactive materials. The restricted area is located entirely within the owner-controlled area and contains 1,118 acres. Approximately 50 percent of the restricted area consists of a portion of the cooling lake. The only access to the restricted area is via the plant access road.

NAN contends that individuals are penetrating the Wolf Creek site boundary and are routinely eating fish that are caught in the cooling lake.

Wolf Creek security personnel periodically inspect the lake area after work hours. The licensees report that there have been six known incidents of trespassing on the Wolf Creek site over a period of approximately 5 years. Three of these incidents involved fishermen, two involved hunters, and one involved persons in an automobile that became stuck after straying off the paved road surface. None of these trespassers were inside the restricted area of the Wolf Creek site.

Licensees' statement is consistent with the experience of NRC personnel. Although trespassing on site property is not an event that requires a report to the NRC unless there is a threat to safety, the NRC resident inspector assigned to the site states that he is aware of only two or three occasions of trespassing during the 3 years that he has been assigned to the site.

On the basis of the small number of trespassing events detected by Wolf Creek security personnel, it does not appear that trespassing on the Wolf Creek cooling lake is a frequent occurrence.

B. Radiological Effect of Trespassing on the Wolf Creek Site

NAN further claims that failure to exclude people from restricted areas where radiation can occur raises serious public health questions. However, the Technical Specifications for the Wolf Creek Generating Station include limiting conditions for operation to control the release of liquid and gaseous radioactive effluents. Experience with the design, construction, and operation of nuclear power reactors indicates that compliance with these conditions will keep average annual releases of radioactive materials in effluents at small percentages of the limits specified in 10 CFR 20.106.

The limiting conditions for operation, which are part of the Wolf Creek operating license, limit the annual dose from liquid and gaseous effluents from the facility that members of the public can receive in unrestricted areas to less than the following:

For liquid effluents	3 mrem to the whole body and 10 mrem to any organ
For gaseous effluents as noble gases	10 mrad for gamma radiation and 20 mrad for beta radiation
For gaseous effluents as iodine-131 and -133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days	15 mrem to any organ

These dose limits, which are a small fraction of the maximum permissible dose of 500 mrem per year for members of the public in unrestricted areas specified in 10 CFR Part 20, are conservatively established using the measured quantities of radioactive effluents actually released. The calculations assume that the person exposed is located at the 1200-meter restricted area boundary for the entire year and drinks water and eats fish from the cooling lake.

Because of the conservative nature of these limiting conditions for operation, the NRC staff concludes that there would be no health hazard to trespassers entering any portions of the Wolf Creek owner-controlled area outside the restricted area during normal plant operation. The staff is not aware of any instances where trespassers have been present inside the restricted area or have been present on other portions of the site frequently or for extended periods.

C. Radiological Effect of Eating Fish From the Wolf Creek Cooling Pond

NAN suggests that exposure to radiation caused by eating fish from the Wolf Creek cooling lake could potentially be seriously damaging to the public health. There is no valid basis for this claim. The Wolf Creek Technical Specifications limit the amount of radioactive materials that can be deposited into the lake. They also require that the licensee carry out a sampling program that determines the amount of radioactive material present in various environment samples collected in the vicinity of the plant. Among the samples collected and analyzed are fish from the cooling lake.

The results of the most recently submitted testing reveal that only naturally occurring potassium-40 (K-40) activity in all fish samples taken from the Wolf Creek cooling lake. No other radionuclides were detected in the samples. Similar naturally occurring K-40 activity has recently been observed in the control samples taken from the nearby John Redmond Reservoir and is believed to be present in all biological samples taken world wide.

On the basis of the Technical Specifications that limit the release of liquid effluents into the Wolf Creek cooling lake and the acceptably low level of radioactivity in the fish sampled at this lake, the NRC staff concludes that eating fish caught from there will not result in a hazard to the public health.

D. Compliance With 10 CFR 73

NAN also suggest that the trespassing incidents at Wolf Creek may be in violation of Part 73 of the NRC's regulations and that they are indicative of a serious security breakdown at the facility which potentially could be exploited by terrorists. In support of this claim, NAN refers to an NRC report entitled "Trends and Patterns Analysis of the Operational Experience of

Newly Licensed United States Nuclear Power Reactors," August 1986, AEOD/P604, which states that Wolf Creek had experienced a higher than average number of security violations. NAN also refers to NRC Information Notice 87-27 which discusses potential attacks by terrorists.

Contrary to these concerns, the physical plant security at Wolf Creek is satisfactory. Facility Operating License NPF-42 for Wolf Creek requires that the licensee fully implement and maintain the Wolf Creek Physical Security Plan and the Security Training and Qualification Plan. ^{1/} The NRC staff has reviewed these plans and has concluded that the protection provided against radiological sabotage meets the requirements of 10 CFR Part 73. In addition, as part of Staff's function to periodically evaluate the effectiveness of physical security plans, staff has evaluated Wolf Creek security program three times since 1984 in its Systematic Assessment of Licensee Performance (SALP). For each of these assessments, licensee's security program was rated as Category 2, signifying that NRC attention for this program only needs to be maintained at normal levels. ^{2/}

The violations which NAN refers to in the referenced August 1986 NRC report are not of present concern at the facility. The report refers to four

^{1/} The details of these plans are protected against public disclosure under the provisions of 10 CFR 73.21; however, a summary of the staff's review and acceptance of the plans is provided in Section 13 of Supplement No. 5 to NUREG-0881, "Safety Evaluation Report Related to the Operation of Wolf Creek Generating Station, Unit No. 1."

^{2/} When a licensee qualifies for Category 2, the NRC has concluded that licensee management attention and involvement are evident and that management is concerned with nuclear safety. For this category, the NRC has also determined that licensee resources are adequate and reasonably effective so that satisfactory operational safety is being achieved.

violations which occurred almost 3 years ago during the 6 month period from September 1985 through January 1986, following the issuance of the Wolf Creek operating license. Three of these violations were rated Severity Level III ^{2/} (on a scale of I to V where I is the most significant) and one was rated Severity Level II. The Severity Level II violation was considered to be a breakdown in physical security and resulted in the imposition of a \$40,000 civil penalty. The licensee was required to inform the staff of the actions that it had taken to correct these violations and prevent their recurrence. The staff reviewed these corrective actions and found they were responsive to the concerns raised in the notices of violation. Because these violations occurred several years ago and have been fully corrected, we conclude that they do not lend support to NAN regarding its trespassing contention.

Regarding NRC Information Notice 87-27, this notice was a generic communication regarding potential threats reported in the media which was sent by the NRC to all nuclear power plants. The notice was merely a part of staff's ongoing program of ensuring that licensees are made aware of such issues, and the threats in question cannot be considered as a specific threat to Wolf Creek alone.

^{3/} The details of these violations are protected from public disclosure under the provisions of 10 CFR 73.21. However, for a general description of the Severity Level III violations, see items 8517-01, 8527-01, and 8527-02 of NRC Inspection Reports 85-34 and 8612 for the Wolf Creek facility, dated March 6, 1976 and July 21, 1986, respectively. For the Severity Level II violation, see item 8544-01 of NRC Inspection Report 87-34 for the Wolf Creek facility, dated December 29, 1987. (The

(FOOTNOTE CONTINUED ON NEXT PAGE)

NAN's theory that the trespassing incidents represent a security breakdown which could be exploited by terrorists is similarly unfounded. Under NRC regulations, the only locations at a reactor facility where licensees are required to exclude unauthorized individuals are protected areas, material access areas, and vital areas. Such areas are equipped with barriers and physical security to prevent access. See 10 CFR §§ 73.2, 73.20 and 73.45. The Wolf Creek cooling lake is not part of any of these areas.

On the basis of staff's evaluation of NAN's concerns, no violation of 10 CFR Part 73 have been identified and no enforcement or corrective actions are required.

E. Compliance With 10 CFR 20.3(14), 10 CFR 100, and Technical Specifications 5.1.1 and 5.1.3

NAN contends that penetration of the Wolf Creek site boundary by trespassers fishing in the cooling lake may indicate the inability of the licensees to control activities within the Wolf Creek exclusion and restricted areas as required by Sections 20.3(14) and 100.3(a) of the Commission's Regulations and by Sections 5.1.1 and 5.1.3 of licensees' Technical Specifications. It also requests that the NRC investigate whether the integrity of the Wolf Creek exclusion and restricted areas is being maintained.

To evaluate NAN's concerns, an understanding of the regulations and technical specifications in question is necessary. Restricted areas are

(FOOTNOTE FROM PREVIOUS PAGE)

Severity Level II violation is also referred to in NUREG-0090, "Report to Congress on Abnormal Occurrences July-September 1986", Volume 9, No. 3.)

defined by 10 CFR 20.3(14) as areas which must be controlled by licensees for purposes of protecting individuals from exposure to radiation and radioactive materials. A restricted area cannot include any areas used as residential quarters, although a separate room or rooms in a residential building may be set apart as a restricted area. Exclusion areas are defined by 10 CFR 100.3(a) as areas where licensees have the authority to determine all activities including exclusion or removal of personnel or property. Residence within exclusion areas is not always prohibited, but residents are subject to ready removal in the case of necessity. The exclusion area and restricted area for Wolf Creek (both areas are the same for this facility) are set out in Sections 5.1.1 and 5.1.3 of the licensees' Technical Specifications as a 1200 meter radius circle centered around the Unit 1 containment. The exclusion/restricted area for the facility is only a small portion of the Wolf Creek owner-controlled site which encompasses 9,818 acres.

As can be seen by the definitions of these terms, the presence of individuals (whether authorized or not) in an exclusion or restricted area would not normally violate either 10 CFR 20.3(14) or 10 CFR 100.3(a) since these regulations are not concerned with excluding individuals from these areas during safe operations. As noted above, the only locations at a reactor facility where licensees are required to exclude unauthorized individuals are protected areas, material access areas, and vital areas. Although these protected areas are normally located within the exclusion and restricted areas, there is no indication in this case that they were penetrated by trespassers.

There is no violation of either 10 CFR 20.3(14) or 10 CFR 100.3(a) at Wolf Creek since the licensees have owned and controlled all portions of the exclusion/restricted area and have had full authority for removing all individuals from this area if an emergency occurred. Moreover, in this case no information has been offered by NAN that persons fishing at the cooling lake have ever trespassed into the 1200 meter Wolf Creek exclusion/restricted area.

On the basis of the above, the staff concludes that the licensee is in compliance with 10 CFR 20.3(14) and 10 CFR 100.3(a) and is operating the facility in accordance with Technical Specifications 5.1.1 and 5.1.3. Accordingly, the NRC staff has determined that the licensee is able to maintain the integrity of the exclusion-restricted area at Wolf Creek and that no enforcement or corrective actions are required.

(F) Compliance With 10 CFR 50.47 and Appendix E to 10 CFR Part 50

NAN suggests that trespassers who are fishing at the Wolf Creek cooling lake may be endangered during a radiological emergency at the site and requests that the NRC determine whether the licensees' emergency plans are adequate to notify and evacuate such individuals if such an exigency occurs.

The NRC staff has reviewed the licensees' emergency plan to determine if adequate provisions exist to notify and evacuate persons within the Wolf Creek site, including potential trespassers who might be fishing at the cooling lake. The staff has concluded that the plan is sufficient for persons within the exclusion/restricted area of the site, but it does not include provisions to notify and evacuate people in the remainder of the owner-controlled Wolf Creek site. This remaining portion of the site, which is posted as private property, has no recreational or public use areas within its boundaries.

Sections 50.47 and Appendix E to 10 CFR Part 50 set forth the Commission's regulations for emergency preparedness. The NRC staff uses the guidance in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," to determine the adequacy of emergency plans at nuclear power plants. Evaluation Criterion J.1.d of NUREG-0654 states: "Each licensee shall establish the means and time required to warn or advise onsite individuals and individuals who may be in areas controlled by the operator including.... (d) other persons, who may be in the public access areas or passing through the site or within the owner-controlled area."

On the basis of its review of the Wolf Creek Emergency Plan, and taking into consideration that the owner-controlled area is posted as "private property - no trespassing" and the known incidents of trespassing are few (six in 5 years), the NRC staff continues to find that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. However, because unauthorized persons may, albeit infrequently, trespass onto owner-controlled property at the Wolf Creek site, the staff will request the licensees to address this issue, and will obtain assurance from them that unauthorized persons are warned or advised of protective actions in accordance with NUREG-0654, Section II.J., "Protective Response."

III. CONCLUSION

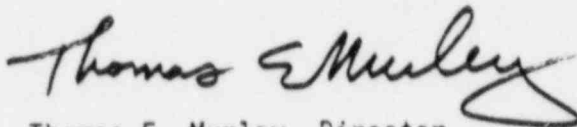
The NRC staff has reviewed the issues raised by NAN related to trespassing at Wolf Creek. On the basis of these reviews, the staff has determined that the licensee is operating the facility in compliance with 10 CFR § 20.3(14), § 50.47, Appendix E to Part 50, Part 73, and § 100.3(a),

and Technical Specifications 5.1.1 and 5.1.3 and that these regulations and license conditions for Wolf Creek have not been violated as a result of the alleged trespassing incidents at Wolf Creek.

Accordingly, NAN's request for action pursuant to 10 CFR 2.206 is denied as described in this decision. Because the possibility does exist that unauthorized persons may trespass onto owner-controlled property, the staff will request the licensees to address the issue of unauthorized individuals present within the owner-controlled area of the Wolf Creek site, and will ensure that unauthorized individuals are warned or advised of protective actions in accordance with NUREG-0654, Section II.J., "Protective Response."

As provided by 10 CFR 2.206(c), a copy of this decision will be filed with the Secretary of the Commission for the Commission's review.

FOR THE NUCLEAR REGULATORY COMMISSION



Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland, this 26th day of May, 1988.