KANSAS GAS AND ELECTRIC COMPANY

GLENN L. KOESTER
VICE PRESIDENT - NUCLEAR

January 15, 1982

Mr. G.L. Madsen, Chief
Reactor Projects Branch
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive
Suite 1000
Arlington, Texas 76011

KMLNRC 82-154
Re: NRC Docket No. 50-482
Ref: Interim Report transmitted via GLKoester (KMLNRC 81-126) dated 10/15/81 to GLMadsen, NRC
Subj: Final 10CFR50.55(e) Report - Flood Damage

Dear Mr. Madsen:

The purpose of this letter is to provide the Final Report concerning flood damaged equipment at the Wolf Creek Generating Station, Unit No. 1, which resulted from the June 7 and 8, 1979 flooding incident.

As indicated in the Reference, please find attached a Final Report submitted pursuant to 10CFR50.55(e). This report documents that all affected equipment has been fully restored and no degradation of the ability of that equipment to perform its safety function resulted from the flooding.

Please advise us if you require any additional information.

Yours very truly,

Glenn L. Koester

GLK:bb
Attach

cc: TVandel, w/a
NRC Site Inspector

IE-27
S1/1

10 CFR 50.55(e) FINAL REPORT

On

FLOOD DAMAGE

For

Wolf Creek Generating Station, Unit No. 1

January 15, 1982

1.0 INTRODUCTION

During the late evening hours of June 7, and during the early morning hours of June 8, 1979, torrential rains fell at the Wolf Creek Site. Total accumulated rainfall during the period was nearly six (6) inches. Due to the construction status at that time there were several pathways for water to enter the power block buildings; for example, roofs were not yet in place, temporary construction openings were not closed and portions of backfill were not complete making a basin around portions of the buildings.

The Radwaste Building is connected to the Auxiliary Building basement by a large pipe tunnel. Much of the water which fell into or ran into the Radwaste Building flowed through the tunnel into the Auxiliary Building basement, where most of the flood damage occurred. The elevation of the Auxiliary Building basement is 1974 feet. The high water point was 1975 feet 6 inches or approximately 18 inches above the basement floor.

Pumps, both electric and engine driven, were used to pump out the inflow; however, three negative factors caused the effort to fail. (a) The electric sump pumps were fed power from a source located in the basement. When the pumps started to fall behind, power to the lower level was turned off and the electric pumps no longer could be utilized. (b) The diesel engine pumps have a low head capacity, and since they were working against 25 feet of head, their capacity was greatly diminished. (c) Because of the large amount of surface water around the power block, normal drainage was impossible thus causing a considerable amount of the pump discharge to flow back to the excavated area around the Auxiliary Building and back into the basement.

2.0 DESCRIPTION OF DEFICIENCY

The safety-related equipment, which were totally or partially submerged in water and mud, were identified and listed on 24 Deficiency Reports and Nonconformance Reports. Items involved included piping, valves, pumps, motors, limitorque valve operators, gear boxes and electrical control equipment.

3.0 SAFETY IMPLICATION

The submersion of safety-related equipment, especially electrical equipment, if left uncorrected could reduce the likelihood that the equipment would reliably perform its safety function throughout plant life. Most of the items which were submerged were fully restored to their original new condition. However, some types of items, which could not be economically restored, were replaced. Using a combination of rework and replacement, all affected equipment has been fully restored and no degradation of the ability of the equipment to perform its function resulted from the inundation.

4.0 CORRECTIVE ACTIONS

Corrective actions taken to prevent additional flood damage:

The causes of the flooding of the lower level of the Auxiliary Building were permanently eliminated when the Power Block Buildings were roofed, temporary construction openings closed and backfill placed. However, to provide improved protection during the interim period, the temporary construction opening in the Radwaste Building was closed, standby sandbags were placed adjacent to the Auxiliary Building construction opening, the Auxiliary Building sump pump power supply was relocated to a higher elevation, and completion of the yard drainage system was accelerated.

Corrective actions to restore flood damaged equipment:

Corrections started by washing down the equipment with clear water. Gear boxes were drained, flushed and filled with new lubricant. The same was done for motor bearings with oil reservoirs.

Piping and valves were cleaned by the contractor, assisted by suppliers when appropriate, following existing cleaning procedures. The final flush of stainless steel piping and valves was done with demineralized water, acetone or isopropyl alcohol.

Engineered items and electrical components were restored by, or under the supervision of, the original equipment suppliers. Some items were returned to the vendor shops for cleaning, inspection, parts replacement (when necessary) and testing. In all cases, purchase orders were negotiated with the original vendors to fully restore the equipment to the original new, fully-warranted condition. If this objective could not be attained, then replacement parts and/or components were procured and installed per original specification requirements. In addition to the closed out Deficiency Reports which were used to document the restoration of the flood damaged components, start-up inspections and testing will provide further assurance that the systems affected by the flooding have been returned to their original condition, and are capable of performing their safety functions.