

WOLF CREEK FLOOD DAMAGE REPORT

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## WOLF CREEK FLOOD DAMAGE REPORT

### 1.0 Description of Deficiency

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 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. A lot 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 help with the battle. (b) The diesel engine pumps have a low head capacity. Because 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.

The safety-related equipment, which was totally or partially submerged, was identified and listed on 24 Deficiency Reports and Nonconformance Reports. Approximately 107 "Q" items are involved; included is piping, valves, pumps, motors, limitorque valve operators, gear boxes and electrical control equipment.

### 2.0 Contractor

The Wolf Creek Generating Station is being constructed by Daniel International Corporation. Daniel personnel fought the flood water, documented the damage, will, with assistance where appropriate, clean and inspect piping and valves, and will remove and ship the items being returned to vendors for rework.

Bechtel, for items within their scope of supply, is notifying vendors of the problem. They will establish with the vendors the requirements for restoring new construction and will perform associated procurement functions.

For Westinghouse scope of supply items, the Westinghouse resident site Representative will supervise all work performed on site and will coordinate shipments and off-site rework.

### 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. However, most of the items which were submerged can and will be fully restored to their original new condition. Some types of items, which cannot be economically restored, will be replaced. Using a combination of rework and replacement, all affected equipment will be fully restored and no degradation of the ability of the equipment to perform its function will result from the inundation.

### 4.0 Corrective Actions

Corrective actions to prevent additional flood damage:

The causes of the flooding of the lower level of the Auxiliary Building will be permanently eliminated when the Power Block Buildings are roofed, temporary construction openings closed and backfill placed. However, to provide improved protection for the interim period, the temporary construction opening in the Radwaste Building has been closed, standby sandbags have been placed adjacent to the Auxiliary Building construction opening, the Auxiliary Building sump pump power supply has been relocated to a higher elevation, and completion of the yard drainage system is being 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 will be cleaned by Daniel forces, assisted by suppliers when appropriate, following existing cleaning procedures. The final flush of stainless steel piping and valves will be with demineralized water, acetone or isopropyl alcohol.

Engineered items will be restored by or under the supervision of the original suppliers. It is expected certain items will be returned to the vendor shops for cleaning, inspection, parts replacement (when necessary) and testing. In some cases,

however, it may be advantageous to have vendor personnel come to the site to perform and/or supervise the work. In all cases purchase orders will be negotiated with the original vendors to fully restore the equipment to the original new, fully-warranted condition. If this objective cannot be attained effectively, replacement parts and/or components will be procured and installed per original specification requirements.