Procedure 8.C.40 is performed in two sections. The first section is performed in the Fall prior to the onset of cold weather, to ensure support equipment for certain weather affected systems is operational. Affected systems included the station heating system, fire protection systems, condensate storage tank and demineralized water supplies, and station blackout diesel generator (SBO DG). The second section is performed daily on the midnight shift, when temperatures are expected to be the lowest. If outdoor air temperature is at or below 20 degrees F, a walkdown of specific structures most susceptible to cold temperatures is performed. Areas include the intake structure, the emergency diesel generator rooms, SBO DG, Auxiliary Bay, and process building truck lock door areas. These areas are verified for temperature above 32 degrees F, condition of insulation material, and heating equipment operation. Security and Radiological Protection personnel are contacted as appropriate to inspect other portions of the owner controlled property. The inspector reviewed surveillance documents for this inspection period and confirmed that 8.C.40 was being performed as intended.

Operators were knowledgeable of existing equipment condition and cold weather considerations. Operators noted one discrepant condition in the intake structure and verified appropriate corrective action had been initiated. The inspector further discussed precautions for an upcoming period of severe cold weather (-5 degrees F with wind chill of -50 degrees F anticipated) with the Nuclear Operations Supervisor (NOS). The NOS stated that additional precautions would involve continuous operation of the intake structure travelling screens; this was to prevent ice blockage in the event that seawater temperature dropped sufficiently to form ice at the surface of the intake canal. On January 19, 1994, control room operators noted abnormally low salt service water (SSW) discharge flow indication. Operators determined locally that the "A" SSW pump discharge check valve was frozen in a partially shut position, causing the pump to run at near shutoff head. Hot air blowers were used for about one half hour to apply heat to free the check valve from its frozen position. After the heat application, the "A" SSW pump was started and system flow was verified satisfactory. As a precautionary measure the licensee initiated cycling through all five SSW pumps at two hour intervals as a preventive measure to preclude freezing of the discharge check valves. The inspector concluded that operators were knowledgeable of and properly implementing cold weather precautions.

3.0 MAINTENANCE AND SURVEILLANCE (61726, 62703, 71710, 90712)

3.1 Feedwater Drain Valve Temporary Leak Repair

Background and Planning

On January 4, 1994 during a steam tunnel inspection, the licensee identified a minor leak on the body-to-bonnet interface of manual normally closed isolation globe valve, 6-HO-200B, on a 3/4 inch (in.) drain and test line from the body of the "B" feedwater line outboard check valve, 6-62B. The feedwater check valve and drain line up to and including the 200B valve constitute the Class I safety boundary for the "B" feedwater line. The licensee wrapped the valve in

Silktemp to direct leakage toward floor drains and away from steam tunnel components. Additionally, a repair plan using Furmanite, a temporary leak sealant, was developed. Field Revision Notice (FRN) 94-03-02 was developed to control the injection of the sealant material.

Three repair options were included in the FRN. The primary and preferred option involved injecting sealant into the inlet port of the 200B valve to seal the seating surfaces and stop any further downstream leakage paths. This method was selected as the primary option by the licensee because it did not threaten the 200B body-to-bonnet pressure boundary interface and based upon experience, had the highest probability of success. Additionally, this repair option presented the lowest projected radiological dose exposure to involved personnel. The second repair option involved installing an injection adaptor at the body-to-bonnet interface on the 200B valve and directly injecting sealant into this area. The third option involved installing an injection adaptor on a downstream isolation valve (6-HO-201B) on the drain line, and attempting to inject sealant back through the drain line to the body-to-bonnet interface on the 200B valve.

Safety Evaluation

The FRN was supported by safety evaluation, SE 2797, that was reviewed and approved by the onsite review committee (ORC) on January 7, 1994. The evaluation addressed sealant chemical compatibility, maximum sealant volume to be authorized for each repair option, and potential sealant interaction with the reactor coolant system. The inspectors attended the ORC meeting and concluded the committee appropriately addressed the technical bases presented in the safety evaluation. Additionally, because the repair involved the modification of a Class I boundary component and recent industry experience indicated weakness in the control of temporary leak sealant injection processes, conference calls were conducted on January 6, 7, and 8, 1994 with BECo staff and NRC senior management and technical specialists. The conference calls ensured all technical information, safety evaluation bases, and intended licensee supervisory controls were delineated. The NRC did not, however, consider that there was commensurate focus upon the consequences of the potential complications or failures associated with each of the repair options. Rather, only after considerable NRC involvement did recent industry experience described in NRC Information Notice 93-90 receive licensee management attention.

Actual Repair

The repair was scheduled to be implemented during a January 8, 1994 planned power reduction to conduct main condenser backwashing. The inspector discussed control room preparations for the power reduction and repair with the nuclear watch engineer (NWE). The NWE had good knowledge of the repair plan and had dedicated an onshift senior reactor operator to be present at the repair briefings and to be stationed at the steam tunnel entrance to provide operational support as necessary.

Repair option 1 involved drilling a 5/16 inch (0.312 in.) hole to a depth of 5/16 in. into the inlet port of the 200B valve body. The valve inlet socket was schedule 160 stainless steel and assumed to have a wall thickness of approximately 0.375 in. The hole was to be tapped with