ENCLOSURE

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
CONTROL AND AUXILIARY BUILDINGS WITHOUT CONTINUOUS TORNADO ISOLATION
NCR BLP 79-7
10 CFR 50.55(e)
FINAL REPORT

Description of Deficiency

The tornado isolation dampers for the Main Control Room emergency air intakes and the Auxiliary Building supply and exhaust for trained zones are safety related and are supplied with electrical power from the trained 120-volt, Class IE, power distribution panels during normal and emergency plant operation. These 120-volt distribution panels are supplied with power from the 480-volt distribution centers. The 480-volt centers are in turn supplied with power from offsite sources during normal operation and from the auxiliary power system (diesel generator) during emergency operation.

In the event of loss of offsite power, electrical power is lost to these dampers for approximately 30 seconds until power is available from the auxiliary power system. Upon loss of power, the subject dampers fail open, thereby exposing the Control and Auxiliary Buildings to tornado depressurization during this 30-second period of power loss.

Safety Implications Statement

During site area conditions deemed favorable for the occurrence of a tornado, Bellefonte administrative procedures will require the plant employees to ready the plant against a tornado. This includes closing of the subject dampers. If a tornado did occur, it could cause loss of offsite power supplies. This in turn would cause these dampers to fail open, thereby exposing the equipment in the Control and Auxiliary Buildings to tornado depressurization conditions. This exposure could continue for 30 seconds until power is available from the auxiliary power system. This is unacceptable since safety-related equipment contained in these buildings is not designed to withstand such depressurization and could incur damage. Failure of or damage to safety-related equipment could adversely affect plant safety.

Corrective Action

The design will be revised to connect the subject dampers to a Class IE ac vital power distribution system (vital batteries) in the event of loss of offsite power.

Tornado dampers for Sequoyah and Watts Bar are all fail as is. This, combined with Sequoyah and Watts Bar administrative procedures requiring plant isolation during unfavorable weather conditions, ensures that tornado dampers at Sequoyah and Watts Bar will remain closed during a tornado, even during loss of normal power. Dampers for Hartsville and Phipps Bend mechanically close upon tornado-created pressure differential. The Yellow Creek design has not advanced to the stage where the dampers have been designed.