TC

TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

August 18, 1980

Mr. J. P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

OFFICE OF INSPECTION AND ENFORCEMENT BULLETIN 80-06 -
RII:JPO 50-327 - SEQUOYAH NUCLEAR PLANT UNIT 1

In response to your letter dated March 13, 1980, which transmitted IE Bulletin 80-06 on Engineered Safety Features (ESF) Reset Controls, we submitted preliminary results of our investigation for Sequoyah unit 1 on June 12, 1980, and our first progress report on July 14, 1980.

Enclosed is a table which identifies all components identified by drawing review which do not remain in their emergency mode after reset of an ESF signal. We have evaluated the impact on safety of each of these components and determined, as indicated on the table, that no items will require modifications to comply with the intent of the bulletin.

We have completed testing of the ESF Actuation System reset controls. The test results are under review to determine if any additional components do not remain in their emergency mode after reset of an ESF signal. We expect to submit a report covering the test results by August 29, 1980.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills

L. M. Mills, Manager
Nuclear Regulation and Safety

Sworn to and subscribed before
me this 18th day of Aug. 1980
Bryant M. Lowery
Notary Public

My Commission Expires 4/4/82

Enclosure
cc: See page 2

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8009020104

cc: Director, Division of Reactor Operations Inspection (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ENCLOSURE
SEQUOYAH NUCLEAR PLANT UNIT 1

TABLE A-1

EQUIPMENT WHICH DOES NOT REMAIN IN THE EMERGENCY MODE AFTER RESET OF THE ESF SIGNAL

Equipment Number	Function	Discussion
FCV-3-35A FCV-3-48A FCV-3-90A FCV-3-103A	SG 1 Inlet Flow Cont Vlv Bypass Vlv SG 2 SG 3 SG 4	These receive one train of reactor trip or the same train of safet injection. A safety injection signal gives a reactor trip so the safety injection is "sealed in" by reactor trip and both must be reset to reopen the valve.
FCV-3-35 FCV-3-48 FCV-3-90 FCV-3-103	SG 1 FW Inlet Flow Control Vlv SG 2 SG 3 SG 4	These receive both trains of reactor trip or safety injection. A safety injection signal gives a reactor trip so the safety injection is "sealed in" by reactor trip and both trains and both signals must be reset to open the valves.
LCV-3-172 LCV-3-173 LCV-3-174 LCV-3-175	SG 3 Level Control Vlv SG 2 SG 1 SG 4	These valves are allowed to modulate when the turbine driven auxiliary feed pump is running. Reset of an ESF signal does not affect whether the valve can modulate.
LIC-3-172 LIC-3-173 LIC-3-174 LIC-3-175	SG 3 Level Indicating Controller SG 2 SG 1 SG 4	These controllers go to automatic if the handswitch is in manual upon actuation of the following accident signals: 2/3 Lo-Lo Level any Steam Generator Safety Injection Blackout Loss Both Main Feed Pumps A safety injection signal would cause loss of both main feed pumps as would lo-lo steam generator level and blackout. Therefore, reset of ESF signals would not change controller state since loss of both main feed pumps "seals in" the ESF signal. Also these controllers have a "bumpless" transfer from auto to manual. This means the manual output tracks the auto output when the controller is in auto. Upon switching the controller to manual, the output is frozen at the point where the last auto output was. If the handswitch is in auto, there is no change in operation when the ESF signals are reset.

LCV-3-148 LCV-3-156 LCV-3-164 LCV-3-171 LCV-3-148A LCV-3-156A LCV-3-164A LCV-3-171A LIC-3-148* LIC-3-156* LIC-3-164* LIC-3-171*	SG 3 Level Valve SG 2 SG 1 SG 4 SG 3 Level Bypass Cont Viv SG 2 SG 1 SG 4 SG 3 Controller SG 2 SG 1 SG 4	These interact in the following manner. If the HS is in the manual bypass position, the large valve closes and the small valve modulates. Upon receipt of an accident signal when the pressure is above 500 lbs/in^2, the small valve closes and the large valve modulates. As in the first set of LIC's, any accident signal results in loss of both main feed pumps and is thus "sealed in." *If the handswitch is in auto, there is no change in operation when the ESF signals are reset.
FCO-30-122 FCO-30-123	Cask Loading Area Exhaust Damper	These are initiated by a phase A containment isolation or a high radiation signal from the auxiliary building general exhaust vent (the normal auxiliary building ventilation discharge). The auxiliary building isolation signal will not reset upon resetting the containment isolation signal. The auxiliary building isolation can be reset only if the initiating signals no longer exist. This will cause the cask load area exhaust dampers to reopen provided there is not a high radiation reading in the spent fuel pit area.
FCO-31A-17 FCO-31A-102 FCO-31A-103 FCO-31A-104 FCO-31A-105A B, D FCO-31A-106A, B, D FCO-31A-238	Spreading Room Supply Fan Toilet and Locker Room Exhaust Fan Main Cont & Spread Rm Fresh Air Isol Damp Smoke Removal Fan Circuit	These dampers close and fans stop in the event of a control room isolation. This isolation can be initiated by a safety injection or by the presence of chlorine, smoke, or high radiation levels in the fresh air supply duct and by manual initiation from the main control room. The control room isolation signal seals in and will not reset upon the reset of the SI signal. Opening of the fresh air supply and exhaust paths will occur upon resetting the control room isolation signal. This signal can only be reset, however, if the initiating signal no longer exists.
FCV-74-16 (HCV-606) FCV-74-28 (HCV-607)	RHR Heat Exchanger A Outlet Flow Cont B	These are self-regulating valves which use an analog signal to control flow from the RHR heat exchangers. The flow valve is preset by adjustment of the flow controller in the main control room. Upon initiation of safety injection, the analog control signal is bypassed and the valve goes to the full open position. This will permit full RHR flow to the RCS after RCS pressure has dropped below the shutoff heat of the RHR pumps. With RCS pressure above the pump shutoff heat, RHR flow is recirculated through the minimum flow bypass line; no flow is delivered to the reactor coolant system. Following reset of the safety injection signal, the valves will return to the flow control

		mode. Presently, we feel that this control scheme ensures adequate equipment control and no modification is necessary. However, we are reevaluating operational conditions where SI reset might occur during this mode of operation to determine if other control schemes would enhance equipment control.
FCV-1-51	Aux Feed Pump Turb Trip & Throttle Vlv	This valve does not return to original state upon reset of ESF Signal.
FCV-1-52	Aux Feed Pump Turb Speed Cont	In the flow control mode, this valve regulates the flow from the turbine driven auxiliary feedwater pump. In the manual speed mode, it regulates the turbine speed and allows it to be ramped up or down. If the control room handswitch is in the auto position, an SI signal has no effect on the valve. If the handswitch is in the ACC reset or manual mode, an SI signal will force the valve to the auto (flow control)mode. If the SI signal is then reset, the valve remains in the position it was in just prior to the reset. The valve does not return to its original position.
PCV-65-81 PCV-65-86 PCV-65-83 PCV-65-87	Shield Bldg Vent Isol Vlv, Train A Cntmnt Annulus Isol Vlv, Train A Shield Bldg Vent Isol Vlv, Train B CNTmnt Annulus Isol Vlv, Train B	Resetting the ESF signal to these valves will not cause the valves to change from the position initiated by the ESF signal.
FCV-43-55 FCV-43-58 FCV-43-61 FCV-43-64	Steam Gen No. 1 Bd Isol Vlv No. 2 No. 3 No. 4	The sample lines come off the steam generator blowdown line at a point between the two blowdown isolation valves. The blowdown sample valves isolate on a phase A containment isolation signal or if the auxiliary feedwater system starts, the blowdown valves isolate on a phase A containment isolation. Phase A containment isolation is caused by either manual initiation or by an SI signal. Since an SI signal also starts the auxiliary feedwater system, resetting a containment isolation which was initiated by an SI will not cause the sample isolation valves to open. Therefore, the sample isolation valves will open on the reset of a containment isolation signal only if the signal was manually initiated. This line could then provide a flow path of liquid from inside containment only if the inboard blowdown isolation valve is manually opened.
Reactor Upper Compartment Cooler Fan Reactor Lower Compartment Cooler Fan Control Rod Drive Mechanism Cooler Fan		Upon initiation of containment phase B isolation, the cooling water supply to the coolers is isolated and the fans are tripped. Following reset of the isolation signal, the fans are allowed to restart. Restart of the fans after isolation signal reset and the resulting circulation and mixing of containment air in the upper and lower compartment spaces will not degrade plant safety performance.

Shutdown Bd Room A Pressurizing Fan	Phase A containment isolation trips the pressurizing fans and initiates auxiliary building isolation which starts the auxiliary building emergency gas treatment system. The ABEGTS maintains a slight negative pressure in the building to prevent leakage of unfiltered air to the outside. Reset of the containment isolation signal will allow restart of the low capacity shutdown board room pressurizing fans; however, auxiliary building isolation and ABEGTS operation is not changed by phase A isolation reset. Fan restart will maintain the pressure in the board rooms slightly above the pressure in the surrounding area of the auxiliary building.
Penetration Room Cooler Fans Elevations 714, 669, 690 Space Coolers for Fans Spent Fuel Pit Pumps Space Coolers EGTS Room Coolers Turbine Driven AFW and Boric Acid Space Coolers Pipe Chase Cooler Fans	Upon reset of ESF signal, these coolers and fans are secured; however, thermostats in the affected areas will restart the units if the temperature in the space exceeds a predetermined setpoint.
Auxiliary Building General Supply and Exhaust Fan Elevation 714	On reset of ESF signal, this fan will restart; however, isolation valves downstream of the fans (which do not reset) prevent airflow.