



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

October 29, 1982

Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Units 2 and 3
Information Concerning Fire
Protection Associated Circuits
Safe Shutdown Report
NRC Docket Nos. 50-237 and 50-249

Reference (a):

On October 21, 1982, a telephone discussion was held with members of your staff to discuss twelve questions regarding our Dresden Units 2 and 3 and Quad Cities Units 1 and 2 Fire Protection safe shutdown reports. Attachment A to this letter contains a listing of the personnel who participated in the discussions. Attachment B to this letter provides documentation of our response to the items discussed in the telephone call.

Please direct any questions you may have concerning this matter to this office.

One (1) signed original thirty-nine (39) copies of this transmittal are provided for your use.

Very truly yours,

Thomas J. Rausch
Thomas J. Rausch

Nuclear Licensing Administrator

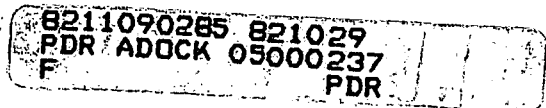
lm

Attachments

cc: Region III Inspector - Dresden

5351N

A001



Attachment A

Individuals participating in the October, 1982 telephone conference call.

H.K. Stolt	SNED
E.J. Rowley	SNED
T.J. Rausch	Licensing
P.W. Harar	S&L
C.F. Soltis	S&L
J. Gouvás	S&L
F.W. Fischer	S&L
J. Wermiel	NRC
B. Smith	NRC
S. Karimias	NRC

Attachment B

DRESDEN 2-3

QUESTION 1:

What method of isolation is being planned for automatic circuitry?

RESPONSE:

- a) Isolation switches located at the local control panels will be used to disconnect outgoing cables from local control panels when equipment is to be electrically operated from the remote locations.
- b) Devices which are needed for shutdown and their control and/or power cables can be affected by a fire in a particular zone, will have their power supply disconnected, and they will be operated manually.
- c) Circuits which are affected by a fire and auto-start or stop a component or a piece of equipment which is not needed, will have its power source (i.e., MCC or Switchgear) disconnected. In the cases where valves are in the wrong position, down stream valves will be manually operated. As an example, see Page 5-81, Section 5.25, Paragraph 3, last line.

DRESDEN 2-3

QUESTION 2:

Due to the loss of switchgear 23-1 and 24-1 or (33-1 and 34-1), you are planning to run a temporary cable from either available unit to a reactor shutdown cooling pump (RSCP) which is originally energized from these switchgears. You also need RBCCW pumps in conjunction with the RSCP pump. Please explain the way in which you are going to provide temporary power to these (RBCCW) pumps and indicate the number of each type of pump required.

RESPONSE:

The RBCCW pumps do not need power because the system is cross tied to the other unit. (See Supplement 1 Cold Shutdown Analysis Dresden 2 and 3, dated January 1980, page 7, Section A3.3, paragraph 3). Only one RBCCW pump is required for each unit.

DRESDEN 2-3

QUESTION 3:

Loss of switchgear (24-1 and 23-1) and (33-1 and 34-1), also causes the loss of switchgear (23 and 24) or (33 and 34), respectively. Are any components other than the RBCCW and RSC pumps affected?

RESPONSE:

The RBCCW and RSC pumps are not needed in order to achieve hot shutdown. Loss of switchgear 24-1 and 23-1, (33-1 and 34-1) does not cause the loss of switchgear 23 and 24 (33 and 34) because they are fed from normal offsite power which is available for cold shutdown, and there are breakers between the buses to provide isolation. (See Fire Protection Report Figure 2.1-7.) Therefore, other components which are fed from these switchgears are not affected by a fire in zone 1.1.1.3 or 1.1.2.3.

DRESDEN 2-3

QUESTION 8L:

Demonstrate that repair procedures for cold shutdown systems are developed and material for repairs is maintained on site.

RESPONSE:

The alternate shutdown methods were reanalyzed as a result of the associated circuits review. As a result of this analysis, existing or proposed mechanical and electrical crossties were utilized to formulate the revised alternate shutdown method. The new hot shutdown method alleviates the problem of 4KV switchgear 23-1 and 24-1 (33-1 and 34-1 for Unit 3) located in the same fire zone. These switchgear also provide power to the shutdown cooling pumps. As a result of loss of both switchgear in a fire, a temporary power cable from the other Unit to one shutdown cooling pump would be required to achieve cold shutdown. Upon final NRC approval of the proposed modifications described in the Dresden Station 2 and 3 Associated Circuits Analysis and Modifications Report, a repair procedure will be developed to install this cable and the necessary materials will be stored on site.

Concerning additional temporary power required for cold shutdown besides the temporary feed from the shutdown cooling pumps, there are not any additional temporary power fixes. Per the Fire Protection Safe Shutdown Analysis, Supplement 1 "Cold Shutdown Analysis" dated January 1980, page 2, the need for temporary cable repairs is considered highly unlikely due to the redundancy and diversity of systems available for cold shutdown as described in Section A2.0.

DRESDEN 2-3

QUESTION 4:

Cable discrepancy list, Page 39, Part 2 of 2 , for Unit 3, fire zone 8.2-5, shows breaker 152-3333 control cable 30226, and states that power to circuit breaker not required for safe shutdown. New breakers on swing diesel will protect diesel. Please clarify this statement and explaining the arrangement and interrelation of new BRKR with the presently available BRKR 152-3333 or 2333.

RESPONSE:

The description of the proposed diesel generator switchgear and bus duct change is specifically described on page 5-84, for fire zone 8.2.5, Paragraph 2 of the June, 1982 report. Again, on page 6-1, Section 6.1.3, diesel generator 2/3 is illustrated in Figure 5-2.

DRESDEN 2-3

QUESTION 5:

How many current transformers are needed on each diesel generator? Are these current transformers multipurpose or single purpose?

RESPONSE:

On the diesel generators, there are three current transformers that are used for local and remote metering. These CT's can be locally isolated from the remote circuit by the means of an isolating shorting switch locatedd at the remote metering location. There is also one CT that supplies the signal to the diesel generator voltage regulator. These systems are all local to the diesel generator.

DRESDEN 2-3

QUESTION 6:

How will the current transformers be short circuited locally? (Is short circuit method used on instrument CT or in protection CT also?)

RESPONSE:

The diesel generator 2/3 and 4kV switchgear will be operated in the following manner:

Upon a fire and loss of offsite power, all the buses are de-energized. Dependent upon where the fire is located, one shutdown method will be chosen and its diesel generator and 4kV will be remotely operated. Before the switchgear and diesels are energized, local shorting isolating switches will switch out the remote metering and control circuits. This will allow the operators to control the 4kV breakers from the front of the switchgears. The diesel generator will also be controlled locally from its control panel. All the required instrumentation and metering necessary are locally mounted to the 4kV switchgear and the diesel generator and all outgoing circuits which could effect their operation will be isolated.

DRESDEN 2-3

QUESTION 7:

A two way power supply to DG 2/3 required equipment is being considered. Since both sides of the cables to the equipment are energized, are you planning to provide an indicator light on starters or circuit breakers to indicate which side is supplying power? (In control room or local panel.)

RESPONSE:

Each cable for the vent fan and fuel oil transfer pump for the diesel 2/3 will have isolation switches to disconnect the power and control from one source to the other. Each source has indicating lights on the local diesel generators control panel. (This answer is slightly different than what was discussed in our telephone conversation.)

DRESDEN 2-3

QUESTION 8:

Please explain statement i.e., Fuses will be installed in auto-start logic circuit of DG 2/3 and DG will be started locally. Why are you concerned with DG 2/3 auto-start logic protection when planning to use local start-up?

RESPONSE:

In parallel with the local diesel generator start pushbutton is the auto-start circuit, which is wired to the main control room. We have proposed to install fuses on the auto-start wires which leave the diesel generator areas. If a fire caused the wires to short to ground, these fuses would blow before damaging the main fuses to the control circuit. This would disable the remote capabilities, but the diesel could still be operated locally.

DRESDEN 2-3

QUESTION 9:

Will complete instrumentation be provided for DG 2/3 on new DG 2/3 switchgear? If so, will same CT be utilized for new ammeter and monitoring equipment or will a new CT be installed on the new switchgear?

RESPONSE:

Yes, instrumentation would be provided for diesel generator 2/3 and its new associated switchgear. This equipment will be mounted locally. (See Page 6-1, Section 1.1.3b.)

DRESDEN 2-3

QUESTION 10:

In your analysis, you do not discuss the loss of DC system in conjunction with loss of control wiring to a breaker. Is there any conjunction or relationship between DC power supplied to a breaker control circuit and control wiring?

RESPONSE:

We do discuss the loss of the DC System in conjunction with the loss of control wiring to operate breakers. (See Drawing ES-375, Sheet 2A, and see the description of each fire zone), in the case where the units battery is unabled, the unit can still be completely supplied with DC power from the other unit.

DRESDEN 2-3

QUESTION 11:

Please explain statement i.e., fuses will be installed in on/off relay circuit of DG 2/3.

RESPONSE:

Fuses are required in the diesel generator on/off relay circuit for the same reason as stated with Question No. 9.

DRESDEN 2-3

QUESTION 12:

Could a fire cause any automatic turn-off (limit or inhibit), function to trigger and thereby spuriously prevent operation of a required safe shutdown system? If so, is there equipment to indicate the spurious operation to the operator? Describe each such instance, how each will be dealt with, and what, if any modifications have been, are being or will be made to avoid this problem.

RESPONSE:

The fire protection associated circuit analysis and modification report for Dresden Unit 2, dated June 1982 details all of the problems which could result from a fire. The report also identifies all the modifications which have to be made to avoid these problems.