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SUSQUEHANNA STEAM ELECTRIC STATION
EMERGENCY DATA AND THE PLANT
INTEGRATED COMPUTER SYSTEM **Docket Nos. 50-387**
PLA-4362 FILE R41-2 **and50-388**

The purpose of this letter is to inform the NRC Staff of the affect of the installation phase of the Unit 2 Plant Integrated Computer System (PICSY) project on electronically transmitted data for emergency planning. This project combines the Safety Parameter Display System (SPDS) computer, the Plant Computer System computer, the Remote Data Analysis System (RDAS) computer and the Emergency Response Data System (ERDS) computer into one integrated computer system.

Beginning September 16, 1995, the PICSY project will be installed in Unit 2 during the 7th Refueling and Inspection Outage and is scheduled for completion on October 14, 1995. The Unit 1 PICSY project will be installed in Unit 1 during the 9th Refueling and Inspection Outage which is scheduled to begin in September 1996.

The installation of the PICSY project on Unit 2 has been designed to minimize its affect on emergency planning data requirements. All necessary training and procedural changes have been identified to support the needs for implementing the PICSY project. Activities have commenced to assure operators and emergency response personnel have the appropriate training and procedural guidance to accommodate both the installation and subsequent operation of the new computer system.

The following is a summary of the affect of the installation on emergency planning data requirements including dose assessment for both Unit 1 and Unit 2.

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Plant Computer

During the installation of the Unit 2 PICSY project, data from the Unit 2 Plant Computer system will not be available in any emergency response facility. The loss of the electronically transmitted data from the Unit 2 Plant Computer will not decrease the effectiveness of operating the plant or managing an emergency since the data is available for verbal transmission from the Control Room and the relay rooms. The lack of data from the Plant Computer affects other information systems that are used in emergency planning such as the Remote Data Analysis System (RDAS), the Emergency Data System (EDS), and the Emergency Response Data System (ERDS).

Safety Parameter Display System (SPDS)

The following are the affects of the PICSY project on Unit 2 SPDS:

- The SPDS function in both the TSC and EOF will remain operable during the installation of Unit 2 PICSY except for a 3 day period for cutover to the new computer system which is scheduled near the end of the PICSY installation window.

- The SPDS function in the control room will be out of service during the entire installation of the PICSY project. If SPDS data were needed in the control room, this data could be obtained from the SPDS in the TSC that is located one floor above the control room. Also, the radiological release data is available from the Unit 1 SPDS that is unaffected by the installation of the PICSY project.

During the 3 day period for cutover, the SPDS function can be restored within 4 hours if required. These temporary changes to the SPDS do not decrease the effectiveness of responding to an emergency.

Emergency Response Data System (ERDS)

The temporary loss of electronically transmitted data during the entire installation window of the PICSY project does not decrease the effectiveness of responding to an emergency since either (1) the data points would not be available because of being in the Cold Shutdown or Refueling mode, (2) the data is available at remote locations to be verbally transmitted if required, or (3) the data is available from Unit 1. The outage of the Unit 2 plant computer only affects ERDS for Unit 2. Twenty-three out of 70 data points will be unavailable for electronic transmission during the Plant Computer outage. An additional 18 data points on both the Unit 1 and Unit 2 ERDS will be unavailable when the vent stack data control terminal interface with the RDAS computer system is taken out of service. These 18 vent stack data points will remain unavailable on the Unit 1 ERDS until the installation of the Unit 1 PICSY project on Unit 1 which is scheduled for the Fall of 1996. In the interim, these common vent stack data points will be transmitted via Unit 2 ERDS (after the PICSY project installation) to the NRC for an event on Unit 1. Table 1 lists

the data points that will be unavailable. The following provides an evaluation of the affect of not having this data:

- Condensate Storage Tank Level

  The condensate storage tank level is available from the Unit 1 plant computer and could be verbally transmitted if required. This information is also available in the control room via hard-wired recorders.

- Radiation Level of Main Steam Line

  In the Cold Shutdown or Refueling modes the Main Steam Line plugs and/or the MSIVs are closed; therefore, the Main Steam Lines are isolated and the radiation monitors would be reading downscale. This information is available in both the relay room and the control room via hard-wired recorders and indicators.

- Feedwater Flow

  In the Cold Shutdown and Refueling modes, the Feedwater system is not in operation. Therefore, the Feedwater flow would be reading downscale.

- High Pressure Coolant Injection Flow

  In the Cold Shutdown and Refueling modes, the High Pressure Coolant Injection System is not operable. Therefore, the High Pressure Injection Coolant flow would be reading downscale.

- Low Pressure Coolant Injection Flow

  The Low Pressure Coolant Injection flow can be obtained from hard-wired indicators and recorders in the control room and verbally transmitted if required.

- Reactor Core Isolation Coolant Flow

  In the Cold Shutdown and Refueling modes, the Reactor Core Isolation Coolant flow system is not operable. Therefore, the Reactor Core Isolation Coolant flow would be reading downscale.

- Intermediate Range Monitors

  In the Cold Shutdown and Refueling modes, the control rods are fully inserted; therefore, the power level would be below the lowest reading on the IRMs and they would be reading downscale. No postulated event would cause all the control rods to be withdrawn at the same time, therefore the need for the IRM readings would be small; however, the IRM readings can be

obtained from the hard-wired recorders located in the control room and can be verbally transmitted if required.

- Vent Stack Data

  The vent stack data is available from the control terminals in both the control room and TSC and from SPDS. This information can be verbally transmitted if required.

  After the installation of PICSY on Unit 2, the vent stack data will be available on Unit 2 only. If an incident should occur on Unit 1, both the Unit 1 and Unit 2 ERDS would be activated in order to provide the vent stack data which is common to both units.

The temporary loss of data from the Plant computer and the vent stack control terminal interface with RDAS does not decrease the effectiveness of our response to an emergency.

After the ERDS outage, the system will be tested and within 30 days following the installation of PICSY the data point library will be updated and transmitted to the NRC as required by regulation.

EMERGENCY DATA SYSTEM (EDS)

The temporary loss of electronically transmitted data during the installation of the PICSY project does not decrease the effectiveness of responding to an emergency since either (1) the data points would not be available because of being in the Cold Shutdown or Refueling mode, (2) the data is available at remote locations to be voice transmitted, or (3) the data is available to be voice transmitted from Unit 1. The outage of the Unit 2 plant computer only affects EDS for Unit 2. The vent stack data for both the Unit 1 and Unit 2 EDS will be unavailable for electronic transmission when the vent stack vent control terminal interface with RDAS is taken out of service. Table 2 lists the data points that will be unavailable. The following provides an evaluation of the lost data:

- Condensate Storage Tank Level

  The condensate storage tank level is available from the Unit 1 plant computer and could be verbally transmitted as needed. This information is also available in the control room via hard-wired recorders.

- Suppression Pool Bulk Temperature

  The Suppression Pool Bulk Temperature is available both in the control room via SPOTMOS and in SPDS in the TSC or EOF. The data can be verbally transmitted if required.

- Radiation Level of Main Steam Line

  In the Cold Shutdown or Refueling modes the Main Steam Line plugs and/or the MSIVs are closed; therefore, the Main Steam Lines are isolated and the radiation monitors would be reading downscale. This information is available in both the relay room and the control room via hard-wired recorders and indicators.

- RBCCW Radiation

  The RBCCW radiation level is available in both the relay room and the control room via hard-wired recorders and indicators. This information can be verbally transmitted if required

- Feedwater Flow

  In the Cold Shutdown and Refueling modes, the Feedwater system is not in operation. Therefore, the Feedwater flow would be reading downscale.

- Reactor Pressure

  The reactor pressure can be obtained from indicators in the control room and from SPDS. This information can be verbally transmitted if required.

- High Pressure Coolant Injection Flow

  In the Cold Shutdown and Refueling modes, the High Pressure Coolant Injection System is not operable. Therefore, the High Pressure Injection Coolant flow would be reading downscale.

- Low Pressure Coolant Injection Flow

  The Low Pressure Coolant Injection flow can be obtained from hard-wired indicators and recorders in the control room and verbally transmitted if required.

- Reactor Core Isolation Coolant Flow

  In the Cold Shutdown and Refueling modes, the Reactor Core Isolation Coolant flow system is not operable. Therefore, the Reactor Core Isolation Coolant flow would be reading downscale.

- APRM Flux

  The APRM flux readings can be obtained from indicators and recorders located in both the relay room and the control room. This information can be verbally transmitted if required.

the IRM readings would be small; however, the IRM readings can be obtained from the hard-wired recorders located in the control room and could be verbally transmitted if required.

- Recirculation Loop Temperature

  The recirculation loop temperature can be obtained from a recorder located in the control room. This data can be verbally transmitted if required.

- SLC Storage Tank Level

  The SLC storage tank level is available from indicators located in the control room. This data can be verbally transmitted if required.

- Area Radiation Monitors

  The area radiation monitor reading can be obtained from recorders and indicators located in both the control room and the relay room. This information can be verbally transmitted if required.

- Vent Stack Data

  The vent stack data is available from the SPING control terminals in both the control room and TSC and from SPDS. This information can be verbally transmitted if required.

DOSE ASSESSMENT

The dose assessment program (MIDAS) obtains its vent stack inputs via manual entry from the Met/Vent printouts. Different sources for the input data are required because the Met/Vent printouts will not contain the vent stack data during the installation of the PICSY project since the control terminal interface with RDAS will be out of service. The required input data is available from the SPING control terminals in both the control room and the TSC. The temporary loss of the Met/Vent printouts does not decrease the effectiveness of our response to an emergency.

TRAINING AND PROCEDURES

All necessary training and procedural changes have been identified to support the needs for implementing the PICSY project. Activities have commenced to assure operators and emergency response personnel have the appropriate training and procedural guidance to accommodate both the installation and subsequent operation of the new computer system.

If you have any questions, please contact Mr. C. T. Coddington at (610) 774-7531.

Very truly yours,

R. G. Byram

Attachment

copy: NRC Region I
Ms. M. Banerjee, NRC Sr. Resident Inspector
Mr. C. Poslusny, NRC Sr. Project Manager
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TABLE 1

ERDS POINTS UNAVAILABLE DURING PROCESS COMPUTER OUTAGES

Process Comp. Pt. ID	Parameter Description
CSL01	Condensate Storage Tank 1 Level
CSL02	Condensate Storage Tank 2 Level
NAR01	Radiation Level of Main Steam Line A
NAR02	Radiation Level of Main Steam Line B
NAR03	Radiation Level of Main Steam Line C
NAR04	Radiation Level of Main Steam Line D
NFF52	Feedwater Flow A into Reactor System
NFF53	Feedwater Flow B into Reactor System
NFF54	Feedwater Flow C into Reactor System
NGF01	High Pressure Coolant Injection Flow
NHF01	Low Pressure Coolant Injection A Flow
NHF02	Low Pressure Coolant Injection B Flow
NIF01	Reactor Core Isolation Cooling Flow
NN109	IRM A Flux, % of Scale
NN112	IRM D Flux, % of Scale
NN115	IRM G Flux, % of Scale
NN116	IRM H Flux, % of Scale
NNX01	IRM A Range Switch Position
NNX04	IRM D Range Switch Position
NNX07	IRM G Range Switch Position
NNX08	IRM H Range Switch Position
NNZ54	IRM Detectors not Full in Position
NNZ59	IRM Bypass
EGRPRX1	Rad Release (Particulate) Reactor Building Vent Unit 1
EGRIRX1	Rad Release (I-131) Reactor Building Vent Unit 1
EGRNRX1	Rad Release (Noble Gas) Reactor Building Vent Unit 1
EGRPRX2	Rad Release (Particulate) Reactor Building Vent Unit 2
EGRIRX2	Rad Release (I-131) Reactor Building Vent Unit 2
EGRNRX2	Rad Release (Noble Gas) Reactor Building Vent Unit 2

TABLE 1 (continued)

EGRPTB1	Rad Release (Particulate) Turbine Building Vent Unit 1
EGRITB1	Rad Release (I-131) Turbine Building Vent Unit 1
EGRNTB1	Rad Release (Noble Gas) Turbine Building Vent Unit 1
EGRPSGTS	Rad Release (Particulate) SGTS Vent
EGRISGTS	Rad Release (I-131) SGTS Vent
EGRNSGTS	Rad Release (Noble Gas) SGTS Vent
EGRPTB2	Rad Release (Particulate) Turbine Building Vent Unit 2
EGRITB2	Rad Release (I-131) Turbine Building Vent Unit 2
EGRNTB2	Rad Release (Noble Gas) Turbine Building Vent Unit 2
EGRPSITE	Rad Release (Particulate) Site Total
EGRISITE	Rad Release (I-131) Site Total
EGRNSITE	Rad Release (Noble Gas) Site Total

TABLE 2

EDS POINTS UNAVAILABLE DURING PROCESS COMPUTER OUTAGE

Process CPU PID	Parameter Description
CSL01	Condensate Storage Tank 1 Level
CSL02	Condensate Storage Tank 2 Level
MAT37	Suppression Pool Bulk Temperature D1
MAT38	Suppression Pool Bulk Temperature D2
NAR01	Main Steam Line Radiation A
NAR02	Main Steam Line Radiation B
NAR03	Main Steam Line Radiation C
NAR04	Main Steam Line Radiation D
NAR07	RBCCW Radiation
NFF52	Feedwater Flow A into Reactor System
NFF53	Feedwater Flow B into Reactor System
NFF54	Feedwater Flow C into Reactor System
NFP51	Reactor Pressure
NGF01	HPCI Pump Discharge Line Flow
NHF01	RHR System A Flow
NHF02	RHR System B Flow
NIF01	RCIC Flow
NM551	APRM A Flux Level
NN109	IRM A Flux
NN112	Nuclear Instrument, Intermediate Range D
NN115	Nuclear Instrument, Intermediate Range G
NN116	Nuclear Instrument, Intermediate Range H
NNX01	IRM A Range Switch Position
NNX04	IRM D Range Switch Position
NNX07	IRM G Range Switch Position
NNX08	IRM H Range Switch Position
NNZ54	IRM Detectors Not Full in Position
NNZ59	IRM Bypass
NRT52	Recirculation Loop A Pump Suction Temperature
NXL01	SLC Storage Tank Level
PAR07	ARM-07-Offgas Area
PAR15	ARM-15-Refuel Floor North
EGRPRX1	Rad Release (Particulate) Reactor Building Vent Unit 1
EGRIRX1	Rad Release (I-131) Reactor Building Vent Unit 1

TABLE 2 (continued)

EGRNRX1	Rad Release (Noble Gas) Reactor Building Vent Unit 1
EGRPRX2	Rad Release (Particulate) Reactor Building Vent Unit 2
EGRIRX2	Rad Release (I-131) Reactor Building Vent Unit 2
EGRNRX2	Rad Release (Noble Gas) Reactor Building Vent Unit 2
EGRPTB1	Rad Release (Particulate) Turbine Building Vent Unit 1
EGRITB1	Rad Release (I-131) Turbine Building Vent Unit 1
EGRNTB1	Rad Release (Noble Gas) Turbine Building Vent Unit 1
EGRPSGTS	Rad Release (Particulate) SGTS Vent
EGRISGTS	Rad Release (I-131) SGTS Vent
EGRNSGTS	Rad Release (Noble Gas) SGTS Vent
EGRPTB2	Rad Release (Particulate) Turbine Building Vent Unit 2
EGRITB2	Rad Release (I-131) Turbine Building Vent Unit 2
EGRNTB2	Rad Release (Noble Gas) Turbine Building Vent Unit 2
EGRPSITE	Rad Release (Particulate) Site Total
EGRISITE	Rad Release (I-131) Site Total
EGRNSITE	Rad Release (Noble Gas) Site Total