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New York Power Authority
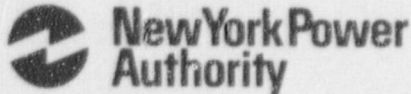
Michael J. Colomb
Site Executive Officer

January 25, 1999
JAFP-99-0019

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: James A. FitzPatrick Nuclear Power Plant
             Docket No. 50-333
             Year 2000 Readiness Modification to the Emergency Response Data System

References: 1.   NRC Generic Letter 98-01, "Year 2000 Readiness of Computer
                  Systems at Nuclear Power Plants," dated May 11, 1998

            2.   NYPA Letter, "90 Day response to Generic Letter 98-01", J. Knubel
                  To USNRC Document Control Desk, (JPN-98-032), dated July 20,
                  1998

Dear Sir:

Pursuant to the provision specified in 10 CFR 50, Appendix E, paragraph VI.3.b, this
submittal is being provided to inform you of the Authority's intention to upgrade the
Emergency Response Data System (ERDS) at the James A. FitzPatrick Nuclear Power Plant
in preparation for year 2000 (Y2K) readiness. Changes to the hardware configuration of
the ERDS have been satisfactorily tested with the NRC system. The implementation date
for the ERDS system upgrade is scheduled for March 1, 1999.

Attachment 1 contains a brief summary of the proposed changes to the ERDS in support of
Y2K readiness.

If you have any questions concerning this matter, please contact Mr. Nick Avrakotos at
(315) 349-6773.

Very truly yours,

MICHAEL J. COLOMB

MJC:GB:las

Cc: next page

cc: Regional Administrator
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Summary of JAF's Emergency Response Data System Upgrade in Response to Y2K Readiness

ERDS DESCRIPTION

The ERDS takes data from the plant process computer and data from the meteorological data system, and transmits this data via modem to the remote NRC computer. The ERDS also interfaces with the JAF 708/Plant Parameters Display systems which provides plant data to New York State Department of Health. Each system is hosted by common hardware.

These systems are hosted on an AT&T 3B2/6000 minicomputer (jafsrr005, Unix server). This hardware was originally placed in service in February 1985. Although this is a Unix system (release 3.2.3 of System V) and therefore capable of handling system dates beyond 2000, there is a known incompatibility between the system CPU and the communication subsystem CPU's. On a 3B2 each 4-port serial card has its own 80186 CPU and independent RAM. The equipment vendor has stated these subsystems will fail each night at midnight beyond 12/31/1999. This hardware has not been manufactured since 1991; the vendor has no known workarounds; and the vendor has no published intentions of addressing the problem.

There is a serial communications line running between server jafsr005 and the FitzPatrick plant process computer (EPIC). The EPIC system monitors some 2500 sensor points located throughout the plant. A subset of 396 data points is transmitted across the serial line every 60 seconds to server (jafsr005). The 3B2 receives this data, does some validity checking, reformats the data, and writes it to a file. This data file is the basis for all of the systems hosted on server jafsr005.

Programs which run on server jafsr005 were written in ANSI standard C. There are no database management systems (DBMS) involved: all of the data files are fixed-length ASCII text files. In total, all of the programs running on the 3B2 consist of about 2800 lines of C code; all of these programs were developed in-house.

For the ERDS system, plant sensor data is transmitted to the 3B2 from EPIC every one minute and weather data from the Meteorological Data Acquisition System (MDAS) every 15 minutes. These are stored in local files. When ERDS is activated, the program dials the NRC computer via modem, negotiates a special handshaking protocol, and sends the designated data points at one-minute intervals until the emergency is over.

Summary of JAF's Emergency Response Data System Upgrade in Response to Y2K Readiness

PROBLEM SUMMARY

The serial communications subsystem of the 3B2 will fail to function each midnight following the year 2000 rollover. This will break the communications link to the NRC computer for the ERDS and break the communications between the plant process computer and the ERDS host.

ERDS MODIFICATION

A modification to ensure ERDS Y2K compliance is planned and includes replacing the current AT&T 3B2/6000 minicomputer (jafsr005, Unix server) with a Windows NT server, and rewriting the existing programs for compliance with the new machine and the new operating system.

ERDS MODIFICATION IMPLEMENTATION SCHEDULE

The new computer hardware for the proposed ERDS modification has been procured, fully tested and is ready for implementation. ERDS modification implementation is scheduled for March 1, 1999.