

SNUPPS

Standardized Nuclear Unit  
Power Plant System

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SLNRC 82- 037 FILE: J-374A  
SUBJ: NRC Data Link to Meet  
NUREG 0654 and R. G.  
1.23 Requirements

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Denton:

Requirements for the NRC data link to meet NUREG 0654 and R. G. 1.23 requirements are not completely clear. The definition of this data link in R. G. 1.23, page 12, Section 8 is "...a dialup connection for an 80 column ASCII terminal via telephone lines (e.g., output format of RS-232C in FSK)." Further clarification of this data link was made at the regional meeting of May, 1981 where the link was defined further as "...the system should be capable of being interrogated over a switched network using an 80 column terminal and a Bell 212A modem communicating asynchronously at 1200 BPS, in full duplex, using 10 bit ASCII code with even parity. In addition to the Primary Dial-up, one dedicated port should be equipped with a modem compatible with a Bell 202T modem..."

As a result of the above definition and clarification, several questions are listed below to ensure that the hardware and software procured to meet these requirements does not have to be modified at a later time. These are:

1. Is the output format of RS232C in FSK still acceptable?
2. Is the backup port still required?
3. Where will the NRC receiving station be located?
4. How does the Bell 103 modem meet the above requirements?
5. What strapping options are being used on the modem?
6. Who will be responsible for the startup and maintenance of the data link?
7. How does one obtain access to the NRC data link?

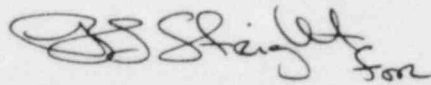
8. The following details are requested on the mode of operation of the Bell 212A modem:
  - a. Is the "receive space disconnect" strapped IN or OUT?
  - b. Is the "send space disconnect" strapped IN or OUT?
  - c. Is the "loss of carrier disconnect" strapped IN or OUT?
  - d. Do we need auto-answer? If so, at which end will it be implemented?
  - e. Will the "data set ready indication for analog loop" be strapped IN or OUT?
  - f. Will "clear to send" and "carrier detector indications" be common or separate?
  - g. Will the signal ground to frame connection be strapped IN or OUT?
  - h. Will "answer mode indication" be strapped ON or OFF?
  - i. Will transmitter timing be internal, external, or slave?
  - j. Will the speed mode be high or dual?
  - k. Will "receiver respond to digital loop" be strapped IN or OUT?
  - l. Will the "interface speed indication" be strapped IN or OUT?
  - m. Will the "make busy/analog loop circuit" be enable or disable?
9. In addition, there are some questions on the basic mode of operation.
  - a. Since long distance phone line is usually 2-wires, only half-duplex transmission can be used because a full duplex transmission requires 4-wires. The NRC position appears inconsistent. (A secondary channel might be utilized here for the reverse channel thus creating a full duplex circuit). A secondary channel requires special interfacing. What does the NRC intend?
  - b. Does the system have "Received Data Squelch"? If so, what type is used?

10. Some questions on the basic data communication areas are:

- a. What is the data communication discipline used?
- b. What is the NRC position if the utilities interfacing characteristics are not compatible with their specifications on the Bell 212A modem options?

Answers to the above questions are requested in a timely manner to facilitate meeting hardware and software schedules associated with the installation of the SNUPPS Radiation Release Information System.

Very truly yours,



Nicholas A. Petrick

JOC/nld/1a9

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