

UNC NAVAL PRODUCTS

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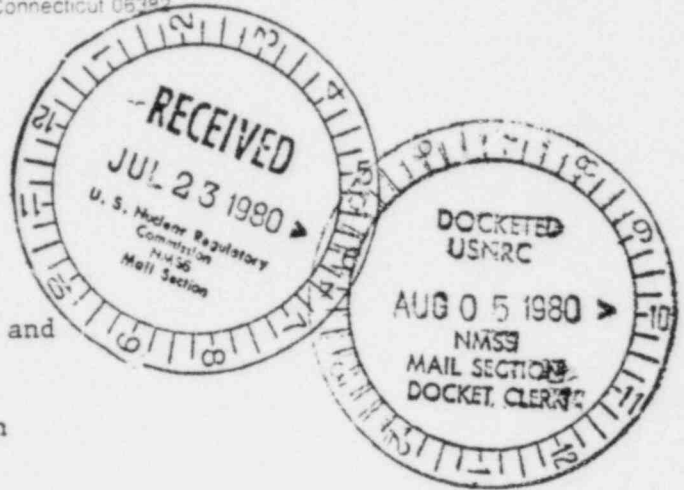
Division of United Nuclear Corporation
A **UNC RESOURCES** Company

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July 15, 1980

Mr. L. J. Evans, Jr., Chief
Regulatory Improvements Branch
Division of Safeguards
Office of Nuclear Material Safety and
Safeguards
Mail Drop SS-881
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555



Dear Mr. Evans:

Subject: Safeguards Guidance Group Assistance Request-Intrusion
Alarm Redundancy

Reference: License Safeguards Guidance Group Bulletin #5

The above reference makes clear the requirement that both central and secondary alarm stations must have the ability to take control of all electronic security systems. Each station must be able to operate in the event the other station is destroyed or made inoperative. It must be assumed that to be made inoperative includes collusion by the guards or a takeover by intruders. This implies that the on-site Security Supervisor must not only have the ability to switch control from one alarm station to the other but also the ability to mute one station.

In order to meet all requirements it is necessary to have a remote switch which the Security Supervisor can activate. The switch itself must be installed in an inaccessible secure location. The Security Supervisor will use a coded radio transmitter to activate the switch. The attached diagram shows how the Mosler Company would propose to wire the UNC Montville facility. The switch marked "SW" is a two way switch and when in normal position the C.A.S. exercises control over all security electronic systems. The S.A.S. receives tracking signals from RUT's located in C.A.S., but has no control capability. Should the C.A.S. operators destroy the C.A.S. electronic equipment or lock the Security Supervisor out, then the coded transmitter can be activated and the transfer switch will shift to position two. This transfers control to the S.A.S. and disconnects all control and signal data to the C.A.S. The entire electronic package in each alarm station has a tamper proof feature which prevents the operators from interjecting false signals, interrupting signals or incapacitating the equipment without each station receiving an alarm.

This system does not use computers and is much less complicated but more

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reliable. It gives constant status of all sensors at each alarm station, and it meets the need to place ultimate control in the Security Supervisor. (No computerized system can make a judgement as to which alarm station operator has become an adversary)

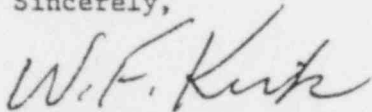
The guidance contained in NUREG/CR-0543 paragraph 4.2 states the alarm signal reaching the C.A.S. and S.A.S. must be split or divided such that each receives an independent signal which cannot be interrupted or incapacitated by the other alarm station. License safeguards guidance group bulletin #5 requires both C.A.S. and S.A.S. have the same control function. These two requirements indicate a control function switch must be installed and operated based on a human decision.

The design function which precipitated this letter is that under normal operations the Mosler system as proposed will route the tracking signals for the S.A.S. through the C.A.S. (This will not reduce the tamper or self checking feature of the system) The control signal as well as display signals will both be switched directly to the S.A.S. should the remote function switch be activated. The C.A.S. will be denied all signals.

This technique meets the requirements as defined in Bulletin #5 requiring both control and status signal switching even though the status signal is received through the C.A.S. prior to activating the switch. It is requested that this concept be approved as meeting the requirements of Bulletin #5 and NUREG/CR-0543. Your guidance is essential at this stage because other alternatives are very costly and not as reliable.

For further technical information contact the Plant Engineer, John Lawrence, Ext. 427 or Security Director, Bob Gustafson, Ext. 401.

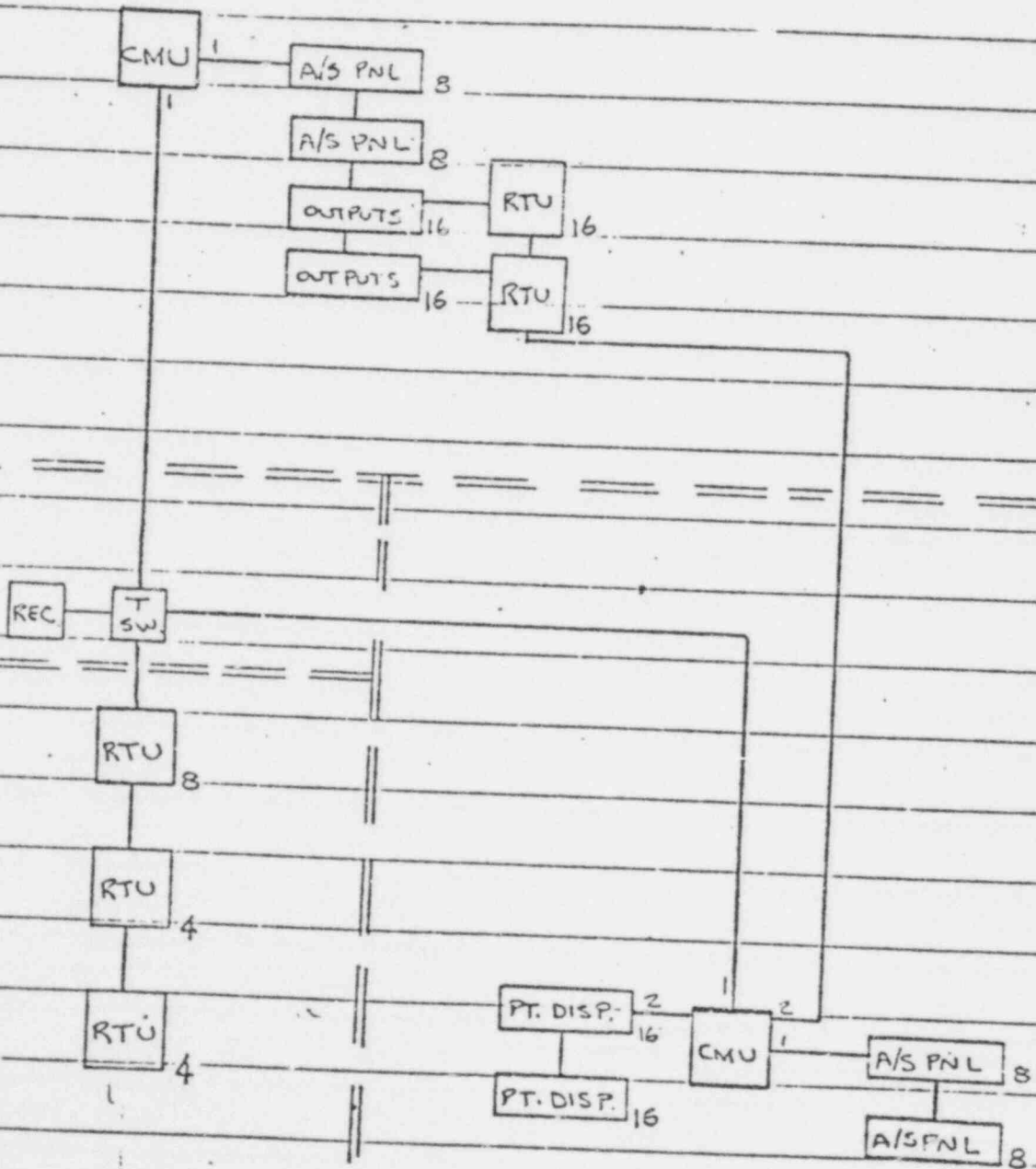
Sincerely,



William F. Kirk
Manager, Nuclear Industrial
Safety

WFK:k

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