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 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316
 AUTH. NAME AUTHOR AFFILIATION
 DOLAN, J. E. Indiana & Michigan Power Co.
 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H. R. Office of Nuclear Reactor Regulation

SUBJECT: Suppl to 790104 ltr re containment purging during normal
 plant operation. Requests continuation of review of Tech
 Spec change request for Unit 2 to permit unrestricted
 purging.

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 TITLE: Containment Purging

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INDIANA & MICHIGAN POWER COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004

June 8, 1979
AEP:NRC:00114A

Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74

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

REGULATORY DOCKET FILE COPY

Dear Mr. Denton:

The purpose of this letter is to supplement our letter of January 4, 1979 (AEP:NRC:00114) which responded to Mr. A. Schwencer's letter of November 28, 1978 on the matter of containment purging during normal plant operation.

On May 31, 1979, we met with Mr. Schwencer and other members of your staff to discuss our position on the overriding of safety actuation signals and containment purging. After listening to the concerns of your staff during the meeting, I think it is pertinent that we clarify our position on the subject of the overriding of safety actuation signals. We plan to make design changes to the Cook Plant that will permanently address the matter in a manner acceptable to the NRC.

In the course of the discussions with your staff, we pointed out that to make the type of circuit modifications required to meet the Commission's position, Westinghouse's input was required since the circuits involved are part of the Reactor Solid State Protection System (SSPS). Because of this interface, we agreed at the May 31, 1979 meeting, to provide an interim solution which would satisfy the Commission's concerns as expressed in Mr. Schwencer's letter of November 28, 1978. In parallel with the implementation of the short-term modification, we are proceeding with Westinghouse to develop permanent changes to the relevant override circuitry.

The Attachment to this letter provides a description of our interim actions. The circuit modifications described in the attachment have been discussed conceptually with members of your staff and they represent an acceptable short-term answer to your concerns. As such, we are proceeding to implement these modifications on the Cook Nuclear Plant

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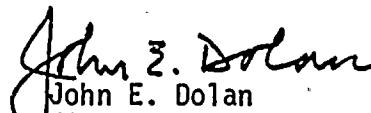
prior to the restart of Units 1 and 2. We will provide the NRC with a schedule and a description of any required design changes to effect a permanent modification as soon as we and Westinghouse determine what is necessary.

We reiterate our commitment, made at the May 31, 1979 meeting, to limit purging of Unit 1 in Modes 1, 2, 3 and 4 to 90 hours per year until the issue is finally resolved. We request that the NRC Staff continue their review of our Technical Specification change request on Unit 2, for allowing unrestricted purging.

We will also provide the staff with the additional information on the subject of unrestricted purging that was requested at the May 31, 1979 meeting.

The content of this letter and its attachment have been reviewed by the PNSRC and the NSDRC. The result of these reviews indicate that these modifications do not constitute an unreviewed safety question as defined in 10 CFR 50.59 and will not have any adverse effect on the health and safety of the public.

Very truly yours,


John E. Dolan
Vice President

Sworn and subscribed to before me
this 8th day of June, 1979
in New York County, New York


Notary Public

KATHLEEN BARRY
NOTARY PUBLIC, State of New York
No. 41-4605792
Qualified in Queens County
Certificate filed in New York County
Commission expires March 30, 1981

H. R. Denton, Director

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AEP:NRC:00114A

cc: R. C. Callen
G. Charnoff
D. V. Shaller - Bridgman
R. W. Jurgensen
R. S. Hunter

ATTACHMENT

At the May 31, 1979 meeting with the NRC, AEP agreed to install an interim modification which would satisfy the Commission's concerns on the overriding of safety actuation signals. Our discussions focused on the intent behind the NRC requirements on the use of the override circuitry and on what would be required for an interim modification.

Simply stated these requirements are:

1. Provide physical features which facilitate the administrative controls on the use of the reset push button switches.
2. As a conservative measure, provide annunciation when the reset is used whether or not any automatic safety actuations circuits are blocked by this action.
3. Provide design changes within AEPSC's scope of supply, where applicable, which would, in effect, remove the bypass capability.

RESPONSE TO ITEM 1:

Physical features and positive administrative control on the use of the reset switch will be provided by the addition of a mechanical interference (cover) which blocks operator access to the switch. These covers will be sealed in place by a "box-car" type seal under administrative control. Placing and removal of these seals will be the responsibility of a Senior Reactor Operator requiring a review of the need to use the reset feature or to de-energize the "Reset (Blocked)" alarm. This alarm circuit is being added to the plant as described below in our response to Item 2.

The procedural revisions will include instructions addressing the sealed covers over the reset switches and the "Reset (Blocked)" alarm and will be implemented with the installation of the modifications. The sealed covers will be installed prior to startup of Units 1 and 2 from their current shutdown mode.

RESPONSE TO ITEM 2:

Alarming the reset (blocked) condition of any safeguards output signal will be accomplished by adding new circuits external to the Reactor Protection System. Operation of the reset switches (push buttons) to reset any of the safety actuation signals will annunciate

in the control room. Operator initiation of a safety actuation signal reset will be performed under the positive administrative controls described above in our response to Item 1. Use of the reset switch will place a reset signal into the Reactor Protection System and at the same time energize a relay causing the annunciator to alarm. This alarm will occur whether or not a trip initiating signal is present (i.e., whether or not safety actuation signals are blocked). As a conservative measure, the alarm will alert the operator that he is in the "blocked" condition for that particular safety function. This alarm will remain present until such time as deliberate operator action is taken to return this "blocked" indication to normal. This restoring action will be accomplished under administrative control. An evaluation of the status of the safety actuation signal inputs will be performed to make the determination that no real "blocked" condition exists and the reset signal in the Reactor Protection System has cleared. Manual operation of the alarm de-energizing circuit switch is required to restore the indication to normal. The "Reset (Blocked)" annunciators will be added to the following functions:

- 1) Containment Isolation - Phase A
- 2) Containment Isolation - Phase B
- 3) Containment Ventilation Isolation (CVI)
- 4) Containment Spray
- 5) Safety Injection
- 6) Feedwater Isolation

A schematic electrical diagram of a typical annunciator circuit is shown on Figure 1. This annunciator circuit will be installed prior to startup of Units 1 and 2 from their current shutdown mode. The alarm de-energizing reset switch will be covered by the sealed covers described in response to Item 1.

RESPONSE TO ITEM 3:

Concerning Item 3, we pointed out to your staff that out of the functions containing the reset/block circuit only CVI has multiple inputs for automatic isolation and is also within AEP's scope to modify the safety actuation circuits. Safety injection actuation also has multiple inputs but is not within our scope of supply. Changes to the Safety Injection Actuation logic involve circuits in the SSPS which require Westinghouse's input to be performed. The subject of the permanent modifications will be addressed in a forthcoming letter.

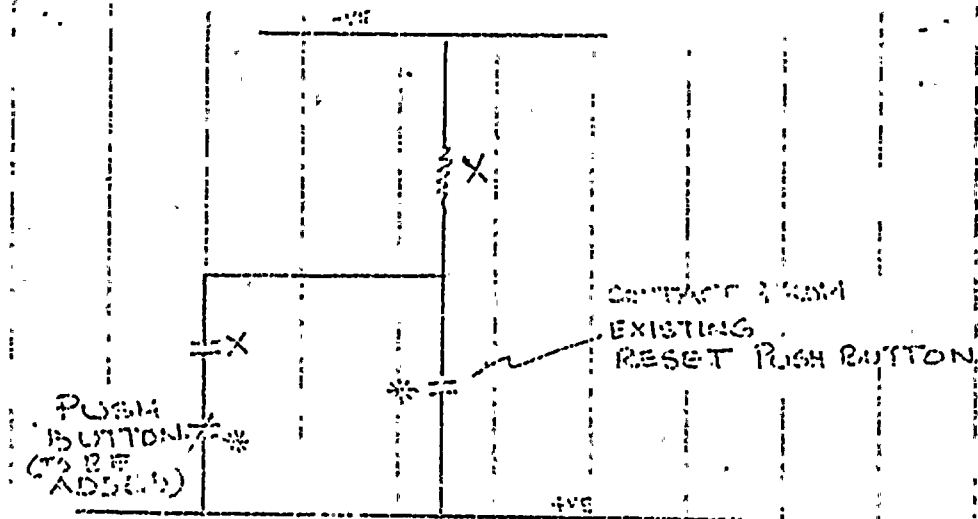
At the Cook Plant, CVI is initiated automatically by:

- a. Safety Injection Signal derived from the Reactor Protection System or Containment Pressure-High at 1.2 psi.
- b. High Containment Radiation derived from any of the following monitors:
 - i) Containment Air Particulate Monitor
 - ii) Containment Radiogas Monitor
 - iii) Containment Area Monitor

As indicated in our January 4, 1979 letter, if Containment Ventilation Isolation is reset with a trip initiating signal present, then all other automatic initiating signals are blocked from causing isolation. We plan to modify the circuit such that a Containment Phase A isolation signal will automatically isolate the Containment Ventilation System valves when "blocked" condition is present. Automatic initiation of Phase A isolation is caused by a Safety Injection signal derived from the Reactor Protection System or Containment Pressure-High at 1.2 psi.

The valves listed in Table 1 are presently actuated closed from a CVI signal. After the modification, these valves will also receive a trip close signal from a Containment Isolation - Phase A signal. This signal will directly trip the valves closed regardless of the condition of the CVI reset/block circuits. A schematic electrical diagram for a typical Containment Ventilation valve circuit modified to show this additional trip signal is presented in Figure 2. With this modification, CVI can be reset with a trip initiating signal present (blocked condition) and the valves re-opened by operation of the valve control switch. A subsequent Phase A Containment Isolation signal will automatically trip the valves closed.

FIGURE 1
DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2
TYPICAL ANNUNCIATOR CIRCUIT



* PUSH BUTTONS TO HAVE POSITIVE ADMINISTRATIVE CONTROL,

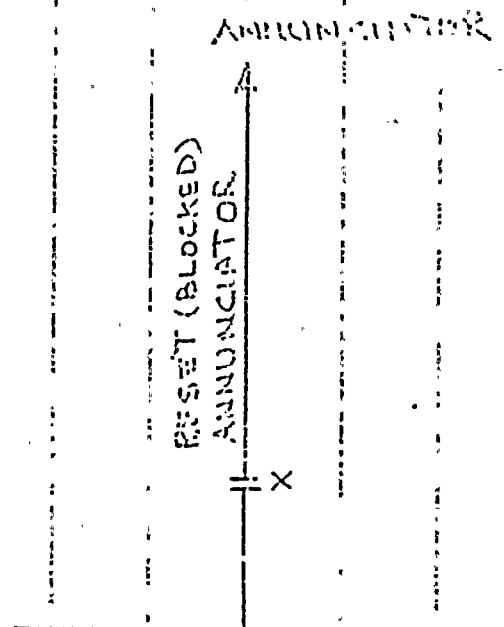


FIGURE 2
DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2
CONTAINMENT VENTILATION VALVE CIRCUIT MODIFICATIONS

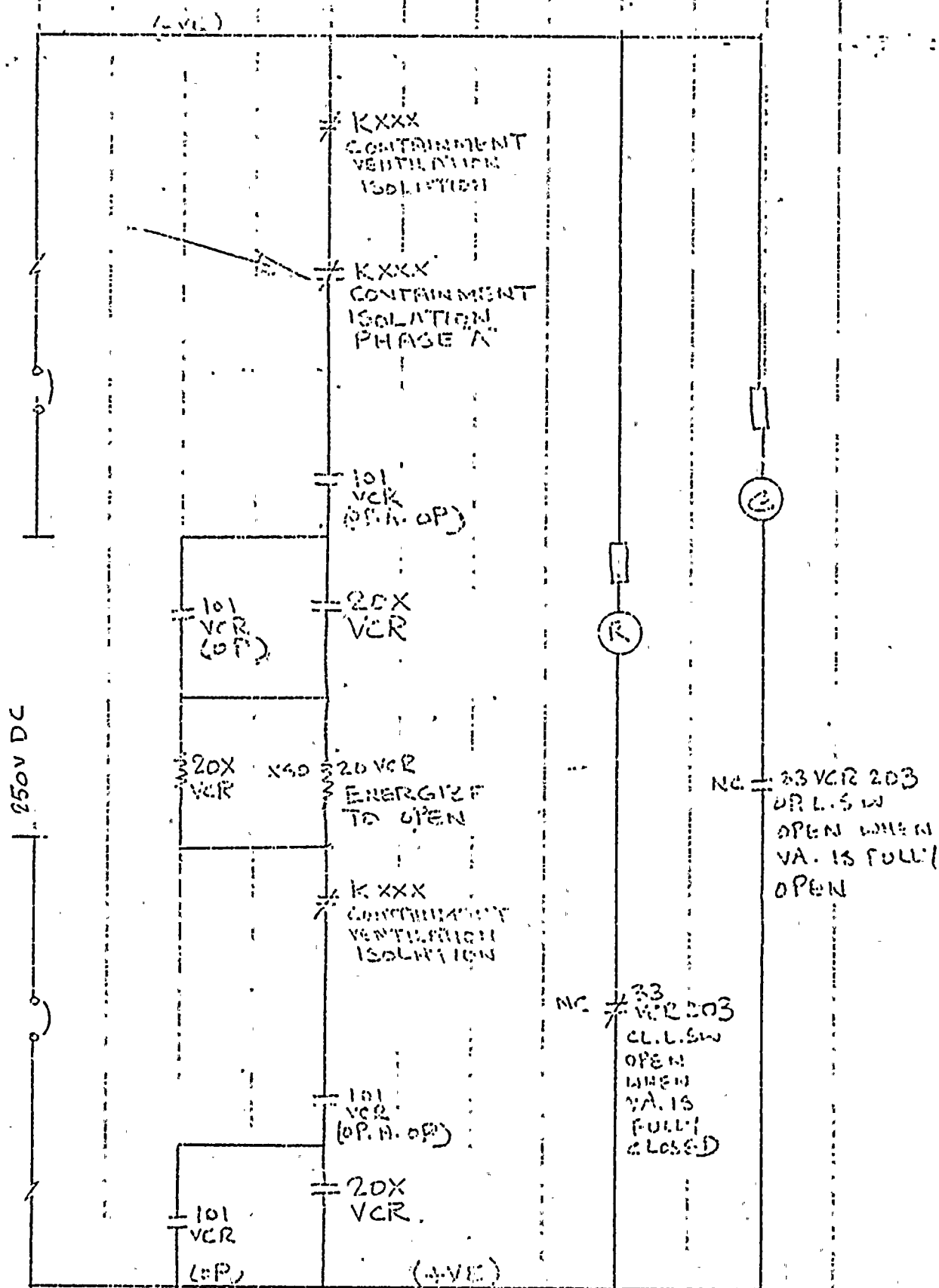


TABLE 1

DONALD C. COOK NUCLEAR PLANT UNITS 1 AND 2
CONTAINMENT VENTILATION VALVES TO BE MODIFIED

<u>Tag No.</u>	
VCR-101	Instrument Room Purge Air Inlet
VCR-102	Instrument Room Purge Air Outlet
VCR-103	Lower Containment Purge Air Inlet
VCR-104	Lower Containment Purge Air Outlet
VCR-105	Upper Containment Purge Air Inlet
VCR-106	Upper Containment Purge Air Outlet
VCR-107	Containment Pressure Relief Fan Isolation
VCR-201	Instrument Room Purge Air Inlet
VCR-202	Instrument Room Purge Air Outlet
VCR-203	Lower Compartment Purge Air Inlet
VCR-204	Lower Compartment Purge Air Outlet
VCR-205	Upper Compartment Purge Air Outlet
VCR-206	Upper Compartment Purge Air Outlet
VCR-207	Containment Pressure Relief Fan Isolation

