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**New York Power
Authority**

Joseph E. Russell
Resident Manager

March 15, 1990
IP3-90-018
MFP-90-056B

Docket No. 50-286
License No. DPR-64

Mr. Marvin W. Hodges, Director
Division of Reactor Safety
U.S. Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

SUBJECT: Inspection No. 50-286/89-82 60 Day Response

Dear Mr. Hodges:

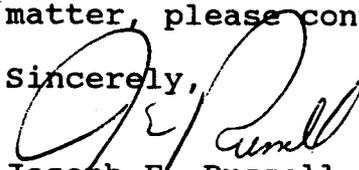
This letter and its attachment provide the Authority's 60 day response to the identified open items within NRC Inspection Report No. 50-286/89-82.

A significant number of procedural and program changes are being pursued by the Authority as a result of Inspection 89-82. As detailed in Attachment I to this letter some of these changes are already under development or have been completed.

Since changes to a single procedure often effect many of the Emergency Operating Procedures (EOPs), careful planning is required when revisions are issued. The magnitude of our proposed revision to address inspection report 89-82 and our own self-assessment requires such planning and will not be completed until October of 1990.

Should you or your staff have any questions concerning this matter, please contact Mr. M. Peckham of my staff.

Sincerely,


Joseph E. Russell
Resident Manager
Indian Point Unit 3
Nuclear Power Plant

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Attachment
cc: next page

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ATTACHMENT I
NRC INSPECTION NO. 89-82
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NRC OPEN ITEM NO. 89-82-01

Violation - No biennial review of procedures as required by the Technical Specifications. PARAGRAPH 2.2

AUTHORITY RESPONSE

The Authority position on this issue is contained in the violation 89-82-01 response dated February 8, 1990 from J.E. Russell to Mr. Marvin W. Hodges.

NRC OPEN ITEM NO. 89-82-02

Development of an accurate listing of the Containment Isolation Phase "A" valves, and correction of the yellow tag system in the Control Room. PARAGRAPH 2.3

"Allegation: The attachment for Containment Isolation Phase "A" valves in ES-1.1 was not accurate.

Discussion: The inspection team reviewed two different attachments, both of which addressed containment isolation valves: E-0, Attachment 2, "Containment Isolation Phase A Valve List" and ES-1.1, Attachment 3, "Resetting Containment Isolation Phase A."

Both attachments had several valves listed incorrectly with respect to the panel identification; e.g. the attachment listed two valves as PCV-1229 and PCV-1230 and the panel had them identified as SOV-1429 and SOV-1430, respectively. It was determined that these valves isolated the same penetration, one being the solenoid valve (SOV) that controlled the actual isolation valve (PCV). Other valves were listed that are not phase "A" valves, and some phase "A" valves were listed on one attachment but were not listed on the other attachment.

A facility representative informed the team that all Phase A valves in the control room were identified on the control room panels by yellow name tags. However, the NRC determined that (1) several Phase A valves did not have the yellow name tags and (2) some valves that were not Phase A did have the yellow name tags.

Conclusion: This allegation was substantiated. The licensee agreed to correct the attachments and the labeling problems. The weakness identified above will be tracked as Open Item No. 50-286/89-82-02."

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AUTHORITY RESPONSE

The Authority agrees that ES-1.1, Attachment 3 and E-0, Attachment 2 are different. Each is used to perform a different function.

The ES-1.1 attachment is provided to reset phase "A" from the control room. Since several non phase "A" manipulations are required concurrent with phase "A" reset these valves are included on the attachment. The ES-1.1 attachment uses the solenoid operated valve (SOV) designation for those SOVs operated from the control room (e.g., SOV-1429 and SOV-1430). SOVs referenced on the ES-1.1 attachment control positioning of actual isolation valves (e.g., PCV-1229 and PCV-1230). The SOV designator is used because the ES-1.1 valves are operated remotely via a solenoid valve.

The E-0 attachment is provided to direct local operation of phase "A" valves and would not list the non phase "A" valves contained in the ES-1.1 attachment. Since a field operator would be directed by the control room staff to reposition these valves (e.g., PCV-1229 and PCV-1230) the SOV designator (e.g., SOV-1429 and SOV 1430) would not be appropriate.

The Authority agrees that some confusion could result from differences in these two attachments because cross referencing is not provided. A modification to change valve labeling is planned. This modification will remove the SOV designation and replace them with the actual valve designation and will address other inconsistencies in the labeling of phase "A" values. The ES-1.1 and E-0 attachments will be revised to reflect this modification when it is completed during the 7/8 refueling outage currently scheduled for September of 1990.

NRC OPEN ITEM NO. 89-82-03

**Evaluate the effectiveness of the EOP Steering Committee.
PARAGRAPH 2.4**

"Allegation: The training department has very little input into the plant's philosophy of operation.

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Discussion: Interviews with both training and operations staffs indicated that there was communication between the two departments but that it was limited, and there was room for improvement. The facility informed the inspection team at the entrance meeting that an EOP Steering Committee had recently been established which included a representative from the training staff. Per discussions with facility management, part of the charter of this committee will be to elicit input from all affected departments with respect to the philosophy of operations and how the operators should be trained.

Conclusion: This allegation is partially substantiated based, on the discussions with the facility staff. However, no violations of regulatory requirements were identified. The effectiveness of the EOP Steering Committee will be evaluated on a future inspection. The weakness identified above will be tracked as Open Item No. 50-286/89-82-03."

AUTHORITY RESPONSE

The Authority believes that the Operations department maintains excellent communications with the Training department staff and that this allegation was completely unsubstantiated. Interactions to discuss curriculum content, industry events, modifications to the plant, and the status of operator training and retraining take place daily between all levels of the Operations and Training staffs. A recent independent evaluation of Training Department and Operations Department interfaces concluded that effective interaction and mutual support by the plant line and training staffs existed.

The Emergency Operating Procedure Steering Committee listed in the inspection report as open item 89-82-03 refers to the Authority's multidisciplinary team. This team was formed to improve the Emergency Operating Procedures verification and validation process. The team's primary focus is to ensure the accuracy and quality of Emergency Operating Procedures.

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NRC OPEN ITEM NO. 89-82-04

Unresolved Item - awaiting NRC Technical Specification interpretation with respect to the PORV Block valves.
PARAGRAPH 3.2.

"On August 17, 1989, during a procedure walkdown in the control room, an inspector noted that both PORV block valves were shut and energized. This lineup did not appear consistent with the IP3 TS for the PORVs and the PORV block valves : Whenever the RCS is above 400F, the PORVs shall be operable or their associated block valves closed. If the block valve is closed because of an inoperable PORV, the control power for the block valve must be removed (TS 3.1.A.4). Whenever the RCS is above 400F, the block valves shall be operable or closed (TS 3.1.A.5). The basis for the above requirements states that the PORVs operate to relieve RCS pressure below the setting of the pressurizer code safety valves, and that the block valves provide a positive shutoff capability should that relief valve become inoperable (TS Basis for 3.1).

The IP3 FSAR states that the PORVs are provided to protect against pressure surges which are beyond the pressure limiting capacity of the pressurizer spray (Sections 4.1.4 and 4.2.3). The FSAR further lists the pressure settings for plant overpressure protection as (Table 4.1-1):

Pressurizer Safety Valves	2485psig
High Pressure Reactor Trip	2385psig
Power Relief Valves (PORVs)	2335psig

Note that the PORV setpoint is below both the RPS setpoint and the safety valve setpoint. It is inherent in the FSAR discussion that the intended mode of operation for the PORVs is automatic overpressure protection such that the reactor protection system and the safety valves will not be challenged.

The facility representative stated that they did not consider the closing of the PORV block valve to render the PORV inoperable, in that the reactor operator would be able to manually open the block valve if overpressure protection is required.

This is an unresolved issue pending NRC review of licensee and Westinghouse Owners Group (WOG) activities in this area and will be tracked as Open Item No. 50-286/89-82-04."

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AUTHORITY RESPONSE

The Authority's position on this issue is accurately reflected within the inspection report. No further action is planned.

NRC OPEN ITEM NO. 89-82-05

Development of a procedure consistent with the Westinghouse ERG for "Event Rediagnosis" (ES-0.0). PARAGRAPH 4.1

"The list of IP3 EOPs was compared to the Westinghouse Owners' Group (WOG) list of Emergency Response Guidelines (ERGs), Revision 1A of the Low Pressure Version, to ensure that the licensee had developed procedures in accordance with the WOG recommendations.

It was determined that the facility had incorporated the basic WOG guidance with one exception; specifically, ES-0.0, Event Rediagnosis, had not been incorporated into the IP3 EOPs. The licensee's justification for not including ES-0.0 was considered inadequate.

The facility committed to developing a procedure in accordance with the guidelines of ES-0.0. The weakness identified above will be tracked as Open Item No. 50-286/89-82-05."

AUTHORITY RESPONSE

The Authority, using the Westinghouse Owners Group guidance, has completed a draft of ES-0.0, "Rediagnosis". This procedure is currently in the review and approval cycle. The Authority will complete this effort and train all operators by October 1990.

NRC OPEN ITEM NO. 89-82-06

Violation - No Quality Assurance involvement in the development or maintenance of the EOPs. PARAGRAPH 4.2

AUTHORITY RESPONSE

The Authority position on this item is contained in the violation 89-82-02 response dated February 8, 1990 from J.E. Russell to Mr. Marvin W. Hodges.

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NRC OPEN ITEM NO. 89-82-07

Resolution of generic issues identified and specific comments in Attachment 2. PARAGRAPH 6.2

"During the reviews and walkdowns of the procedures, deficiencies were identified and discussed with the licensee prior to the exit meeting. The licensee acknowledged and committed to correction of the identified deficiencies. In many cases, the licensee had already identified the deficiency and corrective action had been started. Deficiencies considered to be generic procedural weaknesses are listed below:

- a. The level of detail is not consistent between the left-hand Action/Expectation Response (AER) column and the right-hand Response Not Obtained (RNO) column. The licensee acknowledged the lack of detail in the RNO column and agreed to incorporate additional information where required.
- b. There were many differences between the nomenclature used in the procedure for a component and the label used on the control board or in the plant.
- c. The use of non-permanent labeling was not well controlled. Numerous instances were identified of plastic tape, adhesive tape, magic marker, etc. both inside and outside of the control room.
- d. The usage of the term "Immediate Actions" is not consistent between the EOPs and the ONOPs. Within the EOPs, the term means that the actions are memorized and are to be performed without the aid of the procedure; within the ONOPs, the operators are being instructed to wait for the procedure, and that memorization is not required. However, during the simulator exercises the operators were observed performing the ONOP immediate actions without referring to the procedures. (Refer to paragraph 7.4.a for further details).

The use of the term "Immediate Actions" is further perturbed within the ONOPs in that the term "Subsequent Actions" is not defined, yet common practice is that subsequent actions are performed after the procedure had been referenced.

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- e. Many of the EOPs contained, within the RNO column, a requirement for the operator to verify that adequate power existed prior to starting of a component; but there was not a reference stating how much power each component required. There is no guidance to refer to the table of loads contained in the ECA-0.0 series.
- f. The RNO column frequently requires the operator to "close any open RCS vent path" (e.g. FR-C.1 step 10). There is no guidance concerning the possible vent paths.
- g. The operator is directed to trip the affected RCP on loss of CCW to the thermal barrier, but there is no guidance to aid the operator in determining which pump is the affected pump.

Those deficiencies concerning specific procedures that were not covered by the generic weaknesses identified above are listed in Attachment 2 of this report. The weaknesses identified above and those listed in Attachment 2 will be tracked as Open Item No. 50-286/89-82-07."

AUTHORITY RESPONSE

The Authority has reviewed the generic weaknesses listed above and the specific deficiencies identified in attachment 2 of the NRC inspection report. As listed in the report several of these items were self-identified and corrective actions were already in progress. The remainder will be corrected in procedure revisions to be completed by October of 1990.

The issue of procedure use related to Off Normal Operating Procedures (ONOPs) and Emergency Operating Procedures (EOPs) requires clarification.

Administrative Procedure AP-4, "Procedure Adherence and Use", states that immediate action steps for Emergency Operating Procedures are the only operator actions requiring memorization. The procedure also states that procedures shall be present if "reliance on memory cannot be trusted" or "the task is infrequently performed." The ONOPs are frequently performed during simulator training sessions and many of the experienced operators have committed these procedures to memory. The Authority's position on this issue is that these procedures can be performed from memory provided that strict procedural adherence is maintained and

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that follow-up action is checked by reference to the procedure. This policy is clearly stated in AP-4 and was presented to the inspection team during the audit. No further action is intended.

NRC OPEN ITEM NO. 89-82-08

Resolution of apparent operator inability to correctly use the EOPs. PARAGRAPH 7.3

AUTHORITY RESPONSE

The Authority's position on this item is contained in the violation 89-82-01 response dated February 8, 1990 from J.E. Russell to Mr. Marvin W. Hodges.

NRC OPEN ITEM NO. 89-82-09

Correction of weaknesses observed during simulator exercises. PARAGRAPH 7.4

"Additional Weaknesses:

- a. All crews were observed performing the immediate action steps from the ONOPs prior to obtaining the procedures. This is contrary to the IP3 policy of performing only the required immediate action steps from the EOPs from memory.
- b. All crews performed panel clean-up actions prior to being directed to do so by the procedure in effect; this action was being taken in all cases by the Rover prior to being given specific direction by the SRO.
- c. The crews were not consistent in the following areas:
 - * The use of the term "verify" as applied to the EOPs and ONOPs.
 - * The use of the ARPs.
 - * The ability to maintain place-keeping within the EOPs.

The weakness identified above will be tracked as Open Item No. 50-286/89-82-09."

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AUTHORITY RESPONSE

The Authority has reviewed in detail the above issues and provides the following response for each item:

- a. See the response to Open Item No. 89-82-07.
- b. The control board cleanup actions referred to are those actions performed following a reactor trip to prepare non-safety related equipment for shutdown. The priority for these actions varies depending on such factors as the speed and severity of the event and the number of operators in the CCR. During a normal reactor trip these actions are performed by the Reactor Operator (RO) as directed in ES-0.1, "Reactor Trip Response" procedure. During complex events the RO had been trained to perform these actions without requiring direction from the SRO. The Authority has revised its policy with regard to the role of the RO Rover. We now require that for the RO Rover to function in this capacity and to conduct cleanup activities he may only do so after he has been acknowledged by the SRO.
- c. The Authority will define the term verify and provide this direction to the operators.

Alarm Response Procedures (ARPs) are written to be stand alone documents and provide direction to the operators when responding to single events. In complex situations, where Off Normal Operating Procedures (ONOPs) and Emergency Operating Procedures (EOPs) are activated, these procedures take priority over ARPs but do not preclude their use. A single policy more proscriptive than this cannot be written to cover all situations which can occur in the plant.

The Authority has purchased place keeping aids and will incorporate their use into the EOPs by October of 1990.

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NRC OPEN ITEM NO. 89-82-10

Correction of simulator/control room differences. PARAGRAPH 7.5

"The IP3 simulator has only been in operation for two years, it is reasonable to expect very few differences between the control room and the simulator. Two major differences that exist are:

- a. The normal lighting remains on in the simulator on a loss of offsite power, in the control room the normal lighting is lost.
- b. In the control room, most of the labels for the Phase A valves are yellow. In the simulator, the valves labels are black.

The differences identified above will be tracked as Open Item No. 50-286/89-82-10."

AUTHORITY RESPONSE

The IP3 simulator has only been in operation since September of 1988, less than one year at the time of the NRC Emergency Operating Procedure inspection.

A design freeze, to facilitate construction, installation and acceptance testing, took place in 1985. This freeze was necessary to provide an engineering base line and is a common industry practice.

During the time from 1985 to 1988 modifications to the plant were made. Because of this, it was known that differences between the control room and the simulator would result.

A program to carefully monitor plant modifications that had impact on the simulator, following the design freeze, was in place. This program included the development of the engineering documents necessary to facilitate these changes in the simulator design and the appropriation of capital funding. As evidenced by our recent simulator upgrade outage, these issues are being addressed in accordance with this established program's schedule.

Many of the simulator differences noted were corrected in a recent simulator upgrade. This included the phase "A" labeling differences mentioned in the inspection report.

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The lighting issue will be corrected during the second quarter of 1990. Additionally a major upgrade to the simulator which will correct the remaining differences.

The modification control procedures that govern all modifications to the facility require that each change to the facility be evaluated for potential impact on the simulator. It is this process that insures maintenance of the fidelity of the simulator for the future.

NRC OPEN ITEM NO. 89-82-11

Correction of weaknesses in Writers Guide. PARAGRAPH 8.2

"Writers Guide

In order to function as a controlling basis for the presentation of information in the EOPs, a writers guide must address every aspect of the EOPs and must include restrictive instructions on the way that a writer will structure the EOPs. Without such thoroughness and restrictiveness, EOPs may become inconsistent over time and thus more difficult for operators to use with a potential for confusion and error. The IP3 writers guide was incomplete in that it did not address every element contained in the EOPs.

A number of extremely important aspects of EOPs were not included in the writers guide. For example, transitions were not addressed. This is of particular concern because transition steps are considered to be one of the more difficult types of procedure steps to perform and therefore must be carefully and consistently presented. In addition, no placekeeping method was addressed in the writers guide. Nor was a method identified for reminding the operators of continuous action steps within the procedure that may be performed at any time in the procedure. No type style or type size requirements were included.

In some cases, directions were vague or allowed multiple formats. For example, the writers guide stated that asterisks would be used to identify continuous action steps "in some cases." The writers guide stated that RNO steps would be written in a "sentence format" in contrast to instruction steps, but failed to describe what this meant or why an instruction was not considered "sentence format." Dual meanings were provided for the action verb "verify"; that is, the writers guide stated that verify designates

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action if the expected response is not found, whether the action is explicitly or implicitly stated. In addition, the writers guide allowed pen and ink notations on temporary changes in the EOPs, which could lead to illegible writing and possible confusion or error. The weakness identified above will be tracked as Open Item No. 50-286/89-82-11."

AUTHORITY RESPONSE

The Authority will revise the EOP Writers Guide to answer the above concerns. Specifically, the following items will be addressed:

- 1) Transition format with examples will be added.
- 2) Use of place keeping aids will be incorporated into the EOPs.
- 3) Type style requirements will be added to the Writers Guide.
- 4) A sentence format example will be added to the Writers Guide.
- 5) The use of asterisks and the meaning of the word "verify" will be clarified.
- 6) The use of pen and ink notations for Temporary Procedure Changes will be clarified to resolve any illegible writing concerns.

The Authority will complete these actions by July of 1990.

NRC OPEN ITEM NO. 89-82-12

Correction of weaknesses in Verification & Validation program. PARAGRAPH 8.4

"Verification and Validation Program

Thorough and complete verification and validation of new procedures and of significant changes and revisions will ensure (1) adherence to the basis documents; (2) that the language and level of information is appropriate for the users; (3) that there is a correspondence between the procedures and the plant hardware; and (4) that the procedures will function as intended.

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The IP3 EOPs included evidence that not all of these objectives had been met. While it appeared that the procedures functioned as intended, numerous examples were found of deviations from the writers guide.

For example, while the writers guide indicates that no actions steps will be contained in cautions and notes, the team found numerous examples of actions steps in cautions and notes. In addition, the team found overly complex cautions and notes, and cautions that were incorrectly shown as notes, along with notes incorrectly shown as cautions. The word "shut" was used as a verb, in conflict with its definition as adjective in the writers guide.

While the writers guide states that cover sheets will include immediate actions, all EOPs reviewed included immediate actions on the second page. The writers guide stated that steps will precise, and "exactly and correctly defined." However, the term "adequate" was found throughout the procedures, without the term being defined.

In addition, the verification and validation program lacked sufficiently independent review of the procedures, and lacked in-plant walk throughs to verify that references to plant nomenclature were correct. The weakness identified above will be tracked as Open Item No. 50-286/89-82-12."

AUTHORITY RESPONSE

The Authority's multidisciplinary team will perform an independent review of future Emergency Operating Procedure revisions. The team will compare the procedures against writers guide requirements during this review. The team will also perform plant walkdowns to ensure that procedure revisions accurately reflect plant hardware. This effort will resolve many of the weaknesses identified by the NRC inspection team.

The Authority will eliminate the use of the word "adequate" where it is used in lieu of a reference to or statement of defined criteria. This change will be phased in during the procedure biennial review process.

The Authority will eliminate the use of the word "shut" as a verb. "Shut" will only be used as an adjective in association with the action verb "close". This change will be phased into all appropriate procedures during the procedure biennial review process.

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The IP3 writers guide provides for the use of "contingency transitions" in cautions and notes. The Authority has refrained from specifying action within cautions or notes, but will reevaluate all cautions and notes for this issue in the procedure biennial review process.

The Authority believes that the following item was incorrectly assessed by the team.

The IP3 writers guide specifies Immediate Action Steps and cover sheet requirements as follows:

"For those procedures which are the entry procedures into the EOP set, certain initial steps may be designated "immediate actions". This designation implies that those steps may be performed by the operator, based on his memory, without reference to the written procedure. These steps should be limited to verifications, if possible. Immediate action steps are identified by a NOTE prior to the first action step."

"Each EOP shall have a coversheet. The purpose of this coversheet is to identify: 1) the procedure, 2) the authorized revision and 3) the entry conditions required for the procedure."

As shown above, the writers guide does not specify that immediate action steps must appear on the cover sheet.

NRC OPEN ITEM NO. 89-82-13

Development of procedure for guidance on what type of training is required on revisions to the EOPs. PARAGRAPH 8.5

"Training on Procedure Changes

In order to assure that all operators are aware of and appropriately trained on all aspects of procedure revisions, it is important that licensees have an adequate method for defining when training on revisions is necessary and what type of training is required. Clearly defined criteria must be used to assure consistency. Indian Point 3 has no defined or formalized criteria for deciding if retraining should be used. The current system holds potential for inconsistency and may lead to inadequate training on

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procedure revisions. The weakness identified above will be tracked as Open Item No. 50-286/89-82-13."

AUTHORITY RESPONSE

Training on Emergency Operating Procedure (EOP) revisions for the operators has been routinely conducted in the past. All changes to procedures, both minor and major, are brought to the attention of the operators immediately via the required reading list. This process requires that the operators sign-off when the change has been reviewed. Additionally, major changes require training on the simulator before taking the watch after the changes have been made effective. All changes are reviewed again during the normal requalification process.

At the time of the inspection no criteria for making training decisions as discussed above existed. This criteria is being developed and will be incorporated into appropriate plant procedures by October of 1990.

NRC OPEN ITEM NO. 89-82-14

Resolution of issue regarding the lack of control of the EOPs. PARAGRAPH 8.6

"Control of EOPs

Another important aspect of maintaining the quality of the EOPs is the responsibility for physical control of the EOPs, related procedures, and the plant environment in which the procedures are to be used. A number of weaknesses were found in the manner in which IP3 controls these aspects of the EOP system.

IP3 lacks a system to assure that the same principles for information presentation as applied to the EOPs are applied to all the information that the operators have to use during the emergency conditions. For example, three different acronym lists exist for use in plant procedures and control room labeling. Thus, operators sometimes have to contend with different acronyms for the same term.

Operator aids are controlled by an administrative procedure (OD-7) that requires only "professional format in a suitable medium." As a result, the reprographic quality of operator aids was found at times to be low. In one instance, the key to a graph had been cut off during reproduction. Also, a

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number of items which could be construed as operator aids were not controlled by the system. For example, numbers on annunciator alarm windows, stick on magnetic indicators for the plant fire system, and hand drawn graphs used by Chemistry to do VC hydrogen samples were not controlled.

No uniform system for controlling copies of the procedures was found. As a result, low quality copies of EOPs were found, including foldout pages with the last step cut off during copying. In addition, there is no method to distinguish controlled copies of the procedures from other copies other than the binder in which the controlled copies are kept. During the inspection, the team observed operators removing copies of procedures from the binder, thereby removing any way to determine that the copies were controlled. The weakness identified above will be tracked as Open Item No. 50-286/89-82-14."

AUTHORITY RESPONSE

The Authority does use several different lists of acronyms. These terms are familiar to and used by the operators. The Authority, during simulator training sessions and during the verification and validation process, has observed no adverse operator performance resulting from the use of acronyms.

The Authority agrees that the use of a single list of acronyms for procedures and plant labeling is desirable and is working to achieve that goal.

The numbers on the annunciator alarm windows have been removed. Controls have been established for the use of magnetic indicators on the plant fire system panel.

The graphs used by the chemistry group to perform VC hydrogen samples have been incorporated into plant procedures.

The Authority is implementing a centralized document control system. This system will provide positive control of reproductive quality and copy distribution. This process is expected to be in effect for all operations procedures by July of 1990.