

THREE MILE ISLAND NUCLEAR STATION
ADMINISTRATIVE PROCEDURE #1002
RULES FOR THE PROTECTION OF EMPLOYEES WORKING ON
ELECTRICAL & MECHANICAL APPARATUS

CONTROLLED COPY

PORC CHAIRMAN

UNIT 1

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Unit 1 Staff Recommends Approval

Approval N/A Date —
Cognizant Dept. Head

Unit 2 Staff Recommends Approval

Approval N/A Date —
Cognizant Dept. Head

Unit 1 PORC Recommends Approval

RE Burke Date 7-6-79
Chairman of PORC

Unit 2 PORC Recommends Approval

RP Warren Date 7/9/79
Chairman of PORC

Unit 1 Superintendent Approval

W. Schilling Date 7/16/79

Unit 2 Superintendent Approval

James E. Smith Date 7/16/79

Manager Generation Quality Assurance Approval

W. J. Truffer Date 7/24/79

System Safety Representative

F. J. Prince Date 7/25/79

1125 281

THREE MILE ISLAND NUCLEAR STATION

ADMINISTRATIVE PROCEDURE #1002

RULES FOR THE PROTECTION OF EMPLOYEES WORKING ON ELECTRICAL &
MECHANICAL APPARATUS

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A. GENERAL

1. Purpose

The purpose of this procedure is to provide methods to insure the safety of personnel who may be required to work on or around electrical and mechanical apparatus under the jurisdiction of Three Mile Island Nuclear Generating Station. The apparatus covered by this procedure may or may not be radioactive.

2. Scope

The detailed procedure provides a step-by-step method for the electrical and/or mechanical isolation and control of any equipment on which maintenance, inspection, troubleshooting or testing is to be performed. This is a "Supplemental Procedure" specifically for TMI as permitted by Article 2.18 of Met Ed Safety Manual Section Two. It is not intended to supersede other approved Met Ed documentation which addresses safety: namely, the Safety Manual, Metropolitan Edison Company Instructions for Switching and Tagging, or the TMI Radiation Protection Manual (TMI Administrative Procedure #1003).

3. References

- a. Met Ed Safety Manual (Section 2, especially Article 2.18).
- b. TMI Radiation Protection Manual (TMI Administrative Procedure #1003).
- c. GP 0051 Rules for Men Working on High Temperature or Pressure Systems.

4. Definitions and Abbreviations

The following definitions and abbreviations are applicable to this procedure and are acceptable for use on applications and switching orders.

ABT-Automatic Bus Transfer

ACB-Air Circuit Breaker

BDD-Breaker Disconnecting Device

CRO-Control Room Operator

CT -Current Transformer

Extension Control - Controls associated with operation of its associated main breaker; can be control switch, pushbutton, selector switch, etc.

ES - Engineered Safeguards

GCB-Gas Circuit Breaker

MCC-Motor Control Center

OCB-Oil Circuit Breaker

PT -Potential Transformer

RWP-Radiation Work Permit

USS-Unit Sub Station

B. RESPONSIBILITIES

1. Maintenance Department

- a. Maintenance personnel shall be thoroughly familiar with this procedure and the equipment which is to be isolated, as well as all applicable Met-Ed safety regulations.
- b. Maintenance supervision shall be responsible to see that maintenance personnel perform work in strict accordance with this procedure and shall be responsible for training thereof.

- c. Maintenance supervision shall make an independent check of tag coverage and usage, using appropriate schematics and system diagrams as necessary, and sign each tagging application signifying it is correct and complete.

2. Operations Department

- a. Operating personnel shall have the ultimate responsibility for isolation or restoration of equipment through the proper use of the switching order.
- b. Operations Shift Supervisor/Foreman shall check each application for equipment to be taken out of service to be certain they are correct and complete. Shift Supervisors, in addition, will, by written and oral examination, verify that individual maintenance personnel are qualified to request equipment to be removed from service. This verification will follow the completion, by maintenance personnel, of the Training Departments Program on Switching and Tagging. An up-to-date list of TMI personnel who may request switching and tagging shall be available to the CRO assigned to switching and tagging at all times.
- c. Weekly audit of the tagout log shall be performed by the Operations Department to verify its accuracy.

3. Training Department

- a. The Training Department will insure that operations and appropriate maintenance personnel are trained in the use of this procedure. The Head of the Training Department shall define the method to be used for initial training, training on revisions and retraining on this procedure.

4. Station Personnel

It is the responsibility of all station personnel to ensure that their verbal instructions are correctly received and interpreted by the receiving party(s). The recommended method is to have the receiving party repeat back the stated instruction. An alternative is to visibly ensure your instructions are carried out.

Verbal orders, whether by phone or in person, shall be clear and concise.

C. LIMITS AND PRECAUTIONS

1. The list of personnel authorized to request switching and tagging shall be maintained by the Operations Department. To be qualified for inclusion on this list, an individual shall have been examined and verified satisfactory by a Shift Supervisor. Record of this verification, including completed test, shall be retained in the TMI Training Department files.
2. There are two types of tags to be used for the isolation of equipment. The tags are color coded "Red" and "Blue".
 - a. Under no circumstances shall equipment bearing a Red Tag be energized or operated. One or more parties may work under Red Tag protection providing each party has received clearance from the Switching and Tagging CRO.
 - b. Equipment bearing a Blue Tag may be worked on by only one party at a time. Equipment bearing a Blue Tag may be energized or operated, but only upon the request of the employee in charge of the work party that has clearance. Operations Department permission to energize or operate must meet the following stipulations:
 - (1) Permission to energize or operate E.S. equipment must come from the Shift Supervisor/Foreman.
 - (2) Permission to energize or operate Non-E.S. equipment may be granted by any duty operations control room personnel.
 - (3) All permissions must include specific instructions as to the position the equipment must be left in when the requested operations have been complete.

(e.g. MU-V16 to be left closed after cycling). The person in charge of the work shall work with due regard for the actual condition existing.

- (4) Permission to energize or operate a blue tagged component shall be granted only in situations where energizing or operating the equipment is required to complete the work item for which the tags were placed. In all other situations requiring energizing or operating tagged equipment, cleared tags must be removed in accordance with section 4 of this procedure prior to energizing or operating.

3. In addition to the standard tags described above, smaller red or blue adhesive backed sticker tags will be used wherever standard tags cannot be used due to physical limitations. No tag shall be placed on any extension control unless it is accompanied by a tag of the same color on the associated power supply and its manual operator.
4. Wherever available, an atmospheric drain or vent between the equipment to be worked upon and sources of pressure shall be tagged in the open position.
5. The criteria in GP0051 shall be adhered to for the protection of personnel working on High Temperature/High Pressure Systems. This Generation Division Procedure defines High Temperature/High Pressure as greater than 200⁰F and/or 200 pounds per square inch.
6. For work on electrical circuits, maintenance personnel will always test for voltage prior to starting work. Approved grounding devices shall be applied where circuits could be energized at 600 volts or greater. The use of approved grounding devices is encouraged where circuits could be energized at any voltage.
7. When work on a piece of equipment requires that it be tagged-out in such a manner that the equipment could be damaged if operated, then the power supply or the steam supply to that component shall also be tagged. Example: If the suction or

discharge valves of a pump are tagged shut then the BDD for the pump feeder breaker shall be tagged open.

8. No employee holding clearance shall leave the Station without reporting clear (of tags) to the switching and tagging CRO and has received acknowledgement that it has been so noted on the appropriate clearance control document.
9. Tagging applications for equipment affecting the cross-connect capability of systems that are common to both units will require special handling. The Shift Foreman for the Unit initiating the tagging application must communicate with the Shift Supervisor to assure that conditions in both units will allow the equipment/system removal from service, before approving the application. The systems listed on Enclosure 6 are common to both units.
10. CAUTION: Ensure tags are placed in such a manner that operating indications are not obscured by the tag.

D. DETAILED PROCEDURE

1. Removal and Isolation from Service
 - 1.1 An application for apparatus to be taken out of service (See Enclosure I) shall be completed, down to the first double line by an individual on the approved Switching and Tagging list. The application shall be made out in detail. It shall include date and desired apparatus, date and time of anticipated start and finish, and a brief description of work to be done and the hazards associated with the work. Devices requiring tags shall be listed including their tagged position and the color tag required. The exact word designator or Alpha numeric designator appearing on the switchgear and/or valve tag shall be used on applications. Any device requiring tags, which is

not located within or controlled from the unit in which the
application is being made, must be clearly identified as such
by preceding that equipment with the phrase in Unit #____:
The same individual who initiates

the tagging application will initiate or verify the existence of a Radiation Work Permit if one is required by the work request. If an evolution to be performed in the controlled area is not covered by a work request the Radiation Protection Supervisor/Foreman shall determine if an RWP is required. Preparation, routing, and approval of the Radiation Work Permit is described in Section 2.10 of the TMI Radiation Protection Manual.

- 1.2 The individual will present the completed application to the department foreman who will check for accuracy and correctness and sign approval to the application. Anytime the departmental foreman is not on site, the individual should present the application directly to the shift foreman as per Section D.1.3 of this procedure. The shift foreman in this instance will sign in the departmental foreman's space as well as the space allotted the shift foreman.

NOTE: During the construction phase when applications are received from the UE&C Safety and Permit Man, the department foreman signature block and the requirement for departmental foreman review need not be completed. Tags prepared for the protection of UE&C personnel shall be made out to "UE&C Safety & Permit" man.

- 1.3 The individual will next present the departmentally approved application to the shift foreman for the latter's checking, approval, and signature.
- 1.4 The application will then be presented to the Control Room Operator, who shall verify that the requested isolation and

tagging is adequate to safely perform the work. When satisfied, the CRO will assign a control number and sign the application. If the application requires duplicate "Red" tagging of identical apparatus, e.g. apparatus already tagged from an application for another work party(s), then the new applicant may be granted "Clearance" and added to the original application. The original application thus becomes a "Clearance Control Document" identifying each party to existing tags. Each subsequent application shall be attached to the original application. Thus tagged equipment may not be operated or energized and tags may not be removed until all parties granted clearance have cleared off.

If the application requires "Blue" tagging of identical apparatus that is already "Blue" tagged, then the new applicant may be granted "Clearance" only if the original applicant has previously cleared off the job and the tags remain. Not more than one party may be granted clearance to work under the same "Blue" tag at any time. This practice may be used when a job is carried from one shift to another and providing "identical protection" is required.

The CRO will then prepare the order for mechanical and/or electrical isolation on the form titled "Switching Order (OD-54 11-55)" (See Enclosure 3) which will contain the following information:

1. Name of Station & Unit Number
2. Control Number

3. Date, Time
4. Ordered by (CRO Writing Order)
5. Order of Switching

On equipment with 43ES selector (Unit 1 only) the switching order must include position of these switches. See Enclosure 8 for listing.

NOTE: (Unit #1 only) Position of related 43/SS including components to be selected and desired power supply should be noted on the switching order as applicable. Ensure redundant ES equipment has been tested, prior to removal of equipment from service. (See Encl. 3A)

(Unit #2 only) Position of related external control switch, "AUTO" position, of redundant RR-P should be noted on the switching order. Ensure redundant component is operational prior to removing component from service. (See Encl. 3B)

(Unit #2 only) Ensure that the "back-up selection" switch is in the correct position so that the redundant NR-P can be started directly by an ES signal. This should be noted on the switching order.

Also, ensure redundant NR-P is operational prior to removing first NR-P from service. (See Encl. 3C)

Any device requiring tags, which is not located within or controlled from the unit in which the application is being made, must be clearly identified as such by preceeding that

ipment with the phrase In Unit #____:.. The switching order will be made out in duplicate; the original to remain in the Control Room and filed in the "Switching Order Book"; the other copy will be carried by the individual who performs the isolation and switching. This individual may be Operations or Maintenance Department personnel. This "carried" copy is then destroyed following the report to the CRO that switching and tagging has been accomplished. The required Red/Blue tags will also be prepared by the Control Room Operator in conjunction with the Switching Order. Each tag shall carry the same control number as the application/switching order. All required information must be supplied on each tag at the time tag is placed. This includes:

1. Name of Station & Unit Number
2. Date & Time Placed
3. Tagged For - Control Number
4. Oper. Placing Tag
5. CRO Issuing Order
6. Name and Number of Device

If the YES block on the application, has been checked indicating that a Radiation Work Permit is required for the work to be performed, the Control Room operator shall verify that a completed and authorized RWP is on file in the Control Room. Only then can the CRO proceed with granting clearance for work to begin as per Section D.1.6 of this procedure.

- 1.5 Isolation and tagging of equipment, as listed on the Switching Order, will be performed by a person designated by the duty Shift Supervisor/Foreman. Physical location of tags on Electrical equipment shall be in accordance with Enclosure 5 of this procedure. The completed switching order will then be reported as complete to the CRO who will record on the original switching order the time completed and name of the person who performed the order.

CAUTION: Ensure tags are placed in such a manner that operating indications are not obscured by the tags.

- 1.6 The correct isolation and tagging of equipment shall be personally verified from a copy of the application by the individual who requested the equipment be isolated and who shall confirm this verification to the Control Room Operator. The Control Room Operator after verifying that an approved RWP is on file, as applicable, will then grant clearance for the work to begin and will again sign the clearance control document giving date and time for the clearance given. At this time the Control Room Operator will inquire and so note YES on the application if grounds will be applied.

2. Partial clearing of an application.

Partial clearing of an application (i.e. removal of some of the tags required by a specific application, but not all the tags) may be accomplished by notifying the Switching & Tagging CRO of the desired items on the application from which tag removal is required. The CRO assigned to Switching and Tagging

- must notify all parties who have been granted clearance on the specific application in question and all must authorize the "Partial Clearing Request". In accordance with section 2 of Limits and Precautions, the duty Shift Supervisor/Foreman, after verifying Personnel and/or Equipment safety still exists, may authorize the issuance of a switching order to affect the requested "Partial Clearing". The cleared items will be noted on the front of the original application along with the date, time and name of the person who initiated the partial clearing request. Notation of the partial clearing will be accomplished by "Red Lining" the partially cleared apparatus on the front of the application. Following this, removal of tags will be performed. After reverification of remaining tags clearance to resume work or testing will be granted, by the Switching & Tagging CRO, to the person who initiated the application and any other parties previously cleared on the original application.
3. Clearance of Tags with Tags and Grounds to Remain.
- If a person who has obtained clearance to work under tags is leaving the job site and/or the work is temporarily halted, the employee holding clearance shall report to the CRO that all workers are clear of equipment but tags and/or grounds are to remain. Also, at this time, the CRO must be advised of the position and/or status of the tagged out equipment. The CRO shall note the time and date along with a statement as to the operability, and status of Red tagged components and the operability, status and position of the components that are Blue tagged (i.e. "Equipment may be operated if necessary and

MU-V16 is open" or "Equipment is disassembled and cannot be operated, and MU-V16 is closed") on the back of the appropriate clearance control document (CCD) form. Clearance must again be given before work can resume. This also shall be noted on the back of the CCD.

Cleared tags may be ordered removed by a foreman after he has verified that the conditions that required the tags have been satisfied (i.e. The safety of personnel/equipment no longer requires the tags). In all cases the tagging application will clearly indicate the condition(s) dictating the need for the tags.

- 3.1 Should Station/Unit needs dictate the removal of any tag(s) that has not been cleared by an employee who has received clearance to work and the employee in question is not available, on the site or by telephone contact off the site, then the clearing/removal of the uncleared tag(s) shall require the approval of the Unit Superintendent.

4. Restoration to Service

- 4.1 When the work has been completed, grounds removed, and all parties that have received clearance have reported clear, and the Shift Foreman has deemed that the equipment is ready for service, the Switching and Tagging CRO shall so note on the Clearance Control Document. This notation will include the time, date and a statement as to the status and position of the isolated equipment.
- 4.2 Following the notification by the Shift Foreman the Control Room Operator will then prepare the switching order to restore

the mechanical and/or electrical equipment to its normal configuration. If the equipment to be restored to service is an electrical bus, motor control center or distribution panel the Shift Supervisor/Foreman shall designate the desired position of every breaker on that bus, MCC or distribution panel as part of the switching order. Valve position or mechanical equipment alignment shall be specified on the switching order in proper sequence. The specified position shall be consistent with technical specification requirements. As in Section D.1.4, the order (OD-54-11) will be made in duplicate.

- 4.3 Removal of tags and restoration of equipment, as listed on the switching order, will be performed by designated Operations Department personnel. Contaminated tags shall not leave the controlled area. All tags shall be properly disposed of.
- 4.5 When the tags have been removed and the equipment restored to its normal configuration, the Control Room Operator shall be notified to that effect by the personnel who performed the restoration. The Shift Foreman shall then sign the original application, indicating that the equipment is approved for operation.
5. Use of Tags on Equipment not under Operations Department Jurisdiction (Uncontrolled Tags)
If needed for personnel safety, tags shall be used on equipment as designated in Enclosure 4. Such tags may be placed without Operations Department approval or orders. Tags so used will be filled out to include the name of the person, time of application, date, and designation of device tagged. Employees who may use such tags shall adhere to Section C.1 of this Procedure.

POOR ORIGINAL

1002
Revision 15
04/24/79
ENCLOSURE I

THREE MILE ISLAND STATION

APPLICATION FOR APPARATUS TO BE TAKEN OUT OF SERVICE

DATE _____ UNIT NO. _____ CONTROL NO. _____

APPARATUS DESIRED _____

FROM _____ AM DAY _____ PM DATE _____ 19 _____ UNTIL _____ AM DAY _____ PM DATE _____ 19 _____

WORK REQUEST NO. _____ PERSON INITIATING APPLICATION _____

WORK TO BE DONE _____

EQUIPMENT/PERSONNEL HAZARDS _____

SWITCHES/VALVES NECESSARY (One Line For Each Device)

RADIATION WORK PERMIT REQUIRED YES _____ NO _____

ALL OF ABOVE FORM TO BE COMPLETED BY TAG REQUESTOR

ABOVE TAGGING APPROVAL: APPROVED _____ DEPT. FOREMAN

APPROVED _____ SHIFT FOREMAN

SIGNED _____ CONTROL ROOM OPERATOR

GO TO ENCLOSURE 1 AP 1002 REV. 11 (CCD) FOR "CLEARANCE CONTROL".

APPROVAL FOR OPERATION

DATE _____ TIME _____ SHIFT FOREMAN

CLEARANCE CONTROL DOCUMENT

ARE BLUE TAGS USED

$$Y = \frac{1}{2} N_0$$

Revision 15

ENCLOSURE II

24/24/79

CONTROL NO.

Corresponds to all associated switching orders & tags.

IF ANY BLUE TAGS ARE USED THEN ONE PERSON ONLY MAY BE GRANTED CLEARANCE

1125 1302

Revision 15
04/24/79**SWITCHING ORDER**

STATION _____

ORDER NO. _____ DATE _____ 19 ____

ORDERED BY _____ TIME _____ HOUR _____

ORDER OF SWITCHING

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	

TIME COMPLETED _____ HRS _____

(STATION OPERATOR)

OD-54 11-55

ENCLOSURE 3A

POOR ORIGINAL

SWITCHING ORDER

STATION TMI (Unit I only)
ORDER NO. 0000 DATE 08/21 19 78
ORDERED BY JOE DOE TIME 1300 HOURS

ORDER OF SWITCHING

1	FOR Tom BLANK RED TAG
2	EXT. CONTROL FOR NR-PIB
3	IN THE PULL-TO-LOCK POSITION.
4	RED TAG BDD FOR NR-PIB
5	ON 1R & 1T 480V BUS (2 TAGS
6	REQUIRED)
7	
8	CAUTION: POSITION THE 43 S/S
9	SWITCH FOR NR-PIA ON 1R
10	480V BUS & NR-PIB ON 1T
11	480V BUS - ENSURE REDUNDANT
12	E.S. EQUIPMENT TESTED PRIOR
13	TO TAKING NR-PIB C.O.S.
14	
15	
16	
17	

TIME COMPLETED _____ HRS. _____
(STATION OPERATOR)

00-84 11-88

1002
POOR ORIGINAL

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ENCLOSURE 3B

SWITCHING ORDER

STATION TMI (UNIT 2 ONLY)
ORDER NO. 0000 DATE 11/31 19 78
ORDERED BY JOHN BROWN TIME 0115 HOURS

ORDER OF SWITCHING

1	FOR TOM DOE RED TAG EXT.
2	CONTROL FOR RR-PIC IN THE
3	"PULL-TO-LOCK" POSITION
4	RED TAG THE BDD FOR RR-PIC
5	ON 480V BUS 2-21E/FB3
6	
7	CAUTION: RR-PID EXT. CONTROL
8	SWITCH MUST BE IN "AUTO"
9	POSITION. ENSURE RR-IPD
10	CAN BE ENERGIZED BY AN
11	E.S. SIGNAL AND IS OPERATIONAL
12	PRIOR TO REMOVING RR-PIC
13	FROM SERVICE
14	
15	
16	
17	

TIME COMPLETED _____ HRS _____ (STATION OPERATOR) _____

00-84 11-93

1125.305

POOR ORIGINAL

ENCLOSURE 3C

1002
Revision 15
04/24/79

SWITCHING ORDER

STATION TMI (UNIT 2 ONLY)
ORDER NO. 0000 DATE 11/31 19 78
ORDERED BY JIM BLACK TIME 0100 HOURS

ORDER OF SWITCHING

- 1 FOR JOHN DOE RED TAG EXT.
- 2 CONTROL FOR NR-PIA IN THE
- 3 "PULL-TO-LOCK" POSITION.
- 4 RED TAG BDD FOR NR-PIA
- 5 ON 4160 V BUS 2-3E UNIT 3E3.
- 6
- 7 CAUTION: PRIOR TO REMOVING
- 8 NR-PIA FROM SERVICE, ENSURE
- 9 THAT THE REDUNDANT PUMP,
- 10 NR-PIB, IS OPERATIONAL, AND
- 11 THAT THE BACK-UP SELECTION
- 12 SWITCH ON PNL 8 IS IN
- 13 THE "NR-PIB" POSITION.
- 14
- 15
- 16
- 17

TIME COMPLETED _____ HRS. _____ (STATION OPERATOR)

OD-34 11-25

Enclosure 4

List of Equipment Not Under Jurisdiction of Operations Dept.

Unit 1

1. Lighting circuits and convenience receptacles. (Except security related electrical equipment, lights, etc).
2. Heating and ventilating circuits in Service Building, Turbine Room, and out-buildings only (with exception of Screen Houses).
3. Machine shop equipment.
4. Motor operated doors. (Except Aux. Bldg. and Fuel Handling Bldg. Aircraft Doors.
5. Welding circuits.
6. Cranes and hoists except RB and FH cranes.
7. Weather stations.
8. Battery operated vehicles.
9. Burtex Feminine Hygiene Electric Incinerators.
10. Electric shop test panel.
11. Portable electric appliances & tools.
12. Instrument and control shop equipment.
13. Any device that is a local indicator only; i.e., isolation valve to pressure gauge.
14. Recorders with only local alarm and indicating functions.
15. Chemical analytical equipment in lab.
16. Counting room equipment.
17. IWFS, Filter Press IW-F-4 and conveyor.

Unit 2

1. Lighting circuits and convenience receptacles.
2. Motor operated doors (except Auxiliary Building).
3. Welding Circuits.
4. Cranes and hoists except RB and FH cranes.
5. Battery operated vehicles.
6. Burtex Feminine Hygiene Electric Incinerators.
7. Portable electric appliances and tools.
8. Instrument and control shop equipment.
9. Any device that is a local indicator only; i.e., isolation valve to pressure gauge.
10. Recorders with only local alarm and indicating functions.
11. Chemical analytical equipment in lab.
12. Counting room equipment.
13. Heating and ventilating circuits in the Turbine Room, and out-buildings only (with exception of the River Water Pump House)

LOCATIONS FOR PLACEMENT OF TAGS

Enclosure 5

Tags are to be placed in the following places:

Page 1 of 2

7KV Switchgear (Unit 1 and Unit 2)

BDD - Tag to be placed on tag holder mounted inside the switch gear cubicle on the lower left hand side.

Ext. Control - In control room on designated breaker control.

4KV Switchgear (Unit 1 and Unit 2)

BDD - Tag to be placed on tag holder mounted inside the switch gear cubicle on the lower left hand side.

Ext. Control - In control room on designated breaker control and on local control if applicable.

480V Bus

Westinghouse type DB Breakers

BDD - Tags to be placed in hole of the right hand side rail of the breaker cubicle, and on the outside of the cubicle door around the door closing screw. (Two Tags Required).

Ext. Control - In control room on designated breaker control and on local control if applicable.

General Electric Type AK Breakers

BDD - Tags to be placed on disconnecting device bracket on the left side of the cubicle, and on the outside of the cubicle door around the door closing screw. (Two Tags Required).

Ext. Control - In control room on designated breaker control and on local control if applicable.

480V MCC (Unit 1 and Unit 2)

Breaker - Place tag on operating handle on front of cubicle in
hole provided.

Ext. Control - In control room on designated breaker control
and on local control if applicable.

Distribution Switchboards

Breaker - Place tag on designated breaker control.

Fuses

Place tag on designated fuse holder.

CAUTION: Ensure tags are placed in such a manner that operating
indications are not obscured by the tags.

ENCLOSURE 8 (UNIT 1 ONLY)

LIST OF EQUIPMENT WITH 43 SELECTOR SWITCHES

A 4160V

1. MU-P1B
2. MU-P1A
3. MU-P1C

B 480V

1. NS-P1B
2. NS-P1C
3. NS-P1A
4. NR-P1A
5. NR-P1B
6. NR-P1C

ENCLOSURE 6

UNIT 1 - UNIT 2 - INTERFACING SYSTEMS

1. 4160 Volt Tie Bus from the 1A or 1B Auxiliary Transformer to Unit 2
4160 Volt Buses 2-1E or 2-2E.
2. 4160 Volt Tie Bus from the 2A or 2B Auxiliary Transformer to Unit 1
4160 Volt Buses 1C, 1D or 1E.
3. Auxiliary Steam System.
4. Condensate System.
5. Common Discharge to the River via the Radiation Monitoring PIT.
6. Demineralized Water System.
7. Domestic Water System.
8. Fire Service System.
9. Instrument Air System.
10. Make-Up Water Pretreatment.
11. Nitrogen Supply for Steam Generator Chemical Cleaning.
12. Steam Generator Chemical Cleaning.
13. Nuclear Hydrogen Supply System.
14. Secondary Hydrogen and Carbon Dioxide Supply System.
15. Radwaste Disposal - Miscellaneous Liquids.
16. Radwaste Disposal - Solid.
17. River Water Chemical Treatment - Chlorination.
18. Service Air System.
19. Turbine Lube Oil System.
20. Fuel Handling Building H&V System.

ENCLOSURE 7

RED TAG & EXT. CONTROL STICKER

RED TAG
SAFETY FIRST
DO NOT OPERATE
THIS DEVICE

STATION _____ DATE _____
TAGGED FOR _____ AT _____ HRS.
OPR. _____ ORDERED ON BY _____
DEVICE NUMBER _____
OR NAME _____
POSITION OF DEVICE OPEN ☐ CLOSED ☐
OFF AT _____ HRS. DATE _____
OPR. _____ ORDERED OFF BY _____
QD-52 REV 2-77

RED TAG
ORDER NO. _____
TAGGED FOR
MR. _____
DO NOT
OPERATE

POOR ORIGINAL

1002
Revision 15
04/24/79

ENCLOSURE 8

BLUE TAG & EXT. CONTROL STICKER

BLUE TAG
SAFETY FIRST

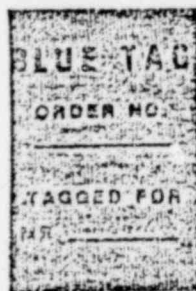
THIS DEVICE SHALL NOT
BE OPERATED

EXCEPT BY DIRECTION OF THE PERSON
FOR WHOM THIS TAG IS ATTACHED.

STATION _____ DATE _____
TAGGED FOR _____ AT _____ HRS.
OPR. _____ ORDERED ON BY _____
DEVICE NUMBER _____
OR NAME _____

POSITION OF DEVICE OPEN ☐ CLOSED ☐
OFF AT _____ HRS. DATE _____
OPR. _____ ORDERED OFF BY _____

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