

Revision 8

1613

09/27/77

THREE MILE ISLAND NUCLEAR STATION
STATION HEALTH PHYSICS PROCEDURE 1613
RADIATION WORK PERMITS

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Table of Effective Pages

<u>Page</u>	<u>Date</u>	<u>Revision</u>	<u>Page</u>	<u>Date</u>	<u>Revision</u>	<u>Page</u>	<u>Date</u>	<u>Revision</u>
1.0	11/10/76	6						
2.0	04/15/77	7						
2.1	04/15/77	7						
3.0	11/10/76	6						
4.0	03/14/76	4						
5.0	04/15/77	7						
6.0	04/15/77	7						
7.0	09/27/77	8						
8.0	11/10/76	6						
9.0	11/10/76	6						
10.0	04/15/77	7						

Unit 1 Staff Recommends Approval

Approval NA Date _____
Cognizant Dept. Head

Unit 2 Staff Recommends Approval

Approval NA Date _____
Cognizant Dept. Head

Unit 1 PORC Recommends Approval

NE Hartman Date 9-23-77
V-Chairman of PORC

PORC comments of _____ included
(date)

By _____ Date _____

Unit 2 PORC Recommends Approval

J. L. Seelinger Date 9/26/77
Chairman of PORC

PORC comments of _____ included
(date)

By _____ Date _____

Approval NA
Hgr. Operational
Quality Assurance

Date _____ Approval [Signature] Date 9-27-77
Unit Superintendent

THREE MILE ISLAND NUCLEAR STATION
STATION HEALTH PHYSICS PROCEDURE 1613

Radiation Work Permits

1.0 PURPOSE

The purpose of the procedure is to explain the proper method of completing a Radiation Work Permit (R.W.P.).

2.0 DISCUSSION

A RWP is required of all personnel prior to entering an area posted with signs indicating, CAUTION: Radioactive Materials, Airborne Contamination, High Radiation Area, Radiation Area, and Contaminated Area. This procedure provides a means of controlling access to areas where personnel could receive exposures in excess of the limits in 10CFR20.

Individuals entering RWP areas must have obtained at least RWP clearance or be provided with a qualified escort.

Only in the event that safety of equipment or personnel is endangered, may entry be made into a "RWP Required Area" without a RWP. In such a case, the entry will be made by qualified personnel (HP Clearance) carrying portable radiation monitors, wearing appropriate protective clothing, dosimeters and film badges. Following such an entry, a permit will be executed shortly thereafter.

Using the RWP as a keypunch form permits pertinent information to be inputted into the REM (Radiation Exposure Monitoring) computer system. This information will be used to generate reports on Man-Rem Exposure by Job Category and Radiation Work Permit Detail List. For further information on computer applications of the RWP refer to the Radiation Exposure Monitoring System (REMS) Procedure Manual.

3.0 REFERENCES

- 3.1 FSAR, Section 11
- 3.2 10CFR20
- 3.3 Radiation Work Permit (See Attached Form 1613-1)
- 3.4 H.P.P. 1682
- 3.5 Regulatory Guide 1.16
- 3.6 Radiation Exposure Monitoring System (REMS) Procedure Manual

4.0 EQUIPMENT

None

5.0 OPERATING INSTRUCTIONS

All work or entry into radiation areas that could cause exposure to radiation, equal to or in excess of the following limits will require a R.W.P.

- a. 5 mR/hr or 100 mR/wk (40 hour work week)
- b. 3×10^{-10} μ ci/cc Airborne Radioactivity, provided no Alpha (α) is present
- c. 1000 DPM/100 cm^2 Beta-Gamma ($\beta\gamma$) or 100 DPM/100 cm^2 Alpha (α)

NOTE: Radiation Protection Personnel may enter an area where limits may or do exceed either/or all of a, b and c for the purpose of conducting a radiological survey for the preparation of an R.W.P. without first having a valid R.W.P. If this is the case, the person conducting the survey will use the last survey of the area as a guideline for choosing the appropriate protective clothing to be worn in the area unless there is indication that sufficient changes have taken place then more conservative

1613
Revision 7
04/15/77

protection may be required. Upon completion of the survey, an R.W.P. is to be made out containing the individuals name and exposure received by the individual while conducting the survey for the area.

2.1

193 278

5.1 It shall be the duty of the Radiation Protection Supervisor/Foreman/Rad Chem. Tech. and/or the Job Foreman to insure initiation of RWP's when required, and to see that all Radiation Controls are enforced while work is in progress. In addition, it is the responsibility of the personnel involved to adhere to the instructions listed on the R.W.P.

5.2 Initiation of RWPs

All RWPs (except standing RWPs) will automatically terminate on the day following the issue date or as specified by the Radiation Protection Supervisor/Foreman. If the job must continue beyond the termination date, a new RWP will be issued.

5.2.1 The person who is going to perform the work described on the RWP will initiate the RWP. An individual with at least RWP clearance must be assigned to each RWP job.

5.2.2 Blocks #1, #2, #3, #4 and #5 should be filled in by the person initiating the RWP.

NOTE: Block #3, the Job Ticket Number, composed of component, task, and schedule number, will be used for future cross-reference with the maintenance systems. If the Job Ticket Number is not available, the Work Request Number may be used. Block #4, the Job Category Code, will be used in the REM system to break down exposure (Man-Rem) by Job Category and Function. The following is a guideline to aid in the completion of block #4 of the RWP.

Reactor Operations/Surveillance

Normal routine operational checks and surveillance performed to monitor plant operating conditions and work related checks

193 279

(surveillance) to insure that operations are according to procedure.

Routine Maintenance

Normal routine scheduled maintenance performed during plant operation.

Inservice Inspection

Inspections performed on a regularly scheduled basis that determine the quality of systems and components.

Special Maintenance

Nonroutine maintenance including emergency maintenance performed for continued plant operation.

Waste Processing

All jobs related to the use or repair of equipment designed for the formation, processing or shipment of radioactive waste.

Refueling

All jobs related to a scheduled refueling period. This period will be from plant shutdown for refueling to establishment of normal plant operation. The person initiating the RWP takes it to the Radiation Protection Department.

- 5.2.3 The person initiating the RWP will then take the RWP to the Job Foreman in charge of the work. The Job Foreman will complete the information in block #7, "Authorized Personnel". He will also review the information in blocks #1, #2, #3, #4 and #5 and sign the RWP in block #9.

NOTE: If additional space is needed in block #7, "Authorized Personnel", an "Attachment to Radiation Work Permit - Authorized Personnel" (Form 1613-2) will be completed.

- 5.2.4 On receipt of the RWP, a Rad Chem Tech/Junior, or other suitably qualified personnel, will evaluate via appropriate surveys, the radiological conditions involved, and based on the conditions, specify all applicable radiation safety precautions, monitoring, and protective clothing, etc.: That are required for the job described on the RWP. The Rad Chem Tech/Junior will supply information in blocks #10, #11, #12 and #13.
- 5.2.4.1 If the RWP is being prepared for entry into an area that is determined to be a high radiation area, the Radiation Chemistry Tech/Junior will check "Dose Rate Instrument" in block 12 under "Dosimetry".
- 5.2.4.2 If the RWP is being prepared for entry into an area that contains a noble gas environment above the levels specified in Appendix B, Table I, Column I of 10CFR20, The Radiation Chemistry Tech/Jr. will insert in block 12 under "Head - Other," that glasses with side shields or goggles will be required.
- 5.2.4.3 When calculating stay time (Block #13) based on noble gas environments (XE-133, KR-85, etc.) refer to HPP 1602.
- 5.2.4.4 If the work to be performed is in an area which at the discretion of the Radiation Protection Staff is a Radiation Hazard, the "HP Escort required" item within block #12 will be checked indicating that radiation protection support as provided by a Rad Chem Tech/Jr. or another suitably qualified individual is required.
- 5.2.5 The RWP is reviewed by the Radiation Protection Supervisor/Foreman/Rad Chem. Tech. who will verify that a qualified radiation protection escort is assigned to the job and if

approved he will sign the permit in the space provided in block #17. Approval by telephone communication is also appropriate.

5.2.6 After approval by the Radiation Protection Supervisor/Foreman/Rad Chem. Tech., the person initiating the RWP signs the RWP in Block #8 indicating he understands and will comply with all the provisions of the RWP.

5.2.7 The RWP is then taken to the Shift Supervisor/Foreman, by the person initiating the RWP. The Shift Supervisor/Foreman reviews the RWP and signs in Block #17. His signature in Block #17 indicates he has reviewed the Radiation Work Permit and that sufficient radiation protection has been provided for the work to proceed.

NOTE: The Shift Supervisor/Foreman's signature in Block #17 indicates that he has reviewed and approved all applicable tagging applications to perform the job indicated on the RWP.

5.2.8 The Shift Supervisor/Foreman will keep the pink copy for file in the Control Room.

5.2.9 The white copy of the RWP will be returned to the Radiation Protection Department by the person initiating the RWP.

5.2.10 The canary copy of the RWP will be placed at the job site until the job is completed. Personnel as indicated in Block #7 must log dosimeter readings, as indicated in Blocks #15 and #16 and the "Radiation Exposure Monitoring Attachment to Radiation Work Permit" (if provided).

5.2.11 Upon completion of work, and prior to termination of the RWP the Job Foreman will insure that all tools, materials and

equipment are bagged and tagged as per HPP 1682 and removed from the work area. He will also make sure that all entries are completed in Blocks #15 and #16 of the RWP and the "Attachment to RWP".

- 5.2.12 Upon completion of items listed in 5.2.11 the Job Foreman will return the canary copy of the RWP to the Radiation Protection Department. The Radiation Protection Department will verify that 5.2.11 is complete and initiate any additional decontamination activities as required.
- 5.2.13 The white copy of the RWP will be signed off by the Job Foreman in Block #14. He will at this time notify the Shift Supervisor/Foreman. The Shift Supervisor/Foreman will then remove the pink copy from the Control Room.
- 5.2.14 The exposure data on the canary copy of the RWP will be transferred to the corresponding sections of the white copy of the RWP by the Radiation Protection Department. The white copy of the RWP will be retained in the permanent files of the Radiation Protection Department.

5.3 Standing RWP's (SRWP)

- 5.3.1 These permits are issued for routine inspections and performing valve lineups in areas requiring RWP's for entry. Standing RWP's will be issued at the discretion of the Radiation Protection Supervisor/Foreman. Block #6 of the RWP will be checked to indicate a standing RWP. Standing RWP's will be issued for periods of one week unless a longer period is specified by the Radiation Protection Supervisor. The dose rate instrument block will be checked for all standing RWPS. A dose rate instrument is required for entry into an area that is posted with a standing RWP.

- 5.3.2 Form 1613-2 may be used by individuals approved to enter standing RWP areas to log exposures received while performing the work specified on the SRWP. These forms (1613-2) may be carried by the individuals who must enter several SRWP areas in the course of performing their work. The forms will be forwarded to the Radiation Protection Department when complete or at the end of each shift.

THREE MILE ISLAND NUCLEAR STATION

HPP 1613
Revision 6

RADIATION WORK PERMIT (RWP) NO.

05A512610

11 16

1 LOCATION

2 RWP DATE

10 RADIATION LEVELS

MO DAY YR
17 22

HIGHEST _____ mR/hr. GENERAL AREA _____ mR/hr.

CONTAMINATION LEVELS

MAXIMUM _____ DPM/100 cm²GENERAL AREA _____ DPM/100 cm²

_____ uCi/cc AIRBORNE ACTIVITY

1 JOB TICKET NUMBER

SKETCH:

COMPONENT

TASK

SCHEDULE
NUMBER

50

SURVEY DATE _____ TECH _____

11 REMARKS & SPECIAL INSTRUCTIONS:

51.52

INSERT APPROPRIATE CODE

1 REACTOR OPERATIONS/SURVEILLANCE 04 SPECIAL MAINTENANCE

2 ROUTINE MAINTENANCE 05 WASTE PROCESSING

3 INSERVICE INSPECTION 06 REFUELING

6 ☐ STANDING RWP

12 PROTECTION REQUIRED:

01C

WORK DESCRIPTION

48

80

PERSONNEL EXPOSURES

AUTHORIZED PERSONNEL

13

15

16

NAME

SOCIAL
SECURITY
NUMBERSTAY
TIMEEXP.
LIMIT

DOS. READING

IN

OUT

TOTAL
EXPOSURE
RECEIVED

17

25

26

30

31

35

36

40

BODY

Lab. Coat

Coveralls

Wet Suit

Other _____

HEAD

Surgeon Cap

Hood

Hard Hat

Other _____

HANDS

Cotton Gloves

Rubber Gloves

Neoprene Gloves

Plastic Gloves

Other _____

FEET

Rubber

Plastic

Cloth

Other _____

RESPIRATOR

Airline

Particulate

% Face

Particulate

Full Face

S.C.B.A.

Other _____

H.P. Escort ☐

DOSIMETRY

Film Badge

Self-Reader

Dosimeter

Neutron Dosimeter

T.L.O.

Dose Rate Inst.

Other _____

17 AUTHORIZATION

RAD. PROT. SUPV/FOREMAN/Rad Chem Tech

SHIFT SUPV/FOREMAN 235

14 WORK COMPLETED DATE

JOB FOREMAN
COPIES TO:

INITIATED BY

JOB FOREMAN

Form 1613-1

9.0

TMI DOCUMENTS

DOCUMENT NO: T/M-082

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W.R.M.
Wilda R. Mullinix, NRC

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193 274