

6/702-16-105

METROPOLITAN EDISON COMPANY

Subsidiary of General Public Utilities Corporation

Subject AUDIT 76-20, EMERGENCY PLAN

Location Reading

To J. J. Colitz
J. G. Herbein

Date March 31, 1977
GQM 0890

I. Persons Conducting Audit:

- a. R. J. Stevens
- b. R. E. Nodig

II. Personnel Contacted

R. W. Dubiel
R. D. McCann
F. H. Grice
N. E. Derks
N. D. Brown
A. Tsaggaris
R. B. Taylor
J. F. Stacey
J. J. Chwastyk
B. Rittie

III. Applicable Reference Documents

TMI Emergency Plans and Procedures

IV. Summary

An audit was performed on December 16, 20 and 21, 1976, for the purpose of assessing the adequacy of, and compliance with the TMI Emergency Plans. The areas audited include the following:

- A. Radiation Emergency Plan
- B. State/Met-Ed Radiation Emergency Interface Plan
- C. Emergency Procedures
- D. Radiation Emergency Checklist for Actions Required by Personnel
- E. Fire Emergency Plan
- F. Flood Emergency Plan
- G. Earthquake Emergency Plan
- H. Plant Security - Bomb Threat Emergency Plan
- I. Tornado Emergency Plan
- J. Toxic Release

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Of the above areas, the Fire, Flood, Earthquake, and Tornado Emergency Plans appeared to have no deficiencies.

The following deficiencies were noted:

- A. Radiation Emergency Plan - Since its publication as Appendix 12a to the TMI-1 FSAR, there have been no changes made to update the Radiation Emergency Plan. Because of the detail to which the plan is written (e.g. actual phone numbers listed, position titles, equipment nomenclatures, etc.), the evolution to the present day way of doing business has resulted in procedures, that although basically the same in intent, are not the same in detail. From a functional standpoint, it is the opinion of the audit team that the procedures should contain the detail, and the plan should be rewritten in general terms such that updating procedures when necessary does not change compliance with the plan.
- B. State/Met-Ed Radiation Emergency Interface Plan - the problem here was that phone numbers included in the Plan were not all up to date.
- C. Emergency Procedures - As mentioned before, the procedures were up to date and consistent in intent, but not detail, with the Plan.
- D. Radiation Emergency Checklist for Actions Required by Personnel - It could not be found who is responsible for filling out the Checklist or if the Checklist is filled out at all. The Checklist is not specifically addressed in either the Plan or Procedures.
- E. Plant Security - Bomb Threat Emergency Plan - The emergency call list to security Procedure 1005.9 was not up to date. The telephone operators use a separate emergency call list which is updated monthly.

General Comments:

The TMI-1 FSAR is currently being revised by Licensing, who will be informed of the audit team's concerns. Namely, that the Radiation Emergency Plan should be rewritten so as to eliminate details covered by the implementing procedures. This will allow updating the procedures without requiring the Plan (FSAR) to be rewritten and/or updated. Licensing will be informed by copy of this audit report.

Deficiencies D and E will be resolved as NCR's, therefore there are no audit findings associated with this audit.

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V. Persons Present at Post Audit Reviews

R. W. Dubiel
R. D. McCann
F. H. Grice
J. F. Stacey

Submitted: Ronald J. Stevens
Audit Team Leader

Ralph E. Naidig, Jr.
Audit Team Member

Approved: [Signature]
Manager - Generation
Quality Assurance

RJS:rk
File: 61.0002.0018.0004
cc: W. E. Potts

602 037

TFC-1 Emergency Plans and Procedures

I. RADIATION EMERGENCY PLAN

A. Is a Radiation Protection Monitoring Team established and documented consisting of:

1. Radiation Protection Technician #1
2. Radiation Protection Technician #2
3. Chemical Analyst #1
4. Nuclear Plant Auxiliary Operator #2

Sat.

Unsat.

not up dated in PSOR

not in list

☒

☐

B. Is an Emergency Repair Party established and documented consisting of:

1. Electrical Maintenance Foreman
2. Mechanical Maintenance Foreman
3. Instrumentation Foreman
4. Utility Construction and Maintenance Man Chief #1
5. Repairman Chief
6. Instrumentation Technician

all on shift work

☒

☐

C. Emergency Control Station Communications equipment:

1. Consists of two separate telephone extensions, short wave transmitter-receiver, portable walkie-talkie transmitters, and in plant page system.
2. Are these systems periodically tested for operability and performance?
3. Are these tests documented?

D. Radiatio Emergency Kits

1. Location and number

- a. Reactor Building - Two THREE per H.P. 1772
- b. Auxiliary Building - Two
- c. Turbine Building - Two
- d. Control Room - One
- e. Spent Fuel Area - One
- f. Service Building - One

☒

☒

☒

☐

☒

*Walkie-Talkie
Not kept in
ECS - But kept in*

*annually via the
red in Emergency Drill (exercise)
supply from Lebanon
cont'd in Log*

POOR ORIGINAL

602 038

Sat.

Unsat.

2. Contents

- a. Protective clothing
- b. Poly bags
- c. Masking tape
- d. Poly bottles
- e. Rags

HH

✓ Ward Book

E. Emergency Monitoring Kits

1. Location

- a. Emergency Control Station
- b. Secondary Holding Area

HH

✓ "

2. Contents

- a. GM survey meter with sample holder for probe and scaler
- b. Charcoal respirator and spare cannisters
- c. Pre-labeled containers for environmental samples
- d. List of duties for each kit
- e. Portable air sampler and filter papers
- f. Check point maps and data sheets

F. Equipment Located in Control Room

- 1. Name and phone number of supervisor who has the emergency call list duty
- 2. Blueprint and building layout drawings
- 3. High range dosimeters and charger
- 4. Charcoal filter respirators
- 5. Emergency call list board - is it up to date
- 6. High range survey meter
- 7. Flashlight
- 8. Telephone
- 9. Short wave transmitter, Lebanon frequency
- 10. Protective clothing
- 11. Walkie-talkies

G. Equipment Located in Emergency Control Station

- 1. Site and environs maps and overlays
- 2. Emergency information handbook (Emergency Call List, Radiation Emergency Plan, Federal Radiation Council Protective Action Guides, Precalculated Data)
- 3. High range dosimeters and charger
- 4. Respirators and spare charcoal cannisters
- 5. High range dose rate meters

can't find in ECR

POOR ORIGINAL

602 039

Sat.

Unsat.

- ✓ 6. Flashlights
- ✓ 7. Film badges
- ✓ 8. Protective clothing
- ✓ 9. Portable operated air samplers
- ✓ 10. Emergency monitoring kits
- ✓ 11. Emergency log book
- ✓ 12. Telephone

✓

H. Equipment Located at the Secondary Holding Area

- 1. Emergency Monitoring Kit
- 2. GM survey meter with side window probe
- 3. Protective clothing
- 4. Respirator and spare charcoal cannisters
- 5. High range dosimeter
- 6. Containers to obtain medical samples

Send personnel w/ the eq't

✓

- I. Radiation Emergency Routes to the Emergency Control Station are marked with red arrows with the initials RER printed on the sign

✓

- J. Evacuation Routes used to evacuate the station are marked with blue arrows with the initials ER printed on the sign

✓

- K. Are all the responsibilities and duties understood by those personnel listed in Section 3.2.1 in the Radiation Emergency Plan?

✓

Are the personnel familiar with the specific assignments outlined on the Personnel Assignment Chart and the Alternat. Assignment Chart, Appendices A & B respectively?

✓

- L. Are the in plant notification channels periodically tested?

✓

Is Appendix C accurate and up to date?

✓

Do the responsible personnel know whom to notify?

✓

Ward Prod'

- M. Are the Cognizant Personnel aware of the "Responsive Action" necessary to complete the required Protective Measures as defined in Section 6.0?

✓

- N. Radiation Emergency Plan and procedures are reviewed and updated at least once every two years.

✓ *Approved*

Obv

Oct. 1976

POOR ORIGINAL

602

040

Do not sign log for Secondary Emergency

	Sat.	Unsat.
<i>June 1976</i> O. Drills are held annually and documented.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Periodic retraining is held in order to maintain personnel proficiencies. Documented? <i>See Trng File</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
II. STATE/MET-ED RADIATION EMERGENCY INTERFACE PLAN		
A. Are the Sequence of Events and Notifications consistent with the provisions of the Radiation Emergency Plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
III. EMERGENCY PROCEDURES		
A. Are the procedures reviewed and updated at least once every two years?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Are the procedures consistent with the Radiation Emergency Plan?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Word Prot.
IV. RADIATION EMERGENCY CHECKLIST FOR ACTIONS REQUIRED BY PERSONNEL		
A. Are the responsible personnel aware of the location of the checklists? <i>See T. vol I</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Administrative
V. FIRE EMERGENCY PLAN		
A. Are the following systems periodically inspected:		
1. Water extinguishing systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Dry chemical systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Halogenated extinguishing agent systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are the inspections documented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Are personnel aware of their assigned duties and responsibilities for Fire Protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Are reports written on every fire?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Are alarm response sheets prepared for each alarm and conveniently located? <i>Alarm Resp. Board's cover this</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Fire Protection System Component Locations		
1. Can the equipment be easily found and recognized?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

POOR ORIGINAL

602 041

Sat.

Unsat.

2. Are the locations conspicuous?

✓

F. Are plant personnel familiar with the operation of the ^{four} ~~three~~ types of manual extinguishers? *retained (1) 1/2 yr.*

✓

G. Are plant personnel aware of their duties in the event of fires involving a radiological hazard? *Documented during annual Rad'n Emergency Drill*

✓

VI. FLOOD EMERGENCY PLAN

A. Are personnel periodically re-familiarized with the Flood Emergency Plan and procedures?

✓

VII. EARTHQUAKE EMERGENCY PLAN

A. Are personnel periodically re-familiarized with the Earthquake Emergency Plan?

✓

VIII. PLANT SECURITY - BOMB THREAT EMERGENCY PLAN

A. Are the switchboard operator and personnel who normally receive direct outside calls during the back shifts, provided with the appropriate written instructions for telephoned bomb threat?

✓

B. Is Enclosure I up to date and accurate?

Ref. Bomb Threat 1005

IX. TORNADO EMERGENCY PLAN

A. Are personnel aware of the structures designed to withstand tornado loadings? (i.e. Control, Relay, and Battery Rooms in Control Building; Auxiliary Building; Fuel Handling and Diesel Generator Buildings; Intake Screen and Pump House; Reactor Building)

✓

X. TOXIC RELEASE

A. Are the personnel who work in the immediate storage areas of (1) liquid chlorine, (2) sodium hypochlorite solution, (3) concentrated ammonium hydroxide, (4) 50 weight percent sodium hydroxide, and (5) concentrated sulfuric acid, aware of the location of protection equipment and emergency repair kits?

✓

POOR ORIGINAL

602 042

*As unapproved
copy. Also list
in use by Dept.
ref. dated monthly.*

Personnel

*WHg copy 1005
in file - 10
Find: Encl. I is
not up to date or
accurate.*

	<u>Sat.</u>	<u>Unsat.</u>
B. Are personnel aware of the three basic initial actions to be taken following an accidental release?	<u>✓</u>	<u> </u>
1. Remove personnel from potential areas of exposure	<u>✓</u>	<u> </u>
2. Terminate the release as rapidly as possible	<u>✓</u>	<u> </u>
3. Stabilize the situation so that a safe and effective cleanup can be planned	<u>✓</u>	<u> </u>
C. In case of a leak, are the personnel aware of the obligation of notifying the Shift Foreman who will dispatch an Auxiliary Operator to the scene?	<u>✓</u>	<u> </u>

602 043

TMI-1 Emergency Plans and Procedures

I. RADIATION EMERGENCY PLAN

	<u>Sat.</u>	<u>Unsat.</u>
A. Is a Radiation Protection Monitoring Team established and documented consisting of:		
1. Radiation Protection Technician #1		
2. Radiation Protection Technician #2		
3. Chemical Analyst #1		
4. Nuclear Plant Auxiliary Operator #2	<u>/</u>	<u> </u>
B. Is an Emergency Repair Party established and documented consisting of:		
1. Electrical Maintenance Foreman		
2. Mechanical Maintenance Foreman		
3. Instrumentation Foreman		
4. Utility Construction and Maintenance Man Chief #1		
5. Repairman Chief	<u>/</u>	<u> </u>
6. Instrumentation Technician	<u> </u>	<u> </u>
C. Emergency Control Station Communications equipment:		
1. Consists of two separate telephone extensions, short wave transmitter-receiver, portable walkie-talkie transmitters, and in plant page system.	<u> </u>	<u> </u>
2. Are these systems periodically tested for operability and performance?	<u> ✓ </u>	<u> </u>
3. Are these tests documented? <i>checked 5/11/81</i>	<u> ✓ </u>	<u> </u>
D. Radiation Emergency Kits		
1. Location and number		
a. Reactor Building - Two		
b. Auxiliary Building - Two		
c. Turbine Building - Two		
d. Control Room - One		
e. Spent Fuel Area - One		
f. Service Building - One	<u> </u>	<u> </u>

602 044

	<u>Sat.</u>	<u>Unsat.</u>
2. Contents		
a. Protective clothing		
b. Poly bags		
c. Masking tape		
d. Poly bottles		
e. Rags	_____	_____
E. Emergency Monitoring Kits		
1. Location		
a. Emergency Control Station		
b. Secondary Holding Area	_____	_____
2. Contents		
a. GM survey meter with sample holder for probe and scaler		
b. Charcoal respirator and spare cannisters		
c. Pre-labeled containers for environmental samples		
d. List of duties for each kit		
e. Portable air sampler and filter papers		
f. Check point maps and data sheets	_____	_____
F. Equipment Located in Control Room		
1. Name and phone number of supervisor who has the emergency call list duty		
2. Blueprint and building layout drawings		
3. High range dosimeters and charger		
4. Charcoal filter respirators		
5. Emergency call list board - is it up to date		
6. High range survey meter		
7. Flashlight		
8. Telephone		
9. Short wave transmitter, Lebanon frequency		
10. Protective clothing		
11. Walkie-talkies	_____	_____
G. Equipment Located in Emergency Control Station		
1. Site and environs maps and overlays		
2. Emergency information handbook (Emergency Call List, Radiation Emergency Plan, Federal Radiation Council Protective Action Guides, Precalculated Data)		
3. High range dosimeters and charger		
4. Respirators and spare charcoal cannisters		
5. High range dose rate meters		

602 045

	<u>Sat.</u>	<u>Unsat.</u>
6. Flashlights		
7. Film badges		
8. Protective clothing		
9. Portable operated air samplers		
10. Emergency monitoring kits		
11. Emergency log book	✓	
12. Telephone		
H. Equipment Located at the Secondary Holding Area		
1. Emergency Monitoring Kit		
2. GM survey meter with side window probe		
3. Protective clothing		
4. Respirator and spare charcoal cannisters		
5. High range dosimeter		✓
6. Containers to obtain medical samples		
I. Radiation Emergency Routes to the Emergency Control Station are marked with red arrows with the initials RER printed on the sign		
J. Evacuation Routes used to evacuate the station are marked with blue arrows with the initials ER printed on the sign	✓	
K. Are all the responsibilities and duties understood by those personnel listed in Section 3.2.1 in the Radiation Emergency Plan?		
Are the personnel familiar with the specific assignments outlined on the Personnel Assignment Chart and the Alternate Assignment Chart, Appendices A & B respectively?		
L. Are the in plant notification channels periodically tested?	✓	
Is Appendix C accurate and up to date?		✓
Do the responsible personnel know whom to notify?	✓	
M. Are the Cognizant Personnel aware of the "Responsive Action" necessary to complete the required Protective Measures as defined in Section 6.0?		
N. Radiation Emergency Plan and procedures are reviewed and updated at least once every two years.		

	Sat.	Unsat.
O. Drills are held annually and documented.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Periodic retraining is held in order to maintain personnel proficiencies. Documented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
II. STATE/MET-ED RADIATION EMERGENCY INTERFACE PLAN		
A. Are the Sequence of Events and Notifications consistent with the provisions of the Radiation Emergency Plan?	<input type="checkbox"/>	<input type="checkbox"/>
III. EMERGENCY PROCEDURES		
A. Are the procedures reviewed and updated at least once every two years?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Are the procedures consistent with the Radiation Emergency Plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
IV. RADIATION EMERGENCY CHECKLIST FOR ACTIONS REQUIRED BY PERSONNEL		
A. Are the responsible personnel aware of the location of the checklists?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
V. FIRE EMERGENCY PLAN		
A. Are the following systems periodically inspected:		
1. Water extinguishing systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Dry chemical systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Halogenated extinguishing agent systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are the inspections documented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Are personnel aware of their assigned duties and responsibilities for Fire Protection?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Are reports written on every fire?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Are alarm response sheets prepared for each alarm and conveniently located?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Fire Protection System Component Locations		
1. Can the equipment be easily found and recognized?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

POOR ORIGINAL

602 047

	<u>Sat.</u>	<u>Unsat.</u>
2. Are the locations conspicuous?	_____	_____
F. Are plant personnel familiar with the operation of the three types of manual extinguishers?	_____	_____
G. Are plant personnel aware of their duties in the event of fires involving a radiological hazard?	_____	_____
VI. FLOOD EMERGENCY PLAN		
A. Are personnel periodically re-familiarized with the Flood Emergency Plan and procedures?	_____	_____
VII. EARTHQUAKE EMERGENCY PLAN		
A. Are personnel periodically re-familiarized with the Earthquake Emergency Plan?	_____	_____
VIII. PLANT SECURITY - BOMB THREAT EMERGENCY PLAN		
A. Are the switchboard operator and personnel who normally receive direct outside calls during the back shifts, provided with the appropriate written instructions for telephoned bomb threat?	_____	_____
B. Is Enclosure I up to date and accurate?	_____	_____
IX. TORNADO EMERGENCY PLAN		
A. Are personnel aware of the structures designed to withstand tornado loadings? (i.e. Control, Relay, and Battery Rooms in Control Building; Auxiliary Building; Fuel Handling and Diesel Generator Buildings; Intake Screen and Pump House; Reactor Building)	_____	_____
X. TOXIC RELEASE		
A. Are the personnel who work in the immediate storage areas of (1) liquid chlorine, (2) sodium hypochlorite solution, (3) concentrated ammonium hydroxide, (4) 50 weight percent sodium hydroxide, and (5) concentrated sulfuric acid aware of the location of protection equipment and emergency repair kits?	_____	_____

POOR ORIGINAL

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	<u>Sat.</u>	<u>Unsat.</u>
B. Are personnel aware of the three basic initial actions to be taken following an accidental release?	_____	_____
1. Remove personnel from potential areas of exposure	_____	_____
2. Terminate the release as rapidly as possible	_____	_____
3. Stabilize the situation so that a safe and effective cleanup can be planned	_____	_____
C. In case of a leak, are the personnel aware of the obligation of notifying the Shift Foreman who will dispatch an Auxiliary Operator to the scene?	_____✓_____	_____

METROPOLITAN EDISON COMPANY

Subsidiary of General Public Utilities Corporation

Subject AUDIT 76-20, EMERGENCY PLAN

Location Reading

To J. J. COLITZ

Date December 13, 1976
GQM 3610

Audit 76-20 will be performed during the week of December 12, 1976 by Ralph E. Neidig and myself. The purpose of this audit is to determine the adequacy of and compliance with TMI Emergency Plans.

R. J. Stevens
R. J. Stevens
Ext. 152

RJS:dr

cc: W. W. Cotter
J. G. Herbein
E. V. Kellogg
L. L. Lawyer
R. E. Neidig

File: 02.0002.0018.0004
Audit Folder 76-20

METROPOLITAN EDISON COMPANY

Subsidiary of General Public Utilities Corporation

Subject AUDIT 76-20 EMERGENCY PLAN

Location Reading

Date Oct. 11, 1976
GQM 3003

To L. L. LAWYER

Audit 76-20 has been rescheduled for the week of October 31, 1976. Previously scheduled for the week of September 5, 1976, the audit was postponed due to higher priority auditor commitments.

B. M. McCutcheon
B. M. MCCUTCHEON
EXT. 113

BMM:RJS:daf

cc: E. V. Kellogg

File: 02.0002.0018.0004
★ Audit Folder 76-20

602 051

QUALITY ASSURANCE PROGRAM AUDIT PLAN FOR THE MONTH OF

August, 1976

Week of	AUDIT NUMBER AND PURPOSE/SCOPE	PERSONNEL (* TEAM LEADER)	REFERENCE DOCUMENTS
8/1, 8/8	<p>76-18 Procurement Document Control</p> <p><u>Purpose:</u> To determine the adequacy of and compliance with the Procurement Document Control Procedures.</p> <p><u>Scope:</u> Generation Division</p>	RGK*, EFG	<p>OQA Plan GP 1023</p> <p>Audit 74-17 GP 1027</p> <p>GP 4005 (Title and/or draft)</p> <p>GP 0013</p> <p>GP 1009</p> <p>GP 1011</p> <p>GP 1016</p> <p>GP 1019</p>
NN 8/15	<p>76-19 3rd Step Grievance Book</p> <p><u>Purpose:</u> To determine the compliance with 3rd Step Grievances.</p> <p><u>Scope:</u> Gen. Div.</p>	WKB*	3rd Step Grievance Book
8/28, 9/5 29	<p>76-20 Emergency Plan</p> <p><u>Purpose:</u> To determine the adequacy of and compliance with the emergency plan.</p> <p><u>Scope:</u> TMI-1</p>	RJS*, REN	<p>FSAR Appendix 12-A</p> <p>TMI-1 Emergency Plan</p>
8/8, 8/15	<p>76-21 Special Processes (Control of Weld Wire)</p> <p><u>Purpose:</u> To determine the adequacy of and compliance with the control of Welding Wire Procedures.</p> <p><u>Scope:</u> TMI-1</p>	JVP*, JJP	<p>Audit 75-29</p> <p>GP 1017</p> <p>GP 1019</p> <p>AP 1018</p> <p>MP 1412</p>
8/22, 8/29	<p>76-22 Special Processes (Control of Weld Histories)</p> <p><u>Purpose:</u> To determine the adequacy of and compliance with the Control of Weld History Procedures.</p> <p><u>Scope:</u> TMI-1</p>	JVP*, JJP	<p>OQA Plan 1 & 2</p> <p>Audit 75-29</p> <p>GP 0026</p>

GP 4016.002

Submitted:

Approved:

602 052

August, 1976

**Not scheduled on
the six month
schedule.