50-289

		I 3H	C 3H
*Backup TSC, OSF-1	P. Hipple		1
*Bureau of Rad Protection	M. Vyenielo		1
*Control Rm-U/1 File Copy, OOB-1	L. Ritter		1
Control Rm-U/1 Shift Supv., OOB-1	L. Ritter		
*Control Rm-U/1 Work Copy, OOB-1	L. Ritter		1
Dauphin County EMA	D. Fetterhoff		
*Dir. Work Mgmt., U1 Serv. Bldg.	S. Epler		1
Dir. Communications,U2 Admin. Bldg.	R. DeSantis		
*Document Center, NOB-2	S. Burkett		1
*Document Control Desk		1	1
Dosimetry, SOB .	D. College		
*EP – NDB, Trng. Bldg. #2	N. D. Brown		1
*Emerg. Prep. Dept.	D. Light	1	1
*EOF, Trng. Bldg.	R. Finicle		1
*EP Drills, Trng. Bldg. #2	N. D. Brown		1
ESD, Trng. Bldg..	R. Finicle		1
Environ. Affairs-Lab, Interstate Drive	D. Russ		1
Environ. Affairs-TMI, NOB-1	W. Ressler		
*Instructor Nuclear IV, Trng. Bldg. #2	R. Neff	1	
Logisitcal Support, Trng. Bldg..	R. Fininicle		
*NRC – Onsite, NOB-1	P. Sauder		2
*NRC – Region 1, (Chief EP Section)			2
*PEMA – Bureau of Plans	D. Fleck		1
Personnel/Vehicle Monitor Kit Trng Ctr.	T. Berstler		1
*Plant Maint. (Library), U1 Serv. Bldg.	N. Smith		1
*Porter Consultants, Ardmore	S. Porter		1
RLM, Rad Field Ops.	T. Berstler		1
Rad Con –RAC Locker, Rad Field Ops.	T. Berstler		1
Rad Con –Kit 1 PC, Rad Field Ops.	T. Berstler		
Rad Con –Kit 2 PC, Rad Field Ops.	T. Berstler		
Rad Con –Kit 3 Env, Rad Field Ops.	T. Berstler		
Rad Con–Kit 4 EOF Bldg Rad Field Ops.	T. Berstler		
Rad Con–Kit 5 EOF Bldg Rad Field Ops.	T. Berstler		1
Rad Con–Simulator Locker,Rad Field Ops	T. Berstler		1
*Rad Engineers-U1, OOB	M. Wherry		3
*Rad Instrument, Bldg. 159	J. L. Eckroth		1
Radwaste/Chemistry, OOB-1	L. Ritter		1
Secondary Chem Lab-, OOB-1	L. Ritter		
*Security Mgr., PC	V. Handley		
Security U-1, PC	R. Goodrich		1
*Simulator Room/File Copy, Trng.	D. Silar		1
Simulator Room/Shift Supvs Office, Trng	D. Silar		1
*Simulator Room/Working Copy, Trng.	D. Silar		1
*TSC - Unit 1, OSF-1	P. Hipple		1
*Training Dept., Trng	C. Anderson		1
*U1 Ops Support Ctr. Rad Field Ops..	T. Berstler		1
*Unit 1 Operations, OOB-1	L. Ritter		1
*Vice President – TMI , OSF-2	P. J. Chevalier		1
*Word Processing, OOB,No Stamp/Clip	A. Houseal		1
RECORDS MGMT	S. Zimmerman		

A045

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EPIP/TEP Instruction Memo

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AmerGen	TMI - Unit 1 Emergency Procedure	Number EPIP-TMI-.07
Title **Activation of the RAC**		Revision No. 7
Applicability/Scope All TMI RAC Emergency Response Personnel	Responsible Office Manager, Emerg. Preparedness	Effective Date 05/31/00

This document is within QA plan scope	X	Yes		No
Safety Reviews Required	X	Yes		No

List of Effective Pages

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	Signature	Date
Originator	Jeffrey L. Whitt	5/25/2000
Procedure Owner	Jeffrey L. Whitt	5/25/2000
PRG V-Chmn.	[signature]	5/26/2000
Approver	Alan J. Knueve for J.N. Grisewood	05-25-2000

1.0 **PURPOSE**

The purpose of this procedure is to provide guidelines for the Radiological Assessment Coordinator (RAC) to activate the radiological assessment function.

2.0 **APPLICABILITY/SCOPE**

This procedure is applicable to the TMI Radiological Assessment Coordinator and Radiological Support Personnel.

3.0 **DEFINITIONS**

None

4.0 **RESPONSIBILITIES**

4.1 The on-shift RAC is responsible for implementing Exhibit 1.

4.2 The Initial Response Emergency Organization (IREO) (RAC) is responsible for implementing Exhibit 2.

4.3 Radiological Support Personnel are responsible for implementing Exhibits 3 through Exhibits 6.

5.0 **PROCEDURE**

5.1 This procedure is to be initiated upon declaration of any Emergency Classification specified in the Emergency Plan or when directed by the Emergency Director.

5.2 Emergency Actions

____ 5.2.1 The on-shift RAC shall activate the radiological assessment function by reporting to the Control Room and performing the steps in the on-shift RAC checklist (Exhibit 1).

____ 5.2.2 The IREO RAC shall relieve the on-shift RAC and direct the radiological assessment function by assigning appropriate personnel to assume those positions and perform the actions listed for those positions as follows (in the absence of appropriate personnel, the Radiological Assessment Coordinator shall assume these positions and perform the essential actions for those positions):

____ 5.2.2.1 Radiological Assessment Coordinator (RAC):

Report to Emergency Control Center and perform the RAC Checklist (Exhibit 2).

____ 5.2.2.2 Radiological Engineering Support:

Report to the Emergency Control Center and complete the Radiological Engineering Support Checklist (Exhibit 3).

_____ 5.2.2.3 Radiological Line Communicator (RAC Support Staff):

Report to the Emergency Control Center and complete the Radiological Line Communicator Checklist (Exhibit 4).

_____ 5.2.2.4 RAC/OSC Communicator (RAC Support Staff):

Report to the Emergency Control Center and complete the RAC/OSC Communicator Checklist (Exhibit 5).

_____ 5.2.2.5 Field Team Communicator (RAC Support Staff):

Report to the Emergency Control Center and complete the Field Team Communicator Checklist (Exhibit 6).

5.3 Final Conditions

_____ 5.3.1 The radiological assessment function is operational with the desired positions manned and functional. Communications are established.

5.4 Post Event Actions

_____ 5.4.1 An inventory of the RAC Area of the ECC is required to be performed by the end of the workday following the end of the event. The inventory is the responsibility of Rad Con Field Operations. Notify the Manager, Rad Con Field Ops. of the need to perform the inventory in accordance with Procedure TEP-ADM-1300.01, Maintaining Emergency Preparedness.

6.0 REFERENCES

6.1 TMI Emergency Plan

6.2 TMI Emergency Plan Implementing Procedures

6.3 6610-PLN-4200.02, Emergency Dose Calculation Manual (EDCM)

7.0 EXHIBITS

Exhibit 1 - On-Shift RAC Checklist

Exhibit 2 - IREO Duty Roster RAC Checklist

Exhibit 3 - Radiological Engineering Support Checklist

Exhibit 4 - Radiological Line Communicator Checklist

Exhibit 5 - RAC/OSC Communicator Checklist

Exhibit 6 - Field Team Communicator Checklist

Exhibit 7 - Field Team Data Collection

EXHIBIT 1

On-Shift RAC Checklist

1.0 **The On-Shift RAC should perform the following until relieved by the IREO RAC or by a more senior qualified individual:**

> **NOTE**
>
> **The bold underlined steps below are the minimum steps that must be implemented to consider the RAC Facility operational.**

1.1 **Energize the RAC Computer.**

1.2 **Start a log** of activities performed.

1.3 **Call out additional resources**

1.3.1 For the duty roster RAC, determine from the Emergency Director (ED) if the duty roster has been called out. If not, get the RAC's phone number from the ED and call him/her.

1.3.2 For call-out of additional R.C. Techs, obtain phone numbers from the Rad Con Field Ops phone list and call the needed techs.

1.4 **Determine release pathway.** Consult with the ED or his/her designee to determine the pathway of any radioactive releases from the plant.

> **NOTE**
>
> Refer to the Emergency Dose Assessment User's Manual section of the EDCM located in the RAC locker for guidance in performing dose projections.

1.5 **Obtain and validate the initial dose projection within 15 minutes.**

1.5.1 **Select the RAC Spreadsheet** icon from the desktop of the RAC Computer.

1.5.2 **Go to the release pathway** specified by the ED.

❶ Select the Update Plant Data option to import PPM and Met Data.
❷ If the pathway is being monitored by an RMS monitor, use the RMS option for that pathway.
❸ If the pathway is not being monitored by an RMS monitor, use the leak rate option for that pathway.
❹ Verify that the PPM and Met Data is current (15 minutes old or less). If not, all data will need to be input manually.
❺ Enter data not available from the PPM as specified by the input sheet.
❻ Edit any PPM or Met Data that is not believed to be accurate.
❼ Print dose projection.

1.5.3 **Validate the dose projection** by performing the following checks:

❶ Verify that the correct release pathway is being used.

❷ Verify that the monitor input data is accurate and appropriate (e.g. no calibrations in progress).

❸ Verify the release duration with the ED.

❹ Verify that the dose projection results are consistent with other indications.

1.5.4 **Use the Total Dose Option** to verify no other pathways are contributing to the offsite dose.

1.5.5 **If power is lost to the RAC computer**, request assistance from Operations in obtaining power. An extension cord is available in the RAC locker.

1.6 **Review the dose projection with the ED.** Ensure the ED understands the nature of the dose projection (e.g. bounding calculation, contingency projection, "what-if", etc.) and the precision or uncertainty associated with the dose projection..

1.7 **Review the Emergency Classification with the ED** as it relates to current radiological parameters and evaluate the need to escalate to a higher classification.

1.8 **Advise the ED on the following**:

1.8.1 Protective Action Recommendations (PAR) (see the PAR logic diagram in procedure EPIP-TMI-.02, Emergency Direction, available from the ED).

1.8.2 On-site assembly and site evacuation of non-essential personnel (see the table at the end of this exhibit for guidance).

NOTE

The automated Emergency Report Form that is produced by ED automatically suggests assembly location and evacuation routes contained on the table in this exhibit.

1.8.3 Contaminated and/or injured employees and any decontamination efforts.

1.9 **Consider dispatching a field monitoring team** if the dose projection indicates the potential for abnormal radiological conditions off-site.

1.9.1 To activate field teams:

1.9.1.1 Perform radio checks with the field team(s).

1.9.1.2 Assign and record field team designations (e.g. Alpha, Bravo, etc.)

1.9.1.3 Obtain and record names and SSN's for all field team members.

1.9.1.4 Obtain and record year-to-date TEDE for all field team members.

1.9.1.5 Inform team members of the current wind direction and speed and display it on the EPZ map.

1.9.2 **Field monitoring team placement and direction**: consider the following guidelines for placing and directing field team(s).

1.9.2.1 For ground level releases (highest doses projected at site boundary) -

❶ Place the first field team downwind at the site boundary.

❷ Place the second team (if dispatched) off-site, downwind and as near to the site as possible.

1.9.2.2 For elevated releases (highest doses projected at some distance from the site) -

❶ Place the first field team downwind at the location where the highest dose is projected.

❷ Place the second team (if dispatched) downwind nearer to the site than the first team (results from this team aid in determining if the plume touched down closer than projected).

1.9.2.3 Instruct the team(s) to scan across the plume and attempt to locate plume centerline.

❶ Provide a definite start point, direction of travel and an end point for scanning (e.g. "scan for plume centerline starting at NNE31, travel toward the Southeast passing through NE31 and continue to ENE31").

1.10 **BRP call back**: Within 45 minutes of event declaration notify the ECC Communications Coordinator whether the BRP has called back to the RAC.

1.11 **Provide a turnover to the IREO RAC** upon arrival.

EXHIBIT 1
On-Shift RAC Checklist

Guidelines for Selection of On-Site Emergency Assembly Area and Evacuation Route for Non-Essential Personnel

Wind Direction (from)	On-Site Emergency Assembly Area To Use	Route to Emergency Assembly Area	Gate To Be Used For Site Evacuation	Off-Site Remote Assembly Area To Be Used For Site Evacuation
1° to 80°	**Warehouse 1**	Personnel in the **NOB, OSF, Protected Area** and other locations near Unit 1 use most direct route to Warehouse 1. Personnel in the **Unit 2 Admin Bldg, Bldg 222, Transportation** and other locations near Unit 2 travel by personal vehicle to Warehouse 1.	**North Gate**	**Training Center**
81° to 170°	**Warehouse 3**	Personnel in the **NOB, OSF, Protected Area** and other locations near Unit 1 walk to Warehouse 3 via the East side of the plant. Personnel in the **Unit 2 Admin Bldg, Bldg 222, Transportation** and other locations near Unit 2 use most direct route to Warehouse 3.	**North Gate**	**Training Center**
171° to 240°	**Warehouse 3**	Personnel in the **NOB, OSF, Protected Area** and other locations near Unit 1 should go directly to their personal vehicles and drive to the parking lot south of the Unit 2 Admin Bldg and then walk to Warehouse 3. Personnel in the **Unit 2 Admin Bldg, Bldg 222, Transportation** and other locations near Unit 2 should use the most direct route to Warehouse 3.	**South Gate**	**Training Center**
241° to 320°	**Warehouse 1**	**All site personnel** should take the most direct route to Warehouse 1.	**North Gate**	**Training Center or EOF (see Note)**
321° to 360°	**Warehouse 1**	**All site personnel** should take the most direct route to Warehouse 1.	**North Gate**	**Training Center**

NOTE

Use the Training Center as the Off-Site Remote Assembly Area unless the Site Boundary Dose Projection is greater than 5 mREM/hr CDE or 1 mREM/hr TEDE.

EXHIBIT 2

IREO Duty Roster RAC Checklist

1.0 **The IREO RAC should perform the following upon reporting to the Emergency Control Center:**

_____ 1.1 **Obtain a turnover** from the On-Shift RAC.

_____ 1.2 **Implement any necessary actions from Exhibit 1** that were not implemented by the On-Shift RAC.

_____ 1.3 **Assign personnel to staff positions** described in Exhibits 3 through 6.

1.4 **Maintain a log** of activities performed.

1.5 **Refer to the Emer. Dose Assessment User's Manual** contained in the EDCM (Ref. 6.3) for dose assessment guidance.

1.6 **Review dose projections with the ED.**

1.6.1 Ensure the ED understands the nature of the dose projection (e.g. bounding calculation, contingency projection, "what-if", etc.) and the precision or uncertainty associated with the dose projection.

1.7 **Advise the ED on:**

1.7.1 Protective Action Recommendations (PAR) (see the PAR logic diagram in procedure EPIP-TMI-.02, Emergency Direction, available from the ED)

1.7.2 On-site assembly and site evacuation of non-essential personnel (see the table at the end of this exhibit for guidance).

1.7.3 Radiological conditions:

❶ In-plant (including habitability concerns in emergency facilities),
❷ On-site and
❸ Off-site

1.7.4 Employee doses and emergency dose extensions.

1.7.5 Contaminated employees, decontamination efforts and any use of Thyroid Blocking agent.

1.8 **Emergency classifications:** Recommend emergency classifications to the ED based on radiological conditions and Emergency Action Levels (EAL).

1.9 **Fuel damage assessment:** Provide any necessary assistance to the TSC for the assessment of fuel damage and report results to the ED.

NOTE

While the RAC should provide assistance to the TSC in assessing the degree of core damage, the 'official' damage assessment values will be determined by the TSC.

1.10 **Primary to secondary leak rate determination:** If a primary to secondary leak exists, use the Emer. Dose Assessment User's Manual contained in the EDCM (Ref. 6.3) to assist in determining primary to secondary leak rate. Coordinate with the TSC in making this determination.

NOTE

While the RAC should provide assistance to the TSC in estimating the primary to secondary leak rate, the 'official' leak rate values will be determined by the TSC.

1.11 **Field monitoring teams**: consider the following guidelines for directing field monitoring team(s).

1.11.1 For releases that are predominantly ground level-

❶ Place a field team downwind at the site boundary.

❷ Place another team off-site, downwind and as near to the site as possible.

1.11.2 For releases that are predominantly elevated-

❶ Place a field team downwind at the distance at which the dose projection shows the highest dose.

❷ Place another team downwind nearer to the site than the other team (results from this team aid in determining if the plume touched down closer than projected).

1.11.3 Teams should start by scanning for plume centerline. Upon locating plume centerline they should obtain dose rates (open and closed window) and an air sample.

1.11.4 Monitor field monitoring team doses. If field monitoring team thyroid doses are projected to be 25 REM (CDE) or greater:

❶ Request permission from the Group Leader- Rad. & Env. Controls to authorize field monitoring teams to self-administer thyroid blocking agent.

NOTE

Instructions for field monitoring team use of thyroid blocking agent are contained in procedure, EPIP-TMI-.10, Onsite/Offsite Radiological/Environmental Monitoring.

❷ Advise field monitoring teams to utilize respiratory protection to the extent practical without compromising their safety.

1.11.5 Once the EACC is operational, coordinate the placement of field monitoring teams with the EAC.

1.11.6 Transfer responsibility for off-site field monitoring team(s) to the EACC when they are ready to assume that responsibility.

1.12 **Dose projection/field readings comparison**: use the following guidance for comparing field readings (field team or Reuter Stokes readings) and dose projections.

1.12.1 If field readings are within a factor of 10 less than (and not more than) the corresponding projected value, a very good correlation exist between the two.

1.12.2 Field iodine sample results, after being converted to thyroid dose rate (CDE per hour), can be directly compared to MIDAS projected thyroid dose rate.

1.12.3 Field team closed window dose rates and Reuter Stokes readings can be compared with DDE values in dose projections.

1.12.4 There is no dose projection value that corresponds directly to field team open window readings. Open window readings that are higher than closed window readings indicate that the plume is at ground level at that location.

1.13 **Samples:** Consider the need for special samples (e.g. MAP-5, CATPASS, RCS-PAS) to provide more precise source term data for dose projections.

1.13.1 Samples taken directly from the effluent pathway (e.g. condenser off-gas, MAP-5, etc) provide the most precise source term data.

1.13.2 A sample from the Reactor Building atmosphere (i.e. CATPASS) will improve the precision of source term data for releases from the Reactor Building but will likely be less precise than effluent samples.

1.13.3 RCS sample results are useful in determining the extent of fuel damage and can be used to improve the precision of the source term but to less an extent than effluent samples.

> **NOTE**
>
> The Emer. Dose Assessment User's Manual contained in the EDCM (Ref. 6.3) provides guidance on which sample(s) to obtain under various conditions.

_____ 1.14 **Communication with BRP:** Establish communication with the Bureau of Radiological Protection (BRP) and provide TMI dose projections to them.

_____ 1.15 **Communication with NRC:** If the NRC requests continuous communication on the HPN, establish and maintain communication on the HPN with them and:

1.15.1 Assign an extra RAC staff member as soon as one is available or,

1.15.2 Request an additional communicator from the ED Assistant.

1.16 Coordinate all Radiological Controls activities on-site, including:

❶ Access control to areas affected by the emergency.

❷ Personnel dose monitoring and control (including dose extensions).

❸ In-plant surveys and samples.

1.17 **Thyroid Blocking:** Implement the Thyroid Blocking procedure (EPIP-COM-.44) if it is anticipated that person(s) will be exposed to quantities of radioiodine sufficient to cause a thyroid dose of 25 REM (CDE) or greater.

❶ **Field Monitoring Teams:** If field monitoring team thyroid doses are projected to be 25 REM (CDE) or greater, authorize team members to self-administer thyroid blocking agent. Instructions for field monitoring team use of thyroid blocking agent are contained in procedure: EPIP-TMI-.10, Onsite/Offsite Radiological/ Environmental Monitoring.

1.18 **Interface with the Group Leader- Radiological and Environmental Controls** (GL-R&EC) regarding:

❶ Dose projections

❷ In-plant and on-site conditions

❸ Protective actions

1.19 **Recommend source term reduction techniques** appropriate to the release pathway (e.g. RB spray, raising OTSG levels, etc). See the Emergency Dose Assessment User's Manual in Ref 6.3 for specific information.

1.20 **Evaluate the need for eating and drinking restrictions in-plant.**

1.20.1 If results of habitability monitoring allow, recommend that the E.D. lift restrictions, as needed.

1.20.2 Ensure habitability monitoring continues.

1.21 **Review radiological information in press releases**. Specific examples of radiological information that should <u>not</u> be included in press releases are:

❶ Dose projections

❷ Protective action recommendations

❸ Technical terms

❹ Acronyms and abbreviations

1.22 **Trend effluent release data, RMS, sample results, field team readings and dose projections.**

____ 1.23 **Establish a watch bill** to cover the RAC and all staff positions on a 24 hour-per-day basis.

EXHIBIT 2
IREO Duty Roster RAC Checklist

Guidelines for Selection of On-Site Emergency Assembly Area and Evacuation Route for Non-Essential Personnel

Wind Direction (from)	On-Site Emergency Assembly Area To Use	Route to Emergency Assembly Area	Gate To Be Used For Site Evacuation	Off-Site Remote Assembly Area To Be Used For Site Evacuation
1° to 80°	**Warehouse 1**	Personnel in the **NOB, OSF, Protected Area** and other locations near Unit 1 use most direct route to Warehouse 1. Personnel in the **Unit 2 Admin Bldg, Bldg 222, Transportation** and other locations near Unit 2 travel by personal vehicle to Warehouse 1.	**North Gate**	**Training Center**
81° to 170°	**Warehouse 3**	Personnel in the **NOB, OSF, Protected Area** and other locations near Unit 1 walk to Warehouse 3 via the East side of the plant. Personnel in the **Unit 2 Admin Bldg, Bldg 222, Transportation** and other locations near Unit 2 use most direct route to Warehouse 3.	**North Gate**	**Training Center**
171° to 240°	**Warehouse 3**	Personnel in the **NOB, OSF, Protected Area** and other locations near Unit 1 should go directly to their personal vehicles and drive to the parking lot south of the Unit 2 Admin Bldg and then walk to Warehouse 3. Personnel in the **Unit 2 Admin Bldg, Bldg 222, Transportation** and other locations near Unit 2 should use the most direct route to Warehouse 3.	**South Gate**	**Training Center**
241° to 320°	**Warehouse 1**	**All site personnel** should take the most direct route to Warehouse 1.	**North Gate**	**Training Center or EOF (see Note)**
321° to 360°	**Warehouse 1**	**All site personnel** should take the most direct route to Warehouse 1.	**North Gate**	**Training Center**

NOTE

Use the Training Center as the Off-Site Remote Assembly Area unless the Site Boundary Dose Projection is greater than 5 mREM/hr CDE or 1 mREM/hr TEDE.

EXHIBIT 3

Radiological Engineering Support Engineer Checklist

1.0 **Perform the following:**

_____ 1.1 **Start a log** of activities performed.

1.2 **Perform dose projections** using the RAC computer.

1.2.1 **Refer to the Emergency Dose Assessment User's Manual** contained in the EDCM (Ref. 6.3) for guidance.

1.2.2 **Validate dose projections.** Perform the following checks in coordination with the RAC:

❶ Verify that the correct release pathway is being used.

❷ Verify that the monitor input data is accurate and appropriate (e.g. no calibrations in progress).

❸ Verify the release duration.

❹ Verify that the dose projection results are consistent with other indications.

❺ For COLA projections, ensure the date/time listed on the dose projection is not more than 15 minutes old.

1.2.3 **If power is lost to the RAC computer**, request assistance from Operations in obtaining power. An extension cord is available in the RAC locker.

1.2.4 **COLA host reboot:** If the automated dose projection system host computer (COLA host) is "locked up," reboot it as follows:

❶ Dial the COLA computer's reboot device at extension 8297.

❷ When the reboot device answers and states "please enter your access code," enter "1979".

❸ The reboot device will then state "power is on" or "power is off."

❹ To reboot the COLA:

- Press "2" (the reboot device will state "power is off").
- Press "1" (the reboot device will state "power is on").

❺ Hang up the phone. The host computer will begin rebooting immediately. The process may take up to 15 minutes.

_____ 1.3 **Determine and log the time of reactor shut down.**

1.4 **Communicate with the GL-R&EC and the EACC.**

1.5 **Trend dose projections.**

1.6 **Generate source term data**: Edit input parameters and input sample results to refine the source term.

1.7 **Met. and forecast data**: Obtain current meteorological data and weather forecast data (short and long term) from the EACC for:

❶ Dose projections (e.g. "what if" projections)
❷ Plume tracking
❸ Site evacuation planning
❹ Off-site protective action planning

1.8 Evaluate the following inputs to verify that dose projections reflect actual conditions:

❶ Plant conditions
❷ RMS data
❸ RCS activity
❹ Spiking factors
❺ Meteorological data.

1.9 **Confirm dose projections** by comparing with field team readings and/or Reuter Stokes readings.

1.9.1 If field readings are within a factor of 10 less than, and not more than, the corresponding projected value a very good correlation exits.

1.9.2 Field iodine sample results, after being converted to thyroid dose rate (CDE per hour), should only be compared to MIDAS projected thyroid dose rate.

1.9.3 Field team closed window dose rates and Reuter Stokes readings can be compared with DDE values in dose projections.

1.9.4 There is no dose projection value that corresponds directly to field team open window readings. Open window readings that are higher than closed window readings indicate that the plume is at ground level at that location.

1.10 **Discuss Protective Action Recommendations (PAR) and Protective Action Guidelines (PAG) with the RAC.**

1.10.1 The PAR logic diagram is contained in procedure EPIP-TMI-.02, Emergency Direction, available from the ED.

1.11 **Perform "what if" dose projections** based on potential or anticipated:

❶ Plant status changes
❷ Meteorological changes

1.12 **Coordinate with the TSC.** Assist the RAC in coordinating with the TSC for:

1.12.1 **Primary to secondary leak rate determination.** Use the Emergency Dose Assessment User's Manual (Ref. 6.3) for guidance.

1.12.2 **Fuel damage class determination.**

❶ The TSC will produce the "official" damage class value.

❷ Provide input using the guidance in Emergency Dose Assessment User's Manual (Ref. 6.3).

❸ Update dose projection system as appropriate.

EXHIBIT 4

Radiological Line Communicator Checklist

1.0 Perform the following:

1.1 Maintain a log of information sent and received.

1.2 Communicate with the following:

❶ Group Leader - Radiological and Environmental Controls (GL-R&EC) at the EOF

❷ Bureau of Radiological Protection (BRP)

❸ Nuclear Regulatory Commission (on the HPN line).

1.3 Provide a briefing on current plant status and recent changes to all persons on the Radiological Line.

1.4 Pass requests from the RAC for off-site support to the EOF. Examples are:

❶ Rad Con Technicians from other plants.

❷ Equipment (e.g., radiation monitors, etc.)

❸ Whole Body Counting

____ 1.5 If the NRC requests continuous communication on the HPN, establish and maintain communication on the HPN with them and request the RAC:

1.5.1 Assign an extra RAC staff member to man the HPN as soon as one is available or,

1.5.2 Obtain an additional communicator for the HPN from the ED Assistant.

EXHIBIT 5

RAC/OSC Communicator Checklist

1.0 Perform the following:

1.1 Communicate between RAC and OSC

1.2 Communicate with the Remote Assembly Area Personnel

1.3 Maintain a Log of activities performed

1.4 Provide Event Update to Rad Con Personnel in OSC

1.5 Collect information on contaminated/injured personnel

1.6 Handle requests for:

❶ Activation of on/offsite field teams
❷ In-Plant Radiological data, (surveys - dose rates, contamination levels)
❸ Medical emergency information
❹ Search and Rescue Information
❺ Repair Team Information
❻ Vehicle/Personnel Contamination Surveys for Site Evacuation.

1.7 Interface for obtaining accident samples and sample results:

❶ CATPASS: Containment Atmospheric Post Accident Sampling System

❷ MAP-5: Particulate and Radioiodine Sample System on effluent pathways

❸ RCS PASS: Reactor Coolant System Post Accident Sampling System

❹ Radiation Monitoring System (RMS) samples for particulate, radioiodine, noble gas and tritium

❺ Other plant samples as required (OTSG, secondary)

1.8 Provide Guidance from RAC on in-plant radiological controls

❶ Keep OSC updated on events that may alter radiological conditions in the plant
❷ Radiation Controls - e.g., posting of Turbine Building

1.9 Obtain data on:

❶ Skin contaminations - levels and location of contamination
❷ Dose extensions - extension limits, purpose of extensions, personnel receiving extensions
❸ Personnel injuries - any radiological concerns

1.10 Provide priority from the RAC to the Chemistry Coordinator on accident samples and analysis.

EXHIBIT 6

Field Team Communicator Checklist

1.0 **Perform the following:**

_____ 1.1 **Start a log** of information sent and received.

_____ 1.2 **To activate field teams:**

_____ 1.2.1 Perform radio checks with field team(s).

_____ 1.2.2 Assign and record field team designations (e.g., Alpha, Bravo, etc.)

_____ 1.2.3 Obtain and record names and SSNs of all field team members.

_____ 1.2.4 Obtain and record year-to-date TEDE for all field team members.

1.3 **Obtain current wind direction and speed** from the RAC or RESE and display it on the EPZ map and the site map.

1.3.1 Update the maps with current wind direction and speed every 15 to 20 minutes.

1.4 **Obtain the projected on-site and off-site doses** from the RAC or RESE.

1.5 **Determine the locations and desired types of field team surveys, scans and samples** from the RAC.

_____ 1.6 **Provide a briefing for field team members.** Include in the briefing:

1.6.1 Plant status

1.6.2 Release pathway(s)

1.6.3 Projected doses

1.7 **Direct the teams to locations for surveys, scans and samples.**

1.7.1 Provide a definite start point, direction of travel and an end point for scanning (e.g. "scan for plume centerline starting at NNE31, travel toward the Southeast passing through NE31 and continue to ENE31").

1.8 **Obtain and record field team results.**

1.8.1 Log the results on Exhibit 7.

1.8.2 Display results on the field team status board.

1.8.3 Provide results to the RAC for comparison with dose projections.

1.9 **Monitor field team doses** (TEDE, CDE and DDE) and respirator usage.

1.9.1 Keep the RAC informed of field monitoring team doses.

1.9.2 Advise the RAC to consider the need for additional precautions or team replacement for field monitoring teams whose dose are approaching:

❶ 4 REM year-to-date total whole body dose (TEDE) or

❷ 25 REM thyroid dose (CDE) during this event.

1.9.3 If field monitoring team thyroid doses are projected to be 25 REM (CDE) or greater:

❶ Advise the RAC to consider obtaining permission to authorize team members to self-administer thyroid blocking agent.

NOTE

Instructions for field monitoring team use of thyroid blocking agent are contained in procedure, EPIP-TMI-.10, Onsite/Offsite Radiological/Environmental Monitoring.

❷ Advise the RAC to consider the need for field monitoring teams to use respirators.

❸ If field monitoring teams use respirators, advise them to use extreme caution if they intend to operate their vehicle while wearing a respirator.

____ 1.10 **Transfer responsibility for off-site field team(s) to the EACC** when requested by the EAC and approved by the RAC.

1.11 **Monitor and record data obtained by EAC/REMP field teams.**

1.12 **Provide communications for the Personnel/Vehicle Monitoring Team(s)** if they are using the field monitoring radio system.

1.13 Consult with the RAC regarding radiological conditions for personnel at the following locations who are outside of emergency response facilities and may remain on-site:

❶ North Gate - ext. 8445, 5554, or 8444
❷ South Gate - ext. 8446
❸ Processing Center - 8038
❹ Transportation - ext. 8733 or 8174
❺ Warehouse 1- ext. 8503
❻ Medical - ext. 8450, 8189, 8099 or 8103
❼ Communications - ext. 8197 or 8738

EXHIBIT 7

Field Team Designation: _____ Date: _____

Location	Time	Open Window E520 (mR/hr)	Average Closed Window E520 (mR/hr) or Frisker (cpm)		
	Time	Sample Type	Net CPM	Air Sampler Run Time	Air Sampler Flow Rate
		Iodine			
		Particulate			
		Smear			
		Noble Gas			

Field Team Designation: _____ Date: _____

Location	Time	Open Window E520 (mR/hr)	Average Closed Window E520 (mR/hr) or Frisker (cpm)		
	Time	Sample Type	Net CPM	Air Sampler Run Time	Air Sampler Flow Rate
		Iodine			
		Particulate			
		Smear			
		Noble Gas			