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CALVERT CLIFFS  
NUCLEAR POWER PLANT

November 18, 2010

U. S. Nuclear Regulatory Commission  
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant  
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318  
Independent Spent Fuel Storage Installation Docket No. 72-8  
Changes to the Emergency Response Plan Implementing Procedures

As required by 10 CFR 50.54(q), 10 CFR Part 50 Appendix E.V, and 10 CFR 72.44(f), changes to the Emergency Response Plan Implementing Procedures are enclosed. These changes do not decrease the effectiveness of the Emergency Response Plan.

Should you have questions regarding this matter, please contact Mr. Douglas E. Lauver at (410) 495-5219 or Mr. Michael J. Fick at (410) 495-5216.

Very truly yours,

for

Michael J. Fick

Director - Emergency Preparedness

MJF/PSF/bjd

Enclosures: ERPIP 730, Revision 00105

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Resident Inspector, NRC  
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**(Without Enclosures)**

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AX45  
NM501

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NM55



**Calvert Cliffs Nuclear Power Plant  
TECHNICAL PROCEDURE**

**ERPIP-730**

**RADIATION PROTECTION HOSPITAL ASSISTANCE**

**Revision 00105**

**Safety Related**

**REFERENCE USE**

**Applicable To:**

- **Calvert Cliffs Nuclear Power Plant**

**Approval Authority:**

**Plant General Manager**

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**SUMMARY OF ALTERATIONS**

<b>Revision</b>	<b>Change</b>	<b>Summary of Revision or Change</b>
01	03-0020	<p>Procedure upgraded to meet the format and content requirements of the Technical Procedures Writer's Manual. Revision bars have not been used to identify these changes.</p> <p>Changed all TLD references to DLR (Dosimeter of Legal Record) throughout the procedure. Calvert Cliffs will be going to vendor processing and will no longer be using TLDs.</p>
	05-026	<p>Changed ERO positional titles to support closure of AF200200004, Nos. 002-008 to ensure ERO position titles are consistent among Emergency Preparedness program plans and procedures.</p>
	0103	<p>Editorial correction to change title of procedure from Health Physicist Hospital Assistance to Health Physics Hospital Assistance (change bars not used to identify in procedure), and change references to Health Physics Technician to Health Physics personnel.</p> <p>Editorial correction to perform the following:</p> <ul style="list-style-type: none"><li>• Change, where necessary, CEG Medical Director to CE Medical Staff notification.</li><li>• Change, where necessary, CEG physician to CE physician/Medical Director Occupational Health &amp; Environmental Management.</li><li>• Add "Specific Hospital Plan" to step 6.3.A.1.a.</li><li>• Change "New Hospital" to "Emergency Room Entrance" on Attachment 1, page 1 of 2.</li><li>• Change Health Physics to Radiation Protection due to Radiation Protection reorganization.</li><li>• Change references from PR-3-100 (where applicable) to CNG-PR-3.01-1000 to align Calvert Cliffs procedures with Fleet procedures.</li></ul>

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Revision	Change	SUMMARY OF ALTERATIONS Summary of Revision or Change
04		<p>Entire Procedure – Previous change bars have been removed to prevent human error.</p> <p>Entire Procedure – Changed “CEG” and “CE” to “CENG”</p> <p>1.0 – Changed “attending an” to “supervising the care to an”</p> <p>6.1.1 – Bullet 3 – Changed “Barriers” to “Postings and Barricades” (PCR-10-03273)</p> <p>6.1.5 – Added “Electronic Personal Dosimeter (EPD)” (PCR-10-03273)</p> <p>9.0 – Deleted the steps in this section because there are no records generated from this procedure.</p> <p>Attachment 1 – Updated the map for the Radiological Emergency Area at Calvert Memorial Hospital. (PCR-10-03273)</p>
05		Updated map for Calvert Memorial Hospital

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## 1.0 PURPOSE

To provide emergency response instructions to the Radiation Protection Personnel attending an injured contaminated person.

## 2.0 APPLICABILITY/SCOPE

### 2.1. Applicability

This procedure provides instructions for the Radiation Protection Personnel supervising the care to an injured contaminated person transferred from Calvert Cliffs Nuclear Power Plant to Calvert Memorial Hospital.

### 2.2. Scope

2.2.1. CENG personnel are to assist the hospital staff with respect to radiological and contamination hazards. It is appropriate to make recommendations to reduce exposure and contamination spread as necessary. However, CENG personnel are *not* to interfere with medical treatment of the injured person.

2.2.2. This procedure is used for all cases of injured contaminated personnel taken to Calvert Memorial Hospital from Calvert Cliffs Nuclear Power Plant.

## 3.0 REFERENCES AND DEFINITIONS

### 3.1. Developmental References

3.1.1. NUREG 0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

3.1.2. 10 CFR 20, Standard for Protection Against Radiation

3.1.3. 10 CFR 50.47, Emergency Plans

3.1.4. 10 CFR 50 Appendix E to Part 50, Emergency Planning and Preparedness for Production and Utilization Facilities

3.1.5. Calvert Cliffs Nuclear Power Plant Emergency Response Plan

3.1.6. PR-1-101, Preparation and Control of Calvert Cliffs Technical Procedures

3.1.7. PR-1-103, Use of Procedures

3.1.8. Technical Procedures Writer's Manual

**3.2. Performance References**

None

**3.3. Definitions**

None

**4.0 PREREQUISITES**

**4.1. Training and Qualifications**

4.1.1. Personnel performing this procedure shall be qualified on the tasks or activities contained in this procedure.

**4.2. Initial Conditions**

4.2.1. Injured contaminated person has been transferred to Calvert Memorial Hospital.

**5.0 PRECAUTIONS**

5.1. One concern of attending physicians is the use of blocking agents (for example, potassium iodide (KI) for iodine and Ethylenediaminetetraacetic Acid (EDTA)) for cesium. As guidance, Radiation Protection Personnel should recommend the following:

- The consideration of a blocking agent if the actual or potential exposure to a radionuclide is in excess of 20 % Annual Limit on Intake (ALI).
- The administration of a blocking agent if the actual or potential exposure is in excess of 50 % ALI.
  - ALI for I-131 is 50 microcuries
  - ALI for Cs-137 is 200 microcuries

**6.0 PERFORMANCE****6.1 Activation****NOTE**

Order of actions is not mandatory.

- 6.1.1. **CHECK** Radiation Emergency Area setup (see Attachment 1, Calvert Memorial Hospital Radiation Emergency Area) for the following:
- Step-off pads
  - Friskers
  - Posting and Barricades erected, as required
- 6.1.2. **TELL** ambulance personnel to stay with the ambulance at the hospital until they are surveyed and released.
- 6.1.3. **BRIEF** the hospital staff on the contamination status.
- 6.1.4. **IF** entering Radiation Emergency Area, **THEN DON** anti-Cs (hospital supplied) and **CHECK** the attending hospital staff for proper protective clothing and correct use of protective clothing.
- 6.1.5. **CHECK** hospital staff for proper dosimetry **AND** proper use of Dosimeter of Legal Records (DLRs), Direct Reading Dosimeters (DRDs) or Electronic Personal Dosimeters (EPD).
- 6.1.6. **CHECK** Radiation Emergency Area for suitable number of contaminated waste containers.
- 6.1.7. **CONSULT** with attending physician.

**NOTE**

CENG personnel may make recommendations regarding contamination and radiological hazards. However, the attending physician makes all treatment decisions.

- 6.1.8. **ANSWER** questions posed by attending physician.
- 6.1.9. **ASSIST**, as required.
- 6.1.10. **MONITOR** tissue specimens.
- 6.1.11. **LABEL** and **SAVE** specimens for radiation evaluation.
- 6.1.12. **ASSIST** with decon, as requested.
- 6.1.13. **MONITOR** the patient periodically to assess decon effectiveness.

6.2. **Radiation Emergency Area Personnel and Equipment Control**

- 6.2.1. **CHECK** that protective coverings over equipment are used as appropriate to prevent contamination spread.
- 6.2.2. **OVERSEE** the movement activities of patients and hospital staff to reduce the spread of contamination.

6.3. **CENG Medical Staff Notification**

6.3.1. **IF** patient is verified contaminated **OR** Calvert Memorial Hospital physician wishes to consult with a CENG physician/Medical Director Occupational Health & Environmental Management, **THEN:**

- 1. **ENSURE** Plant Health Physicist establishes communication with the CENG Manager-Safety and Medical Services Department.
  - a. **SEE** the Facility Phone Number list, Company phone directory, or Specific Hospital Plan.
- 2. **CONDUCT** informal briefing(s) with Calvert Memorial Hospital staff and CENG physician/Medical Director Occupational Health & Environmental Management, as necessary, to include the following:
  - Current event situation (that is, radiological conditions)
  - Follow-up tasks that may need to be performed

6.4. **Patient Removal From Radiological Emergency Area (if applicable)**

- 6.4.1. **COLLECT** all personnel dosimetry for DLR processing at CCNPP.
- 6.4.2. **EVALUATE** and **REPORT** personnel dose.
- 6.4.3. **COLLECT** protective clothing, contaminated waste, and so forth, for return to Calvert Cliffs.
- 6.4.4. **SURVEY** equipment and property and **DECON** as need.

6.5. Radiation Exposure Follow-Up Activities to Consider (as warranted)

**NOTE**

The Plant Health Physicist may waive the following actions if inhalation or ingestion of radioactivity by the Calvert Memorial Hospital staff is unlikely or insignificant. Whole body counting may be offered as a courtesy or on request.

6.5.1. **ARRANGE** whole body count for patient **AND** all hospital personnel who attended patient.

6.5.2. **IF** available, **THEN EVALUATE** exposure results.

6.5.3. **IF** deemed appropriate, **THEN ARRANGE** for *in-vitro* samples to be taken.

6.5.4. **IF** available, **THEN EVALUATE** sample results.

6.6. **Arrange for Shipment of Radioactive Materials**

6.6.1. **COMPLETE** shipping papers for transport of radioactive material to CCNPP according to Department of Transportation (DOT) regulations.

6.6.2. **CONSULT** with Radiation Protection Supervision (Support) for guidance.

6.6.3. **PERFORM** radiological surveys of the Radiation Emergency Area and adjacent areas.

6.6.4. **DOCUMENT** radiological cleanliness before returning facilities to unrestricted use by Calvert Memorial Hospital staff.

6.6.5. **FORWARD** all records to Director-Emergency Preparedness at event termination.

7.0 **POST-PERFORMANCE ACTIVITIES**

None

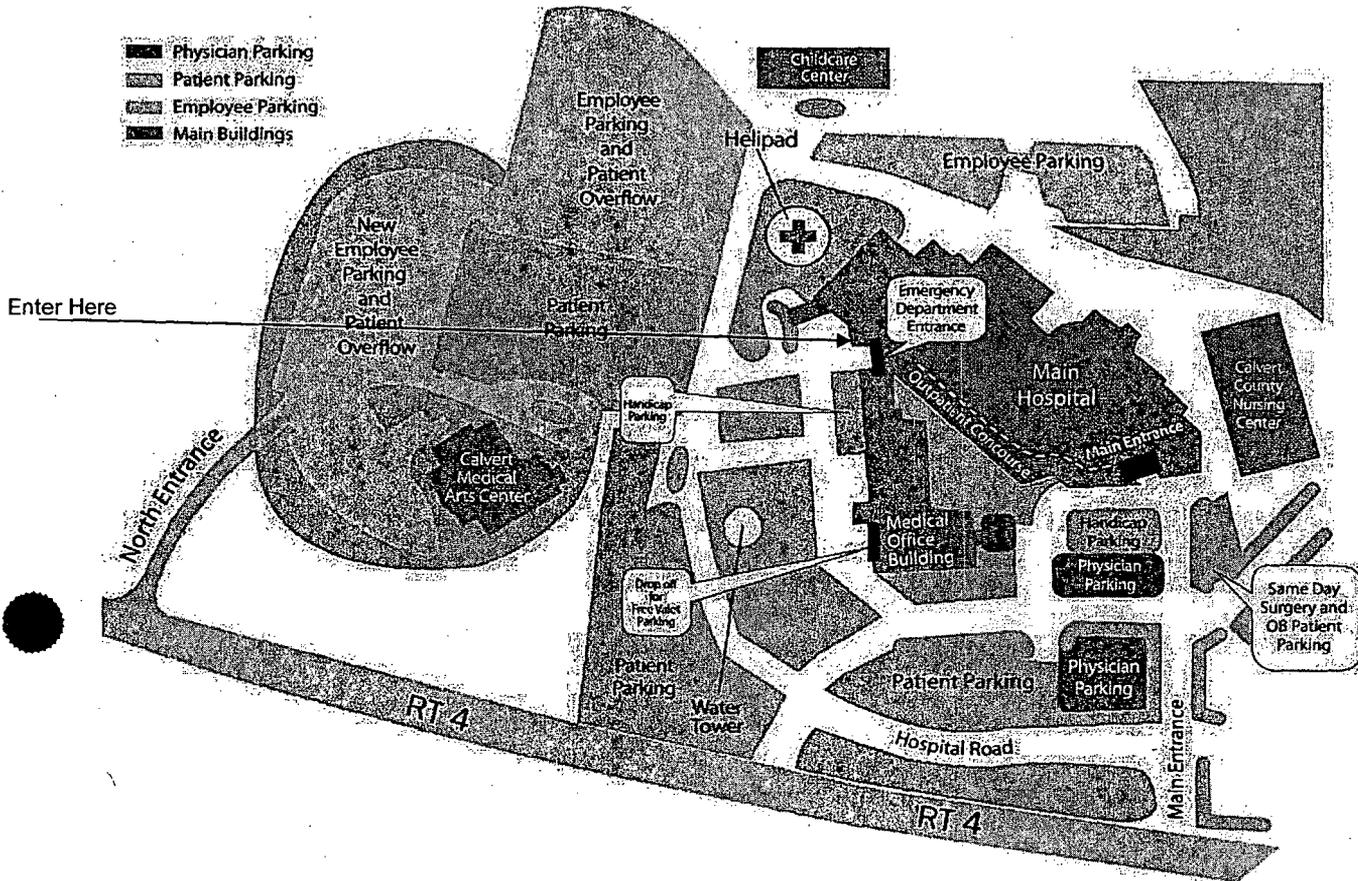
8.0 **BASES**

None

9.0 **RECORDS**

None

ATTACHMENT 1, Calvert Memorial Hospital Radiation Emergency Area



ATTACHMENT 1, Calvert Memorial Hospital Radiation Emergency Area (CONTINUED)

Radiological Emergency Area Floor Plan Located in Calvert Memorial Hospital Emergency Department

**RADIOLOGICAL  
EMERGENCY AREA  
(REA)**

