6-2184

ATTACHMENT 5

		INSTRUCTION	API # 4
		REV. NO.	1
	ALARA PROGRAM INSTRUCTION API# 4	CONTRACT	34540
TITLE	SPECIFIC INSTRUCTION FOR CONTROLS AND USE OF CBI SOLID RADWASTE STAGING FACILITY	PAGE NO.	1 of 10
		BY	DATE
		PREPARED	TAS	
PRODUCT	RECIRCULATION AND RHR PIPING REPLACEMENT - PEACH BOTTOM UNIT 2	CHECKED	MJG	
		REVISED		

PURPOSE AND DESIGN PARAMETERS:

To provide a radiologically controlled area for processing of removed Recirculation and RHR Piping.

I. LIMITATIONS AND PRECAUTIONS

1. CBI activities authorized by this instruction are limited to:

   a. The movement and temporary storage of materials in certified DOT Containers.

   b. Cribbing and packing of materials in DOT Containers.

   c. Cutting of samples, grinding and flapping as authorized by CBI Radiological Engineering (case-by-case basis).

   Note: The use of liquids for Decon purposes in excess of that authorized by the safety analysis (Appendix A) is not within the scope of this instruction.

2. All work activities inside the radwaste facility shall be reviewed by CBI to ensure that safety related equipment and systems are not compromised.

3. No work activity shall be performed in the Radwaste Facility which is not directly by a responsible Health Physics Technician. Workers shall be trained on all emergency equipment dedicated to the staging facility.

4. The following limits are applicable to work activities in the radwaste staging facility:

   a. No more than two (2) containers of solid radwaste materials can be open or processed at any one time.

   b. No uncontained materials i.e. not within DOT containers, can be stored in the radwaste staging facility unattended.

   c. If the building is to be left unattended, all radwaste materials will be contained, the building locked, and the water supply to the facility secured.

   d. If plasma-arc cutting is performed in the facility, a fire watch shall be present. No other radiological activity will be performed in the facility during times when plasma-arc cutting is in progress.

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A. DESCRIPTION:

1. Air enters facility through two 24" X 24" intakes equipped with a 3" H.E.P.A. type pre-filter and louvers that allow flow in one direction. When H.E.P.A. system is running, air is drawn in from outside at 4000 CFM. If H.E.P.A. System is shut-down, louvers automatically close preventing release from the facility.

2. Clean area inside facility, and control point location. This area is the dress out area.

3. C.A.M. (Continuous Air Monitor). Monitors for potential airborne radioactivity in the clean area. The alarm set point is equivelent to an unidentified air activity concentration of 3 X 10 - 10 uc/cc. If an alarm occurs, a continuous bell and a red light on top of the unit activate. Observing the strip chart will indicate if the alarm was due to a gradual increase or a sudden increase in airborne activity levels. A sudden increase could be caused by (a) some work activity being performed in the controlled area of the facility, (b) a source being moved too close to the C.A.M. (c) an activity from outside the facility, or (d) temperature inversion. Corrective actions can range from resetting the C.A.M. (clearing the alarm), to prompt evacuation of the entire facility.

4. The controlled area is the radiologically controlled section of the facility where work is performed under the radiation work permit.

5. Containment enclosure (optional) for plasma-arc work such as cutting samples of pipe etc. If a containment is used, a portable H.E.P.A. unit attached with spark arrestor is required to provide negative ventilation to the containment.

6. H.E.P.A. unit exhausts to the controlled area of facility.

7. Installed H.E.P.A ventilation unit.

8. Installed H.E.P.A. ventilation unit. The units provide negative pressure to the facility and 99.97% filtration efficency for particles of .3 micron or larger. The units are physically located outside the facility at the north end. Both units exhaust to a common vent pipe.

9. C.A.M. monitoring exhaust effluent from facility to atmosphere. Sampling of the exhaust vent is isokinetic. The CAM continuously monitors the effluent for radioactive concentration. In the event that the activity levels in the effluent reach a pre-determined limit, the CAM generates an alarm signal; and a signal is sent to a relay which trips the fan motors on both H.E.P.A. units; the portable H.E.P.A. unit in the controlled area will be shut-down and work activity halted by the H.P. The H.P. will determine the magnitude of the event, notify supervision, and take corrective action.

10. Structure to protect the H.E.P.A. units and CAM from adverse atmospheric conditions. It also provides a containment for H.E.P.A. filters and performance of maintance.

B. RESPONSIBILITIES AND REQUIREMENTS

1. Continuous Air Monitor - A CAM "AMS-3" or equivelent shall be positioned in the clean area at the control point. It shall be the responsibility of the H.P. Technician to assure that the CAM is operating as required.

2. Control Point Log - A log shall be kept at the control point, and contain the following information:
   a) Radiological status of facility.
   b) Radioactive Material moved in or out of facility.
   c) Work performed in facility.
   d) Unusual or abnormal conditions.
   e) Work terminations.
      (1) Reason
      (2) Corrective action taken and person notified.
   f) Surveys performed

   NOTE: It is the responsibility of the H.P. Technician to maintain the control point log.

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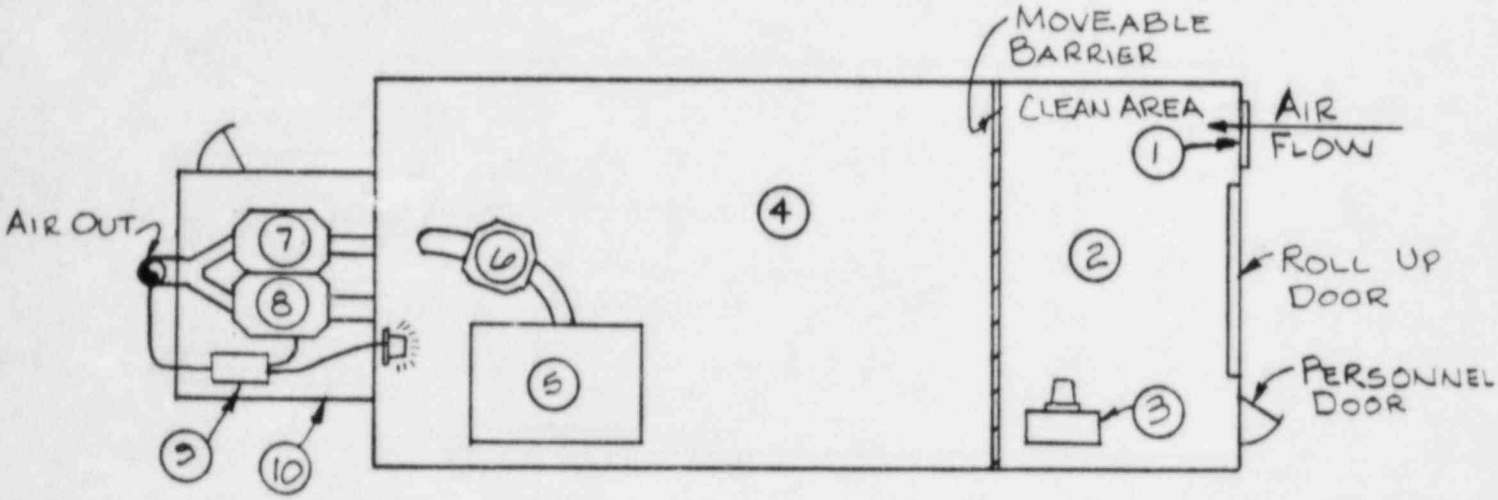

The following describes the lay-out and equipment that make up the processing facility.

1) Air intake to facility equipped with two 3" H.E.P.A. pre-filter type.
2) Control Point and clean area inside facility.
3) C.A.M. monitoring clean area, visual and audible alarm.
4) Controlled Area (the work area).
5) Containment for use of Plasma-arc. (Opitional)
6) Portable H.E.P.A. Unit.
7) H.E.P.A. Unit.
8) H.E.P.A. Unit.
9) C.A.M. Monitoring Exhaust from facility to atmosphere.
10) Structure Around H.E.P.A. Units and C.A.M.

C. Radiation Work Permit (RWP):

1. An R.W.P. shall be available for work in the facility, and shall be under the control of the H.P. Technician. The R.W.P. should address the following activities:
   a) Packaging of piping
   b) Cutting out "Hot Spots"
   c) Cutting Samples
   d) Decon
   e) Trash Removal
   f) Surveys
   g) Inspections
   h) Placing material-in and removal from the facility.

2. When respiratory protection is required for work, the H.P. Technician is responsible to verify that each person is qualified to use the equipment specified.

D. POSTING:

The H.P. Technician shall be responsible for posting the facility as required.

NOTE: Movement of material within the facility and moving material into or out of facility can cause significant changes in radiation levels at boundries. The H.P. is reponsible to verify boundaries and adjust posting whenever necessary. Particular attention should be given to areas outside the facility.

E. SURVEYS:

Surveys required by station procedure will be performed by the H.P. assigned to the facility. A routine (daily) survey shall be performed consisting of:

a) Radiation Measurements to include the outside facility walls.

b) Air Samples and Smears in the controlled work area.

E. SURVEYS: Continued

c) Survey Records
1. R.C.A. Forms shall be kept at the Control Point.
2. Surveys performed for R.W.P. up-date, shipping records etc. shall be kept with the R.W.P.

NOTE: Contact dose rate taken on the facility H.E.P.A units shall be performed daily and the results recorded in the control point log and R.C.A. with the R.W.P.

F. RECORDS (Attached)

1. After final closure of containers and prior to release from radwaste facility to PECO for shipment, containers shall be identified "CBI". The sequence for containers shall be marked starting with number "one" for the first container and each container after in numerical order.

2. Records shall be kept on file at the control point for each container processed. A container folder, marked on the index tab with the number of the container, shall contain the following:
a) A description of the material in the container.
b) A copy of the Isotopic Scan Sheet.
c) Copies of procedures used for packaging of the container with Q.C., H.P. sign off.
d) Copy of survey data for container.

3. It shall be the responsibility of the H.P. assigned to the facility to maintain files.

G. VENTILATION:

The facility H.E.P.A. System shall be operating during all work activities. During Plasma-arc work, a portable H.E.P.A. unit will provide local ventilation directly at the work station and discharge to the facility H.E.P.A. System. Facility H.E.P.A. exhaust is continuously monitored by CAM (AMS-3). Whenever the H.E.P.A. System is operating, a back-up low-vol air sampler must be operating at the H.E.P.A. exhaust point. If a H.E.P.A System trip occurs, the H.P. shall stop all work activities in the facility, and require personnel to leave the facility. The H.E.P.A System shall not be re-started until the cause of the trip is determined and corrective actions have been taken. The H.P. Field office and CBI Radiological Engineer Group shall be notified prior to re-start of system.

H. LOSS OF POWER:

Loss of power to the facility requires all work to be stopped. When power is restored, the H.P. must verify that all systems are operating prior to allowing work to begin.

I. QUALITY CONTROL (Q.C.)

Prior to packaging radwaste materials for shipment, station Q.C. must be present to observe the packaging and verify that the packaging was performed in compliance with station procedures. It is the responsibility of the individual in-charge of the packaging crew to notify station Q.C. in advance of the packaging process.

J. PROCESSING RADIOACTIVE SMALL DIAMETER PIPING AND VALVES:

1. Prior to cutting and removal of small diameter piping, CBI shall notify the H.P. Technician Supervisor at the Drywell Control Point. CBI shall provide the following information:
   a) Exact Location of pipe to be removed.
   b) Diameter of Pipe
   c) Length
   d) Any Associated Valves

2. The H.P. Supervisor shall require that the necessary radiation surveys be performed. If pipe or valve radiation intensity is greater than 1 R/HR Gamma Contact, then
   a) Obtain shielded transfer cart and stage at the drywell control point.
   b) Obtain high radiation transport R.W.P.
   c) Notify H.P. at Radwaste staging facility.
   d) Notify Q.C.

(SUGGESTED PROCESSING SEQUENCE)

1. CBI cuts pipe and valves to specified length.
2. H.P. Tech smears pipe and valves for isotopic analysis for shipping record.
3. CBI wraps pipe and valves and moves material to step-off pad area outside drywell.
4. CBI places material into shielded transfer cart. H.P. monitors dose rates on cart exterior.
5. CBI and HP sign high rad transport R.W.P. CBI transfers cart to radwaste staging facility, and H.P. escorts cart from drywell to facility.

6. Upon arrival at staging facility, radwaste staging facility H.P. takes responsibility for cart and contents.
7. Transfer cart is moved into controlled area of facility. Cart is opened and contents transferred to mini-cask. H.P. observes operation and monitors dose rates. When mini-cask is filled to specified limit, concrete is poured to specified level. The process is repeated until all material in the transfer cart has been removed and packaged in mini-casks.
   Note: Q.C. must be present and observe this step.
8. H.P. surveys empty transfer cart.
9. When cement has cured, cask is ready for final closure. H.P. will notify Q.C., and when present, the lid and retaining ring shall be attached per Station Procedure. All required labels shall be affixed to cask. When paperwork is complete, cask is turned-over to P.E.Co. for shipment.

   NOTE: Small diameter pipe (<1 R/HR Gamma Contact) and other non-compactable waste removed from drywell should be packaged in B-25 boxes for shipment. The station limiting dose rates for a B-25 Box are 175 MR/HR Gamma Contact, and 8 MR/HR Gamma Field at 2 meters. The B-25 box must be processed in accordance with HPO-CO-71S, "Filling and storage for shipment of non-compactible radioactive trash in the B-25 Metal Container."

K. LARGE DIAMETER PIPE AND VALVES:

1. Large Diameter pipe will be packaged in special metal boxes and cribbed to prevent movement. When box is ready, voids will be filled with packaged radwaste trash or high density foam.

   NOTE: (1) Information concerning the rigid foam is included as Appendix B to this instruction. Personnel handling this material must be familiar with precautions as listed in the manufacturer's technical data sheets. Use or storage of this material in the "power block" is prohibited.

   (2) The station limiting dose rates are 175 MR/HR Gamma Contact, and 8 MR/HR Gamma field at 2 meters.

2. The special metal DOT shipping boxes (metal containers fabricated as required by CBI) shall be packaged and processed in accordance with the requirements of station procedure HPO-CO-71S, "Filling and storage for shipment of non-compactable radioactive trash in the B-25 metal container."

NOTE: MO-65A and MO-65B will be discarded as non-compactable waste. These valves are planned to be disassembled in-place after chemical decon. Each valve assembly weights 6000 lbs. Since this total weight is restrictive (limit of 4000 lbs. in a B-25 box) four boxes will be required to package two valves. Components and bodies will be cribbed to prevent movement and voids will be filled with radwaste trash or high density foam.

L. SPECIAL SAMPLES OF PIPING

Requests for special samples of piping should be given to the CBI Radiological Engineering Group. Such requests should be made as far in advance as possible. The request must contain the following information:

1. Type of sample i.e. pipe, RHR or Recirc.
2. Location of sample i.e. elbow straight run, riser, etc.
3. Physical size and geometry i.e. cube, circular, etc.
4. Should sample be from outer surface of pipe, inner surface, or combination of both.
5. Specific analysis to be performed.
6. Smearable contamination limits.
7, A sketch of the sample configuration with approx. dimensions.