

Form : HPP-OSP-002 Revision: 6 Date: 12/1/2009	<b>JEFFERSON LAB</b> Radiological Work Permit	Applicable to procedure: HPP-OSP-001 Page 1 of _____
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Serial Number: <b>2011-S006</b>	Start Date: <b>1/1/2011</b>	Expiration Date: <b>12/31/2011</b>
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Work Area/Description of Work:

- **Vertical Test Area/High power RF operations**

Task Description:

- 1) Work in VTA dewar test area during High Power RF operations**
- 2) RCD or VTA ARMs to conduct radiation surveys as specified in this permit**

Work Area Radiological Conditions:

<u>  </u> <b>X</b> Radiation Levels:	<u>  </u> <b>N/A</b> Contamination Levels:	<u>  </u> <b>N/A</b> Airborne Levels:
Maximum <b>**</b> _____	Maximum _____	Maximum _____
Contact _____	Location _____	Location _____
Whole Body _____		

**\*\*** Other Radiation levels to be determined based on area monitoring and survey. This permit contains limits and triggers for additional administrative controls.

ALARA Estimate: Total person-rem expected to be < 0.25 rem.

   **N/A** (Total Man-hours) X \_\_\_\_\_ (Whole Body Exposure Rate) = \_\_\_\_\_ Man-Rem

Training Requirements for Entry on this RWP:

   **X** Radiation Worker I      **NOTE:** Task #2 requires minimum VTA Limited Duty ARM training

Dosimetry Requirements for Entry:

   **X** Dosimeter         **\*** SRPD

**\* Required if the work area whole body dose rate exceeds 25 mrem/hr, or anticipated dose to a worker exceeds 25 mrem/day, or if entry is made into a High Radiation Area.**

\_\_\_\_\_ Multiple Dosimetry (as specified below):  
\_\_\_\_\_

\_\_\_\_\_ Extremity Dosimetry( as specified below):  
\_\_\_\_\_



Form : HPF-OSP-005  
Revision: 4  
Date: 12/1/09

**JEFFERSON LAB**  
Radiation Work Permit  
Continuation Form

Applicable to procedure:  
HPP-OSP-001  
Page: \_\_\_\_ of \_\_\_\_

**RWP Number: 2011-S006**      **Date Issued: 1/1/2011**

Date	Comments
1/1/11	Completed surveys to be placed in the VTA safety log for review by RCD



Attachment 1  
Guidance for Radiation Surveys in VTA

When testing cavities in the VTA with high power RF, radiation surveys shall be performed as follows.

- VTA operators shall ensure that the deck floor is posted as a High Radiation Area prior to any high power RF operations in dewars 3-8.
- The operator shall notify all persons working in the VTA areas that production testing will be underway, and ensure there is no unnecessary occupancy.
- If the radiation level in a dewar exceeds **10 R/hr**, the operator shall pause testing in accordance with SOP A-09-001, and conduct a radiation survey (if ARM qualified), or request a survey by a member of the Radiation Control Department to be carried out as follows:
  - Survey in the vicinity of the subject dewar shield. Pay particular attention to potential “streaming” of radiation into the main walkway from a line at the interface of the fixed vertical shield wall with the concrete floor (below the metal deck). Take whole body dose rates (30 cm) above the flooring deck around the dewar of concern, and contact dose rates on the deck. Record the highest whole body and contact readings in this area. Also take whole body readings around the sides and back of the shield.
  - For dewars 4, 5 and 8, measure the dose rate on the CMTF mezzanine at the railing and in the applicable VTA control room(s).
  - For dewars 3, 6 and 7, measure the dose rate in the work space above the VTA control rooms near the north wall. These measurements should all be made at a point directly opposite the dewar.
- Record the associated RF power/gradient and dose rate inside the shield on the survey form.

### Actions

- If whole body dose rate at the floor area exceeds 5 mrem/hr, verbally notify all personnel in the VTA of the conditions, and advise them to avoid the immediate area. If readings are above 25 mrem/hr, or it appears likely that continuing the test will cause the level to exceed 25 mrem/hr, contact Radcon at 876-1743. Proceeding with the test may require supplemental dosimetry, further surveys, or Radcon surveillance.
- If the dose rate in office spaces, mezzanine or any location outside a posted RCA exceeds 0.05 mrem/hr, notify Radcon immediately. Continuing the test requires approval of the RadCon Manager.



