



Managed by Brookhaven Science Associates
for the U.S. Department of Energy

Mr. Robert Desmarais
Director, Operations Management Division
U. S. Department of Energy
Brookhaven Site Office
Upton, NY 11973

JAN 30 2008

Dear Mr. Desmarais:

SUBJECT: Annual Inspection Certifications for the g-2 and Brookhaven Linac Isotope Producer Caps

Reference: g-2 Tritium Source Area and Groundwater Plume, Brookhaven Linac Isotope Producer and Former Underground Storage Tanks Record of Decision (ROD)

As required by the g-2 Tritium Source Area and Groundwater Plume, Brookhaven Linac Isotope Producer (BLIP) and Former Underground Storage Tanks ROD, Brookhaven Science Associates has conducted visual inspections of the g-2 and BLIP source area caps. Please forward the attached annual inspection certifications to the regulatory agencies by March 1, 2008.

Except for the need to re-seal some of the cap edges (e.g., areas where the cap meets a sheet pile wall, cable tray support, or building foundation) and to repair small sections of the surface coatings that cover the primary gunite/concrete caps, both caps were found to be in very good condition. All significant repairs/maintenance actions identified during the inspections have been completed. Please note that responsibilities for the inspection and maintenance of the BLIP cap are shared between the Medical Department and the Collider-Accelerator Department (C-AD), whereas C-AD is fully responsible for the g-2 cap. C-AD is responsible for the northern section of the BLIP cap that covers the beam line from the Linac, which is known as the "Linac Y" area. Records of these inspections are maintained by the departments, and are available for DOE and regulatory agency review.

The institutional and engineered controls for both source areas are in place, and nothing has occurred during the past year that would impair the ability of the controls to protect public health and the environment, or constitute a violation or failure to comply with the BNL Land Use Controls Management Plan (BNL, 2007). Furthermore, results of the source area groundwater monitoring programs verify that the stormwater controls continue to be effective. Tritium concentrations in the BLIP facility monitoring wells were less than the 20,000 pCi/L Maximum Contaminant Level (MCL) during all of 2007. Although tritium concentrations in g-2 source area monitoring wells continue to exceed the MCL, tritium levels in the groundwater continue to decline, with concentrations dropping to less than 50,000 pCi/L during the second half of 2007. Results of the groundwater monitoring program are reported annually in the Groundwater Status Report.



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ISO 14001

If there are any questions pertaining to the cap inspections, please do not hesitate to contact Doug Paquette, at ext. 7046.

Sincerely,



George A. Goode
Environmental & Waste Management Services
Division Manager

GAG/DEP: djp
Attachments

cc: J. Adams
J. Bullis
W. Dorsch
A. Emrick
S. Ferrone
W. Gunther
L. Hill
E. Lessard ✓
D. Lowenstein
R. Howe
L. Mausner
G. Penny (DOE)
S. Kumar
D. Paquette
M. Van Essendelft
G-J. Wang

File: GW61ER.08



JAN 25 2008

Memo

Mr. George A. Goode, II
Division Manager, Environmental & Waste Management Services
120 E. Fifth Avenue, Bldg. 860
P. O. Box 5000
Upton, NY 11973-5000

Dear George:

Subject: Inspection for the BLIP (Bldg. 931) Cap

As Environmental Compliance Representative for the Medical Department, I inspected the BLIP (Bldg. 931) cap twice during 2007. The inspections were conducted in accordance with Medical Department Procedure # BLIP 906, Revision D for the April 19, 2007 inspection, and Revision E of the procedure for the October 1, 2007 inspection. The inspection process is consistent with the Standards Based Management System (SBMS) Subject Area entitled "Accelerator Safety" and the associated exhibit entitled "C-A Department Beam Line Cap Inspection Checklist." For the BLIP cap, the SBMS inspection checklist has been slightly modified to reflect the specific aspects of the BLIP cap system, which includes the gunite cap along the west north and east sides of the building, the asphalt cap along the south side, and the building's roof drains. The northern section of the BLIP cap that protects the "Linac Y" area was not part of this inspection (Collider-Accelerator Department responsibility).

The April 19, 2007 BLIP cap inspection resulted in the following items being identified:

1. Delamination/peeling off, blistering and surface voids on the asphalt surfacing that covers the primary gunite cap at the rear (northern) and front (southern) exterior areas. The rear deficiencies started at the BLIP cable tray and extended to the CA Dept. membrane. Additionally, there was a crack in the gunite cap at the northern area just west of the northwest corner of the BLIP Bldg.;
2. Portions of the BLIP's eastern roof conveyance pipe that are contacting the exterior asphalt surface (secondary cap) had vegetation growing through gaps and exposed soil was observed and;
3. There was a damaged horizontal roof gutter at the northwestern area in the form of a 3 inch vertical cut. *[Note: the areas under this gutter were protected by the primary gunite cap and the secondary asphalt surface].*

The October 1, 2007 BLIP cap inspection resulted in the following items being identified:

1. Surface gaps and cracks on the secondary asphalt cap that covers the primary gunite cap at the BLIP building's western and southern "cold joints" (exterior area where the asphalt surface cap meets the poured concrete BLIP support wall);
2. Delamination/peeling off, blistering and surface voids on the surface membrane at the rear (northern) exterior areas that covers the primary gunite cap starting at the BLIP roof drain pipe and extending to the cable tray (*Note: areas north of the cable tray are CA Dept.*

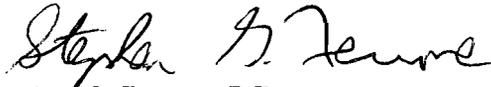
responsibilities) and;

3. Portions of the BLIP's eastern roof conveyance pipe that were contacting the exterior asphalt surface (secondary cap) had vegetation growing through gaps present and exposed soil was observed.

The above items, except for the damaged gutter section and the surface cracks/gaps on the secondary asphalt cap that will be addressed through the use of the BNL Work Order system, were addressed and completed on December 3, 2007 (reference Facilities and Operations Work Order # EP 239062). As part of the work performed under this W.O., the above conveyance pipe was re-routed so as to maintain a separation between the existing grade and the bottom of the pipe, and the northern exterior area was re-sealed with a protective membrane so as to act as a secondary cap.

Based on the results of the above inspections and corrective actions made to date, the BLIP cap was inspected and maintained as per the requirements of the "Record of Decision for Area of Concern 16T g-2 Tritium Source Area and Groundwater Plume, Brookhaven Linac Isotope Producer Soils, and Former Underground Storage Tanks". Furthermore, groundwater monitoring has been conducted at the BLIP facility to verify the effectiveness of the stormwater controls. The institutional and engineered controls at BLIP are in place, and based on the above inspections, nothing has occurred during the last year that would impair the ability of the controls to protect human health and the environment, or constitute a violation or failure to comply with the BNL *Land Use Controls Management Plan* (2007). Records of these inspections, with associated checklists and other pertinent documentation, are maintained on file with the Medical Department and are available for review by the regulatory agencies. Results of the groundwater monitoring program are reported annually in the Groundwater Status Report by the BNL Subject Matter Expert.

Sincerely,



Stephen G. Ferrone, P.E.
Environmental Compliance Representative^(1.)
Environmental and Waste Management Services
Division

cc: W. Gunther, L. Mausner, A. Emrick, R. Lee, D. Paquette, J. Selva, W. Dorsch, M. Van Essendelft, E. Lessard
File:EM40ER08

(1.) After 12/4/07, the ECR responsibilities for the Medical Dept. were shifted to a different individual. However, the BLIP cap inspections will still be performed by the noted ECR or an equivalently qualified individual.



JAN 08 2008

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Memo

Mr. George A. Goode, II
Division Manager, Environmental & Waste Management Services
120 E. Fifth Avenue, Bldg. 860
P. O. Box 5000
Upton, NY 11973-5000

Dear George:

Subject: Certificate of Inspection for the g-2 and LINAC "Y" (Up-Stream To BLIP) Caps

As Environmental Compliance Representative for the g-2 and LINAC "Y" caps, I certify that I observed the inspection of these two caps in post FY '07 operations during July & August 2007 and as part of the pre-operation inspections for FY '08 during October 2007. The caps were inspected by C-AD engineers Al Pendzick and Charles Pearson in accordance with the requirements as listed in the Brookhaven National Laboratory subject area entitled "Accelerator Safety" and the Collider-Accelerator Department Procedure entitled "FES Beam Cap Inspections".

As part of the post FY '07 operations there were no unsatisfactory conditions noted at the g-2 cap area. At the LINAC "Y" area, however, some edge sealing was required and a work order was generated and the work was completed.

As part of the pre-operation FY '08 inspection preventative maintenance was performed to remove plant growth along the perimeter of the g-2 cap. Additionally, a work order was generated to remove and re-caulk the cap seams to the sheet-pile at g-2. As part of the pre-operation FY '08 inspection of the LINAC "Y" cap a work order was generated to seal the edge by the cable tray and along the LINAC building. The work in both locations was completed satisfactorily.

Based on the results of these inspections and remedial actions, it is my professional opinion that, as of the completion of the remedial actions, the caps were in compliance with the requirements listed in the above documents and in compliance with the agreement as set forth in the "Record of Decision for Area of Concern 16T g-2 TRITIUM SOURCE AREA AND GROUNDWATER PLUME Area of Concern 16K BROOKHAVEN LINAC ISOTOPE PRODUCER and Area of Concern 12 FORMER UNDERGROUND STORAGE TANKS". Further, the inspections verified that institutional controls and engineering controls are still in place, and that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the BNL *Land Use Controls Management Plan* (BNL, 2005 and subsequent updates). As stated in the Record of Decision, records of these inspections are maintained on file with the Collider-Accelerator Department and are available for review.

Sincerely,

A handwritten signature in black ink, appearing to read "Melvin J. Van Essendelft".

Melvin J. Van Essendelft
Environmental Compliance Representative for
Nuclear Particle Physics Directorate