HOWARD UNIVERSITY
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Excellence in Truth and Service

Office of the Provost and Chief Academic Officer

April 19, 2018

MEMORANDUM

TO: ALL HU Department Chairs

FROM: Anthony K. Wutoh, Ph.D., R.Ph.
Provost & Chief Academic Officer

SUBJECT: PRESENCE OF UNAUTHORIZED RADIOACTIVE MATERIALS IN HU LABS

Due to the recent findings of radioactive materials in the Department of Physics, *circa* 1940's, Howard University, radioactive material license for research is being inspected by the US Nuclear Regulatory Agency (NRC). To remain in compliance with our license conditions, radioactive materials cannot be purchased, possessed and used by any "**Unauthorized Users**". In addition, radioactive materials cannot be stored or used in any **"Unauthorized Labs"** to carry out research using radioisotopes.

If any faculty members possess any radioactive materials in their Labs, and if those materials are not on our license, then it is a clear violation of our license condition. The faculty member must be an **"Authorized User"** to carry our research at Howard University using radioactive materials.

Therefore, I am requesting that each department take **the responsibility to verify** that there are **no** radioactive materials present in their Labs. If you do find any radioactive materials, please contact the Radiation Safety Office immediately to take necessary actions for compliance.

For details, please see the attached memo from Howard University Radiation Safety Officer, Dr. Satya Bose. Please forward to office about your findings within 10 business days from the date of this memo as this request is **extremely urgent** in nature. This information needs to be submitted to NRC as soon as possible to avoid any citations.

Thank you so much for your prompt attention on this matter.

AKW/js
Attachment

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HOWARD UNIVERSITY

RADIATION SAFETY OFFICE

April 16, 2018

MEMORANDUM

TO: Anthony K. Wutoh, Ph.D., R.Ph.
Provost & Chief Academic Officer

FROM: Satya R. Bose, Ph.D., DABR SB
Director of Radiation Safety
Radiation Safety Officer &
Chief Medical Physicist, Radiation Oncology

Cc: Alice A. Mahan
Administrative Director, College of Medicine
RSC Management Representative

Sergei Nekhai, Ph. D., Professor
RSC Chair

Quinton L. Williams, Ph.D.
Professor & Chair of Physics

SUBJECT: PRESENCE OF RADIOACTIVE MATERIAL AT HU FACILITIES

On February 09, 2018, the Howard University (HU) Radiation Safety Officer (RSO) performed a radiation survey in the Physics building, lab # 209 to check if there is any radioactive material in this lab. This survey was done due to an email request received from Dr. Arvind Nandedkar, Safety Officer, Howard University. At the time of the inspection, Dr. Marcus Alfred, Associate Professor, Department of Physics handed over to RSO a radioactive source containing Actinium series isotopes, which was secured in a shielded safe in the physics Lab # G6. This material was then transferred to the radiation safety vault in the Cancer Center. According to Dr. Alfred, this lab was previously used by Dr. Arthur Thorpe, who we believe carried out research projects related to space science. This isotope was received by someone at Howard University back in 1942. The content of the radioactive sample appeared to be in the powdered form.

Since this isotope is not on the HU research license (# 08-00386-19), the Nuclear Regulatory Commission (NRC) was notified by telephone as well as by email for regulatory compliance. The NRC inspector, Ms. Betsy Ullrich, acknowledged and suggested by email that an expedited amendment should be submitted to maintain compliance with HU research license. Accordingly, an amendment request was sent to NRC on February 13, 2018.

After the submission of amendment request, I contacted the local Radiation Service Organization (RSO), Inc. for the analysis and disposal of the isotope.

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In the meantime, NRC Inspector, Mr. Randolph C. Ragland, contacted me to schedule a site visit for an inspection, which was completed on February 16, 2018. Mr. Ragland advised that the case could not be closed until the analysis is performed to verify the isotope. During the visit Mr. Ragland was not able to verify if the isotope was Actinium 227; therefore, the isotope was given to RSO Inc., for the analysis who then forwarded it to GEL Lab LLC, Charleston, SC. Upon the completion of the analysis, it was confirmed that the radioisotope was indeed Actinium- 227. RSO Inc, is now proceeding for the disposal of this isotope. This result of GEL Lab LLC, analysis was then forwarded to Mr. Ragland for his review. Upon receiving the results, Mr. Ragland contacted me to discuss the outcome and confirmed that the isotope in the container was in fact Actinium 227 and its daughter products. According to the report, the activity of Actinium 227 was determined to be about 78.4 microcurie.

NRC regulation 10 CFR Part 20, Appendix C, states that the quantity of licensed materials requiring labeling is 0.001microcurie for Actinium 227, which is 1000 times more than the measured value (78.4 microcurie) obtained from the GEL lab.

During my recent discussion with NRC Inspector, Mr. Ragland, this level of activity requires significant enforcement actions including escalated violation of severe level III. Since I have taken prompt corrective actions and secured the material without any personnel exposure, NRC might be able to waive the civil penalty. Therefore, NRC wants to ensure that there are no additional isotopes present in any HU labs. To that end, it is critical that each department chair communicates with the faculty members in each lab to ensure labs are free from radioactive materials. Any additional findings may jeopardize the HU research license. Currently, NRC is awaiting my response to verify that there are no additional unauthorized radioactive materials present in any HU labs.

At this time, **ONLY THE FOLLOWING HU LABS ARE AUTHORIZED** to purchase, possess and use radioactive materials to carry out research activities at Howard University.

- Dr. Karla Lab # CCH Room 321
- Dr. Sharma Lab # Adams 4104
- Dr. Gambhir Lab # 3C44 HUH
- Dr. Nekhai Lab # HUH 6-B-24

If any other labs other than those mentioned above possess radioactive material, other than those listed on the HU license, then it will lead to a clear violation of our license condition, that could escalate the severity level. The violations could result in revoke of HU research license including civil penalties.

During the mandatory Radiation Safety Committee Meeting of April 11, 2018 members unanimously agreed to request a Memo from the Office of the Provost to all the Department Chair, to verify that there are no unauthorized radioactive materials present in any HU lab. In case of discovery of any radioactive materials in any of the unauthorized labs, the Radiation Safety Office must be notified immediately to avoid further violations.

I thank you in advance for your assistance and continued support. If you need additional information, please do not hesitate to contact me.