



DATE: 7/12/16
FROM: Nick Childs, Radiation Safety Officer
RE: AJM Rm 3 Radiation Levels

On 7/11/16 the possibility of elevated radiation levels in A.J.M. Johnson Hall rooms 1, 3 and 3A was reported to the Radiation Safety Officer. Upon receiving this report radiation safety visited the site to assess the radiation levels in the area.

In the general areas of the three rooms a thorough survey made with a pressurized ion chamber resulted in no above background measurements. There is no concern for exposure to personnel working in these areas.

A discussion with a resident of AJM Rm 3A led to a location on the floor of AJM Rm 3 in which a small circular sign with the words "*Do Not Remove*" was taped to the floor. With a geiger counter² 450-850 cpm above a background level of 50 cpm was measured. A rough estimation for exposure from these measurements is between 0.136-0.258 mR/hr at the surface of the floor. The pressurized ion chamber measured no above background levels when placed at the surface of the floor, however at these low levels this is expected³. Wipe tests were taken and analyzed with a liquid scintillation counter⁴ in the vicinity of the floor location and indicated the presence of no removable radioactive contamination.

To put this report in perspective from a standpoint of risk of exposure to MSU personnel:

- A person sitting over the location continuously for an entire year would not receive their public limit of exposure.
- A person standing directly on the location of the sign would receive their annual public allowed dose to their foot in about 3800 hrs.

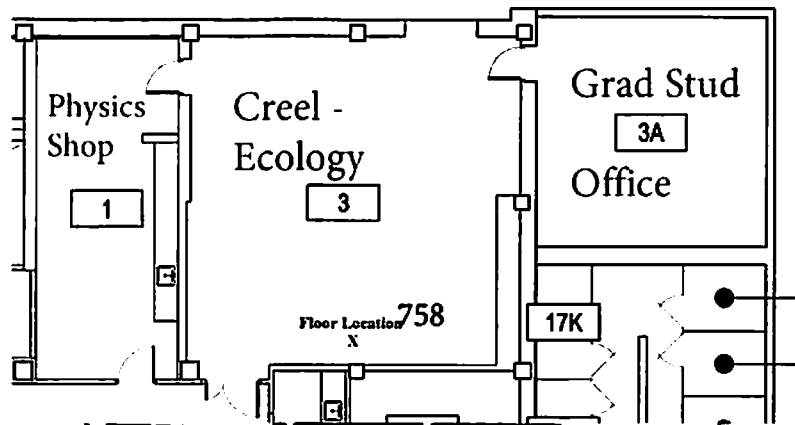
A map of the room location and a photograph of the floor location are provided on the next page.

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- ¹ Fluke 451 P SN 2088, Calibration Date 9/27/15
- ² Ludlum Model 3, SN 301703, Probe 44-9, SN 186790 Calibration Date 12-8-15
- ³ The geometry of the ion chamber prevents the measurement of low exposure rates at the surface of an object.
- ⁴ Beckman LS 6500, SN 269324, Calibration Date 02-04-16

Dykert, Jason

From: Dykert, Jason
Sent: Wednesday, August 03, 2016 2:07 PM
To: 'Childs, Nick'
Subject: RE: RE: Phone discussion 8/2/16

Hi Nick,

Please keep the report in your decommissioning file, have a plan to re-survey the area at appropriate intervals that could help indicate the amount of cleanup needed and keep the engineering controls in place to achieve ALARA. Also ensure that your license commitments are met (if any) regarding the area. The report will serve as the evaluation done to show that Montana State's actions were reasonable to achieve ALARA and ensure no dose limits were exceeded, and as a record of either waste disposal (if there is a cleanup and the paint/flooring is disposed of) or as a basis for site release for unrestricted use when MSU decommissions their license. If any individual who sat near that area requests a dose evaluation, provide them your analysis.

Also, the RSC should have a record of discussion about this area such that the report and actions are deemed appropriate.

Jason

From: Childs, Nick [mailto:radiation@montana.edu]
Sent: Tuesday, August 02, 2016 5:46 PM
To: Dykert, Jason <Jason.Dykert@nrc.gov>
Subject: [External_Sender] RE: Phone discussion 8/2/16

Jason,

Thanks for the phone call today. Attached is my report for the location we discussed. My interpretation of our discussion is that it will act as a license communication that documents this location in the event that our license is ever revoked or not renewed. I want to confirm that no further action is required for this location at this time other than continued monitoring of the location.

Thanks for your time and assistance – Nick

Nicholas Childs, PhD
Radiation Safety Officer
Assistant Teaching Professor of Physics
Montana State University
EPS Rm 247
406-994-7317

From: Dykert, Jason [mailto:Jason.Dykert@nrc.gov]
Sent: Tuesday, August 02, 2016 1:05 PM
To: Childs, Nick <radiation@montana.edu>
Subject: Phone discussion 8/2/16

Hi Dr. Childs,