

**From:** [Ullrich, Elizabeth](#)  
**To:** [Glynnis Bowman](#)  
**Cc:** [Thompson, Thomas](#); [Joustra, Judith](#); [Ragland, Randolph](#); [Jackson, Todd](#)  
**Subject:** RE: question regarding C-14 and H-3 disposal as "deregulated" waste  
**Date:** Wednesday, September 26, 2012 3:18:31 PM

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Thanks very much for your look back through your records. I will pass this information along to the folks who requested it. If there are any more questions, I will get back to you. I think this is likely all that will be needed.

Betsy

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**From:** Glynnis Bowman [<mailto:bowman@american.edu>]  
**Sent:** Wednesday, September 26, 2012 3:16 PM  
**To:** Ullrich, Elizabeth  
**Subject:** question regarding C-14 and H-3 disposal as 'deregulated' waste

Good afternoon Betsy,

I apologize for the delay in responding to the question regarding potential historical treatment of LSC cocktail waste as deregulated based on the concentration of C-14 or H-3 at <0.05 mCi/gram.

American University did engage in research involving C-14 and to the best of my knowledge, the latest date for C-14 use was 1995. A review of waste records indicates that C-14 and H-3 waste was disposed to low level radioactive waste facilities by Radiation Service Organization, Inc., Laurel, MD.

I have found no records indicating disposal of C-14 or H-3 as "deregulated waste" (less than 0.05 mCi/gram).

A review of the archived Radiation Safety Plan Section 13 Control of Radioactive Waste (RSP-13) provides no guidance for determination of C-14 or H-3 waste as deregulated or directions for how to handle such waste once determined to be <0.05 mCi/gram. Therefore, I believe C-14 and H-3 wastes were consistently handled as low-level radioactive waste and were not disposed of as deregulated waste.

I have found 3 manifests including C-14 waste listed in 'Section 15 Individual Radionuclides' and one that includes H-3 and C-14.

| Date     | Isotope(s) | Manifest Number |
|----------|------------|-----------------|
| 2/14/90  | C-14       | 10792           |
| 10/14/92 | C-14       | 12140           |

07/16/2009 C-14, H-3 090618

The Chemistry Department's C-14 and H-3 LSC standards from the period of active research were shipped with the Tri-Carb LSC to Outreach Laboratory (Oklahoma DEQ licensee OK-27522-01) on 5/23/2011.

Regarding the decay in storage with conventional disposal waste management at American University--this waste management system applied only to S-35 and P-32 once the license amendment permitting this practice was engaged. Prior to this specific amendment, S-25 and P-32 wastes would have been handled as low-level radioactive wastes.

Please let me know if I can provide any further assistance in this regard.

Thank you,  
glynnis



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