

**Analysis of Survey Frequency
Renewal Application of NRC License 35-11581-02
Mail Control 581599**

The licensee stated that survey frequency (wipe tests) will be conducted as follows.

1. Surveys will be performed weekly if greater than 200 microcuries of licensed material is used at any one time.
2. Surveys will be performed monthly if less than 200 microcuries of licensed material is used at any one time.

NUREG-1556, Volume 7, Appendix Q, provides guidance on frequency for surveying a facility and contamination levels. Appendix Q states that:

1. Surveys should be conducted daily if equal or greater than the smallest ALI (for either inhalation or ingestion) as identified in 10 CFR 20, Appendix B (≥ 1.0 ALI).
2. Surveys should be conducted weekly if between ≥ 0.1 and < 1.0 ALI as identified in 10 CFR 20, Appendix B.
3. Surveys should be conducted monthly if < 0.1 ALI as identified in 10 CFR 20, Appendix B.

The renewed license will authorize H-3, C-14 and P-32. The most limiting ALIs listed in Appendix B for these radionuclides are:

H-3 = 8×10^4 microcuries = 80 millicuries
C-14 = 2×10^3 microcuries = 2 millicuries
P-32 = 6×10^2 microcuries = 0.6 millicuries

Survey frequency for H-3:

1. Use of H-3 equal or greater than 80 millicuries requires daily surveys.
2. Use of H-3 between less than 80 millicuries and equal or greater than 8 millicuries requires weekly surveys.
3. Use of H-3 less than 8 millicuries requires monthly surveys.

Enclosure

Survey frequency for C-14:

1. Use of C-14 equal or greater than 2 millicuries requires daily surveys.
2. Use of C-14 between less than 2 millicuries and equal or greater than 0.2 millicuries (200 microcuries) requires weekly surveys.
3. Use of C-14 less than 0.2 millicuries (200 microcuries) requires monthly surveys.

Survey frequency for P-32:

1. Use of P-32 equal or greater than 0.6 millicuries requires daily surveys.
2. Use of P-32 between less than 0.6 millicuries and equal or greater than 0.06 millicuries (60 microcuries) requires weekly surveys.
3. Use of P-32 less than 0.06 millicuries (60 microcuries) requires monthly surveys.

Conclusion:

The request from the licensee to survey the facility weekly if using greater than 200 microcuries is not adequate for P-32 since quantities greater than 60 microcuries of P-32 will require weekly surveys.

The reviewer needs to request the licensee to commit to the standard commitment: "We will survey our facility and maintain contamination levels in accordance with the survey frequencies and contamination levels published in Appendix Q to NUREG-1556, Vol. 7, 'Program-Specific Guidance About Academic, Research and Development, and Other Licenses of Limited Scope,' dated December 1999. Leak tests will be performed at the intervals approved by NRC or an Agreement State and specified in the SSD Registration Certificate. Leak tests will be performed by an organization authorized by NRC or an Agreement State to provide leak testing services to other licensees or using a leak test kit supplied by an organization authorized by NRC or an Agreement State to provide leak test kits to other licensees and according to the sealed source or plated foil manufacturer's (distributor's) and kit supplier's instructions."