



# NEMS ENVIRONMENTAL MANAGEMENT PROGRAM

|  |                                       |                      |  |
|--|---------------------------------------|----------------------|--|
| <b>PROGRAM NAME:</b>   | Radiological Waste Management Program |                      |  |
| <b>SIGNIFICANT ENVIRONMENTAL ASPECT(S):</b><br>Radiological Waste Management | <b>DOCUMENT NUMBER:</b>               | EMS.EMP.05.2006.BALT |  |
|  | <b>DATE REVISED:</b>                  | 11.20.2006           |  |
|  | <b>REVISION NUMBER:</b>               |                      |  |
|  | <b>SUNSET DATE:</b>                   |                      |  |
|  | <b>PROGRAM LEAD:</b>                  | Jean Clarke          |  |

## SECTION 1 – PROGRAM DESCRIPTION

Radioactive materials management is regulated under Nuclear Regulatory Commission (NRC) regulations in 10 CFR Parts 16 through 71. Section 274b of the Atomic Energy Act gives Maryland full regulatory authority over radioactive materials users in the State. Specifically, The NIA radiological program is managed and permitted through NIH-Bethesda’s NRC license number 19-00296-10 (Amendment No. 98), which was issued September 26, 2005 and expires September 20, 2012. All daily radiological program operations at NIA, including administration and procurement, are covered under the NIH-Bethesda NRC license and are managed through the NIH-Bethesda Radiation Safety Office. The management structure for the NIDA radiological program has been in place since before NIDA became a part of NIH in 1992. To date, the NIDA radiological program continues to operate independently from NIH, and as such, maintains independent NRC licensure.

Radioactive waste is generated at the NIH Baltimore campus through experiments and treatment protocols. Radioactive wastes generated at NIH include aqueous radioactive solutions, liquid scintillation fluids and vials, and materials contaminated with radioactives (e.g., animal and patient wastes). This Radioactive Waste Management Plan has been established to provide the facility with guidance for managing radioactive waste use, collection and disposal services throughout the campus. In particular, NIH Baltimore will look to investigate options to reduce generation of radiological waste.

## SECTION 2 – GOALS AND OBJECTIVES

| <b>GOAL:</b>  | <b>Performance Indicator(s):</b> | <b>Resource requirements:</b>         |                   |
|---|----------------------------------|---------------------------------------|-------------------|
| <i>Justification:</i>   |                                  |                                       |                   |
| <b>A. Objective:</b> Investigate the potential to purchase a liquid scintillation vial crusher to reduce both radioactive and general wastes. | <b>Performance Indicator(s):</b> | <b>Responsibility:</b><br>Jane Clarke | <b>Timeframe:</b> |
| - <i>Target/Milestone:</i>  | <b>Performance Indicator(s):</b> | <b>Responsibility:</b>                | <b>Timeframe:</b> |

## SECTION 3 – PROGRAM DESCRIPTION, SIGNIFICANCE, IMPACTS AND REQUIREMENTS

|                                    |  |
|------------------------------------|--|
| <b>REASON(S) FOR SIGNIFICANCE:</b> | <ul style="list-style-type: none"> <li>Potential to significantly impact the human health and the environment through radioactive emissions and potential contamination of land, groundwater, and surface water resources</li> </ul> |
|------------------------------------|--|

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|   |   |
|---|---|
|   | <ul style="list-style-type: none"> <li>Represents a significant cost to NIH</li> <li>Important to NIH's relationship to the local community and the public at large</li> </ul>  |
| <b>POTENTIAL ENVIRONMENTAL/ ORGANIZATIONAL IMPACTS:</b> | <ul style="list-style-type: none"> <li>Human health impacts</li> <li>Toxic air emissions</li> <li>Potential contamination of land, groundwater, and surface waters</li> </ul>   |
| <b>LEGAL AND OTHER REQUIREMENTS:</b>                    | <ul style="list-style-type: none"> <li>Atomic Energy Act</li> <li>10 CFR Parts 16 -- 71</li> <li>COMAR 26.04.07</li> <li>COMAR 26.12.01</li> <li>COMAR 26, Subtitles 4, 10, 13, 26</li> <li>Occupational Health and Safety Act</li> <li>Resource Conservation and Recovery Act</li> <li>Executive Order 13423, Strengthening Federal Environmental, Energy and Transportation Management</li> </ul> |

**SECTION 4 – OPERATIONAL CONTROLS**

| ACTIVITY(IES) THAT GIVES RISE TO ASPECT              | CONTROL(S)   | RESPONSIBLE PERSON | MONITORING | RECORDS | ACTION TAKEN IF CONTROL FAILS |
|--|--|--------------------|------------|---------|-------------------------------|
| Bio-containment (Levels 2 & 2 with "3 practices")    | <ul style="list-style-type: none"> <li>NIA/ NIDA safety orientation and annual refresher courses</li> <li>PI Compliance Statement</li> </ul> |                    |            |         |                               |
| Carcass handling                                     | <ul style="list-style-type: none"> <li>CMS SOP Book</li> </ul>   |                    |            |         |                               |
| Imaging (x-ray)                                      |  |                    |            |         |                               |
| Radioactive Isotope Use, Storage, and Transportation |  |                    |            |         |                               |

**SECTION 5 – RELEVANT DOCUMENT(S)**

| DOCUMENT NAME        | LOCATION  | RESPONSIBLE PERSON |
|----------------------|---|--------------------|
| Waste Disposal Guide | <a href="http://orf.od.nih.gov/Environmental+Protection/Waste+Disposal/">http://orf.od.nih.gov/Environmental+Protection/Waste+Disposal/</a> |                    |

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|--|---|--|
| NIH Radiation Safety Guide   | <a href="http://drs.ors.od.nih.gov/">http://drs.ors.od.nih.gov/</a>   |  |
| NIH Manual Issuance 3032, Waste Minimization and Management at NIH | <a href="http://orf.od.nih.gov/Environmental+Protection/Waste+Disposal/radwaste.htm">http://orf.od.nih.gov/Environmental+Protection/Waste+Disposal/radwaste.htm</a> |  |
| Radiation Safety Protocols   | <a href="http://drs.ors.od.nih.gov/policy/protocols.htm">http://drs.ors.od.nih.gov/policy/protocols.htm</a>   |  |

**SECTION 6 – COMPETENCY OF RESPONSIBLE PERSONS**

| NAME/TITLE  | BASIS FOR COMPETENCE   |
|-------------|------------------------|
| Jane Clarke | Education and Training |
|             |                        |

**SECTION 7 – AUTHORIZATION**

|                   |  |
|-------------------|--|
| <b>NAME:</b>      |  |
| <b>SIGNATURE:</b> |  |
| <b>DATE:</b>      |  |

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