MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. ENVIRONMENTAL PROTECTION AGENCY AND THE U.S. DEPARTMENT OF ENERGY

concerning

THE CLEAN AIR ACT EMISSION STANDARDS FOR RADIONUCLIDES 40 CFR PART 61 INCLUDING SUBPARTS H, I, Q & T

The U. S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) are engaged in a mutual effort to clarify provisions of 40 CFR Part 61, Subpart H, I, Q, and T, National Emission Standards for Hazardous Air Pollutants (NESHAP) promulgated under the Clean Air Act (CAA) for radionuclide emissions from DOE facilities. This effort has been undertaken to assure uniform and consistent interpretation of the NESHAP provisions for radionuclides at DOE facilities and EPA regional offices. DOE and EPA have reached an accord on certain issues and have signed this Memorandum of Understanding (MOU). The terms and language of this MOU are in accordance with the applicable definitions found in the CAA and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the implementing regulations. The MOU is not intended to supersede or replace applicable statutes, regulations, compliance agreements or orders reached between DOE field offices and EPA regional offices. Nothing in this MOU is intended to restrict EPA's authority under applicable statute or regulation to take an enforcement action where appropriate.

1. Monitoring Requirements:

1a. DOE facilities with emission points that are subject to the continuous monitoring requirements of 40 CFR Section 61.93(b), but are not in compliance with these requirements, should reach agreement as soon as possible with the relevant EPA regional office on actions necessary to attain compliance.

The emission monitoring requirements set forth in Subpart H at 40 CFR Section 61.93(b) include the use of reference methods for continuous monitoring at major release points (those with the potential for emissions that exceed 1% of the standard, assuming normal operations but with no effluent controls in place); the establishment of a periodic confirmatory measurement program for all other release points, in accordance with Section 61.93(b)(4); and the implementation of a Quality Assurance (QA) program where appropriate that meets the requirements described in 40 CFR Part 61, Appendix B, Method 114. The continuous monitoring requirements present technical and procedural difficulties which in many instances will require significant effort and resources to resolve. Where DOE facilities are not in compliance with the continuous monitoring requirements, the DOE facility and the cognizant EPA regional office shall determine the most efficient DOE actions needed to bring the facilities into compliance including consideration of alternate monitoring methods under Section 61.93(b)(3). Commitments by DOE should include a plan and schedule that will result in compliance with the emission monitoring requirements including those for continuous monitoring, periodic confirmatory measurements, and QA program.

1b. Engineering calculations and/or representative measurements may be used to comply with periodic confirmatory measurement requirements.

The protocol for periodic confirmatory measurements which is required by 40 CFR Section 61.93(b)(4) is not specified in the regulations. EPA and DOE recognize that some DOE facilities have large numbers of minor release points that have similar emissions and controls. Therefore, confirmatory measurements of these types of releases would result in a large number of redundant measurements. Development of periodic confirmatory measurement programs is the responsibility of the facility. For each category of release points that the facility classifies as minor because uncontrolled emissions will not exceed 1% of the standard, periodic confirmatory measurements should be designed to confirm that individual release points remain properly categorized. The facility owner or operator should use best professional judgement, knowledge of the

radionuclides and quantities being used in plant operations, and the potential for their release to determine when representative measurements should be made and/or engineering calculations should be utilized. A protocol for periodic confirmatory measurements for each DOE facility must be provided by DOE to the appropriate EPA regional office.

1c. **DOE facilities may implement continuous monitoring procedures that differ from the reference methods of Section 61.93(b) with prior EPA approval.**

Section 61.93 provides for the use of alternate effluent flow rate measurement procedures or site selection and sample extraction procedures if all the criteria specified in Section 61.93(b)(3)(i) through (iv) are met. The criteria for establishing "impractical" pursuant to Section 61.93 (b)(3)(i) are site-specific and include engineering, economic, health and safety considerations. Prior EPA approval must be granted for each emission point for which alternate monitoring procedures are to be used.

1d. **Environmental measurements of radionuclide air concentrations at critical receptor locations may be used as an alternate to air dispersion calculations in demonstrating compliance with the standard, if the criteria of Section 61.93(b)(5) are met.**

Prior EPA approval must be granted for use of environmental monitoring as a substitute for air dispersion calculations when all the requirements of Section 61.93(b)(5) are met. This approach to demonstrating compliance is particularly appropriate where air dispersion modeling is overly conservative, and for facilities with minor emission points (of the periodic confirmatory type) and/or diffuse sources as primary contributors to the dose. The location of the air samplers should be selected to give an accurate representation of the dose received by a critical receptor and should be based on modeling results.

2. <u>Approval to Construct or Modify:</u>

2a. **Facilities meeting the requirements of 40 CFR Part 61, Section 61.96(b) are exempt from filing an application for approval to construct or modify.**

A facility is eligible for exemption from submitting an application for any new construction or modification within the existing facility if the effective dose equivalent to be caused by all emissions from the completed construction or modification is less that 1% of the standard prescribed in Section 61.92 and the facility was shown to be in compliance with all provisions of the subpart in the last annual report. As stated in Section 61.96(b), the effective dose equivalent shall be calculated with the source term derived using

Appendix D or other EPA approved procedures as input to the air dispersion and other computer models. DOE facilities not subject to the continuous monitoring requirements of section 61.93(b) are eligible for this exemption once a program which meets the periodic confirmatory measurement requirement is implemented.

3. <u>High Level Waste and Transuranic Waste Disposal and Monitored Retrievable Storage</u>:

3a. EPA has determined that no NESHAP is needed for disposal activities at the High Level Waste Repository and the Waste Isolation Pilot Plant. DOE agrees, however, to implement the requirements of 40 CFR Part 61 as they apply to any test phase activity at either facility.

EPA's analysis under source category F, High-Level Nuclear Waste Disposal Facilities, included the proposed High-Level Waste Repository and the Waste Isolation Pilot Plant (WIPP) transuranic waste disposal site. EPA's finding, "since, expected emissions are so low, no NESHAP is needed" (54 FR 51672) applies to the operations and disposal activities at both facilities. Operations are included to the extent they are limited to activities analyzed by EPA and described in the Background Information Document (EPA 520/1-89-006-1). 40 CFR Part 61 would apply, however, during any test phase of activities at either facility. Notwithstanding this finding, the policy of the Department of Energy will be to implement the requirements of Subpart I for the High-Level Waste Repository and Subpart H for WIPP until such time as the facilities have completed closure.

3b. The Monitored Retrievable Storage (MRS) facility will be licensed and regulated by the Nuclear Regulatory Commission and therefore subject to the provisions of Subpart I of 40 CFR Part 61.

DOE and EPA agree that operations at the MRS facility are subject to Subpart I of 40 CFR Part 61.

4. <u>Subpart Q Compliance</u>:

4a. Subpart Q applies to radon-222 emitting sources at DOE storage and disposal facilities. Compliance of sources at DOE storage and disposal facilities with the 20 pCi/m^2-s emission standard of Section 61.192 will be addressed as part of any FFA reached between the relevant EPA regional office and DOE. For sources subject to the standard of Section 61.192, DOE will demonstrate compliance through direct measurement of radon-222 flux in accordance with Appendix B, Method 115, or use alternative procedures (based on best available data) that do

not underestimate emissions.

Where flux measurements demonstrate compliance with the 20 pCi/m^2-s standard, no further measurements are required so long as the storage or disposal site remains in the condition for which compliance was demonstrated. If flux measurements indicate that a DOE storage and disposal facility is out of compliance and there is no FFA in place, the DOE facility and the relevant EPA regional office shall determine the appropriate actions necessary to return to compliance. If the site condition is significantly altered by adverse weather conditions, a natural catastrophe or other reason, the DOE facility will coordinate with the relevant EPA regional office to determine the appropriate actions necessary. DOE will monitor the storage and disposal sites in accordance with the requirements of DOE 5400.5 and the DOE Environmental Regulatory Guide (DOE/EH-0173T) and will report results in its annual site environmental reports.

5. <u>Miscellaneous Sources:</u>

5a. Emissions of radionuclides to the ambient air from DOE facilities include point and diffuse source releases. Subpart H provides procedures for evaluating only emissions from point sources. DOE and EPA agree to the collection, analysis and review of emissions data from diffuse sources.

EPA and DOE agree that the dose standard of 40 CFR Part 61, Subpart H applies to emissions from diffuse sources such as evaporation ponds, breathing of buildings and contaminated soils. EPA has provided DOE with a report on candidate methodologies for evaluating diffuse source emissions. EPA and DOE will continue to review methodologies to arrive at mutual guidance on procedures for evaluating these emissions. DOE will collect data on diffuse sources and provide this information to EPA. Data from environmental measurements and other appropriate methods may be used to evaluate diffuse emissions and to verify compliance with the Subpart H standard. DOE will provide its methodology for assessing diffuse sources to the appropriate EPA regional office. Data on diffuse sources and the results of analyses will be reported as part of DOE's Annual Air Emissions Report to EPA.

5b. Current NESHAPs for radionuclide air emissions do not address radon-220 emissions. EPA and DOE agree to collect data and review the potential for exposure from these emissions.

Current radionuclide emission standards do not address radon-220, which is exempt from Subpart H and not included in Subparts Q or T. DOE agrees to collect data at selected DOE sites and to provide the current or previously collected data to EPA for further analysis.

6. Reporting Requirements - Subpart H:

6a. EPA and DOE agree that Appendixes D and E of 40 CFR Part 61 are acceptable "other procedures" relative to Section 61.93(a) of Subpart H.

In fulfilling the requirements of Subpart H, DOE may use Appendixes D and E of 40 CFR Part 61.

6b. EPA and DOE agree that DOE's annual report will contain a list of all stacks, vents or other points where radioactive materials are released to the atmosphere.

While some release points may be considered minor because the potential discharge (assuming no effluent controls in place) of radionuclides into the air does not cause an effective dose equivalent in excess of 0.1 mrem/y, Section 61.94(b) requires that these release points be listed in the annual report. EPA and DOE recognize that many DOE facilities have large numbers of minor release points which have similar emissions and controls, and are similarly located. These sources may be grouped for reporting purposes unless there is a technical reason that would cause such grouping to be inappropriate. The number of emission points within the group should be indicated. Additional information, such as stack identification numbers, types and quantities of radionuclides emitted will be available to EPA inspectors.

7. MOU Status:

7a. Effective date, Revision and Termination of MOU. - This MOU will be effective immediately and will continue in effect until revised or amended by mutual written consent of DOE and EPA. This MOU may be terminated by either party upon 120 days written notice.

7b. Public Information Coordination. - Decisions on disclosure of information to the public regarding projects and programs implemented under the MOU will be made consistent with the Freedom of Information Act (FOIA), 5 U.S.C. 552.

Dated 9/29/94

Environmental Protection Agency
Mary D. Nichols
for Assistant Administrator
for Air and Radiation

Dated 4/5/95

Department of Energy
for Tara J. O'Toole
Assistant Secretary
for Environment, Safety and Health