Facilities from Department of Energy Radioactive Air Emissions including Recent Trends in 40 CFR 61, Subpart H A Status Report on
Richland, WA
Sept 10-12, 2000
26th Nuclear Air Cleaning Conference
NESHAAP Annual Meeting
Pacific Northwest National Laboratory
Kathleen Rhoads
and
U.S. Department of Energy
Gustavo A. Vazquez
approved method.

- CAP-88 software, or other EPA
  must be estimated using the EPA
  may not exceed 10 mrem per year

- Dose to a member of the public

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Radioisotope Air Emissions

NESHA's Regulations for
implemented at each site.

specifically in the regulation must be
quality assurance requirements

Stack monitoring methods and
limit for a member of the public
that may exceed 1% of the dose
emissions is required for facilities

Continuous monitoring of

(continued)
sources. Sources as well as monitored stack include unmonitored and diffuse.

EPA has interpreted the regulation to the U.S. EPA. Radioactive air emissions annually.

Facilities are required to report under Subpart H of 40 CFR 61, DOE.

(continued)

NEHRP Requirements
Specifically regulated under Subpart H

Although they are not releases, although they are not
and other unplanned radionuclide

DOE also reports emissions of radon

Source type (stack or diffuse source)

Radionuclide emissions are reported by

Radionuclide Air Emissions

Reported by DOE Facilities
Radionuclide Category:

- Other radionuclides
- Transuranics
- Noble gases
- Tritium

Emissions are summarized by reports submitted to EPA. DOE summaries annual facility reports.

Summary of DOE Site Reports

Radionuclide Air Emissions
By source type

By radionuclide category

The following graphs: 1994-1998 are summarized in Trends in air emissions from

Summary 1994-1998

Radionuclide Air Emissions
Total Radionuclide Emissions by Source Type
Years 1994-1998

point and diffuse sources during the

offsite MEI for routine emissions from

The following graphs present dose to the

other non-point sources (contaminated soil areas and

for point sources (stacks) and diffuse

Dose to the MEI is estimated separately

Exposed Individually (MEI)

Dose to the Offsite Maximally
Supplemental Information

- Dose to the Public

- In addition to the dose from Routine Emissions, DOE provides Information on dose to individual members of the public.

- Collective dose to the population within 50 miles of DOE facilities is also provided in DOE site's annual reports.
Total Dose to the Population within 50 miles of DOE Sites

Collective Dose
(Person-Rem/year)
Compliance Status

- All DOE facilities are below the 10 mrem/year standard for dose to the offsite MEI
- Most DOE facilities are currently in compliance with radionuclide NESHAPs emissions monitoring requirements
DOE Facilities
Radioactive Waste at
NESHAPs
Current Issues Related to

- EPA proposed amendment to 40 CFR Part 61, Subparts H and I (May 2000)
- Requires use of new ANSI standard for sampling radionuclide emissions
- Proposed application to newly constructed and modified major stacks
- Public and other input being considered
Updated Users' Guide Available

Added radionuclide decay chains

Improved management of site data

Windows user interface

Approval by EPA - October 1999

Version 2.0

EPA Approval of CAP88-PC
Within DOE site boundary

- Non-DOE businesses or facilities located
- Less restrictive access to DOE sites

as a result of DOE site reindustrialization

Onsite MEL location is being evaluated

a residence, school, business or office.

Subpart H is "...any member of the

NESHAPS MEL in 40 CFR Part 61, 61.1

Onsite Members of the Public
Modeling Dose to an Onsite MEL
dose at some DOE facilities

Need EPA approval of alternative equilibrium with environmental media substantially lower than from vapor in

Dose from elemental tritium gas is

water vapor

• CAP88-PC software models tritium as

Elemental Tritium Emissions

Methods for Modeling Dose From