

DOE Subpart H Report

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**DMCC Annual Meeting
San Antonio, TX**

May 7, 2007

NESHAPs Subpart H Requirements Summary

- ◆ **Dose to a member of the public (MEI) may not exceed 10 mrem per year**
- ◆ **Dose to a member of the public must be estimated using the CAP-88 software, or other EPA-approved model or method.**

NESHAPs Subpart H Requirements (cont'd)

- ◆ **Continuous monitoring of emissions is required for facilities that may exceed 1% of the dose limit for a member of the public**
- ◆ **Stack monitoring methods and quality assurance requirements specified in the regulation must be implemented at each site**

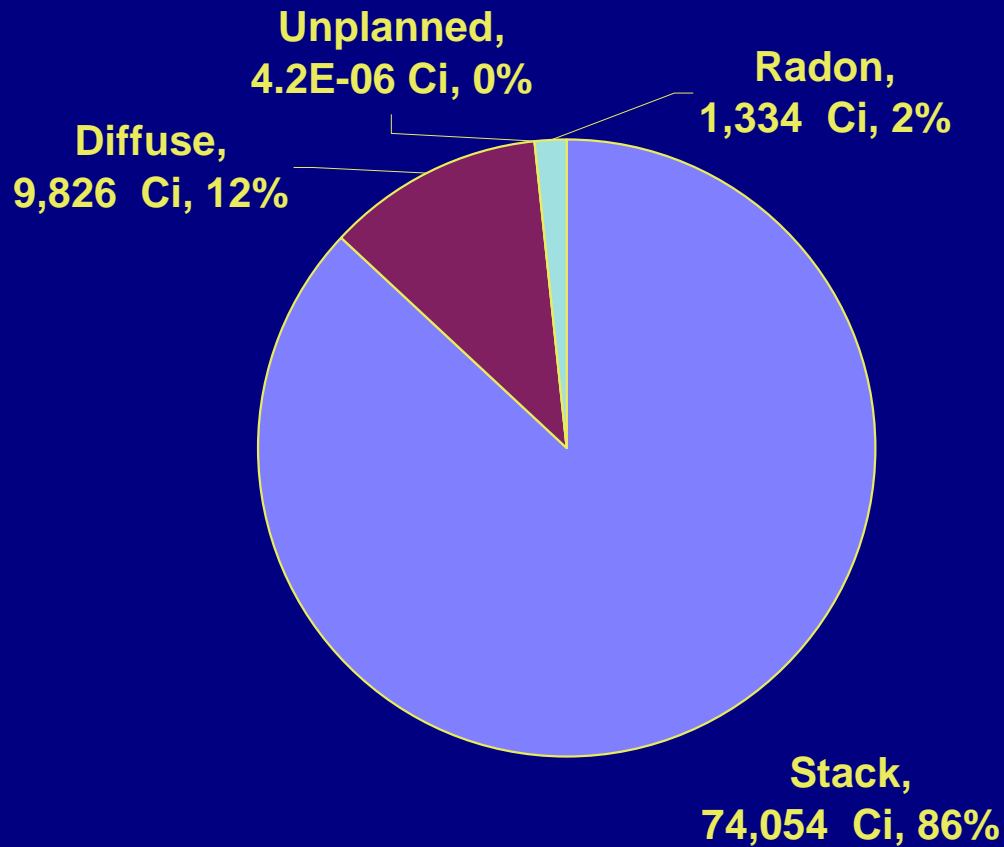
NESHAPs Subpart H Requirements (continued)

- ◆ **Under Subpart H of 40 CFR 61, DOE facilities are required to report radionuclide air emissions annually to the EPA**
- ◆ **EPA has interpreted the regulation to include unmonitored and diffuse sources as well as monitored stack sources.**

Radionuclide Air Emissions Reported by DOE Facilities

- ◆ Radionuclide emissions are reported by type of source (point or diffuse source)
- ◆ Emissions of radon and unplanned radionuclide releases, although they are not specifically regulated under Subpart H, are also reported

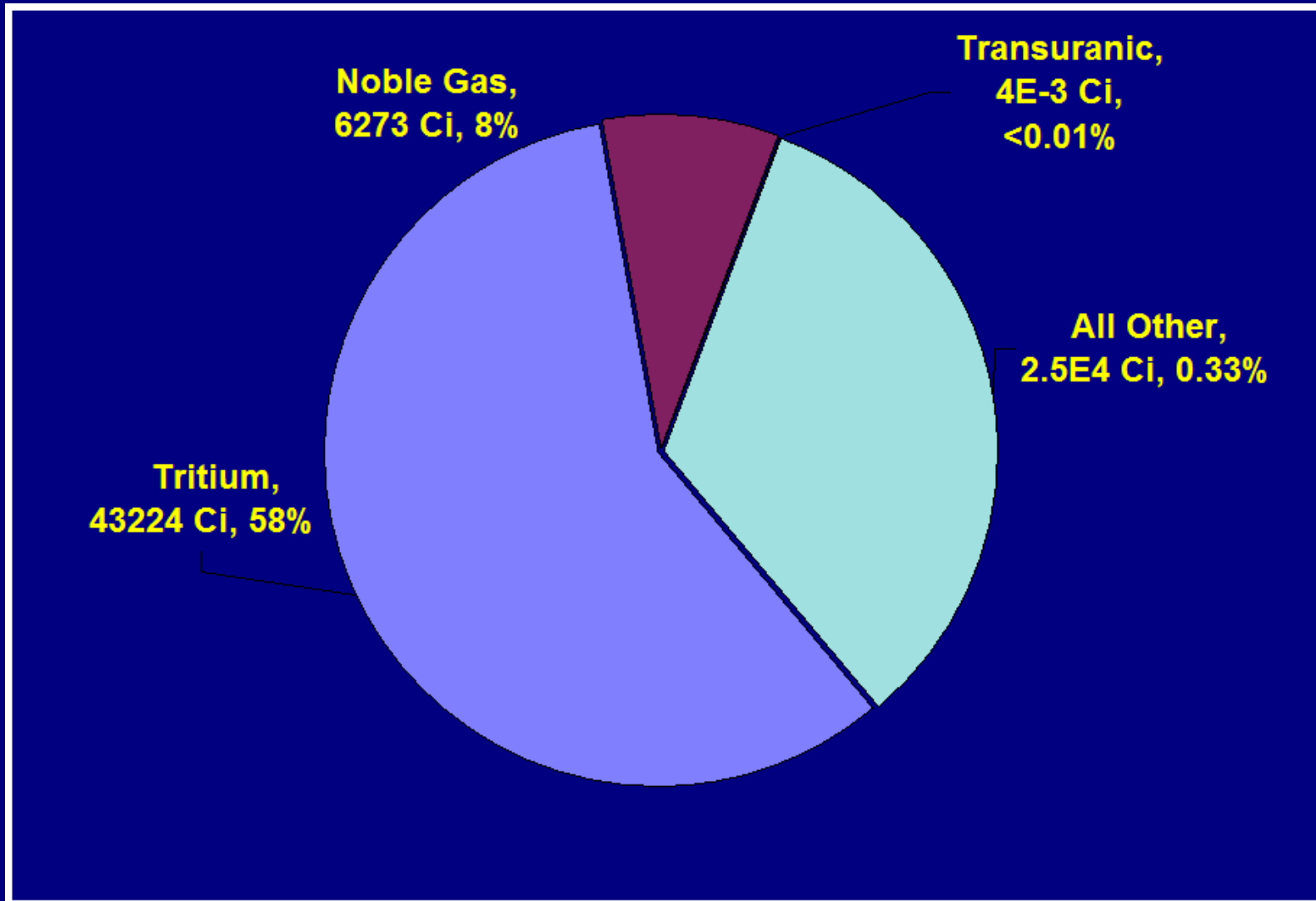
2005 DOE Air Emissions (Ci, %) by Source Type



Radionuclide Air Emissions Summary of DOE Site Reports

- ◆ Emissions are summarized by radionuclide category:
 - Tritium
 - Noble gases
 - Transuranics
 - Other radionuclides

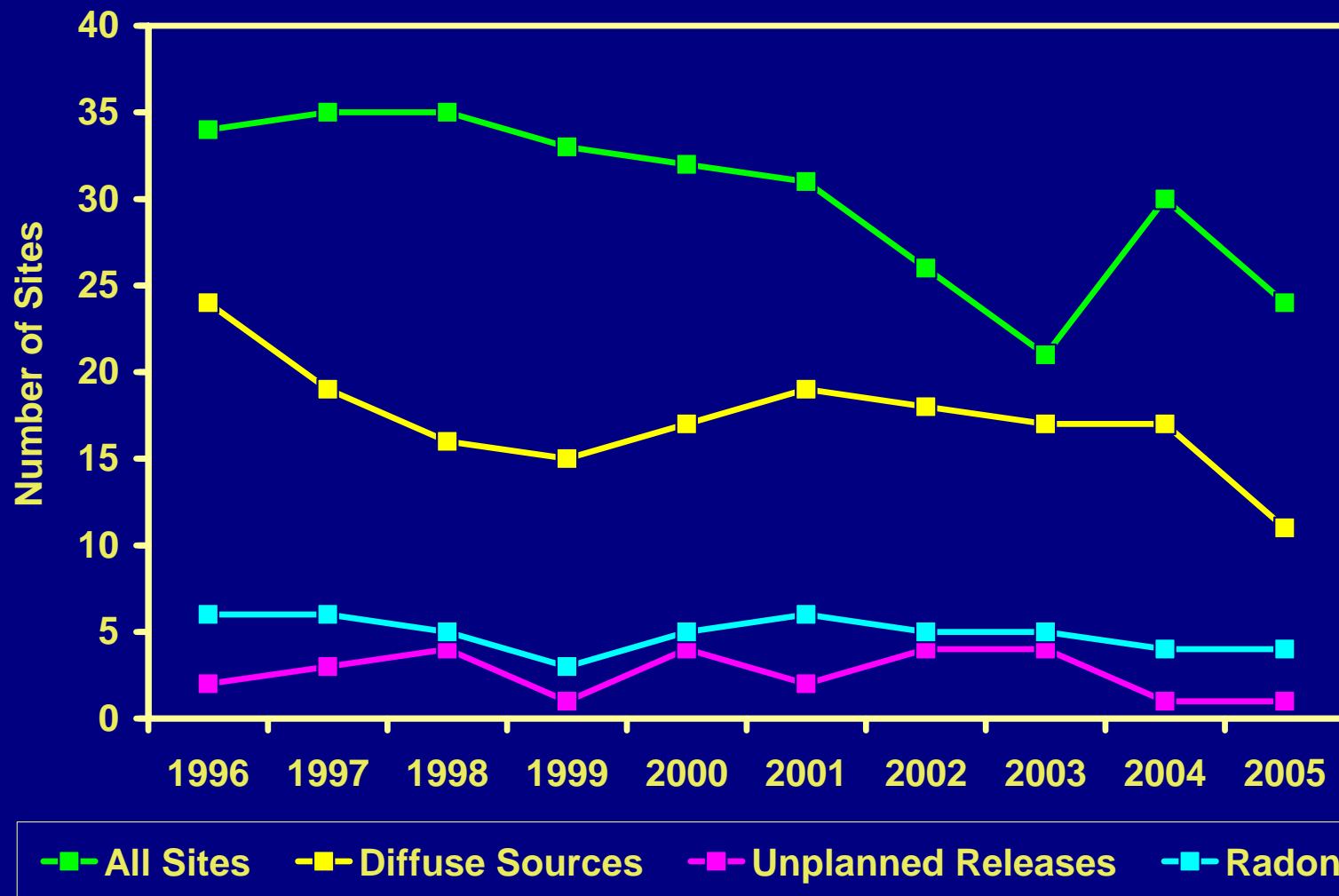
2005 DOE Point Emissions (Ci, %) by Category



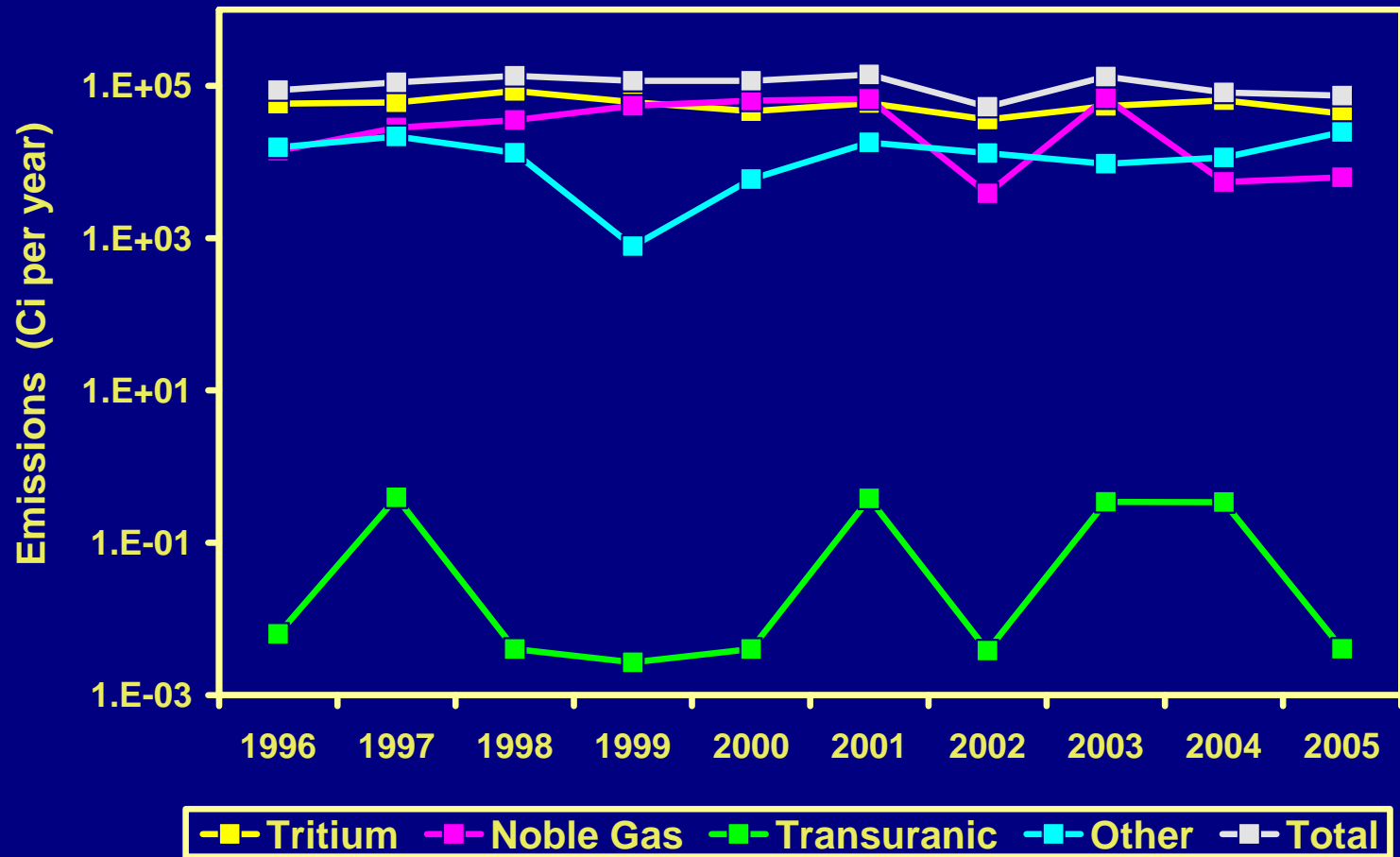
Radionuclide Air Emissions

- ◆ DOE-wide summaries of air emissions and estimated doses (1996-2005) are shown in the following graphs by:
 - Radionuclide category
 - Source type

Number of DOE Sites Reporting Radionuclide Emissions



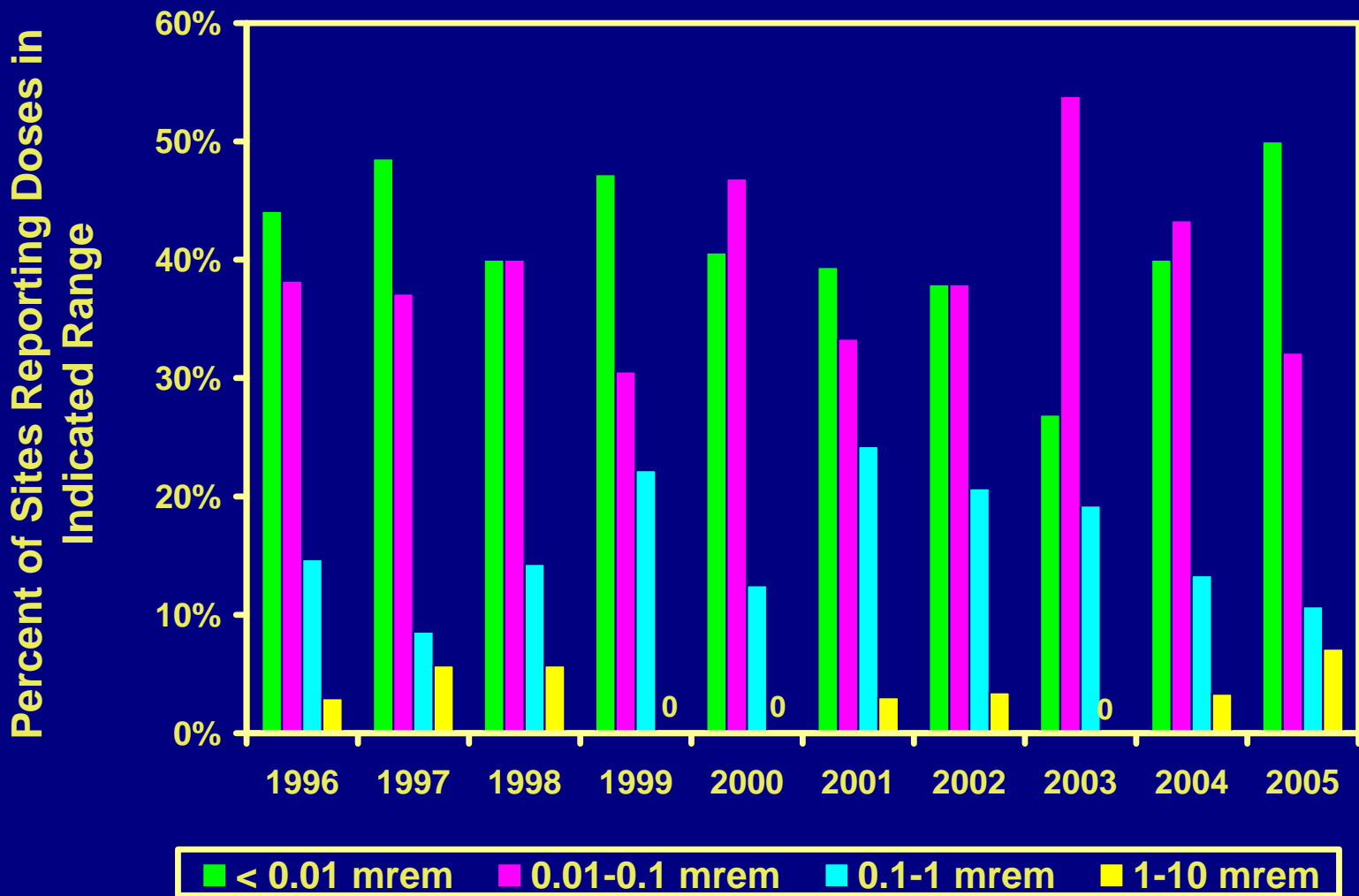
Emissions by Radionuclide Category



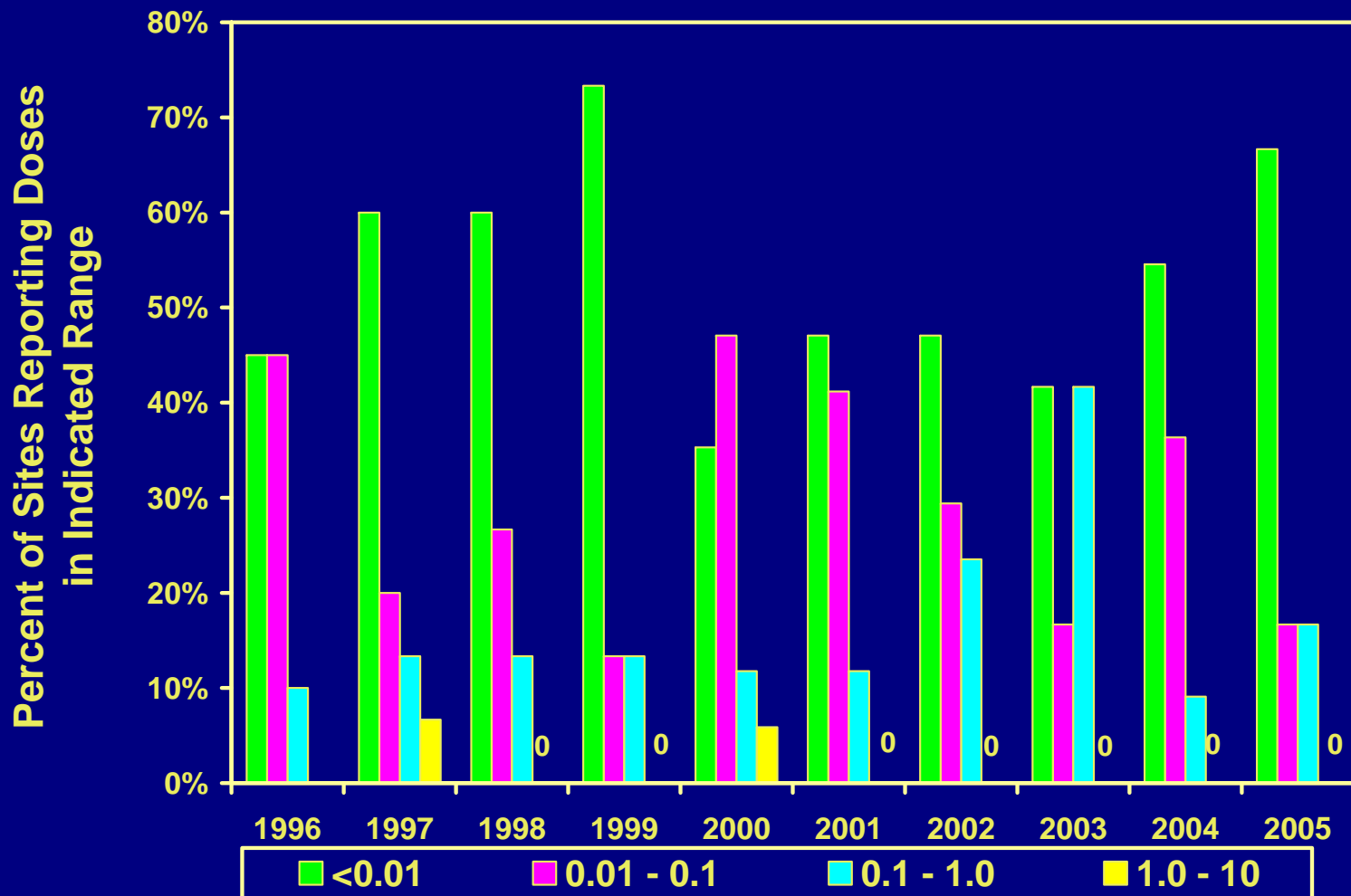
Dose to the Offsite Maximally Exposed Individual (MEI)

- ◆ **Dose to the MEI is estimated separately for point sources (stacks) and for diffuse sources**
- ◆ **The following graphs present dose to the offsite MEI for routine emissions from point and diffuse sources during 1996-2005**

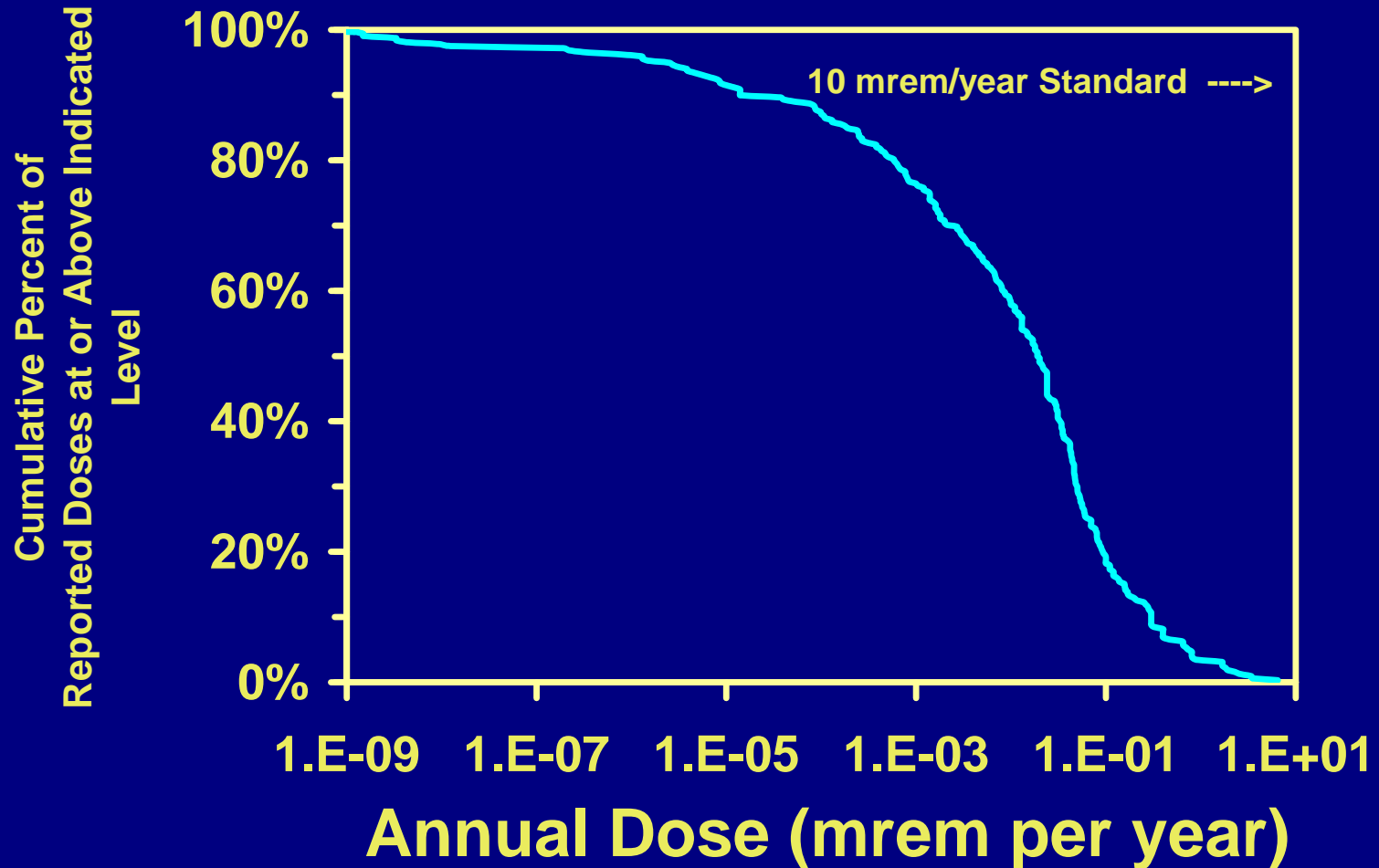
Dose from Point Sources, 1996-2005



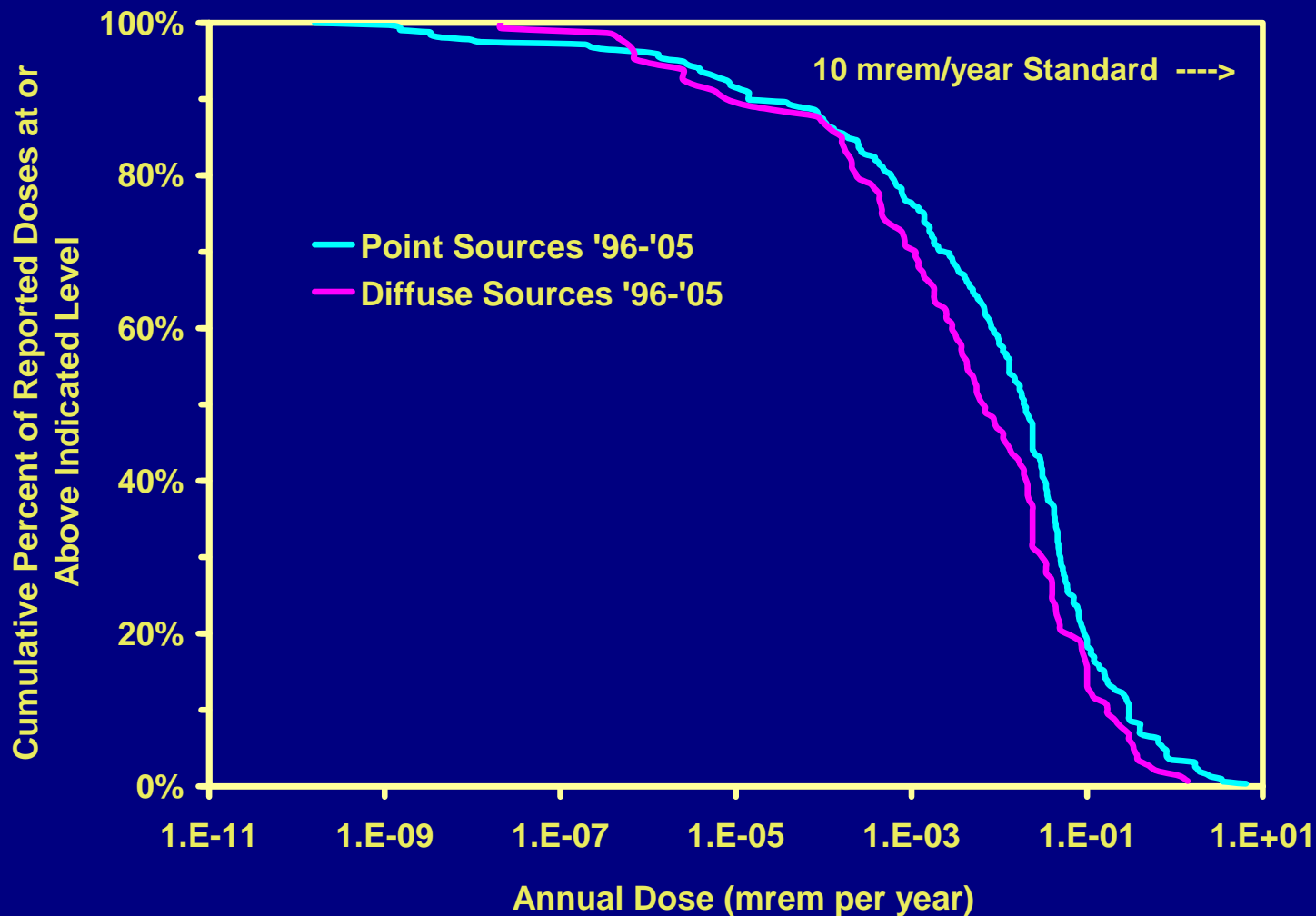
Dose from Diffuse Sources, 1996-2005



Cumulative Dose Distribution for Point Sources, 1996-2005



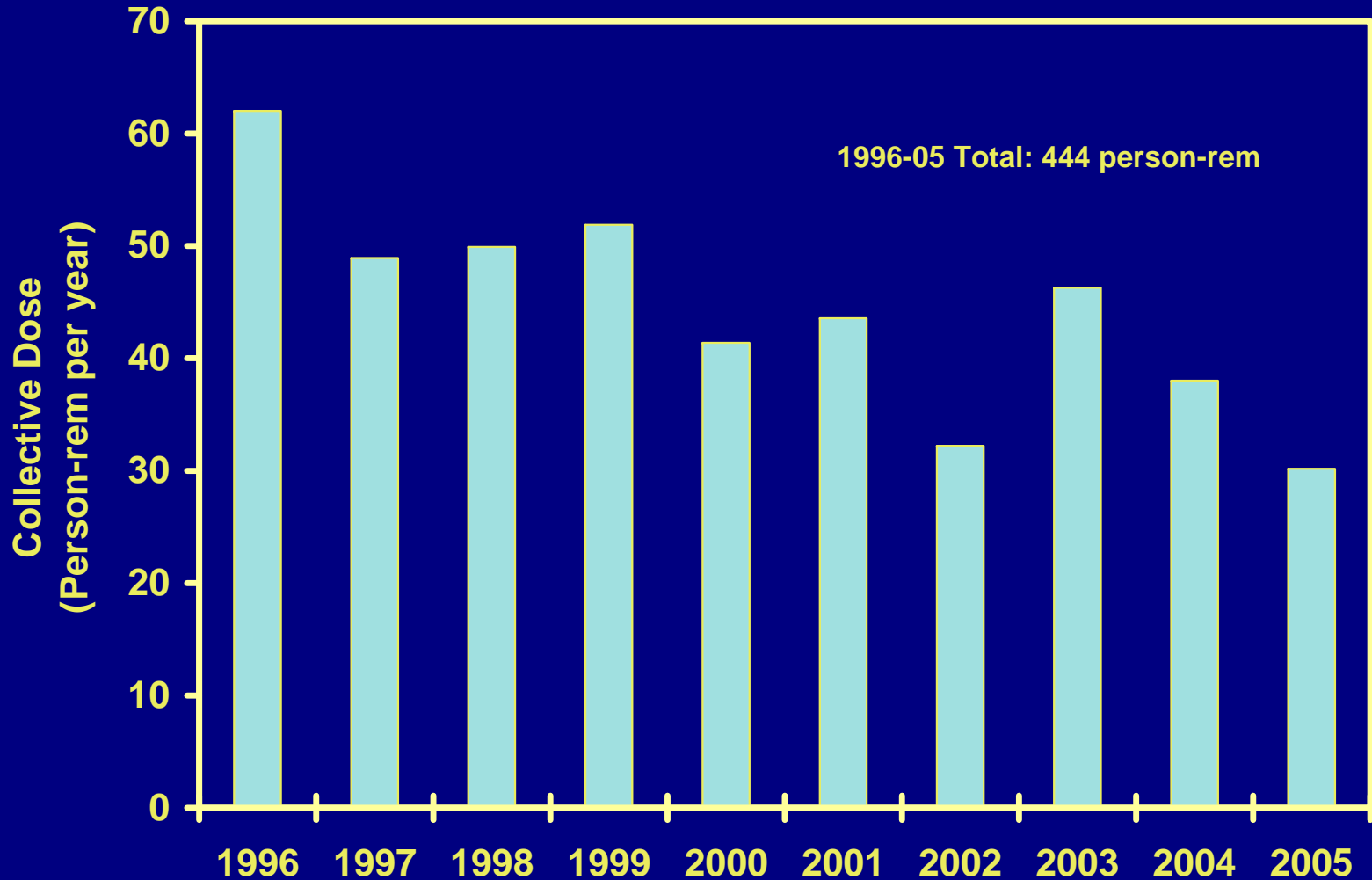
Cumulative Dose Distribution for Point and Diffuse Sources, 1996-2005



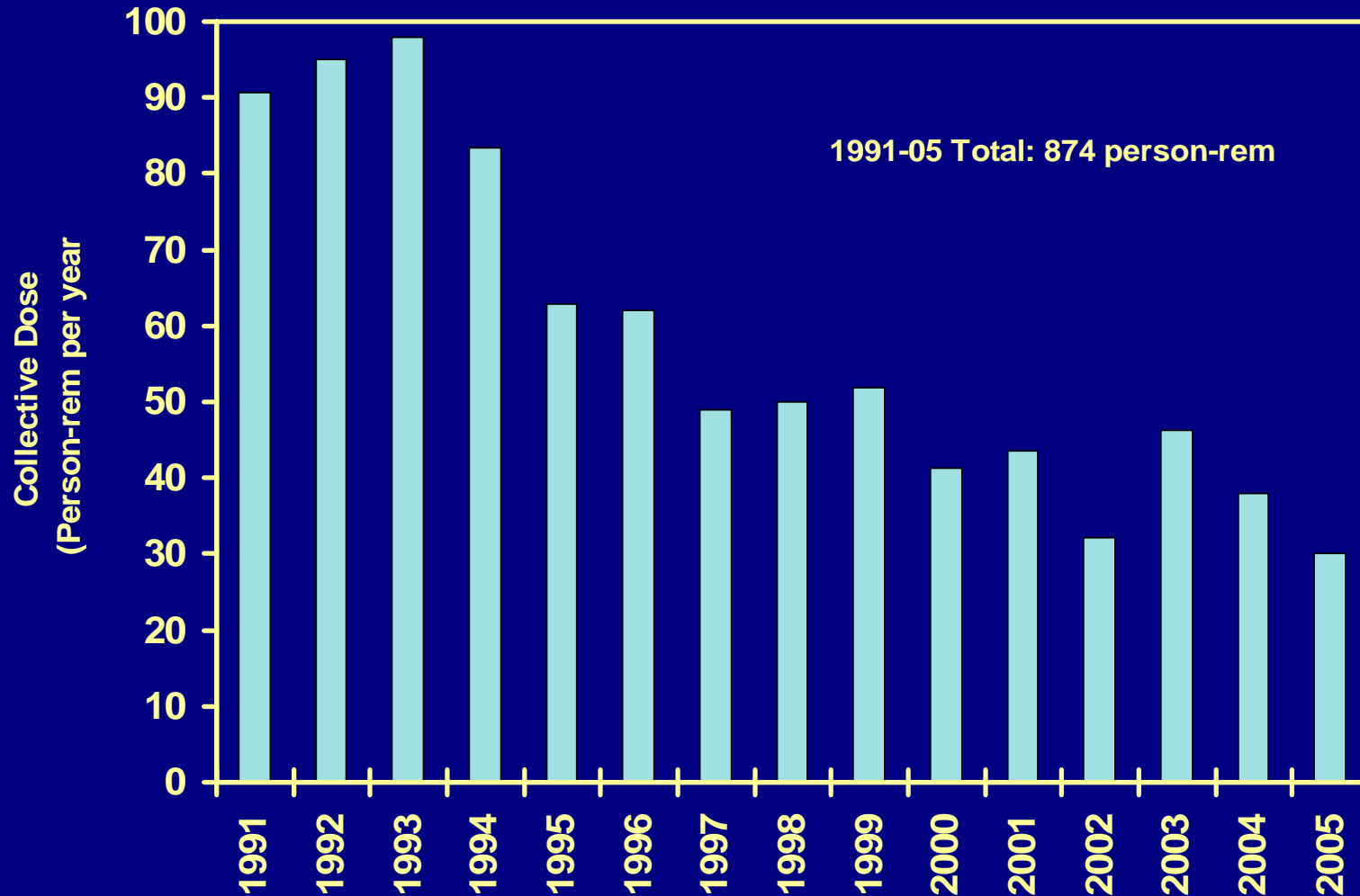
Supplemental Information- Population Dose

- ◆ In addition to dose from routine emissions, DOE provides information on dose to individual members of the public from radon and unplanned releases
- ◆ Collective dose to the population within 50 miles of DOE facilities is also provided in DOE sites' annual reports

Total Dose to the Population from DOE Site Emissions, Past 10 Years



Total Dose to the Population from DOE Site Emissions, Past 15 Years



Compliance Status

- ◆ In CY 2005, all DOE facilities were well below the 10 mrem-per-year regulatory standard for dose to the offsite MEI
- ◆ DOE facilities are currently in compliance with radionuclide NESHAPs emissions monitoring requirements

Current Radionuclide NESHAPs Issues

Current Issues

- ◆ **PCM draft guide**
- ◆ **Availability of Subpart H Dose Models**
- ◆ **Implementation of 2002 Subpart H Amendment Requirements, Table 2**
- ◆ **Other Subpart H Issues**

Minor Sources, Periodic Confirmatory Measurements (PCM) guide

- ◆ **May `06 EPA PCM version - not satisfactory**
- ◆ **DOE workgroup produces an alternative draft and provides it to EPA-October `06**
- ◆ **EPA takes DOE draft and reworks it**
- ◆ **DOE reviews EPA re-draft, provides comments - May `07**

Subpart H Dose Models

◆ CAP88-PC

- V 1.0 – DOS-based
- V 2.0 – Windows-based
- V 2.1 – Updated Beta version
- V 3.0 – issued in `06 for use

◆ COMPLY

◆ GENII NESHAPs-soon to be issued

Implementation '02 Subpart H Amendment Requirements

- ◆ **New ANSI standard for sampling radionuclide emissions applies to newly constructed and modified major stacks**
- ◆ **But new maintenance, QA/QC provisions also apply to existing stacks- e.g., Table 2. Cost vs. benefits of implementation being reviewed**