

Overview of Commercial Power Plant Wastes

Lisa Edwards
EPRI
Sr. Program Manager

National Academy of Sciences
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and Disposition
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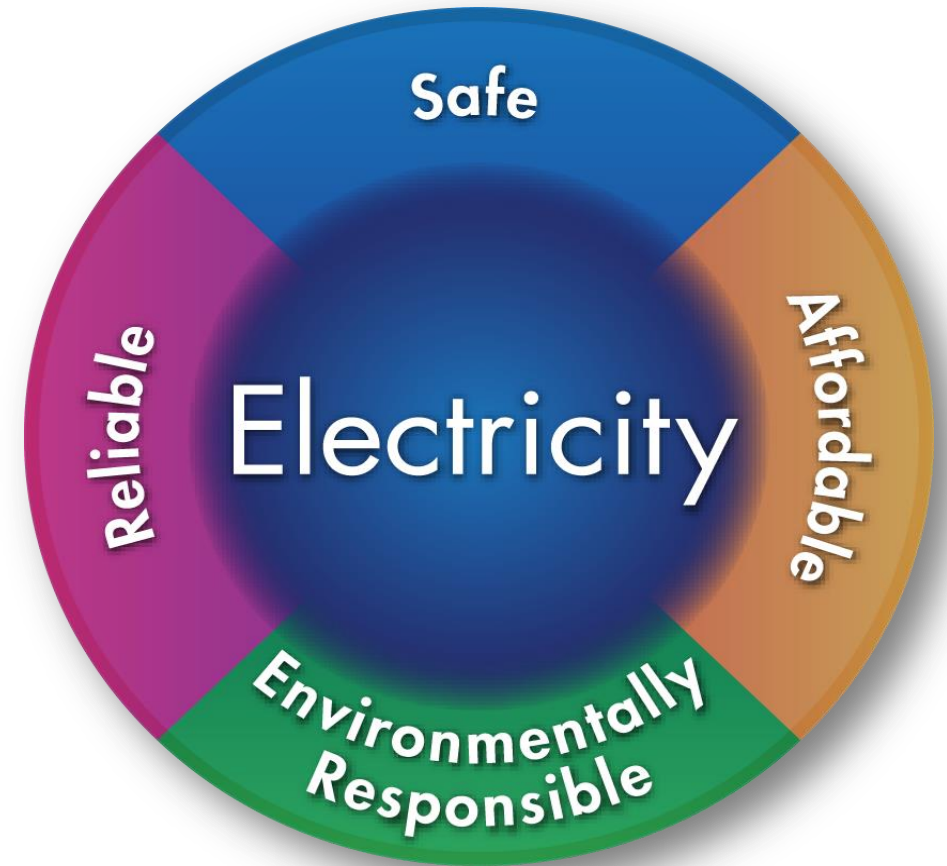
Together...Shaping the Future of Electricity

EPRI's Mission

Advancing **safe, reliable, affordable** and **environmentally responsible** electricity for society through global collaboration, thought leadership and science & technology innovation

Three Key Aspects of EPRI:

Independent, Non-profit, Collaborative



Types of Radioactive Waste Generated at Commercial Nuclear Power Plants

- **Wet Waste**

- Resin
- Charcoal
- Filters

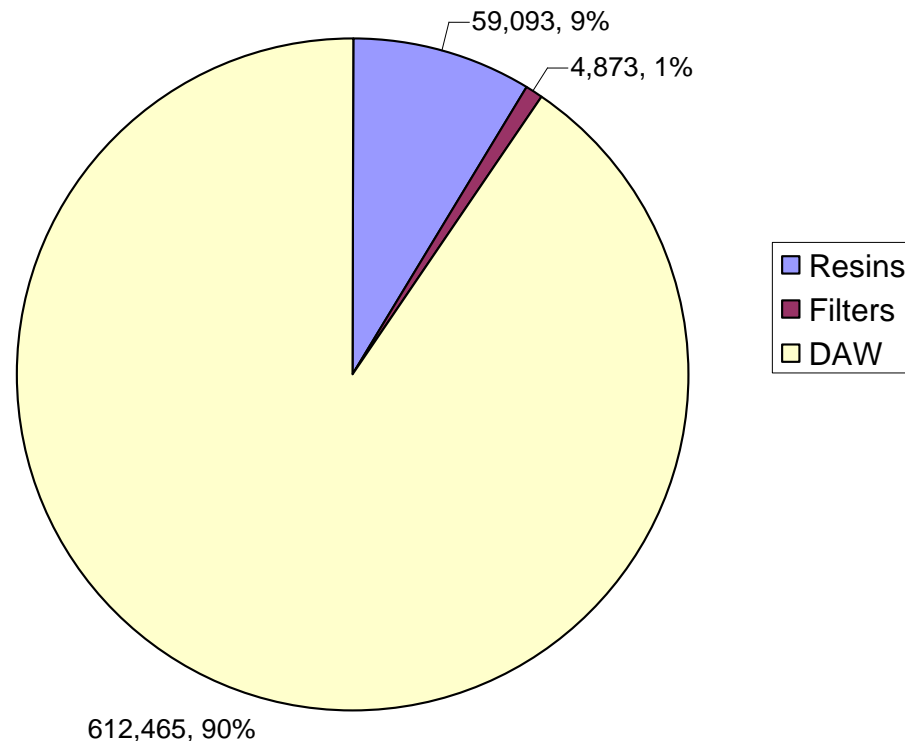
- **Dry Waste (DAW)**

- Compactable
 - Cloth, paper, plastic
- Non-compactable
 - metal

This presentation does not include discussion on irradiated hardware

Historic Average Annual Waste Profile

Average Annual Waste Volumes for 65 Plants (Ft3) by Waste Type

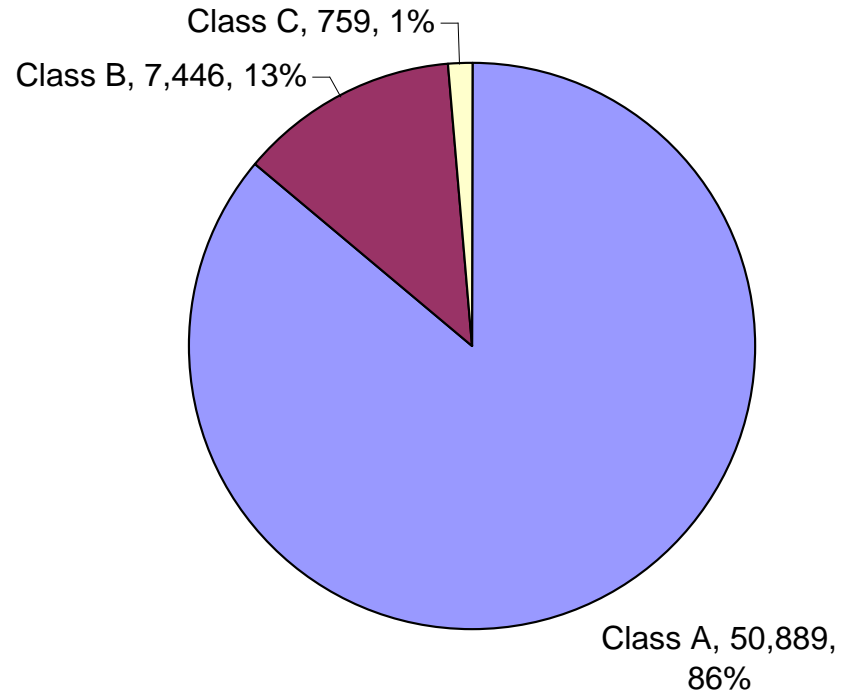


- Resins
 - Charcoal
 - Ion exchange media
- Filters
 - Filter media
 - Mechanical filter
- DAW
 - Compactable trash
 - Non-compactable trash
- Industry Totals
 - DAW – 938,000 Ft3
 - Resins – 98,800 Ft3
 - Filters – 7,500 Ft3

Source: EPRI Waste Stream Profile database – Jan '03 – Feb '07

Historic Annual Waste Volumes by Waste Class

Average Annual Resin Waste Volume (Ft³) for 65 Plants by Waste Class



Industry Distribution (DAW + Resin + Filters):

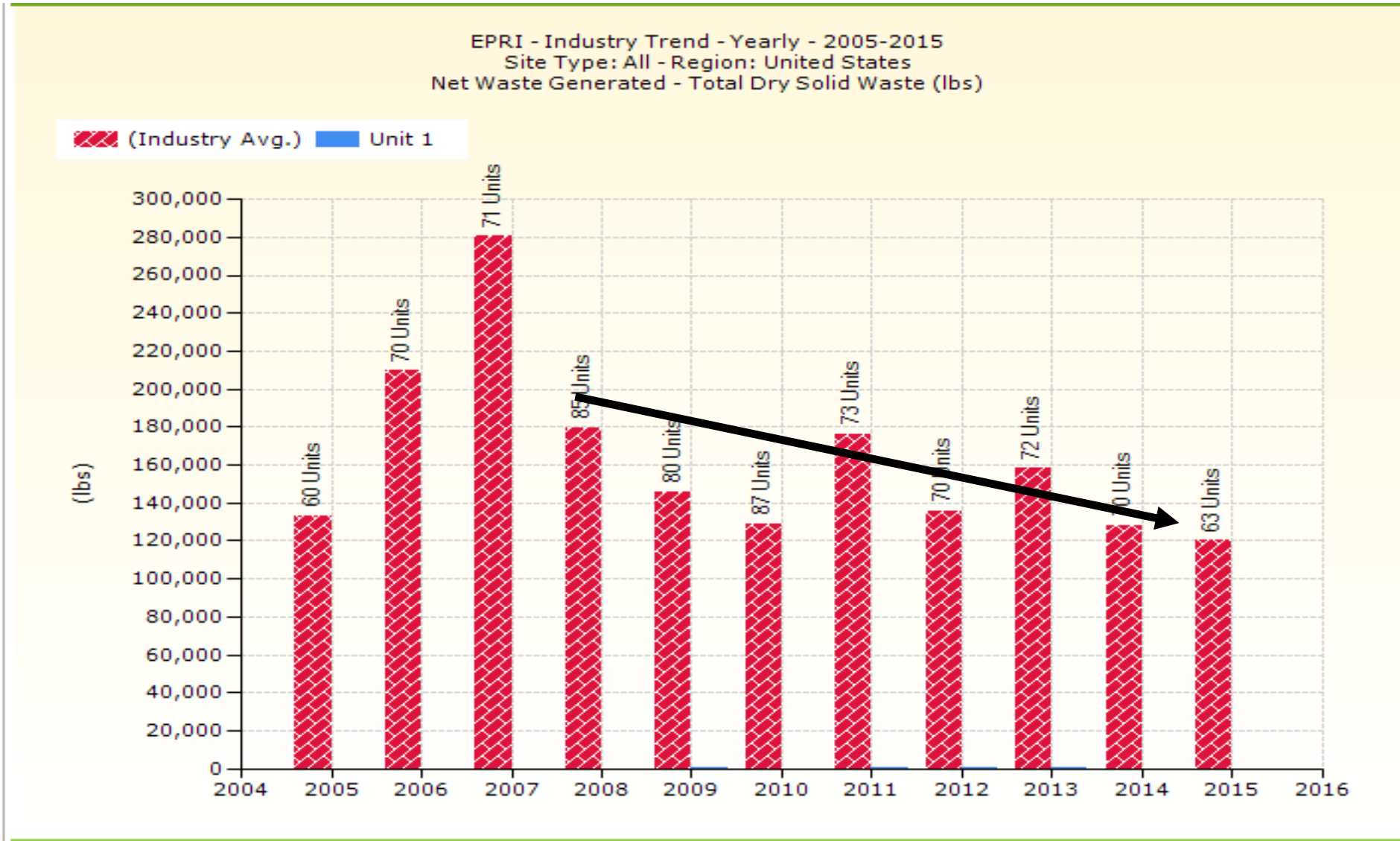
- 86% Class A (82,355 Ft³)
- 11.9% Class B (11,317 Ft³)- majority from resins
- 1.2% Class C (1,152 Ft³)- majority from filters

Vast majority of NPP waste by volume is DAW which is primarily Class A

Vast majority of activity is contained in resin and filters – small overall volume

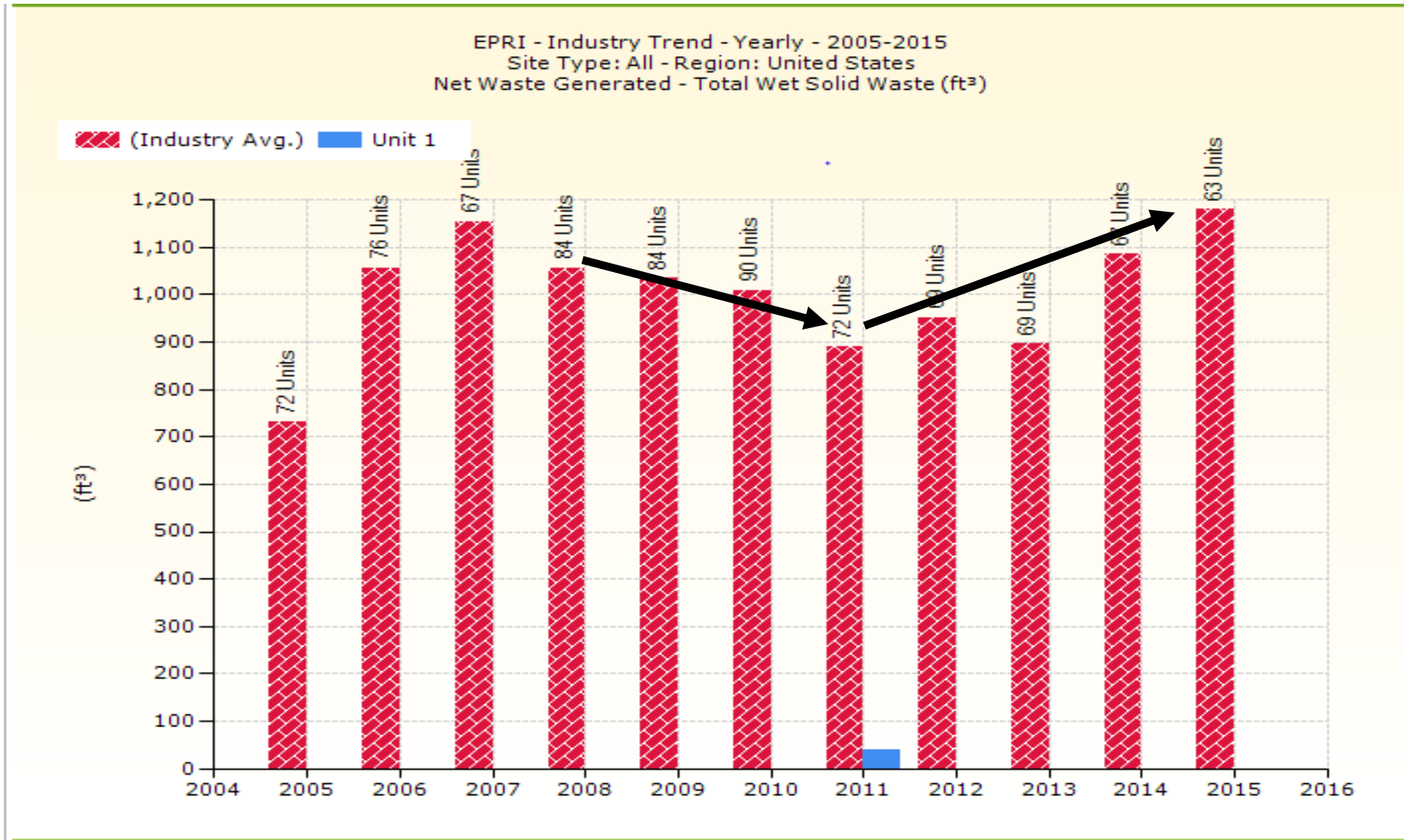
Source: EPRI Waste Stream Profile database – Jan '03 – Feb '07

Current Trends - Total Volumes: Dry Waste



Source: EPRI RadBench™

Current Trends - Total Volumes: Wet Waste

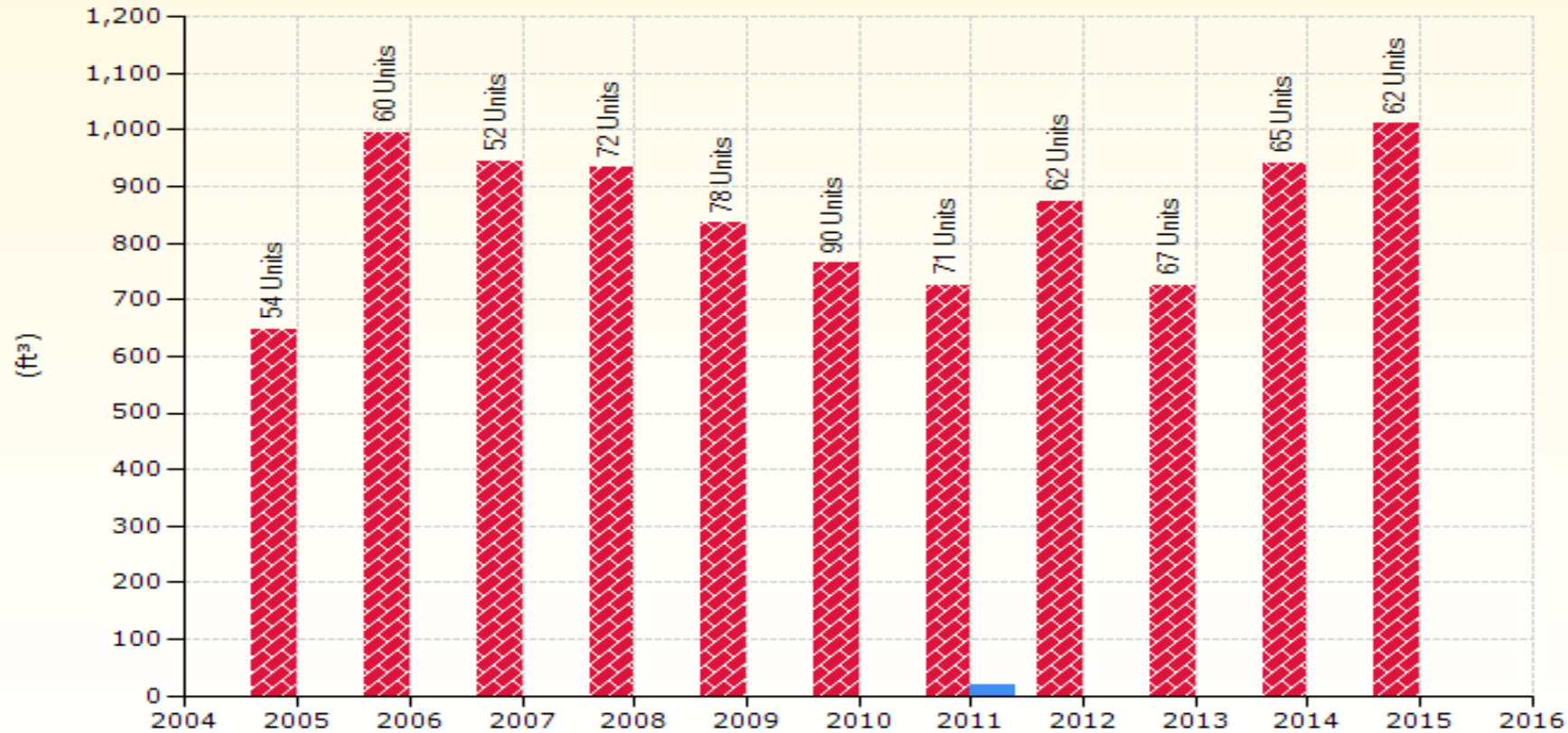


Source: EPRI RadBench™

Current Trends – Class A Wet Waste

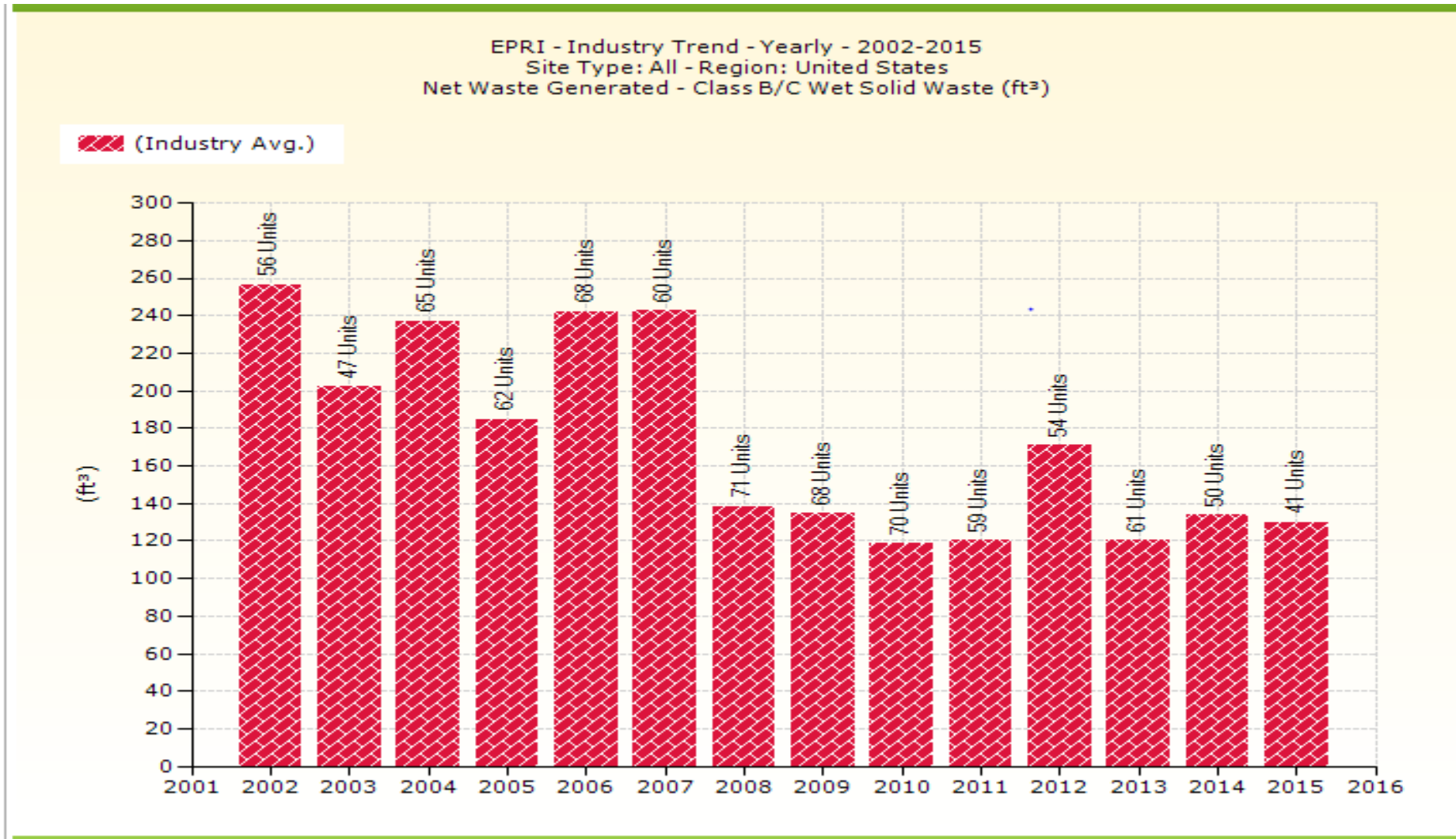
EPRI - Industry Trend - Yearly - 2005-2015
Site Type: All - Region: United States
Net Waste Generated - Class A Wet Solid Waste (ft³)

(Industry Avg.) Unit 1



Source: EPRI RadBench™

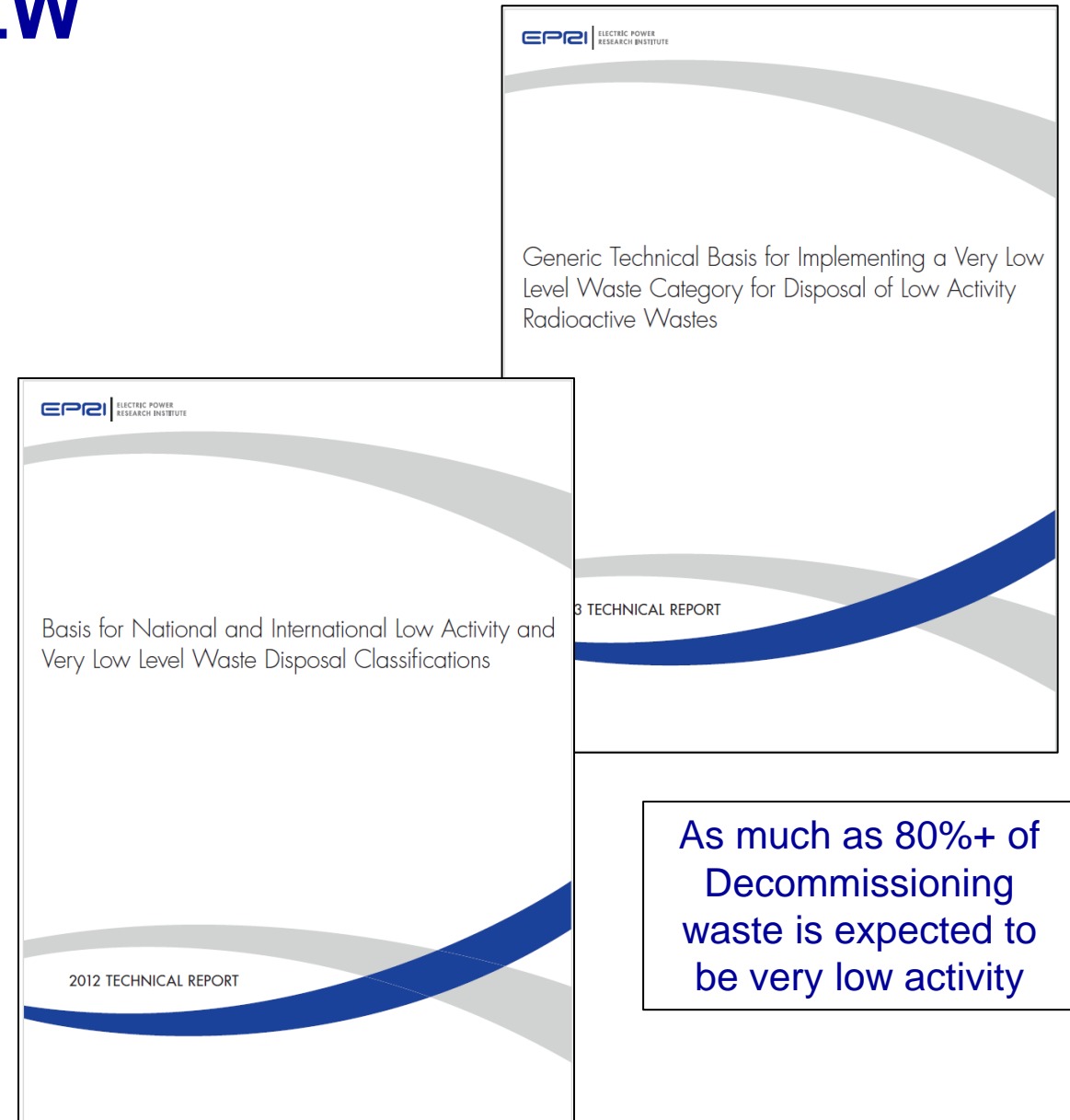
Current Trends – Class B&C Waste



Source: EPRI RadBench™

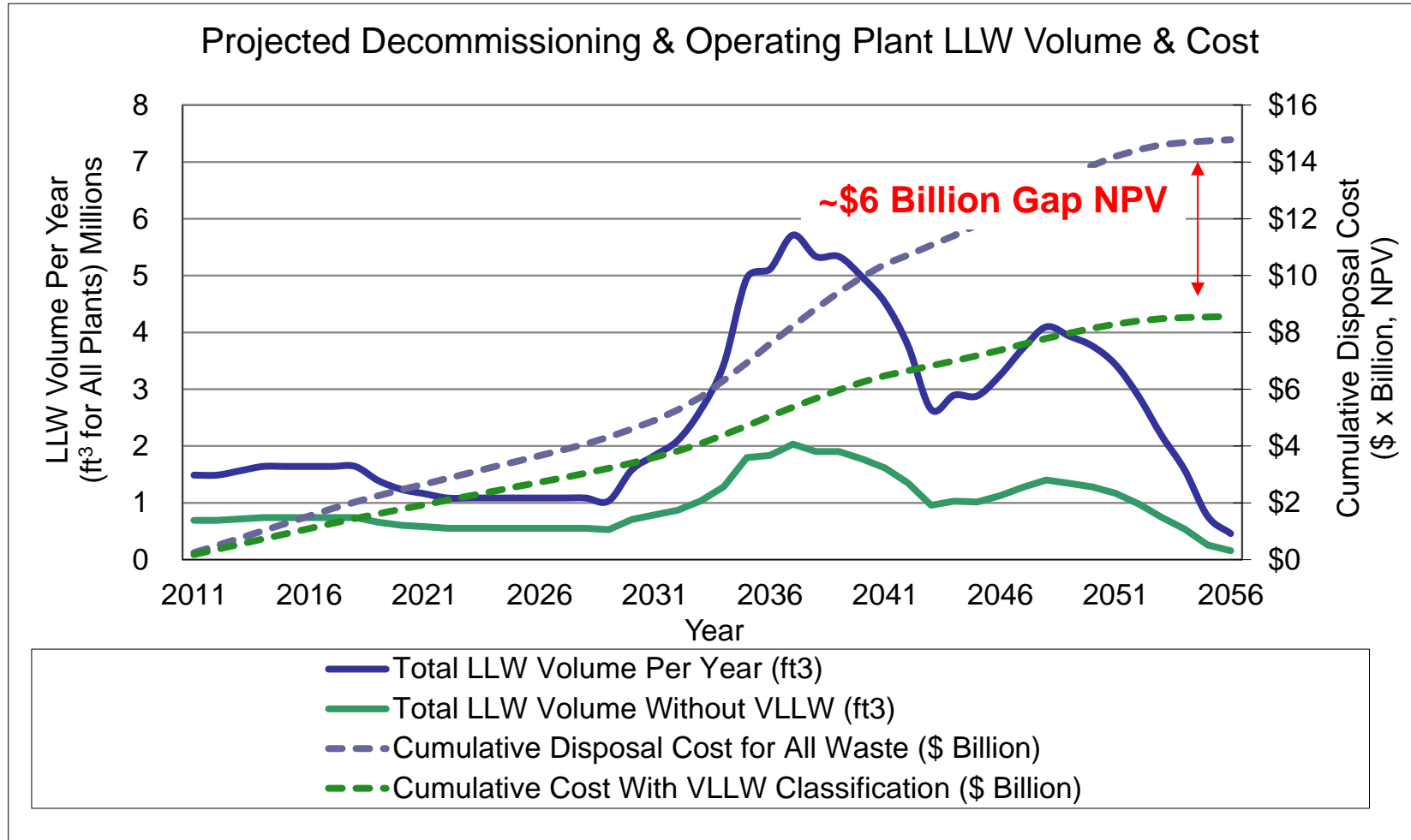
EPRI Research Regarding VLLW

- 2 publically available reports
- *Investigation conclusions:*
 - *Safe, practical and practiced in the US and abroad*
 - *Significant industry O&M and decommissioning savings can be realized with RCRA VLLW disposal path*
- Project provides valuable technical input
- We should start a conversation



VLLW Cost Savings Projection

EPRI Report: 1024844





Together...Shaping the Future of Electricity

Update of Nuclear Power Plant Waste Stream Profiles- Data Collection Effort

Objective:

To characterize process waste stream and to determine the quantities of waste generated on an industry level.

Results:

- Data Sources – shipping records
 - Gives indication of number of shipments and disposal volumes
 - Break down by radionuclide
 - Didn't require additional efforts, worked with WMG
- 41 PWR units and 24 BWR units responded, representing ~65% of the industry
- Total of 10,000 records compiled covering period from January '03 to February '07