

# An Overview of the SRS Environmental Report for 2009

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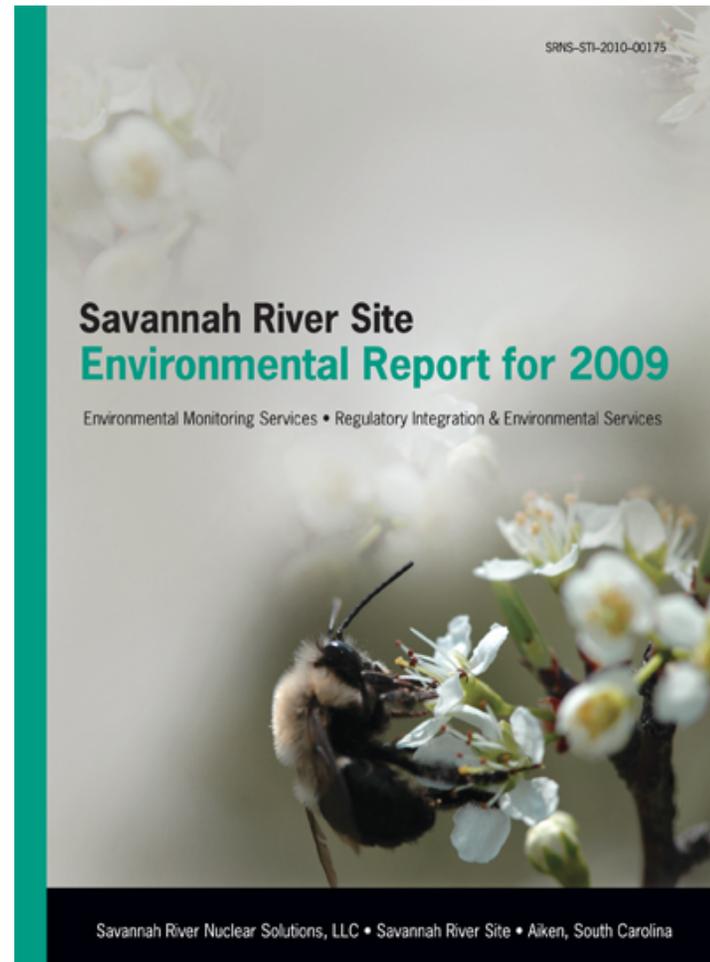
**Environmental Monitoring  
Savannah River Nuclear Solutions, LLC  
November 16, 2010**

**SRS Citizens Advisory Board**

SRNS-J2230-2010-00083

# Purpose

To provide the CAB and public with an understanding of the SRS Environmental Report Results for 2009, the continual record of environmental excellence at SRS



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# Environmental Monitoring Purpose

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- Characterize and quantify contaminants
- Demonstrate compliance with applicable standards
- Calculate radiation exposures to the public
- Assess the effects, if any, on the local environment

# 2009 Monitoring Program Summary

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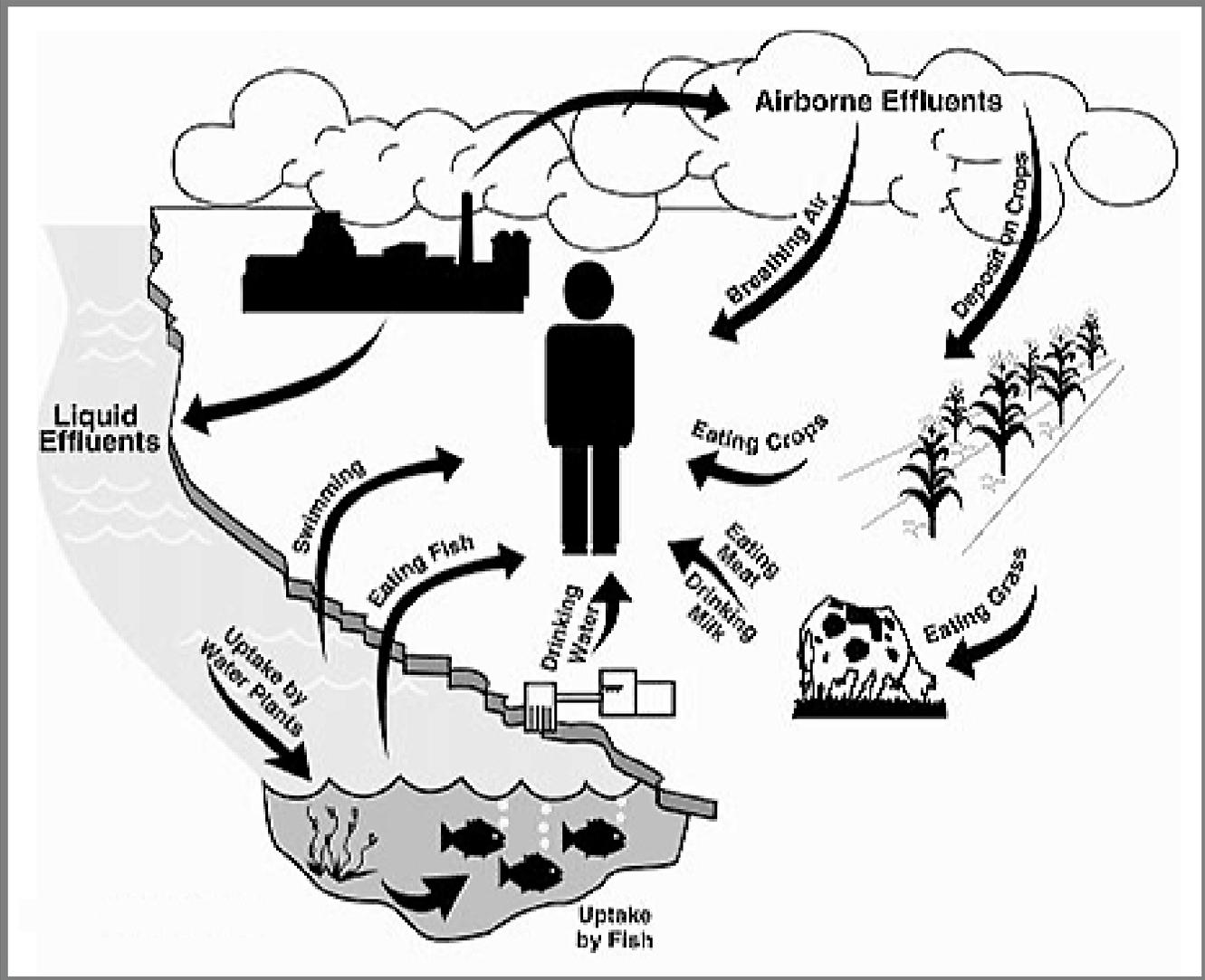
- For 2009, the radiation dose to the public living near SRS was well below DOE's 100-millirem(mrem)/year standard.
- Savannah River Site's 2009 air and water releases, as well as all potential radiation doses from the site, were well below applicable regulatory standards.
- Downriver water consumer was well below EPA's 4-mrem/year standard.

# Maximally Exposed Individual (MEI)

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- Dose is expressed using a hypothetical maximally exposed individual using both airborne and liquid pathways.
- For airborne releases
  - Lives at the SRS boundary 365 days per year
  - Consumes milk, meat, and vegetables produced at that location
- For liquid releases
  - Lives downriver of SRS (near River Mile 118.8) 365 days a year
  - Drinks 2 liters of untreated water per day from the Savannah River
  - Consumes 19 kilograms per year of Savannah River fish
  - Spends majority of time on or near the river

# Exposure Pathways



# 2009 Dose Summary

All values are mrem	Standard	SRS Dose
DOE All-Pathway	100	0.12
EPA Clean Air Act	10	0.04
EPA Drinking Water	4	0.02
Annual Background	360	

# 2009 Monitoring Results Summary

Drinking Water Dose	
Beaufort-Jasper (Chelsea), South Carolina	0.02 mrem
Beaufort-Jasper (Purrysburg), South Carolina	0.02 mrem
Savannah, Georgia	0.02 mrem

Individual Dose		
	2008	2009
Water	0.08 mrem	0.08 mrem
Air	0.04 mrem	0.04 mrem
Total (MEI)	0.12 mrem	0.12 mrem

# Air Pathway Highlights

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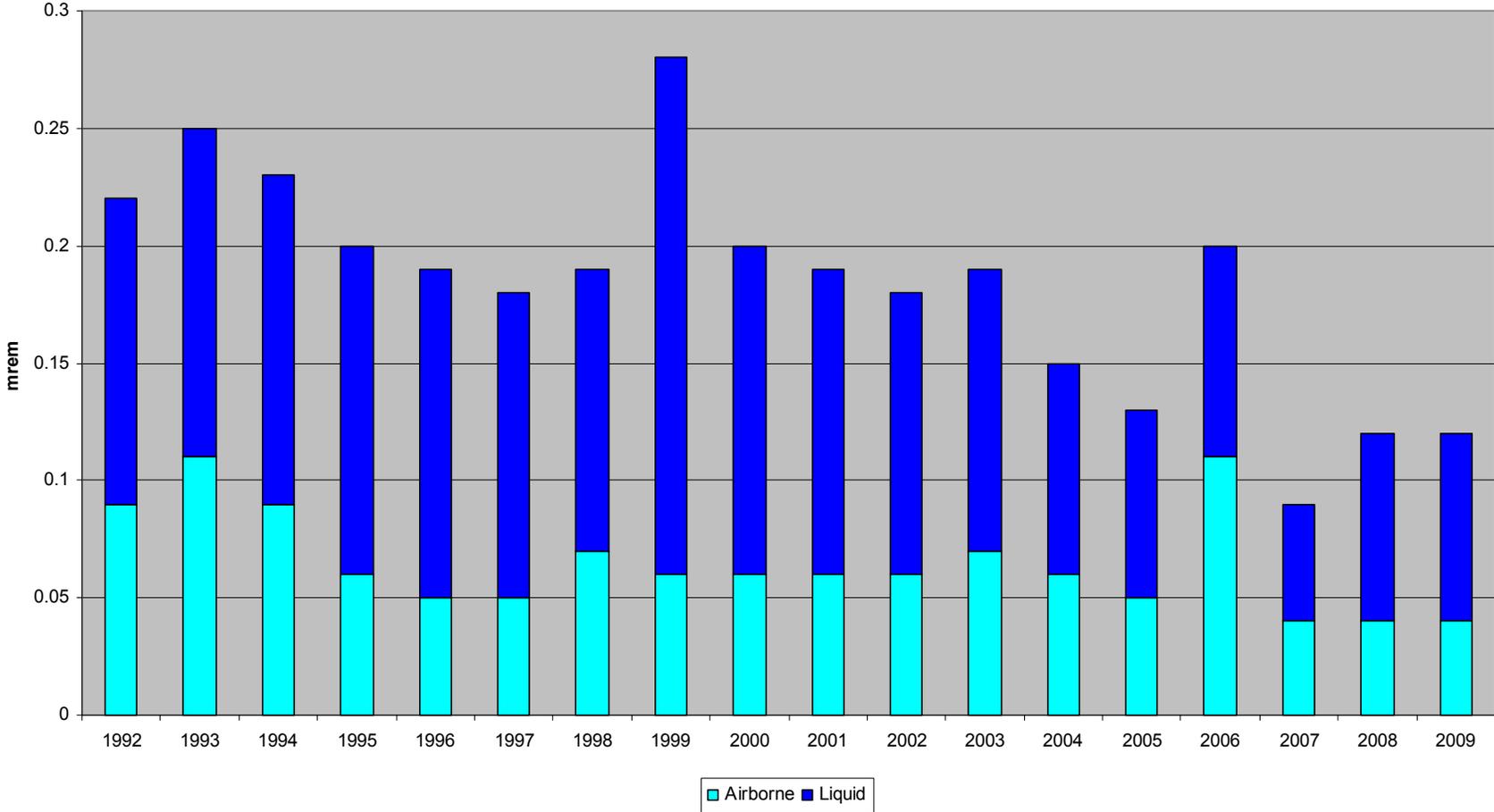
- Dose estimate consistent with 2008 levels.
- Tritium oxide (80%) and Iodine-129 (10%) were primary contributors.
- Major pathways:
  - Inhalation 41%
  - Vegetation Consumption 39%
  - Meat and Milk Consumption 17%

# Water Pathway Highlights

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- **Dose estimate consistent with 2008 levels**
- **Major Dose Contribution:**
  - 61% from Cs-137, primarily from fish consumption
  - 17 % from tritium, mainly from water consumption
  - 14% from unspecified alpha emitters

# Historic Dose Trend



# 2009 Special-Case Doses

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## • Sportsman Dose

- 30-mrem Annual Limit

- Fish

- 0.35 mrem (maximum, Lower Three Runs bass)

- Deer/Hogs

- 8.4 mrem (maximum onsite deer/hog hunter)
- 1.5 mrem (maximum offsite deer hunter)
- 0.2 mrem (maximum offsite hog hunter)

## Compliance Status

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- **No Notice of Alleged Violation issued during 2009**

# Closing Comments

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- **SRS has a comprehensive environmental monitoring program.**
- **The site's airborne and liquid releases to the environment show a long-term decrease.**
- **For 2009, the radiation dose to the**
  - public living near SRS was 0.12 mrem, well below DOE's 100-mrem/year standard
  - downriver water consumer was 0.02 mrem, well below EPA's 4-mrem/year standard

# Contact Information

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- **The report is available on the web at:**
  - <http://www.srs.gov/general/pubs/ERsum/index.html>
- **To inquire about the report, contact:**

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