

ANALYSIS OF CANCER RISKS IN POPULATIONS NEAR NUCLEAR FACILITIES: PHASE 1

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U.S.NRC 23rd ANNUAL REGULATORY INFORMATION CONFERENCE
MARCH 10, 2011



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TOPICS TO BE ADDRESSED

- National Academies organization
- Study request
- Study task
- Study schedule
- Provisional committee expertise and membership
- Tentative work plan

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NATIONAL ACADEMIES ORGANIZATION

The National Academies

- National Academy of Sciences (NAS)
- National Academy of Engineering (NAE)
- Institute of Medicine (IOM)
- National Research Council (NRC)

Congressionally chartered (1863)

Private & nonprofit

"Advisors to the Nation on Science, Engineering, and Medicine"

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STUDY REQUEST

- U.S.NRC approached NAS to update the 1990 NCI study
 - ecologic study with mortality as endpoint
 - no data on exposures
 - Included only facilities that were operational as of 1982

- NAS agreed to carry out a two-phase study
 - Phase 1: Scoping study to identify scientifically sound approaches for carrying out the cancer risk assessment
 - Phase 2: Cancer risk assessment informed by Phase 1 results

Cancer in Populations Living Near Nuclear Facilities

A Survey of Mortality Nationwide and Incidence in Two States

STATEMENT OF TASK (1)

1. Methodological approaches for assessing off-site radiation dose:
 - Pathways, receptors, and source terms
 - Availability, completeness, and quality of information on gaseous and liquid radioactive releases and direct radiation exposure from nuclear facilities
 - Approaches for overcoming potential methodological limitations arising from the variability in radioactive releases over time and other confounding factors

STATEMENT OF TASK (2)

2. Methodological approaches for assessing cancer epidemiology:
- Demographic characteristics of the study and control populations
 - Geographic areas to use in the study
 - Cancer types and endpoints
 - Availability, completeness, and quality of cancer incidence and mortality data
 - Different epidemiological study designs and statistical assessment methods
 - Approaches for overcoming potential methodological limitations arising from low statistical power, random clustering, changes in population characteristics over time, and other confounding factors

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STUDY SCHEDULE

- Study approved by NAS: July 2010
- Study start and public call for nominations: October 2010
 - ~ 250 nominations considered
- Provisional committee appointed: December 2010
- First committee meeting: February 24-25, 2011
- Final report due to U.S.NRC: December 31, 2011
- Sponsor and public comments on Phase 1 report; develop Phase 2 study plan: January-February 2012

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PROVISIONAL COMMITTEE EXPERTISE

- Biostatistics
- Contaminant fate and transport
- Environmental exposure monitoring
- Epidemiology
- Public health and medicine
- Radiation dosimetry
- Radiobiology
- Social science/risk communication
- Toxicology

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PROVISIONAL COMMITTEE MEMBERSHIP

John E. Burris, Chair, Burroughs Wellcome Fund

John C. Bailar, III, University of Chicago (retired)

Andre Bouville, National Cancer Institute (retired)

Phaedra S. Corso, University of Georgia

Patricia J. Culligan, Columbia University

Paul M. DeLuca, Jr., University of Wisconsin

Raymond A. Guilmette, Lovelace Respiratory Research Institute

George M. Hornberger, Vanderbilt Institute for Energy and Environment

Margaret Karagas, Dartmouth University

Roger E. Kasperson, Clark University (retired)

James E. Klaunig, Indiana University

Timothy Mousseau, University of South Carolina

Sharon B. Murphy, University of Texas Health Science Center (retired)

Roy E. Shore, Radiation Effects Research Foundation

Daniel O. Stram, University of Southern California

Margot Tirmarche, Institute of Radiation Protection and Nuclear Safety

Lance Waller, Emory University

Gayle E. Woloschak, Northwestern University

Jeffrey J. Wong, California Environmental Protection Agency

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TENTATIVE WORK PLAN

Meeting # 1: Organizational meeting (February 24-25)
<http://www.tvworldwide.com/events/nas/110224/default.cfm>

Meetings # 2 – 5: Regional meetings (considering Chicago, Atlanta, Los Angeles, Boston) to

- obtain briefings from subject-matter experts
- solicit public input
- tour facilities

Meeting #6: finalize report for NAS review

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QUESTIONS, COMMENTS OR SUGGESTIONS?

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