October 8, 1999

Note to: Glenn Tracy

From: Patricia K. Holahan, IMNS/NMSS

SUBJECT: SUMMARY OF ATLANTA MEETING ON CONTROL OF SOLID MATERIALS

Attached is a brief summary of the Atlanta meeting held on October 5-6, 1999. These are the highlights that were raised in the discussions during each session. We have only provided the key points but further details will be provided in a summary being prepared by Meridian Institute. A draft of the summary will be submitted to NRC in two weeks. In addition, the staff is preparing a Commission item of interest regarding the meeting.

I am also providing you with hard copies of the slides used and a letter signed by 125 citizen groups and individuals that was read into the transcript at the meeting.

The staff is continuing to prepare for the next meeting to be held in Rockville, MD on November 1-2, 1999.

cc: PDR 10-12-99

DF03 1/1

Atm-6 meeting

Summary of Major Points raised at
NRC Workshop on Control of Solid Materials
October 5-6, 1999
Atlanta, Georgia

For each of the sessions we have briefly described the focus of the session, followed by some of the key points that were raised by attendees. This is not intended to be a comprehensive summary. These ideas will be more fully characterized in the detailed summary to follow.

Session 1: Why are we here today

This session focused on three principal topics: 1) why NRC is examining its approach for controlling solid materials; 2) what is NRC's purpose in publishing the issues paper and holding public meetings; and 3) what process for decision-making is being considered. Most of the discussion centered around the 1st and 3rd items.

Some of the principal comments received from attendees related to NRC's examination of its approaches for controlling solid materials included:

- consistency of standards would be useful, e.g., some comments noted that because standards are different around the country, a national standard is needed
- materials need to be released from facilities each day and decisions are needed about what should be done with these materials
- criteria are needed because without them it is difficult for licensees to clean up their facilities

Some of the principal comments received from attendees related to the process for decision-making included:

- this area impacts many industries and it is good to have early input
- there was disappointment that public groups were not attending the meeting; a process is needed that has support of the public interest community
- steel industry representatives noted that public perception of safety of products are key issues; without public acceptance, there can be an effect on manufacturers of these products and on potential for development of a standard
- it was noted that the public is involved and informed and has written letters to the Vice President in opposition to this process
- there is public concern related to potential for releases because of recent events like Paducah
- it was noted that much information on effects of radioactivity is obtained from various media, e.g., television, magazines, etc
- NRC should clarify whether what it is proposing would result in releasing more material and what would be different in society
- it may be appropriate to develop a result similar to when FAA determines that certain standards and activities are safe

- in 1 7, EPA published a technical report and received 200 letters opposed to recycling
- as part of this process, it should be clear that the U.S. imports material derived from recycled radioactive material

Session 2 - How does what we are discussing today fit into the overall picture?

This session focused on three topics: 1) what type of solid materials are we talking about; 2) what is the potential radiation dose being considered and how does it compare to the dose received from other sources; and 3) what are other Federal agencies, States, countries, and organizations doing with regard to control of solid materials

Comments received from attendees on the following topics included:

a) Types of solid materials:

- the impact on metals should be the main issue because of concerns about recycled material in steel products and the history of problems for the steel and recycling industry from lost sources
- all material should be covered in a dose-based standard; this may be difficult to do, but it would establish a basis for control of radioactive materials
- questions were raised as to whether other types of material will also be covered; analyses are being done of soil and concrete as well as metals; other materials could be studied

b) Issues regarding other Federal agencies, States, countries ,and organizations:

EPA
- NRC is working with EPA on this effort; the agencies have previously worked together to develop technical bases
- EPA noted it is not developing a standard in this area because of higher priorities; NRC is within their jurisdiction to develop standards in this area for its licensees

IAEA
- Technical Document (TecDoc) 855 is being developed internationally (with EPA and NRC coordination) as a consensus document; because releases of materials can go worldwide, TecDoc 855 could impact many decisions and areas
- need to consider how NRC efforts correspond to IAEA and other European and international work; there is concern that an NRC standard, if different from and more restrictive than international standards, would not be accepted worldwide and trade problems could occur

States
- these are policy issues needing Agreement State input; NRC should offer flexibility in compatibility levels for Agreement States for any standard issued

Session 3: How does NRC currently handle control of solid materials?

This session focused on two topics: 1) what is the current NRC case-by case approach; and 2) how much solid material has been released so far under current practices.

Most of the comments centered on the current case-by-case approach. Suggestions and comments from attendees included the following areas:

a) Use of Reg Guide 1.86:

- some comments noted problems with Reg Guide 1.86, e.g., it does not have dose assessment guidance, volumetric contamination is not considered, it does not address tritium or carbon-14
- some comments noted that continuing the current use of Reg Guide 1.86 should be considere; reasons for continuing its use included: 1) it has been a useful tool for 20 years; 2) it is health protective and 3) there is common understanding as to how to use it
- should consider the effect on the current case-by-case approach of more material being available for release in the future because of decommissionings that will occur
- any changes from current practice will impact not only large licensees, but also thousands of smaller licensees
- should consider if a regulation is adopted whether this would eliminate the capability to request "case-by-case" reviews
- there should be consideration of implications for NRC inspectors if the current approach is changed
- a graded approach for use with 1.86 or retaining of elements of Reg Guide 1.86 should be considered

b) Use of "not detectable" evaluations:

- discussions clarified NRC's "not detectable" policy used for reactor licensees in the following areas: 1) reactors are held to a no detectable standard before any material cannot be released; 2) NRC guidance determines the level of how hard to look with no-detectable standard; and 3) there can be inconsistencies in cases where "non-detectable" could be detectable because it depends on technology used

c) Use of case-by-case evaluations

- getting approvals using the current case-by-case can be a long and difficult process in some cases

Session 4: What are some other alternatives for control of solid material?

This session focused on listing the potential alternatives described in the Issues Paper and soliciting comment on these alternatives and suggestions for other alternatives. The session also noted that each alternative would be evaluated on its health and environmental impact, its economic tradeoffs, and its ability to control releases.

Suggestions from attendees regarding the list of potential alternatives in the Issues Paper (Federal Register Notice, June 30, 1999) and for new alternatives included:

a) Unrestricted use

- steel industry representatives indicated that they were opposed to recycling of materials from licensed facilities because of public concerns over contamination in metal products

b) Restricted use

- need to keep in mind that restricted use can be viewed as a delayed release of solid materials for unrestricted use; therefore need to consider in advance what would happen to the radioactive material when the authorized use product reached the end of its useful life; this would include consideration of radioactive decay that would occur during the lifetime of the authorized use; need to define the unrestricted use release that would be acceptable after the end of the lifetime of the authorized use
- use of restrictions to certain uses, as opposed to permitting unrestricted use in which the material can wind up in consumer uses, may be the only alternative acceptable to the public
- need to define points in the process where authorized use would begin and licensed control would end
- questions were raised as to what would be the additional burden on local regulatory authorities and the waste disposal community
- authorized first use is being considered by the international community
- one possibility is a dedicated melter as a licensed NRC facility; metals would be refined and melted and also cleaned up by a regulated facility; in this type of scenario, the dedicated melter products could be regulated
- need to consider the impact of a U.S. restricted use regulation on international trade
- there is too much material potentially available for release for it all to be used as shield blocks at DOE facilities
- considerations in setting restrictions need to include type of material, and the type and nature of authorized uses

c) Prohibition of releases of solid materials

- any prohibition must consider excluding items that have no history of exposure to licensed radiological operations because these should be of no concern to NRC, e.g., fences around sites
- need to consider what is the boundary between things that could be released and those that would go to LLW; e.g., would the entire restricted area to be included, administrative offices, etc.?
- a problem with this alternative is that it precludes incentives to develop technology to clean up materials and reuse them for useful purposes
- if European countries develop a standard of, for example 1mrem/yr, need to consider what would happen to material imported to the U.S. under an NRC standard which prohibited release

d) Suggestions for new alternatives or for items to consider in evaluating alternatives:

- should consider adopting ANSI standard, ANSI N13.12, which is intended to look at volumetric contamination and other materials in a facility
- could combine unrestricted and restricted use, i.e., if the unrestricted dose level is exceeded, the material could go to restricted uses
- could develop a pilot project or standard that would not include all licensees or uses

e) Suggestions for items to consider in evaluating alternatives:

- the concept of ALARA should be incorporated in any future standard
- DOT harmonization limits need consideration by NRC
- NRC should set health-based standards and allow the market to work within the bounds of the standard
- there needs to be a connection between any standard developed here and the criteria of the license termination rule

Session 5: How should control of solid material be assured under various alternatives?

This session focused on implementation aspects that should be considered by NRC in its decision making.

Suggestions made by attendees for methods for controlling releases included:

- the ability to survey depends on which radionuclides are being measured; need to consider measurements of natural uranium
- there was some discussion of what is the capability to instruments to measure at the levels being considered; it was noted that it can be difficult to measure at the low doses being considered; it was also noted that a standard of 1 mrem/yr implies an evolution in designs which should be achievable whereas a 0.1mrem/yr standard implies a revolution in measuring background that would make measuring it difficult; others expressed concern over ability to measure at a 1 mrem/yr standard
- there is a need for practical criteria can be used in the field, e.g., need to consider if there are hand held instruments that can measure at these levels
- any standard must consider safety and also the ability to implement the standard; need to be able to make it clear to the public that whatever standards are developed can be measured so that materials can be controlled to the standard
- there should be penalties to those releasing material in violation of any standard
- need to consider cost-effectiveness of replacing instruments.
- should allow process knowledge (i.e., knowledge of use and location of the material during licensed operations) in evaluating materials in a survey
- some specific questions were asked including: 1) whether representative samples for the survey should be allowed; 2) over what volume or surface area should the survey take place; use of a 100 percent sample or statistical samples

Session 6 - Discussion of NUREG-1640, "Radiological Assessments for Clearance of Equipment and Materials from Nuclear Facilities"

This session focused on discussing and clarifying the content of NUREG-1640. It was noted that NUREG-1640 does not set criteria for a rule but rather that it provides a tool for evaluating alternatives by relating the radioactivity on, or in, a given amount of material to the radiological dose. This analysis is done by considering material flow patterns and potential pathways of exposure to different population groups. It was noted that NUREG- 1640 is a draft document for public comment.

Comments and suggestions from attendees on NUREG-1640 included:

- the approach is generally sound
- it was noted that most of the exposure is generally to workers involved in the material flow, e.g., drivers involved in transporting scrap, scrap yard workers, slag workers, etc, and that dose factor is lower for members of the public using consumer products
- general questions asked on the NUREG included what kinds of furnaces used in processing are included in the analysis and where do radionuclides concentrate when the metals are melted
- analysis of other materials, e.g., roofing, sludges, calcium fluoride, should be considered

Session 7: What are potential health and environmental impacts of various alternatives?

This session focused on potential health and environmental impacts that should be considered by NRC in its decision-making and requested comments on other impacts that should also be considered.

Attendees suggested that the following should be considered

- there was concern about use of collective dose in analyses
- should examine cumulative impact of potential build-up of material over many years when determining public health impacts
- recycle does not exactly replace the mined material that would be used
- should evaluate the ecological/economic impact as a result of materials that nuclear weapon testing has introduced into the steel industry and should account for that impact in assessing further impacts
- should evaluate Environmental Justice impacts of material going to a landfill instead of recycle
- should evaluate exposure to multiple sources and effect of multiple products made from released material; in regard to this it was noted that metal recyclers generally receive materials from multiple locations
- raised a question as to whether, and if so how, perception of risk should be factored into environmental analysis because public perception on people's health and the environment is important
- it was noted that 46% of power plant material is recyclable and that this number

should be used to analyze cumulative impacts over many years and in various streams
- environmental analyses should investigate whether levels are safe, if the materials will accumulate in the environment, what are the chronic and acute risks, potential for multiple exposures, all appropriate pathways, etc.
- need to examine specific impacts for sensitive populations

Session 8: What are the potential economic and cost-benefit considerations associated with various alternatives?

This session focused on economic impacts that should be considered by NRC in its decision making and requested comments on other impacts that should be considered also.

Comments from attendees were received on the following economic considerations:

- the amount of recycled steel from NRC-licensed facilities material is so small that economic impact of this material going into recycle is small; there exists an oversupply of most of these metals; ferrous metal are not likely to be affected by recycling especially over 30 years; nickel and copper producers could be impacted
- there can be a large economic impact on an industry if there is public concern or perception of concern with that industry's products; metals industries face a particular economic situation in that there is competition between industries and alternative materials available which can have large economic and job impacts for the industry if there is concern with products
- if an owner of a piece of equipment has to go through a series of dose calculations for equipment before release is allowed, the owner may prefer to send the material to the waste stream
- need to consider build-up of materials in commerce
- need to consider economic impact on the consumer of increasing LLW disposal; costs of sending material to LLW or to controlled release will depend on the level that is set in any standard
- should account for regulatory impacts, e.g., compliance, analyses, etc, in the cost/benefit analysis
- need to consider costs and impacts if a mistake is made
- a cost-benefit analysis is helpful in this process
- need to consider costs for changing survey equipment and protocols to meet any new standard; should consider issues of grand-fathering of case-by-case decisions
- need to consider economics of disposal, e.g., disposal costs of $40.00 - $60.00 per cubic foot as compared to a disposal cost for Subtitle C wastes of $20.00 per ton

LETTER TO THE UNITED STATES NUCLEAR REGULATORY COMMISSION AGAINST RADIOACTIVE RECYCLING AND RELEASE

RE: Nuclear Regulatory Commission 10 CFR 20 Release of Solid Materials at Licensed Facilities: Scoping Process for Environmental Issues and Notice of Public Meetings

October 6, 1999

To the United States Nuclear Regulatory Commission:

The environmental and public interest communities are declining to participate in the Nuclear Regulatory Commission (NRC)'s Atlanta rulemaking workshop for two reasons.

First, the concept of release of radioactively contaminated materials into the marketplace is unconscionable, morally abhorrent and contrary to the NRC's mission to protect public health and safety.

Second, we told you exactly that in 1990 with the BRC (Below Regulatory Concern) hearings and again in 1993 when we participated in the NRC rulemaking procedure which established the decommissioning criteria for nuclear power plants. The final decommissioning standard flies in the face of input the NRC was given by public interest groups and the American people to allow zero (0) release (above preexisting natural background). In fact, by the NRC's own estimates, thousands [1] of people could die if NRC's standard is used.

Our position remains: the NRC's enforced standard must be to contain radioactive wastes--isolate them from the environment.

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[1] NRC estimates the Hypothetical Lifetime Risk from Continuing Annual Dose of 100 millirems TEDE/year is 3.5 fatal cancers per 1000 exposed. This is 1 fatal cancer in 286 individuals exposed at that dose rate. Source: Table 1, page 8, NRC BRC Policy Statement July 3, 1990,based on "Sources, Effects and Risks of Ionizing Radiation," United Nations Scientific Committee on the Effects of Atomic Radiation (USNCEAR), 1988 Report and "Health Effects of Exposures to Low Levels of Ionizing Radiation, BEIR V," 1990, National Research Council, and NUREG/CR-4214 Rev. 1 The NRC decommissioning rule, 10 CFR 20 Subpart E, allows 25 to 100 to 500 millirems annual dose from a decommissioned site

Two other controversial and environmentally unacceptable practices are showcased in the current NRC process: dumping of so-called "low-level" radioactive waste and dismantling and landfilling of used nuclear power plants, the source of massive amounts of contaminated metal and soil.

We share a common concern for the high volume of contaminated metals, materials and earth that have been spoiled for other uses by the nuclear industry. It is high time our species faces the grim reality of nuclear waste and comes to terms with it.

There is no known safe level of exposure to radiation. Let us not be seduced by short-term economic concerns to make decisions that can wreak irrevocable damage in the gene pools of every species of animal and plant on our Earth.

The honorable nuclear work is now towards developing and implementing effective technologies for nuclear waste containment.

We call on the NRC to prohibit the release of radioactive materials and wastes to the marketplace and the environment.

Please enter these comments into the National Environmental Policy Act record.

Signed,

REGIONAL, STATE and LOCAL

Glenn Carroll
Georgians Against Nuclear Energy

Ed Arnold
Physicians for Social Responsibility/
Atlanta

Representative June Hegstrom,
District 66
Scottdale, Georgia

Joan O. King
20/20 VISION Georgia

Sally Wylde, Marci McLendoon
Atlanta Women's Action for New
Directions-WAND

Bob Darby, Tom Ferguson
Food Not Bombs
Atlanta

Leigh Lytle
Earth Challenge
Decatur, Georgia

Harry L. Williams
Coalition for a Healthy Environment
Tennessee

Jackie Kittrell, Cliff Honicker
American Env'tal Health Studies Project
Knoxville, TN

Tom Phillips
Nashville Peace Action
Tennessee

Ar-i Harris
We The People, Inc. of Tennessee
Alliance for Public Health & Safety

Mary Byrd Davis
Uranium Enrichment Project
Earth Island Institute
Georgetown, Kentucky

Vina Colley
PRESS-Portsmouth/Piketon Residents
for Environmental Safety and Security
Ohio

Harry Rogers
Carolina Peace Resource Center

John Runkle
Conservation Council of North Carolina

Jim Warren
North Carolina WARN

David Druding
Peoples' Action for a Safe Environment
(PASE)
Fayetteville, Arkansas

B.J. Medley
ECO
Oklahoma

Scott Portzline
Three Mile Island Alert
Harrisburg PA

Jonathan Parfrey
Physicians for Social Responsibility/
Los Angeles

Judith Johnsrud, Ph.D.
Environmental Coalition on Nuclear
Power
Pennsylvania

Dave Kraft
Nuclear Energy Information Service
Illinois

Jennifer Olaranna Viereck
Healing Global Wounds
California

Leon Glicenstein, Ph.D.
Central Pennsylvania Citizens for Survival

Peg Ryglisyn, Michael Albrizio
Connecticut Opposed to Waste

Madelyn Hoffman
Grass Roots Environmental Organization
New Jersey

Michael Gregory
Arizona Toxics Information

Corinne Carey, Alice Hirt
Don't Waste Michigan

Karl J. Novak
Pennsylvania Environmental Network

Liz Apfelberg
San Luis Obispo Mothers for Peace
California

Karen Hadden
Peace Action – Texas

Jaime Chavez
Water Information Network
Albuquerque, NM

Bruce A Drew
Prairie Island Coalition
Minnesota

Deb Katz
Citizens Awareness Network
New England

Judy Treichel
Nevada Nuclear Waste Task Force

Don Finch
F.A.C.T.S. (For A Clean Tonawanda Site), Inc.
Kenmore, New York

Lea Foushee
North American Water Office
Minnesota

Laurence LaFond
North American Water Office
Oregon

Mark D. Stansbery
Community Organizing Center
Columbus, Ohio

Michael Welch
Redwood Alliance
Arcata, California

Joe Mirabile
EcoBridge
San Francisco, California

Paige Knight
Hanford Watch
Oregon

Chris Williams, Grant Smith
Citizens Action Coalition of Indiana

Robin Richman
Steppin' Out
Chicago, IL

Joseph W. Wilson
Earthwise Co.
Lewisville, Texas

Kate R. Lozier, CPA
KRLCP, Inc. / TuffBaggs
East Greenbush, NY

Diane Klostermeier
Safeguard Our State Committee
Arizona

Chuck Johnson
Center for Energy Research
Salem, Oregon

David Ellison
Green Party of Ohio

Bob Brister
Madera County Greens
California

Lisa Guido
The Catholic Worker Organization of Ithaca
New York

Sara Shannon
MothersAlert
New York, New York

Molly Johnson
Save Ward Valley
California

Bill Smirnow
Nuclear Free New York

Carole Starkes
E-ESL/Maple School
San Francisco, California

Susan Clark
Americans for a Safe Future
California

Tim Judson
Central New York--Citizens Awareness Network

Henry Peters
Radiological Evaluation and Action Project-Great Lakes

Susan Griffin
Chenango North Energy Awareness Group
South Plymouth, N.Y.

Stephen M. Brittle
Don't Waste Arizona, Inc.

Frank C. Subjeck
Air, Water, Earth, Org.
Arizona

Betty Schroeder
Arizona Safe Energy Coalition

Linda Lynch
Hudspeth Directive for Conservation
Texas

Shean Bjoralt
Earth Cycles, LTD
Minneapolis, MN

Chris Drew
Uptown Multi-Cultural Art Center
Chicago, Illinois

Chris Trepal
Earth Day Coalition
Ohio

Terry Lodge
Toledo Coalition for Safe Energy

Kathryn Cumbow
Citizens for Alternatives to Chemical Contamination
Citizens for a Healthy Planet
Michigan

Kyle Rabin
Environmental Advocates
New York

Frank McLaughlin
Environmental Response Network
Ocean View, NJ

Amy Manel
Stockton Peace Action
Pomona, NJ

Lloyd Marbet
Don't Waste Oregon

Norm Cohen
Unplug Salem Campaign
Linwood, NJ

Jane Williams
California Communities Against Toxics

Jenny Carter
Vermont Public Interest Research Group

Jessica Hopper
Hyper PR
Chicago, Illinois

LaNell Anderson
Grandparents of East Harris County
Texas

Harvey Wasserman
Citizens Protecting Ohio (C-PRO)

Loren Olson
Tippecance Environmental Council
West Lafayette, Indiana

Greg Wingard
Waste Action Project
Seattle, Washington

Roger Snyder
SHAD (Sound & Hudson against Atomic Development)
Huntington, NY

Janet Marsh Zeller
Blue Ridge Environmental Defense League
North Carolina

Maite Diez
The Inner Ear
Hull, MA

Diane A. Burton
Heartland Operation to Protect the Environment
Nebraska

H.G. (Skip) Brack
Center for Biological Monitoring
Hulls Cove, ME

Ray Shadis
Friends of the Coast - Opposing Nuclear Pollution
Edgecomb, Maine

Richard Geary
Citizens Action for Safe Energy
Oklahoma

Richard Boren
Southwest Toxic Watch
Tucson, AZ

Robert Lepley
Long Island Alliance for Peaceful Alternatives

NATIONAL

Susan Shaer, Pat Ortmeyer
Women's Action for New Directions-WAND
Arlington, Massachusetts

Diane D'Arrigo
Nuclear Information and Resource Service
Washington, DC

Wenonah Hauter
Public Citizen
Washington, DC

Anna Aurilio
US Public Interest Research Group
Washington, DC

Scott Denman
Safe Energy Communication Council
Washington, DC

Alice Slater
Global Resource Action Center for the Environment (GRACE)
New York, New York

Jay M. Gould, Ph.D.
Radiation and Public Health Project
New York, New York

Bonnie Urfer, John LaForge
Nukewatch
Wisconsin

Patricia Birnie
GE Stockholders' Alliance
Arizona

INTERNATIONAL

Dr. Helen Caldicott
Founding President
Physicians for Social Responsibility

Damon Moglen
Greenpeace

Alexander B. Kuzma
Children of Chornobyl Relief Fund

Pamela Ransom
Women's Environment and Development Organization

Barbara Wiedner
Grandmothers For Peace International

Francis U. Macy
Center For Safe Energy
Earth Island Institute

Paxus Calta
Friends of the Earth International

Mary Beth Brangan, Jim Heddle
The Nuclear Democracy Network
California

Laurie Grossman
Y2K World Atomic Safety Holiday – WASH Campaign

Wendy Oser
Nuclear Guardianship Project
Berkeley, California

Peer de Rijk
World Information Service on Energy-WISE International
Amsterdam, The Netherlands

Pascal Braud
Reseau Sortir du Nucleaire
Lyon, France

INDIVIDUALS

Kev Hall
Dunedin, FL.

Marvin Lewis
Philadelphia, PA

J.A. Savage
Oakland, CA

Howard Siegel
Bronx, NY

Peggy Pryor
Andrews, Texas

Amy Cockerill
Dayton, Ohio

Eric Strahan
Fullerton, California

Barbara S. Richardson
Cherokee, NC

Debbie Ortman
Duluth, MN

Graham Gerdeman
Nashville, TN

Jennifer Nagy
Columbus, Ohio

Karen Bloustine
El Paso, TX

Scott Shively
Seattle, WA

Karen Chanman
New York, New York

Richard Dawson
Torrance, CA

David W. Chappell
Penryn, California