Letter/Attachment for GTCC EIS Scoping Comment #100

September 21, 2007

Greater-Than-Class C Low-Level Radioactive Waste EIS Scoping
James L. Joyce
Document Manager
Office of Regulatory Compliance (EM-10)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, D.C. 20585-0119

RE: Notice of Intent to Prepare an Environmental Impact Statement for the Disposal of Greater-Than-Class-C Low-Level Radioactive Waste. 72FR140, July 23, 2007, pp. 40135-40139.

In addition to the oral comments provided by Beyond Nuclear at the DOE public scoping hearing in Washington, D.C. on Sept. 10th, 2007, we would like to add the following.

Beyond Nuclear fully endorses the comments submitted by Alfred Meyer, Program Director of the Alliance for Nuclear Accountability, on Sept. 20, 2007. These comments are posted online at

http://www.ananuclear.org/News/Library/tabid/56/articleType/ArticleView/articleId/24/ANA-Comments-on-GTCC-waste-disposal-plans.aspx

In addition, regarding transport impacts, we request that DOE consider the impacts from so-called "incident-free" transports of GTCC wastes. That is, DOE should consider the "mobile x-ray machine that cannot be turned off" risks that would occur even without accidents, the emission of gamma and perhaps other radiation from shipping containers holding GTCC wastes, and the health impacts upon workers and members of the public that those emissions would have.

DOE should also address the risks of GTCC waste shipping containers being externally contaminated with radioactive particles, and what doses and adverse health impacts workers and members of the public would face from such exposures.

Finally, DOE should address, in addition to its analysis of "incident-free" and transport accident risks, the risk of intentional attacks being perpetrated on GTCC waste shipping containers.

Also, we would like to point out to DOE Environmental Impact Statement preparers that analysis and description of the standard pregnant woman concept described in the ANA comments can be found at www.ieer.org, the website of the Institute of Energy and Environmental Research.

Another point that DOE should address in the EIS is the impacts of climate change on the various proposed disposal methods and targeted dumpsite locations for GTCC wastes. For example, the impact of dramatically increased rainfall due to climate change at a GTCC waste dumpsite that DOE currently considers an arid location. As the old song goes, "the times, they are a-changing…".

Beyond Nuclear would like to emphasize that it is entirely inappropriate for DOE to consider GTCC waste disposal at Yucca Mountain, Nevada, since the proposed dumpsite there is not yet licensed. In fact, the earliest that dump could open, according to DOE itself, is around 2020. U.S. Nuclear Regulatory Commissioner Ed McGaffigan stated in early 2007 that 2025 is a more likely opening date, although the dumpsite may never open at all because it has been so badly managed from start to finish. Yucca is geologically unsuitable for irradiated nuclear fuel and high level radioactive waste storage. For the same reasons, Yucca is also inappropriate for GTCC waste disposal. And last but not least, Yucca Mountain belongs to the Western Shoshone Indian Nation according to the Treaty of Ruby Valley, signed by the U.S. government in 1863, and thus the highest law of the land, equal in stature to the U.S. Constitution itself. The Western Shoshone do not want radioactive wastes dumped on their sacred Yucca Mountain, and for this environmental justice reason alone, DOE should cease and desist from targeting Yucca Mountain for GTCC waste disposal. Thus, the Yucca Mountain dumpsite is looking more and more doubtful to ever open, which is as it should be. The Yucca dump should never open. DOE cannot and should not consider dumping GTCC wastes at Yucca Mountain.

Beyond Nuclear herein submits, as an Appendix, below, the full statement of "Principles for Safeguarding Nuclear Waste at Reactors," including the over 150 organizations that have endorsed those Principles. Although the Principles address irradiated nuclear fuel and high-level radioactive waste, they extend to GTCC waste management, for irradiated nuclear fuel/high-level radioactive waste and GTCC waste are – although not identical -- very similar in many regards, including many of their radioactive hazards. For that reason, Beyond Nuclear calls on DOE to include applicable concepts from the Principles of Hardened On-Site Storage for GTCC wastes at their point of generation, or as near to it as possible to maximize safety, as a full-fledged alternative for consideration in the Environmental Impact Statement. Similarly, whereas the attached Principles refer only to radioactive waste storage at commercial nuclear power reactor sites, the Principles can and should be extended to GTCC wastes stored at DOE sites, such as nuclear weapons complex sites, as well as GTCC wastes originating at such facilities as research reactors that fall under DOE's jurisdiction and responsibility.

We repeat our request made at the D.C. hearing that DOE extend the public comment period. This is reasonable, given the importance of this proceeding to public health and safety and environmental protection (given GTCC wastes' radioactive hazards and

risks). It is especially reasonable given the errors in DOE's tables that appeared in the Federal Register, such as missing footnotes, and thus missing assumptions. DOE should correct all errors in the Federal Register, and then re-open the comment period for another 60 days.

These comments are also made on behalf of Don't Waste Michigan, upon whose board I serve.

Submitted via DOE's web form on Sept. 21, 2007 by Kevin Kamps, Radioactive Waste Watchdog

Beyond Nuclear

6930 Carroll Avenue, Suite 400

Takoma Park, MD 20912

(301) 270-2209

kevin@beyondnuclear.org

www.beyondnuclear.org

Appendix

Also viewable online at
http://www.citizen.org/documents/PrinciplesSafeguardingIrradiatedFuel.pdf

First released: Sept. 13, 2006
Updated list of signatories: June 4, 2007

Principles for Safeguarding Nuclear Waste at Reactors

The following principles are based on the urgent need to protect the public from the threats posedby the current vulnerable storage of commercial irradiated fuel. The United States does not have a near-term solution for the permanent storage of high-level nuclear waste. The proposed Yucca Mountain site is unsafe for geologic storage of nuclear waste and the program remains mired in bad science, mismanagement, and yet another design overhaul. Even if licensed, Yucca Mountain could not legally contain all of the waste produced by existing reactors. Under the U.S. Department of Energy's unrealistically optimistic scenario, Yucca Mountain is not predicted to begin receiving waste until at least 2017 and transporting waste to the site would take more than 30 years. Meanwhile, irradiated fuel at reactor sites remains vulnerable to accidents and attacks.

The undersigned organizations' support for improving the protection of radioactive waste stored at reactor sites is a matter of security and is in no way an indication that we support nuclear power and the generation of more nuclear waste.

♦ **Require a low-density, open-frame layout for fuel pools:** Fuel pools were originally designed for temporary storage of a limited number of irradiated fuel assemblies in a low density, open frame configuration. As the amount of waste generated has increased beyond the designed capacity, the pools have been reorganized so that the concentration of fuel in the pools is nearly the same as that in operating reactor cores. If water is lost from a densely packed pool as the result of an attack or an accident, cooling by ambient air would likely be insufficient to prevent a fire, resulting in the release of large quantities of radioactivity to the environment. A low density, open-frame arrangement within fuel pools could allow enough air circulation to keep the fuel from catching fire. In order to achieve and maintain this arrangement within the pools, irradiated fuel must be transferred from the pools to dry storage within five years of being discharged from the reactor.

♦ **Establish hardened on-site storage (HOSS):** Irradiated fuel must be stored as safely as possible as close to the site of generation as possible. Waste moved from fuel pools must be safeguarded in hardened, on-site storage (HOSS) facilities. Transporting waste to interim away-from-reactor storage should not be done unless the reactor site is unsuitable for a HOSS facility and the move increases the safety and security of the waste. HOSS facilities must not be regarded as a permanent waste solution, and thus should not be constructed deep underground. The waste must be retrievable, and real-time radiation and heat monitoring at the HOSS facility must be implemented for early detection of radiation releases and overheating. The overall objective of HOSS should be that the amount of releases projected in even severe attacks should be low enough that the storage system would be unattractive as a terrorist target.

Design criteria that would correspond to the overall objective must include:

—Resistance to severe attacks, such as a direct hit by high-explosive or deeply penetrating weapons and munitions or a direct hit by a large aircraft loaded with fuel or a small aircraft loaded with fuel and/or explosives, without major releases.

—Placement of individual canisters that makes detection difficult from outside the site boundary.

♦ **Protect fuel pools:** Irradiated fuel must be kept in pools for several years before it can be stored in a dry facility. The pools must be protected to withstand an attack by air, land, or water from a force at least equal in size and coordination to the 9/11 attacks. The security improvements must be approved by a panel of experts independent of the nuclear industry and the Nuclear Regulatory Commission.

♦ **Require periodic review of HOSS facilities and fuel pools:** An annual report consisting of the review of each HOSS facility and fuel pool should be prepared with

meaningful participation from public stakeholders, regulators, and utility managers at each site. The report must be made publicly available and may include recommendations for actions to be taken.

- **Dedicate funding to local and state governments to independently monitor the sites:** Funding for monitoring the HOSS facilities at each site must be provided to affected local and state governments. The affected public must have the right to fully participate.

- **Prohibit reprocessing:** The reprocessing of irradiated fuel has not solved the nuclear waste problem in any country, and actually exacerbates it by creating numerous additional waste streams that must be managed. In addition to being expensive and polluting, reprocessing also increases nuclear weapons proliferation threats.

Signatories (as of June 4, 2007):

National Organizations
Susan Gordon, Executive Director, Alliance for Nuclear Accountability

Lynn Thorp, National Campaigns Coordinator, Clean Water Action

Ken Cook, Executive Director, Environmental Working Group

Erich Pica, Director, Domestic Campaigns, Friends of the Earth

Jim Riccio, Nuclear Policy Analyst, Greenpeace

Tom Reed, Program and Operations Manager, Honor the Earth

Arjun Makhijani, Ph.D., President, Institute for Energy and Environmental Research

Gretel Munroe, Board Member, The International Coalition to Ban Uranium Weapons

Kevin S. Curtis, Senior Vice President for Programs, National Environmental Trust

Geoffrey Fettus, Senior Attorney, Natural Resources Defense Council

Michael Mariotte, Executive Director, Nuclear Information and Resource Service

Alice Slater, Director, NY; Nickolas Roth, Research and Advocacy Director; Nuclear Age Peace Foundation

Kevin Martin, Executive Director, Peace Action

Kimberly Roberts, Director of Policy and Programs, Security, Physicians for Social Responsibility

Michele Boyd, Legislative Director, Public Citizen

Stephen Lerner, Director, Property Services, Service Employees International Union, Washington, D.C.

Dave Hamilton, Director, Global Warming and Energy Program, Sierra Club

Ken Bossong, Executive Director, SUN DAY Campaign

David Lochbaum, Director, Nuclear Safety Project, Union of Concerned Scientists

Anna Aurilio, Legislative Director, U.S. PIRG (U.S. Public Interest Research Group)

Susan Shaer, Executive Director Women's Action for New Directions

Alabama

Kaye Kiker, Citizens Task Force

Arizona

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

Donna Cassano, Board Member, Flagstaff Activist Network

Jack & Felice Cohen-Joppa, Editors, Nuclear Resister

Russell J. Lowes, Research Director, Power Plant Analysts

Arkansas

April Ambrose, Executive Director, Arkansas Earth Day Foundation

California

Rochelle Becker, Executive Director, Alliance for Nuclear Responsibility

Pamela S. Meidell, Director, Atomic Mirror

Jon Rainwater, Executive Director, California Peace Action

Enid Schreibman, Co- Director, Center for Safe Energy

Daniel Hirsch, President, Committee to Bridge the Gap

Molly Johnson, Area Coordinator, Grandmothers for Peace, San Luis Obispo County Chapter

Jennifer Viereck, HOME (Healing Ourselves & Mother Earth)

Michael Welch, Redwood Alliance

Leuren Moret, Independent Radiation Specialist/Environmental Commissioner, City of Berkeley, Radiation and Public Health Project

Jill ZamEk and Jane Swanson, San Luis Obispo Mothers for Peace Action Committee

Kathleen Gwynn, President & CEO, Steven and Michele Kirsch Foundation

Linda Seeley, President, Terra Foundation

Marylia Kelley, Executive Director, Tri-Valley CAREs (Communities Against a Radioactive Environment)

Colorado

Paula Palmer, Executive Director, Global Response

LeRoy Moore, Ph.D., Rocky Mountain Peace and Justice Center

Connecticut

Jane Latus, Vice President, Canton Advocates for Responsible Expansion

Lynn Johnson, President, Center for Serenity

Nancy Burton, Director, Connecticut Coalition Against Millstone

Judi Friedman, Chair, PACE (People's Action For Clean Energy)

Sal Mangiagli & Rosemary Bassilakis, CT CAN

Florida

Bob Tancig, State Coordinator, Florida Coalition for Peace and Justice

Georgia

Adele Kushner, Executive Director, Action for a Clean Environment

Bobbie Paul, Director, Atlanta WAND (Women's Action for New Directions)

Abayomi Noibi, Ph.D., Executive Director, Environmental Community Action, Inc. (ECO-Action)

Bob Darby, Coordinator, Food Not Bombs/Atlanta

Steve Leeper, Executive Director, Global Peacemakers Association

Glenn Carroll, Coordinator, Nuclear Watch South

Idaho

Jeremy Maxand, Executive Director, Snake River Alliance

Illinois

David A. Kraft, Director, Nuclear Energy Information Service (NEIS)

Carolyn Treadway, No New Nukes

Indiana

Grant Smith, Executive Director, Citizens Action Coalition of Indiana

Iowa

Merle P. Prater, Ph.D., Founder/Principal, Integrative Educational Systems

Kansas

James M Nordlund, Communications Director, Kansas Chapter of the National Action Network

Kentucky

Ruby English, Active Citizens for Truth (ACT)

Mary Davis, Director, Yggdrasil, a project of Earth Island Institute

Louisiana

Karen Wimpelberg, Board President, Alliance for Affordable Energy

Nathalie Walker & Monique Harden, Co-Directors, Advocates for Environmental Human Rights

Maine

Bruce K. Gagnon, Coordinator, Global Network Against Weapons & Nuclear Power in Space

Maryland

Jay. J. Levy, chair, Nuclear Free Takoma Park Committee

Massachusetts

Sandra Gavutis, Executive Director, The C-10 Research and Education Foundation

Deb Katz, Director, Citizens Awareness Network

Carol Dwyer, Co-Chair, Grassroots Actions for Peace

Mary Lampert, Director, Pilgrim Watch

Michigan

Keith Gunter, Citizens' Resistance at Fermi Two

Michael J. Keegan, Coalition for a Nuclear Free Great Lakes

Alice Hirt, Don't Waste Michigan

John Ephland, KNOW (Kalamazoo Nonviolent Opponents of War)

Sarah Nash, Assistant to the Coordinator, IHM Justice Peace and Sustainability Office

Lynn Howard Ehrle, Chair, International Science Oversight Board (a project of the Organic Consumers Association)

Betsy Winkelman, Chair, Michigan Coalition on the Environment and Jewish Life (MI-COEJL)

Vicki Levengood, Michigan Representative, National Environmental Trust

Minnesota

Judi Poulson, Chair, Fairmont Peace Group

Gladys Schmitz, SSND, Mankato Area Environmentalists, Coordinator

George Crocker, Executive Director, North American Water Office

Bruce A Drew, Steering Committee, Prairie Island Coalition

Missouri

Kathleen Logan Smith, Executive Director, Missouri Coalition on the Environment

Nebraska

Tim Rinne, Executive Director, Nebraskans for Peace

Nevada

Peggy Maze Johnson, Executive Director, Citizen Alert

Tony Guzman, Outreach Director, Nevada Conservation League

Judy Treichel, Executive Director, Nevada Nuclear Waste Task Force

New Hampshire

Chris Nord, NH CAN

New Jersey

Norm Cohen, Executive Director, Coalition for Peace and Justice/UNPLUG Salem Campaign

New Mexico

Joni Arends, Executive Director, Concerned Citizens for Nuclear Safety

Jay Coghlan, Director, Nuclear Watch of New Mexico

Don Hancock, Director, Nuclear Waste Safety Program, Southwest Research and Information Center

New York

Tim Judson, Central New York CAN

Elaine Donovan, Co-Founder, Concerned Citizens for Peace

Scott Cullen, Senior Policy Advisor, GRACE (GrassRoots Action Center for the Environment)

Jason K. Babbie, Senior, Environmental Policy Analyst, NYPIRG – New York Public Interest Research Group

Ernest J. Sternglass, Ph.D., President, Radiation and Public Health

Lisa Rainwater, Ph.D., Indian Point Campaign Director, Riverkeeper

North Carolina

Louis Zeller, Campaign Coordinator, Blue Ridge Environmental Defense League (also in SC, TN & VA)

Jim Warren, Executive Director, NC WARN (North Carolina Waste Awareness & Reduction Network)

E.M.T. O'Nan, Director, Protect All Children's Environment

Lewis E. Patrie, M.D., Chair, Western North Carolina Chapter, Physicians for Social Responsibility

Laura Sorensen, District Leader, Western North Carolina Peace Keepers

Ohio

Mark D. Stansbery, Secretary, Community Organizing Center/For Mother Earth

Lisa Crawford, President, Fernald Residents For Environmental Safety & Health, Inc. (FRESH)

Vina Colley, Co-Chair, National Nuclear Workers for Justice

Vina Colley and Lorry Swain, PRESS (Portsmouth/Piketon Residents for Environmental Safety and Security)

Oregon

Chuck Johnson, Board Member, Center for Energy Research

Paige Knight, President, Hanford Watch

Gerald Pollet, JD, Executive Director, Heart of America Northwest (also in Washington)

Pennsylvania

Dr. Lewis Cuthbert, President, Alliance For A Clean Environment

Karen H. Prather, Chair, Concern About Radiation In the Environment (CARIE)

Ernest Fuller, Vice-Chairman, Concerned Citizens for SNEC Safety (CCSS)

Eric Epstein, Coordinator, EFMR Monitoring

Eric Epstein, Chairman, TMI-Alert

South Carolina

Louis Zeller, Campaign Coordinator, Blue Ridge Environmental Defense League (also in NC, TN & VA)

Ruth Thomas, President, Environmentalist Inc.

Susan Corbett, Conservation Chair, SC Sierra Club

Tennessee

Louis Zeller, Campaign Coordinator, Blue Ridge Environmental Defense League (also in North Carolina, South Carolina & Virginia)

Ann Harris, Director, We the People, Inc.

Texas

Lisa Doggett (MD, MPH), Austin Physicians for Social Responsibility

Richard Simpson, Executive Director, La Paz Coalition

Doris Smith, Panhandle Area Neighbors and Landowners

Utah

Vanessa Pierce, Director, HEAL Utah

Pete Litster, Executive Director; Eileen McCabe, Associate Director; Shundahai Network

Vermont

Chris Williams, VT CAN

Virginia

Louis Zeller, Campaign Coordinator, Blue Ridge Environmental Defense League (also in NC, SC & TN)

Elena Day, Founding Member, People's Alliance for Clean Energy (PACE)

Washington

Gerald Pollet, JD, Executive Director, Heart of America Northwest (also in OR)

Tom Carpenter, Director, Nuclear Oversight Program, Government Accountability Project

Wisconsin

Dennis Dums, Research Director, Citizens Utility Board

John LaForge, Co-director, Nukewatch

George Paz Martin, Program Director, Peace Action Wisconsin

Amy Schulz, RN, President, Physicians for Social Responsibility Wisconsin

Judy Miner, Office Coordinator, Wisconsin Network for Peace and Justice

Al Gedicks, Executive Secretary, Wisconsin Resources Protection Council

For more information, contact Kevin Kamps at Beyond Nuclear at (301) 270-2209 or Kevin@beyondnuclear.org.

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