Principles for Safeguarding Nuclear Waste at Reactors

The following principles are based on the urgent need to protect the public from the threats posed by the current vulnerable storage of commercial irradiated fuel. The United States does not currently have a national policy for the permanent storage of high-level nuclear waste. The Obama administration has determined that the Yucca Mountain site, which has been mired in bad science and mismanagement, is not an option for geologic storage of nuclear waste. Unfortunately, reprocessing proponents have used this opportunity to promote reprocessing as the solution for managing our nuclear waste. Contrary to their claims, however, reprocessing is extremely expensive, highly polluting, and a proliferation threat, and will actually complicate the management of irradiated fuel. Nor will reprocessing obviate the need for, or "save space" in, a geologic repository.

The United States has a unique opportunity to re-evaluate our nuclear waste management plan. We can make wise decisions about safeguarding radioactive waste or go down the risky, costly, and proliferation prone path towards reprocessing.

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.

National

Leonor Tomero, Center for Arms Control and Non-Proliferation

John Issacs, Council for a Liveable World

Kevin Kamps, Beyond Nuclear

Lynn Thorp, Clean Water Action

Erich Pica, Friends of the Earth

Michele Boyd, Physicians for Social Responsibility

Jim Riccio, Greenpeace

Diane Kreiger, Nuclear Peace Age Foundation

Kevin Martin, Peace Action

Tyson Slocum, Public Citizen

Susan Gordon, Alliance for Nuclear Accountability

Arjun Makhijani, Institute for Energy and Environmental Research

Ken Bossong, SUN Day Campaign

Michael Mariotte, Nuclear Information and Resource Service

Anna Aurilio, Environment America

Winona La Duke, Honor the Earth

Dan Becker, Safe Climate Campaign

Dave Hamilton, Sierra Club

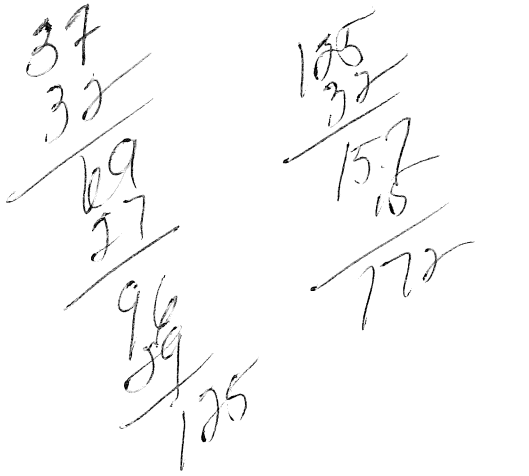
Geoffrey Fettus, Natural Resources Defense Council

Ed Lyman, Union of Concerned Scientists

Susan Shaer, Women's Action for New Directions (WAND)

Alaska

Stacy Fritz, No Nukes North



Russell Lowes, SafeEnergyAnalyst.org

Barbara Warren, Arizona Physicians for Social Responsibility

California

Rochelle Becker, Alliance for Nuclear Responsibility CA

David Hartsough, PEACEWORKERS

Jane Williams, California Communities Against Toxics

Roland Valentine, Desert Citizens Against Pollution

Mary Beth Brangan, Ecological Options Network (EON)

Betty Winholz, SAVE THE PARK

Jacqueline Cabasso, Western States Legal Foundation

Molly Johnson, Grandmothers for Peace-San Luis Obispo County Chapter

Linda Seeley, Terra Foundation

Jane Swanson, San Luis Obispo Mothers For Peace Action Committee

Marylia Kelley, Tri-Valley CARES

Michael Welch, Redwood Alliance

Enid Schreibman, Center for Safe Energy

Jennifer Olarana Viereck, Healing Ourselves and Mother Earth

Dan Hirsch, Committee to Bridge the Gap

Pamela Meidell, Atomic Mirror

Colorado

Bob Kinsey, Colorado Coalition for the Prevention of Nuclear War

Sharyn Cunningham, Colorado Citizens Against Toxic Waste, Inc.

Judith Mohling, Rocky Mountain Peace and Justice Center

Connecticut

Nancy Burton, Connecticut Coalition Against Millstone

Judi Friedman, People's Action for Clean Energy

Sal Mangiagli, Connecticut Citizens Action Network, Haddam Chapter

Washington, DC

Louis Clark, Government Accountability Project

Delaware

Alan Muller, Green Delaware

Florida

Bob Krasowski, Florida Alliance for A Clean Environment, The Zero Waste Collier County Group

Georgia

Tom Ferguson, Foundatoin for A Global Community

Bobbie Paul, Georgia WAND

Glenn Carroll, Nuclear Watch South

Bob Darby, Food Not Bombs, Atlanta

Hawaii

Henry Curtis, Life of the Land

Iowa

Maureen McCue, PSR Iowa

Idaho

Beatrice Brailsford, Snake River Alliance

Chuck Broscious, Environmental Defense Institute

Illinois

Dave Kraft, Nuclear Energy Information Service

Carolyn Treadway, No New Nukes

Indiana

Grant Smith, Citizens Action Coalition of Indiana

John Blair, ValleyWatch, Inc.

Kansas

Dave Pack, Kansas City Peaceworks

Anne Suellentrop, Kansas City PSR

Kentucky

Mary Davis, Earth Island Institute

Louisiana

Nathalie Walker, Advocates for Environmental Human Rights

Massachusetts

Debbie Grinell, C-10 Research and Education Foundation

Deb Katz, Citizens Awareness Network

Mary Lampert, Pilgrim Watch

Maryland

Dagmar Fabian, Crabshell Alliance

Johanna Neumann, Maryland PIRG

Max Obuszewski, Baltimore Nonviolence Center

Lucy Duff, Peace and Justice Coalition-Prince George's County

Maine

William S. Linnell, Cheaper, Safer Power

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

Michigan

Keith Gunter, Citizens Resistance at Fermi Two

Michael Keegan, Coalition for a Nuclear Free Great Lakes

Georgia Donovan, Izaak Walton League-Dwight Lydell Chapter

Terry Miller, Lone Tree Council

Patricia Gillis, Voices for Earth Justice

Alice Hirt, Don't Waste Michigan

Nancy Seubert, IHM Justice, Peace, and Sustainability Office

Lynn Howard Ehrle, International Science Oversight Board-Organic Consumers Association

Kay Cumbow, Citizens for Alternatives to Chemical Contamination

Ronald and Joyce Mason, Swords Into Plowshares Peace Center and Gallery

David Gard, Michigan Environmental Council

Steve Senesi, Kalamazoo Non-Violent Opponents of War

Minnesota

Danene Provencher, West Metro Global Warming Action Group, Inc.

Glady Schmitz, Mankato Area Environmentalists

George Crocker, North American Water Office

Bruce Drew, Prairie Island Coalition

Missouri

Mark Haim, Missourians for Safe Energy

Kat Logan Smith, Missouri Coalition on the Environment

Mississippi

Louie Miller, Mississippi Sierra Club

Montana

Florence Chessin, Missoula Women for Peace, a branch of Women's International League for Peace and Freedom

North Carolina

Lewis Patrie, Western North Carolina Physicians for Social Responsibility

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

Avram Friedman, The Canary Coalition

Jim Warren, North Carolina Waste Awareness and Reduction Network

Janet Marsh, Blue Ridge Environmental Defense League

North Dakota

Kandi L. Mossett, Indigenous Environmental Network

Jodie L. White, The Environmental Awareness Committee, Save Our Sacred Earth Campaign

Nebraska

Buffalo Bruce, Western Nebraska Resources Council

Tim Rinne, Nebraskans for Peace

New Hampshire

Will Hopkins, New Hampshire Peace Action

New Jersey

Paula Gotsch, Grandmothers, Mother and More for Energy Safety

Norm Cohen, Coalition for Peace and Justice-UNPLUG Salem Campaign

New Mexico

Mervyn Tilden, Sovereign Dine' Foundation

Janet Greenwald, Citizens for Alternatives to Radioactive Dumping

Joni Arends, Concerned Citizens for Nuclear Safety

Scott Kovac, Nuclear Watch of New Mexico

Greg Mello, Los Alamos Study Group

Don Hancock, Southwest Research and Information Center

Nevada

Judy Treichel, Nevada Nuclear Waste Taskforce

Jim Haber, Nevada Desert Experience

New York

Joanne Hameister, Coalition on West Valley Nuclear Wastes

Anne Rabe, Center for Health, Environment, and Justice

James Rauch, For a Clean Tonawanda Site (FACTS)

Barbara Warren, Citizen's Environmental Coalition

Phillip Musegaas, Riverkeeper NY

Tim Judson, Central New York Citizens Awareness Network

Ohio

Chris Trepal, Earth Day Coalition

Terry Lodge, Toledo Coalition for Safe Energy

Sharon Cowdrey, Miamisburg Environmental Safety and Health Network

Oklahoma

Marilyn McCulloch, The Carrie Dickerson Foundation

Oregon

Dona Hippert, Oregon Toxics Alliance

Charles K. Johnson, Center for Energy Research

Nina Bell, Northwest Environmental Advocates

Kelly Campbell, Oregon Physicians for Social Responsibility

Gerry Pollet, Heart of America Northwest

Pennsylvania

David Hughes, Citizen Power

Katherine Dodge, Northwest Pennsylvania, Audobon Society

Gene Stilp, Taxpayers and Ratepayers United

Ernest Fuller, Concerned Citizens for SNEC Safety

Patricia Harner, Philadelphia Physicians for Social Responsibility

Dr. Lewis Cuthbert, Alliance for a Clean Environment

Rhode Island

Sheila Dormandy, Clean Water Action Rhode Island

South Carolina

Susan Corbett, South Carolina Sierra Club

Dr. Finian Taylor, Hilton Head for Peace

South Dakota

Deb McIntyre, South Dakota Peace and Justice Center

Charmaine White Face, Defenders of the Black Hills

Tennessee

Donald B. Clark, Network for Economic and Environmental Responsibility, United Church of Christ

Rev. Charles Lord, Caney Fork Headwaters Association

Rev. Douglas B. Hunt, Interfaith Power & Light

Ralph Hutchinson, Oak Ridge Environmental Peace Alliance

Rev. Walter Stark, Cumberland Countians for Peace and Justice

Ann Harris, We the People, Inc.

Texas

Eliza Brown, SEED Coalition

Mavis Belisle, JustPeace

Gary Stuard, Interfaith Environmental Alliance

Craig Tounet, Austin Physicians for Social Responsibility

Jill Johnston, Southwest Workers Union

Utah

Margene Bullcreek, Ohngo Guadedah Devia Awareness

Vanessa Pierce, HEAL Utah

Virginia

Scott Sklar, The Stella Group, Inc.

Elena Day, People's Alliance for Clean Energy

Vermont

Arnie Gundersen, Fairewinds Associates, Inc.

Clay Turnbull, New England Coalition on Nuclear Pollution

Chris Williams, Vermont Citizens Awareness Network

Margaret Harrington Tamulonis, Women's International League for Peace

Washington

Tom Carpenter, Hanford Challenge

Wisconsin

Charlie Higley, Citizens Utility Board

Bonnie Urfer and John LaForge, Nukewatch Wisconsin

Al Gedicks, Wisconsin Resources Protection Council

Judy Miner, Wisconsin Network for Peace and Justice

West Virginia

Gary Zuckett, West Virginia Citizens Action Group

Wyoming

Mary Woolen, Keep Yellowstone Nuclear Free