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In Friendship with the Earth: Friends Testimonies and Nuclear Energy

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Friends Testimonies

We are entering a new phase not only of human history, but of Earth history. Due entirely to human activity, Earth's chemistry is being altered irrevocably, with dire consequences for the health and survival of humans and other living beings on Earth.

In sensitivity to the plight of Earth, Quaker Earthcare Witness seeks to "integrate concern for the environment with Friends' long-standing testimonies for simplicity, peace, and equality" and "to prevent further irreversible damage through informed, spirited action on all environmental issues: pollution, toxic wastes, conservation, recycling, energy use, global warming, loss of species and habitats, loss of arable lands and population pressures." In the QEB article "Changing World Views and Friends' Testimonies" the writers lay out a remarkable first step in articulating the connection between traditional Friends Testimonies and Witness and the emerging ecological worldview (1).

The destructive forces that have been unleashed by 20th century technology demand that people of faith ask themselves: What is the relationship between my faith and energy policy? What is the relationship, the congruity of nuclear energy to Quaker testimonies of Integrity, Simplicity, Peace, Equality, and Community? These questions will be examined both in general and as they pertain to the Indian Point Nuclear Facility (Indian Point), which is located just 35 miles from midtown Manhattan. While citizen groups have been lobbying for the closure of this aging nuclear plant, the corporation operating the plant has indicated that they plan to apply for relicensing for another 20 years.

Integrity

In human systems as well as other natural systems, the proper functioning of the whole is dependent upon the integrity of the system. That integrity consists both of the instructions contained within the organism itself—the genetic coding—and the degree to which organisms follow those instructions. Human behavior is, of course, more complex than that which is governed by our genetic coding. In human societies, our values and ethics act as a set of social instructions that influence how we behave towards one another, as well as how we govern, feed, clothe, shelter and transport ourselves.

In Quakerism, our values are expressed in our testimonies and witnesses. A key part of our spiritual practice is to continually query ourselves about how congruent is the way we live with these values. In considering the use of nuclear power as a means of generating the energy we need, integrity demands that we ask ourselves: Does nuclear energy fit with our values? How does nuclear energy support or undermine our vision of human communities that function with integrity? Does the use of nuclear energy enhance or diminish the integrity of the planet and its life-support systems on which we all depend?

Simplicity

Nuclear energy is new on the horizon of extractive, polluting and dangerous technologies. It is anything but simple: in the words of energy policy analyst, Amory Lovins, the use of nuclear energy to create electricity is like "using a chain saw to cut a stick of butter" (2) What could be done in a much simpler, elegant and non-polluting way through wind power, solar, low-impact hydroelectric and other soft technologies, requires enormous amounts of labor, capital, ecological disturbance and energy in nuclear plants.

Peace

Of all the technologies invented by humans, nuclear energy is by far the most violent. Its processes literally mutilates the basic unit of nature—the atom. In this most basic sense nuclear energy is antithetical to the Friends Peace Testimony. In the emerging eco-spiritual consciousness, every aspect of nature is sacred, from the macrocosmic galaxies, solar systems and whole planets to her

most infinitesimal manifestations in the microcosm—plankton, cell structures and the subatomic world. No matter how small, they are to be treated with respect.

Nuclear energy is also deeply tied to the weapons industry. Enriched uranium for nuclear power plants can be diverted to the production of nuclear weapons. Depleted uranium has already gone into shell casings used in the oil wars of the Middle East causing severe birth defects (3). As we are painfully aware, the potential trafficking of nuclear materials was used as a justification for the US invasion of Iraq and is now the basis of sword rattling by the Bush administration against Iran, threatening the spread of violence across the Middle East.



Quaker Eco-Bulletin (QEB) is published bi-monthly by Quaker Earthcare Witness (formerly FCUN) as an insert in *BeFriending Creation*.

The vision of **Quaker Earthcare Witness (QEW)** includes integrating into the beliefs and practices of the Society of Friends the Truths that God's Creation is to be held in reverence in its own right, and that human aspirations for peace and justice depend upon restoring the Earth's ecological integrity. As a member organization of Friends Committee on National Legislation, QEW seeks to strengthen Friends' support for FCNL's witness in Washington DC for peace, justice, and an earth restored.

QEB's purpose is to advance Friends' witness on public and institutional policies that affect the earth's capacity to support life. QEB articles aim to inform Friends about public and corporate policies that have an impact on society's relationship to the earth, and to provide analysis and critique of societal trends and institutions that threaten the health of the planet.

Friends are invited to contact us about writing an article for **QEB**. Submissions are subject to editing and should:

- Explain why the issue is a Friends' concern.
- Provide accurate, documented background information that reflects the complexity of the issue and is respectful toward other points of view.
- Relate the issue to legislation or corporate policy.
- List what Friends can do.
- Provide references and sources for additional information.

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Equality

Nuclear plants and waste dumps are often located in communities with a high proportion of minorities who are inclined, because of the high unemployment rates, to accept business from the nuclear industry at the expense of their own health (3). In the name of meeting our energy needs, the dominant culture denies equality to non-human systems and oppressed human cultures.

Community

The waste from nuclear energy, apart from being toxic to our species, is detrimental to all life forms—and not just for our present generation. The exceedingly long half-lives of the most dangerous radioactive material produced extends this form of pollution in time as well as space and condemns unborn generations to genetic mutation and illnesses due to radioactive waste (3). Nuclear energy is an aberration within the Earth Community.

Indian Point Nuclear Facility

With its proximity to New York City and approximately 10% percent of the entire US population, the Indian Point Nuclear Facility presents some unique and typical examples of problems associated with nuclear power plants.

A Continual Hazard

As nuclear plants age, mishaps and malfunctions increase. Due to a process called "embrittlement" the cores become brittle and crack easily. In addition, Indian Point has had malfunctioning control rods, failure of emergency sirens with no back up system, and multiple hairline fractures in spent fuel pools. On August 22, 2005, engineers discovered that about one liter per day of water containing radioactive strontium-90, cesium-137 and tritium has been leaking into the groundwater. To date they have not found the source of these leaks. Entergy, the private company that owns and operates Indian Point, attempts to assure the public that these leaks pose no threat to human health, but citizen groups are not convinced.

Malfunctions at this 30-plus-year-old plant have repeatedly gone unreported to local and federal officials, sometimes for nearly a month, so the public is unaware of these dangers. It took the Nuclear Regulatory Commission and Entergy over 20 days to notify elected officials and the public of the leak (4).

The Resource Conservation and Recovery Act (RCRA), a federal statute, requires operators of industrial facilities to notify the Environmental Protection Agency (EPA) within 24 hours when they discover a leak of hazardous substances from their facility and to remediate the environmental damage in a timely manner. On April 18, 2006, Riverkeeper, a citizen's watchdog organization, notified Entergy Nuclear Northeast of its intent to sue for violating this federal toxic waste law (5).

Public Health

Though recent tests have not been able to trace the radioactive substances leaking from Indian Point to their ultimate destination, according to geological studies done for Con Edison in the 1960s when the plants were built, leaks from the plant would flow into the Hudson River. Studies of baby teeth collected of children living near nuclear power plants have revealed very high levels of strontium-90. Since 1998, the New York-based Radiation and Public Health Project (RPHP) research group has conducted the Tooth Fairy Project showing that strontium-90 levels are highest in teeth from children living closest to nuclear plants and that these levels have risen substantially since the late 1980s (6).

Economic Factors Jeopardize Safety

When power plants became privately owned, cutting corners to maximize profits became built-in policy (7). Adding to this general practice, Entergy New Orleans, another subsidiary of Entergy Corp, had serious damage to their assets during Hurricanes Katrina and Rita in 2005. These losses put increased pressure on the nuclear branch of Entergy Corporation to make up the losses, creating an atmosphere in which safety and security are being overlooked in favor of energy output and profits.

In the Event of a Terrorist Attack

New York City is still regarded as the number one terrorist target in the United States. On September 11, 2001, had one of the planes that passed over Indian Point hit the reactors instead of the World Trade Center, the consequences would have been cataclysmic. According to an analysis by the Union of Concerned Scientists, an attack could result in as many as 44,000 near-term deaths from acute radiation syndrome or as many as 518,000 long-term deaths from cancer among individuals within fifty miles of the plant. Economic damages within 100 miles would exceed \$1.1 trillion and could be as great as \$2.1 trillion for the worst case evaluated, based on Environmental Protection Agency guidance for population relocation and cleanup. Millions of people would require permanent relocation (8).

The Chernobyl accident, which rendered about 1,000 square miles temporarily and 100 square miles permanently uninhabitable, released to the environment only a fraction of the radioactive material currently stored at Indian Point. The victims at Novozybkov, the most contaminated of nearby cities, have never recovered from the trauma of forever losing the ability to go into their beloved forest whose trees hold deadly amounts of radioactivity (9). Thus, a significant radiological release from Indian Point could not only render a large portion of the New York metropolitan area uninhabitable but scar the psyche of its (former) inhabitants permanently (10).

No Exit

The 17.5-mile radius surrounding Indian Point is part of the "Peak Fatality Zone". The 50-mile radius where millions of people live, including Westchester, Rockland, Sullivan, Ulster, Dutchess, Suffolk, Nassau, and all of New York City, is known as the "Peak Injury Zone." Together this comprises 20 million human beings. We have seen the difficulty residents in New Orleans had in evacuating with the onset of Hurricane Katrina, and worse, the aftermath and failure of the personnel and systems entrusted with caring for victims of disasters, man-made or natural. Anyone who



has tried to leave Manhattan on a Friday afternoon knows that any evacuation plan in the event of a direct hit or a meltdown, is an impossibility.

Does New York Need Electricity from Indian Point?

The fall in oil production due to damage to oil refineries in the Gulf of Mexico by Hurricane Katrina has been cited as a reason to re-license and build new nuclear power plants around the country. In fact, replacing Indian Point with a non-nuclear energy source will have little effect on NYC utility rates; a June 2005 Westchester County-commissioned report found that "typical residential bills in Westchester County would increase \$1.55/month if Indian Point retires before 2013/2015, and by about \$0.73/month in New York City." If the plants shut down at the end of their current licenses, there will be no increase in electric rates (11).

How Nuclear Affects Global Warming

Nuclear energy is now being touted as a way to stem global warming. However, the Nuclear Information and Resource Service (12) states that, while it is true that the actual fission process in nuclear plants does not release greenhouse gases, the other stages of the nuclear process, such as mining, the building and decommissioning of power plants, processing and storage of radioactive waste contribute to global warming. The most significant emissions are the chlorofluorocarbons released during the uranium enrichment process (3).

Spent Fuel/Radioactive Waste Storage

When the fuel rods are no longer operating efficiently, they are removed and stored at Indian Point, but these spent fuel rods are highly radioactive, more so than the original fuel rods. Currently, Indian Point is a 1500-ton high-level radioactive waste dump, with an additional 1000 tons to come, if the plant is re-licensed for 20 years. Transporting the spent fuel that currently exists in all US repository sites would take thirty years of multiple shipments per day or week (3). That endeavor will put 20 pounds of carbon dioxide into the atmosphere for every gallon of gas burned.

Relicensing

Entergy will be submitting their application for license renewal to the NRC no later than 2008. The re-licensing is for an additional two decades of operation and would allow Indian Point 2 and 3 to operate until 2033 and 2035 respectively. While over 400 elected officials in the tri-state area—including 11 members of Congress—have called for the shutdown of Indian Point, the New York City Council has yet to take a stance on its continued operation.

Indian Point Resolution 266-A, the second resolution calling for closure of Indian Point, was introduced in October of 2004 by City Council Chair James Gennaro. The resolution called for the replacement of Indian Point with a non-nuclear power source, as well as for worker retraining and the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the production of equivalent power. Resolution 266-A was before the Council's Committee on Environmental Protection until City Council elections were held in the fall of 2005. The resolution was never passed out of committee to go before the full City Council for a vote. As a result, the resolution is no longer active and would need to be reintroduced to the Environmental Protection Committee. Currently, no action is being taken to do so.

According to a 2003 report issued by Common Cause/NY, Entergy spent \$159,000 between 2002 and 2003 lobbying the City Council and Mayor. Entergy lobbyists' efforts to keep the resolution from Council debate were successful, to the peril of every life form within a 50-mile radius (13).

Take Heart/Beware

Many nuclear plants have been closed down or stopped from going online in the U.S. in large part due to citizens' actions. Friends have been involved with a number of plant closings, including the Seabrook plant in New Hampshire. The AFSC supported the successful campaign to close the Rocky Flats facility in Boulder, Colorado. Despite AFSC-supported plant action, California's Diablo Canyon facility is still online after a minor earthquake fault was found near the site. New England AFSC's *Peacework* published an article about activists' efforts to close the Vermont Yankee plant (14). On the other hand, President Bush's energy plan talks about streamlining the nuclear plant licensing process and adding incentives for getting new reactors online as quickly as six to seven years, instead of the dozen years it typically takes.

Our Way into the Future

What humans are doing to Earth today is tantamount to "de-creation." God took a look around at His handiwork on the sixth day and proclaimed that it was good. We should remember that His first commandment, before He gave the other ten to Moses, was to Adam *to take care of the Garden*.

The greatest case for closing Indian Point and calling for the decommissioning of all nuclear plants in the U.S., besides preventing the obvious risks they pose, is the vision we as a people have of living in harmony and sustainably, in friendship with Earth. The waste from these reactors remains toxic for tens of thousands of years. Is this the legacy we want to leave for thousands of future generations? After all, we have a very reliable nuclear reactor, capable of supplying most, if not all, our energy needs. It is called the sun, and it lives a safe 93 million miles away.

Angela Manno is a visual artist and writes articles focusing on the arts, politics, spirituality and ecology. She is an attendee at the 15th Street Friends Meeting in New York City and an active member of Friends in Unity with Nature and the Quaker Arts Committee. She is the editor of *Planetary Perspectives: Principles and Practices for the Emerging Civilization of Wholeness*. She teaches classes on Quaker Environmentalism and the Spiritual Basis of Earthcare. She is part of a working group of New York Yearly Meeting established to lift up the spiritual basis of Earthcare.

The Earthly Paradise: Icon of the Third Millennium, 13" x 13", egg tempera, gold leaf on wood, © A Manno, 2000 (p. 1). The Earthly Paradise is a contemporary icon symbolizing the unity and sanctity of all life, and the emerging Ecological Age. It was created with the same materials and liturgical method as traditional Byzantine Russian icons.

Children of Gaia Descended From Stars © A Manno, 1999 (p. 3). 32" x 32". This mixed media piece is part of a triptych entitled, "All My Relations," depicting the Earth Community and its interrelatedness with the Cosmos. <angelamanno.com>

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What Friends Can Do

- Learn the facts about nuclear energy (see References).
- Introduce a set of queries into your Friends Meeting. Example: What are the religious resources we bring to the issue of energy, particularly nuclear energy? What would be the motivating factor, and what obligations do we have as Friends to get involved?
- Support the conversion of nuclear power plants to natural gas, wind farms and solar.
- Support safe clean renewable energy initiatives everywhere.
- Act as Meetings, as well as individuals, to pressure elected officials to introduce local legislation to close the nuclear facility in your area and call for its replacement with renewable energy sources.
- Participate in FCNL's (Friends Community on National Legislation) priority-setting process for lobbying against nuclear energy <www.fcnl.org>
- Sign the petition for a Sustainable Energy Future at <nirs.org/petition/index.php?r=sb>.
- Contact your local utility company to see if they have a program to provide you with energy from wind, solar and low-impact hydroelectric power.