June 16, 2006

Ms. Donna Cuthbert
The Alliance for A Clean Environment
P.O. Box 3063
Stowe, PA 19464

Dear Ms. Cuthbert:

I am responding to your letter of April 21, requesting information on a variety of topics related to Limerick Station.

Our primary mission, as an independent regulatory agency, is to protect the public health and safety. As a regulator, we ensure that each nuclear power plant operates in accordance with the regulations and that safety issues are resolved in a manner that protects the public health and environment from undue radioactive risks.

Since we disagree with some of the assertions in your letter and presentation, I am including various fact sheets and information packets to provide you with more accurate information on NRC processes and programs.

Before I begin to address your concerns, let me say, you have asked that the NRC compel Exelon to provide information to your organization. While Exelon is required to provide the NRC information necessary for the agency to do its job, we cannot require the company to provide information to you.

In the enclosed attachment, I've addressed the issues which you raised in your letter to me. The concerns you cite from a "recent anonymous document" on page 4 and 5 of your letter are being evaluated. You will receive separate correspondence from the agency regarding these issues.

I trust this addresses the issues raised in your letter. Should you have any further concerns, please contact me at 610/337-5330.

Sincerely,

/RA/

Diane Screnci
Senior Public Affairs Officer

Enclosures: as stated

SUNSI Review Complete: ___ds_____ (Reviewer's Initials)

DOCUMENT NAME: G:\ORA\PUBAFF\ cuthbert.wpd
After declaring this document "An Official Agency Record" it will/**will not** be released to the Public.
To receive a copy of this document, indicate in the box: "**C**" = Copy without attachment/enclosure "**E**" = Copy with attachment/enclosure "**N**" = No copy

OFFICE	RI/POA		RI/DRP		RI/DNMS					
NAME	DScrenci		JTrapp		MMiller					
DATE	06/16/06		06/16/06		06/06/06					

OFFICIAL RECORD COPY

Tritium

Your first questions concern tritium. As we stated at the Annual Assessment Meeting on April 20, there was no water leak containing tritium from 1997 to 2004 at Limerick. As stated in your letter, there is a compacted soil passive water retaining barrier (dike) around both the condensate and refueling water storage tanks that contains cracks in the protective surface coating. The purpose of the dike is to provide a short term containment of the contents of the storage tanks in the remote possibility that a tank were to fail. Both of these tanks contain low level radioactive water which includes some tritium. The compacted soil dike is covered with a bituminous surface (asphalt) coating to prevent erosion of the compacted soil underneath. There are installed systems that could be used to quickly remove water from the dike area if a tank were to fail. The condensate and refueling water storage tanks have never had significant leakage such that the function of the dike was challenged. The probability of a catastrophic tank failure is extremely low. The licensee conducts a surveillance of the dike condition every 2 years. As stated in your letter, the surveillance has identified cracks in the bituminous surface (asphalt) and repairs of the cracks to date have not been successful. However, it's important to note that the cracks have not allowed water to result in damage to the underlying compacted soil dike. Exelon has reviewed the condition of the dike, with the existing cracks, and concluded that the dike would retain the contents of a failure of either storage tank until a time when the water could be removed. Therefore, the design function of the dike remains available and would retain the contents of the storage tank if it were to fail. The NRC Resident Inspectors have reviewed the technical basis for Exelon's conclusion and believe the basis is sound. Exelon has made plans to conduct repairs of the cracks in the asphalt coating during the next few months. The NRC Resident Inspectors will continue to monitor Exelon's actions to correct the cracks.

Exelon has an extensive tritium detection and mitigation program currently in progress at all the sites. The program includes drilling test wells for the purpose of detection of tritium. The results of this program will be provided to the appropriate state and federal agencies, if required.

Discharges to the Schuylkill River

Your second topic concerns discharges from Limerick to the Schuylkill River. Nuclear power plants routinely release small amounts of radioactivity to the environment. Prior to release, the water is fuktered and sampled to ensure the radioactivity levels are below NRC discharge limits. A permanently installed radiation detector continuously monitors the radiation levels in the water being released to the Schuylkill River. If the radioactivity level in the water approaches the NRC limit, the discharge is stopped automatically. Limerick recycles most of the plant water that contains low levels of radiactivity. When the on site storage tanks are full of water, then Limerick will monitor and discharge extra water to the river.

NRC regulations require licensees to have various effluent and environmental monitoring programs to ensure that the impacts from plant operations are minimized. The NRC requires licensees to report plant discharges and results of environmental monitoring around their plants to ensure that potential impacts are detected and reviewed. Licensees must also participate in an inter-laboratory comparison program which provides an independent check of the accuracy and precision of environmental measurements.

In annual reports, licensees identify the amount of liquid and airborne radioactive effluents discharged from plants and the associated doses. Licensees also must report environmental

radioactivity levels around their plants annually. These reports, available to the public, cover sampling from thermoluminescent dosimeters; airborne radioiodine and particulate samplers; samples of surface, groundwater, and drinking water and downstream shoreline sediment from existing or potential recreational facilities; and samples of ingestion sources such as milk, fish, invertebrates, and broad leaf vegetation.

The NRC conducts periodic onsite inspections of each licensee's effluent and environmental monitoring programs to ensure compliance with NRC requirements. The NRC documents licensee effluent releases and the results of their environmental monitoring and assessment effort in inspection reports that are available to the public. All Limerick inspection reports are available on the NRC web site at www.nrc.gov/NRR/OVERSIGHT/ASSESS/listofrpts_body.html. Additional information, including the effluent reports provided by Exelon to NRC, is available through the NRC's electronic database www.nrc.gov/reading-rm/adams/web-based.html. Enter the accession number ML061250292 for the licensee's most recent environmental report dated April 28, 2006.

Security

For decades, nuclear power plants were well protected by physical barriers, armed guards, intrusion detection systems, area surveillance systems, access controls, and access authorization requirements for employees working inside the plants. In response to the September 11 attacks, the NRC moved aggressively to further enhance safety and security, and has comprehensively re-evaluated and strengthened security at nuclear power plants and other facilities, and for radioactive material it regulates. Nuclear power plants continue to be the best protected private sector facilities in the nation.

Since September 11, 2001, the NRC has issued Orders to its major licensees. These Orders include measures to protect against an insider terrorist attack; waterborne, airborne, and land-based assaults; as well as threats from a vehicle bomb. The specific security measures generally include increased patrols, augmented security forces and capabilities, additional security posts, installation of additional physical barriers, vehicle checks at greater stand-off distances, enhanced coordination with law enforcement and military authorities, and more restrictive site access controls. The NRC evaluates implementation of the Orders through onsite inspections following receipt of the mandatory compliance data.

Airport Issues

The deployment of anti-aircraft weapons would be a decision for the Secretary of Defense, not the NRC. However, the NRC believes that application of anti-aircraft weapons would present significant command and control challenges, particularly relating to the time required to identify a hostile aircraft and get permission to shoot down a civilian commercial aircraft, and the potential for collateral damage to the surrounding community.

The Commission believes that the best approach to dealing with threats from aircraft is through strengthening airport and airline security measures. Consequently, we continue to work closely with the appropriate Federal agencies to enhance aviation security and thereby the security of nuclear power plants and other NRC-licensed facilities. Shortly after the September 11, 2001 attacks, the NRC, working with representatives of the Federal Aviation Administration and Department of Defense, determined that a Notice to Airmen (NOTAM), issued by the FAA, was

the appropriate vehicle to protect the airspace above sensitive sites. This NOTAM strongly urged pilots to not circle or loiter over the following sites: nuclear/electrical power plants, power distribution stations, dams, reservoirs, refineries, or military installations, or they can expect to be interviewed by law enforcement personnel.

High Level Waste Storage

I have included numerous fact sheets and other information regarding the NRC's oversight of dry cask storage facilities. As you can see, dry cask storage is not a new technology. It has been used by the commercial nuclear industry for about 20 years.

Dry cask storage allows spent fuel that has already been cooled in the spent fuel pool for at least one year, to be surrounded by inert gas inside a container called a cannister. The cannisters are typically steel cylinders that are either welded or bolted closed. The steel cylinder provides a leak-tight containment of the spent fuel. Each cylinder is surrounded by additional steel, concrete, or other material to provide radiation shielding to workers and members of the public. Some of the cask designs can be used for both storage and transportation. Selecting a cask that can only be used for storage at this point, is also an acceptable option for a company.

There are various dry storage cask system designs. With some designs, the steel cylinders containing the fuel are placed vertically in a concrete cask or vault; other designs orient the cylinders horizontally. The concrete vaults provide the radiation shielding. Other cask designs orient the steel cylinder vertically on a concrete pad at a dry cask storage site, and use both metal and concrete outer storage casks for radiation shielding.

The first dry storage installation was licensed by the NRC in 1986 at the Surry Nuclear Power Plant in Virginia. Limerick is planning to use a NUHOMS cask for its Independent Spent Fuel Storage Installation. NUHOMS is a registered trademark for casks made by Transnuclear. I have enclosed a fact sheet that explains the process for using a pre-certified cask. I have also enclosed the applicable certificate of compliance. The safety evaluation and amendment is available through the NRC's electronic reading room at www.nrc.gov/reading-rm/adams/web-based.html. Enter the accession number ML053390278.

Casks must meet extremely demanding standards to ensure their integrity in the most severe conditions, including sabotage. If terrorists did succeed in striking a cask with an explosive and the cask were breached, the terrorists would also have to succeed in getting the radioactive material out of the container and dispersing it into the environment. The design of casks would make such a release extremely unlikely.

I have included a Fact Sheet on the certification process to better your understanding of what the NRC considers when a vendor submits a cask design for certification and the general license process.

Cask Quality Assurance

Your request for the Government Accountability Office to investigate your concerns regarding "cask quality assurance" should be forwarded to the GAO.

You cite the concerns regarding quality assurance raised by Oscar Shirani. I have enclosed the report on the Special Inquiry conducted by the Office of the Inspector General, "NRC's Oversight of the Quality Assurance Programs related to the manufacture of Holtec International Dry Cask Storage Systems."

You have listed a variety of issues that have come up over the years at various dry cask storage installations. They have been inspected by the NRC and corrective actions taken, as necessary. For example, in July 1996, NRC issued a Bulletin to the industry notifying licensees of the potential for chemical, galvanic or other reactions among the material of certain spent fuel storage cannisters, and requiring that actions be taken to address the issue.

The Sandia Study

The Sandia study, "Guidance for Siting Criteria Development," does not represent what would be expected if a severe accident occurred at a nuclear power plant - for any reason. The report clearly states this. It says "in no way are these [conclusions] to be taken as estimates of existing reactor combinations."

The study was an effort by the NRC to compare the effect that factors such as population densities, meteorology, geography, geology and emergency planning could play in the consequences of a severe nuclear accident. In order to provide meaningful comparisons between the effects of factors, analysts employed an accident scenario orders of magnitude greater than what is believed possible.

The NRC has been reexamining the predicted behavior of spent fuel stored in pools during various accident scenarios. This reexamination includes the mechanisms associated with cooling, potential heat-up and degradation, fission product release, transport, and deposition, as well as possible offsite consequences. These analyses are being performed using updated, realistic methods. Insights from these more realistic analyses indicate that:

- the spent fuel stored in spent fuel pools is more easily cooled than predicted in earlier NRC studies;

- the consequences of such an accident would be much less severe than previously estimated;

- the radioactive release would be much smaller (by at least a factor of 10 for the scenarios analyzed), and the radioactive release would begin later than previously estimated, thereby:
  - providing more time for implementing effective protective measures (e.g., evacuation of the emergency planning zone),
  - resulting in reduced health effects, and
  - resulting in reduced land contamination.

The National Research Council, in its 2002 report, *Making the Nation Safer: The Role of Science and Technology in Countering Terrorism*, noted that "[t]he threat of terrorist attacks on spent fuel storage facilities, like reactors, is highly dependent on design characteristics." Differences in the design of spent fuel pools and dry cask storage facilities make it difficult to compare the relative safety of each method. We believe that spent fuel stored in both spent

fuel pool and dry cask storage configurations is safe, and that measures are in place to provide adequate protection of the public. As our ongoing efforts are completed, the staff will take appropriate regulatory actions, as needed, to enhance further the continued safe storage of spent fuel.

Waste Confidence

Limerick is allowed to continue to operate even though there is no permanent disposal site for the nation's spent fuel because of the "waste confidence decision." The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations. Further, the Commission believes there is reasonable assurance that at least one mined geologic repository will be available within the first quarter of the twenty-first century, and sufficient repository capacity will be available within 30 years beyond the licensed life for operation of any reactor to dispose of the commercial high-level waste and spent fuel originating in such reactor and generated up to that time.

Yucca Mountain

United States policies governing the permanent disposal of high-level radioactive waste are defined by the Nuclear Waste Policy Act of 1982 as amended. This act specifies that high-level radioactive waste will be disposed of underground, in a deep geologic repository, and that Yucca Mountain, Nevada, will be the single candidate site for characterization as a potential geologic repository.

The NRC is one of three Federal agencies under the Act with a role in the disposal of spent nuclear fuel and other high-level radioactive waste. The Department of Energy has the responsibility for developing permanent disposal capacity for spent fuel and other high-level radioactive waste.

The Environmental Protection Agency has responsibility for developing environmental standards to evaluate the safety of a geologic repository. The NRC has responsibility for developing regulations to implement the EPA safety standards and for licensing the repository. The NRC must determine whether a permanent repository will be safe to license. Since an application for a license has not been submitted to NRC by DOE, we have no comment on the plans for Yucca Mountain. Your comments regarding the viability of Yucca Mountain should be directed to DOE.