

Limerick Nuclear Plant's

"So-Called"

LOW-LEVEL RADIOACTIVE WASTES

**Can Take As Long As 500 Years
To Fade To Natural Background Levels.**

LOW-LEVEL DOES NOT MEAN LOW RISK

Limerick Nuclear Plant's Low-Level Radioactive Wastes Include:

- ✓ **Waste Sludges**
- ✓ **Water Treatment Residues**
- ✓ **Filter Elements**
- ✓ **Spent Resins**
- ✓ **Evaporated Bottoms**
- ✓ **Materials Used In Decontamination and Contamination Control**
- ✓ **Plastic Sheeting**
- ✓ **Machine Parts**
- ✓ **Tools**
- ✓ **Contaminated Equipment**
- ✓ **Paper**
- ✓ **Rags**
- ✓ **Plastic Sheeting**
- ✓ **Spent Demineralizer Resins**
- ✓ **Shoe Coverings**
- ✓ **Gloves**
- ✓ **Mops**
- ✓ **Wiping Rags**

As long as Limerick continues to operate, massive amounts of dangerous low-level radioactive wastes will continue to be produced. Eventually, we will run out of room to store it safely.

Only three U.S. sites were approved to store low-level radioactive wastes, Utah, Washington State, and South Carolina. Limerick's went to South Carolina until 2008, when they would no longer take it. Now it's being transported to another Exelon nuclear plant in PA, Peach Bottom. To save money, we are concerned that Exelon will try to burn it at Limerick.

RESIDENTS BEWARE:

INCINERATION OF RADIOACTIVE WASTES SPREADS RADIATION, EXPOSING EVEN MORE PEOPLE THROUGH THE MOST DANGEROUS DELIVERY SYSTEM. INCINERATION DELIVERS RADIATION INTO THE LUNGS, TRAVELING INTO ORGANS THROUGH THE BLOOD STREAM.

Low-level Radioactive Wastes Are Piling Up Everywhere. The nation is running out of room to store low-level radioactive wastes.

Low-level radioactive wastes should not be dumped in ordinary landfills. Pottstown Landfill was a prime example of how landfill gas and leachate become radioactive, spreading radiation into the community air and water around the landfill.

Until July 2008 there were only 3 sites in the nation that could accept Limerick's low-level radioactive wastes - South Carolina, Utah, and Washington State.

July 2008, South Carolina would no longer take Limerick's low-level radioactive wastes. South Carolina was the site previously accepting Limerick's low-level radioactive wastes. It seemed clear Exelon's only choices left were to transport it all the way across our nation to Utah and Washington State or find some other way to deal with it for up to 500 years.

A huge concern was the attempt to build an incinerator next to Limerick Nuclear Plant, where Limerick's low-level radioactive wastes could easily have been slipped into the waste stream next door. ACE investigations on incinerators have revealed that incinerators are a tremendous air pollution threat to public health. An incinerator burning low-level radioactive wastes would be magnitudes worse. Burning does not make radiation disappear. Inhaling radionuclides is one of the worst routes of exposure.

ACE vigorously opposed the incinerator. Fortunately, plans for the incinerator disappeared.

However, it appears Exelon may have been planning another even more dangerous way to burn Limerick's low-level radioactive wastes. When Limerick Nuclear Power Plant applied for its Title V major air pollution license renewal, ACE questioned whether Exelon was already incinerating Limerick's low-level radioactive wastes in the boiler on site which was identified to be emitting the same air toxics as an incinerator. Due to previous ACE investigations and opposition to incinerators in our community, we recognized air pollutants listed in Limerick's air pollution permit were the same as those for an incinerator.

Our major concern was the synergistic, additive, and cumulative harmful health impacts from all these toxics, combining with all the different kinds of radionuclides routinely released at Limerick, plus the magnified radiation risks from burning LLRW. Experts helped ACE identify and explain the extreme danger with the potential consequences of exposure to radionuclides from an incineration process.

The list below suggested to us that Exelon was incinerating at least some of Limerick's LLRW in one of Limerick's 3 boilers, calling it "Waste Derived Liquid Fuel".

Section D Source Level Requirements #005 – Operating permit terms and conditions

(a) "The permittee, may, in auxiliary boiler "A", fire ... Specific Waste Derived Liquid Fuel (WDLF)."

The air toxics listed below from the WDLF are similar to those from incineration. The permit stated that WDLF Shall Meet Following Contaminant Limits Prior to mixing and Shall Not Exceed Limits After mixing:

(PRIOR to mixing with virgin No. 2 oil)		(AFTER mixing or out the stack?)	
• Arsenic	10 ppm	Arsenic	5 ppm
• Cadmium	10 ppm	Cadmium	2 ppm
• Chromium	20 ppm	Chromium	10 ppm
• Lead	300 ppm	Lead	100 ppm
• PCB	49 ppm	PCB	10 ppm
• Total Halogens	1000 ppm	Total Halogens	1000 ppm
		Ash	2% ASTMD-482
		Sulfur	0.3% X-Ray Diffraction

Permit States: Maximum Amount of WDLF to be burned in the boiler shall not exceed;

- 1) 10,000 gallons over 12 consecutive months
- 2) Maximum of 3,000 gallons in any single month

- **INCINERATING LIMERICK'S LOW-LEVEL RADIOACTIVE WASTE IS NOT AN OPTION IN THIS HEAVILY POPULATED REGION, WHERE THERE IS ALREADY A HEALTH CRISIS.**
- **NRC NEVER ADMITTED TO ACE THAT THEY APPROVED OF LOW-LEVEL RADIOACTIVE WASTE INCINERATION.**
- **IN 2011 NRC APPROVED INCINERATION OF 1,000 TONS OF LOW-LEVEL RADIOACTIVE WASTES FROM GERMANY, TO BE INCINERATED IN TENNESSEE.**

NRC'S DANGEROUS DECEPTION

In 2009, NRC denied knowledge of Limerick's low-level waste being burned when questioned by ACE, but NRC admitted to a community member that Limerick was incinerating some of Limerick's low-level radioactive waste, and referred them to PA DEP.

In PA DEP's response document to ACE, DEP denied that Limerick was burning low-level radioactive waste, but also failed to answer many of our specific questions.

ACE asked PA DEP for an accounting of all Limerick's low-level radioactive waste amounts and their destination since 2000, to compare the amounts before and after the closing of Pottstown Landfill in 2005 and Barnwell, S.C. IN 2008.

- **PA DEP FAILED TO PROVIDE THE ACCOUNTING OF ALL LIMERICK'S LOW-LEVEL WASTES, AND FAILED TO REQUIRE EXELON TO PROVIDE THAT.**

Ironically, PA DEP's response document 12/09 claimed all Limerick's low-level rad-wastes were stored in a special building on the Limerick Nuclear Plant site.

- **A month later an article in our local paper said Exelon was requesting permission to send Limerick's low-level radioactive waste to another Exelon site in PA, Peach Bottom.**
ACE also asked NRC for an accounting of the destination of all Limerick's massive low-level radioactive wastes since 2000 when Exelon bought Limerick Nuclear Plant. To this day, we never received an accounting.

- **NRC FAILED TO PROVIDE AN ACCOUNTING OF THE TOTALS OF LIMERICK'S LOW-LEVEL RADIOACTIVE WASTE AND THEIR DESTINATIONS FOR STORAGE.**

Exelon has since been granted permission to transport Limerick's low-level wastes to Peach Bottom in PA.

Limerick can send some nuclear waste to Lancaster plant

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LIMERICK — Low-level radioactive waste from Exelon Nuclear's Limerick Generating Station can now be transferred to a Lancaster-area nuclear power plant as the result of a recent decision by the Nuclear Regulatory Commission.

The request was made in early 2010 when Exelon realized it does not have enough appropriate storage space at its Limerick plant. NRC approved the request to begin sending it to Peach Bottom Atomic Generation Station on May 31.

Prior to the Jan. 6, 2010, request from Exelon, the plant had sent this type of waste to a disposal facility in Barnwell, South Carolina.

But that facility closed its doors in 2008 to all low-level radioactive waste except that generated in plants that are part of the Atlantic Low-Level Waste Compact. Pennsylvania is not a part of that pact.

Low-level radioactive waste is not the spent fuel rods that are kept in pools and, once they've cooled sufficiently, are stored in steel and concrete casks on the Limerick property.

Rather, low-level radioactive waste can be things like tools, lab coats, shoe covers even paper towels, that have become irradiated and cannot be disposed of in the regular trash stream.

"Most LLW (about 95 percent) is Class A, the lowest concentration category," NRC spokesman Neil Sheehan wrote in a recent email to The Mercury.

"Remaining radioactive wastes are either Class B or Class C, depending on their radioactivity. (Concentration is the total amount of radioactivity divided by the weight or volume of the waste.)

"Class A waste consists of such materials as trash, discarded clothing, oils and sludges.

"Class B waste is largely composed of equipment and materials from nuclear power plants and includes such items as used hardware (tools), filters and water purification resins. [Continued...](#)

"Class C, which represents less than 1 percent of all low-level radioactive waste, includes irradiated reactor parts. Waste in this category has higher concentrations of radioactivity and requires engineered barriers designed to prevent against inadvertent intrusion for at least 500 years," Sheehan explained.

The NRC studied the risks of transporting this waste and found them no worse than the risk of transporting them to South Carolina.

Shipments of the waste occur only two or three times a year and can be accommodated at Peach Bottom because that plant has more extensive storage facilities.

Even though the waste will be stored at Peach Bottom, "Limerick will retain decommissioning responsibility for any low-level radioactive waste transferred" there, Sheehan said.

Further, "all transferred low-level radioactive waste sent to Peach Bottom must ultimately be transferred to a disposal facility."

However, Sheehan confirmed that for states not part of the compact with access to Barnwell, "there is not currently any disposal facility for Class B & C low-level radioactive waste."

Important questions about the destination of Limerick's low-level radioactive wastes have gone unanswered.

- ✓ **How many years will Peach Bottom be able to continue to store massive amounts of Limerick Nuclear Plant's low-level radioactive wastes?**
- ✓ **If a permanent disposal site for Limerick's low-level waste is not found, how can Peach Bottom continue to store all Limerick's waste and their own until 2029?**
- ✓ **If it can't go to Peach Bottom, where will Limerick's low-level waste be stored until 2029 when Limerick closes?**
- ✓ **HOW COULD NRC EVEN CONSIDER RELICENSING LIMERICK WITHOUT KNOWING THERE IS A PERMANENT DESTINATION FOR ALL LIMERICK'S LOW-LEVEL RADIOACTIVE WASTE?**

CITIZENS BEWARE!

**KEEP YOUR EYES AND EARS OPEN
EXELON MAY ATTEMPT TO INCINERATE LIMERICK'S RADIOACTIVE WASTE
WE CAN'T LET THAT HAPPEN!**

MASSIVE LOW-LEVEL RADIOACTIVE WASTES

ANOTHER REASON

TO CLOSE LIMERICK NUCLEAR PLANT NOW

