TERRORISTS

WANT TO ATTACK A NUCLEAR PLANT
TO CAUSE CATACLYSMIC DISASTER

An Attack On Limerick Nuclear Plant Would Release The Same Kind Of Radiation As A Nuclear Bomb.
Health, Environmental, and Financial Consequences Could Be Catastrophic

LIMERICK NUCLEAR PLANT IS AN INVITING TARGET

OVER 8 MILLION PEOPLE LIVE WITHIN 50 MILES. MILLIONS COULD LOSE THEIR HEALTH, HOMES, AND ALL THEIR POSSESSIONS

YET NRC IS PROTECTING EXELON'S BOTTOM LINE, NOT PUBLIC INTERESTS.

LIMERICK IS EXTREMELY VULNERABLE TO TERRORISTS' ATTACKS

1. **Limerick Is Still NOT Guarded Against Terrorists' Planes or Missiles**
2. **Deadly Fuel Pools Are Packed and Vulnerable To Air or Missile Strikes, Releasing More Radiation Than At Chernobyl**
3. **Detailed Satellite Images Give Advantages to an Attacking Force**
4. **An Al-Qaida Suspect Worked At Limerick Between 2003 to 2007**
5. **Cyber Attacks (Recently Declared An Act Of War) Could Lead To A Meltdown**

A Body Of Evidence In This Report Shows That NRC POLICIES ON TERRORISM ARE BEYOND LAX, THEY'RE NEGLIGENT.

9/11/01 terrorists attacks removed all credibility from NRC's position that terrorist attacks on nuclear facilities are 'speculative'. The 9/11 Commission investigations revealed terrorists' interest in attacking nuclear power plants.

To Protect Public Interests, Until Limerick Nuclear Plant Closes EXELON MUST BE REQUIRED TO PROVIDE THE MOST PRECAUTIONARY MEASURES, REGARDLESS OF COSTS.

It Is Unacceptable That Limerick Nuclear Power Plant Is STILL VULNERABLE AND NOT PROTECTED Against A 9/11 Type Plane Or Missile Attack By Terrorists!

The Problem: NRC Values Exelon Profits Over Public Protection.

Limerick was protected a short time after 9/11, while government was paying the national guard.

We Are NOT Protected Against A Plane or Missile Attack On Limerick Nuclear Plant Because:

- **Exelon Won't Pay To Guard Against a 9/11 Type Attack on Limerick**
- **NRC Won't Make Them Pay**

NRC Should Not Leave Us Vulnerable To A Terrorist Plane or Missile, When That Kind Of Cataclysmic Disaster Is Avoidable.

Death and Many Serious Health Consequences Could Be Avoided With Improved Precautions

Taxpayers Can't Afford The Consequences Of Exelon Failing To Pay To Prevent An Avoidable Catastrophe (Potentially $1 Trillion).

- **Residents Can't Afford The Uninsured Loss of Their Homes and Possessions**
- **Taxpayers Can't Afford To Pay A Trillion Dollars (The Nuclear Industry Pay Only $12 Billion)**

Limerick Nuclear Plant Is A Prime Target Due To Density Of Population Over 8 Million People Within 50 Miles

Until Limerick Is Closed, And All Deadly Fuel Rods Are Removed From Pools and Generators;

The Following Precautions Should Be Required Immediately

1. **Exelon Should Guard Against Air Strikes and Missile Attacks by Terrorists At Limerick.**

2. **Close the Limerick Airport, located only about one mile from the nuclear plant.**

3. **Exelon Should Harden "Spent Fuel" Storage Targets.**

4. **NRC Should Get All Aerial Views Of Limerick Nuclear Plant Removed From The Internet.**

5. **Provide a larger ground guard force with 24 hour specific guarding of the railroad tracks that run through the 600 acre property and the extensive border along the banks of the Schuylkill River. A handful of guards to cover the entire 600 acres is insufficient.**

For Limerick Nuclear Plant's
Updated Environmental Impact Statement (EIS)

NRC Should Be Required To Evaluate, Report On, and Require Exelon To Provide The Most Stringent Precautions On All Terrorist Related Threats Listed In This Report, Regardless of Costs To Exelon.

Exelon's Costs Would Be Insignificant By Comparison To The Public's Costs For All The Devastating Consequences Of A Terrorist Attack On Limerick Nuclear Plant!

NRC's Updated EIS for Limerick Must Include Terrorism by Aircraft, Missiles, and Cyber Attacks On Spent Fuel Pools and Casks, as Well As Generators.

If Exelon Refuses To Provide The Most Protective Precautions, NRC Should Close Limerick As Soon As Possible To Minimize Risk Of A Terrorist Attack.

YOUR VOICE IS NEEDED TODAY!
CONTACT YOUR U.S. SENATORS AND CONGRESSMEN

- **ASK THEM TO DEMAND THAT NRC IMMEDIATELY REQUIRE THE MOST STRINGENT PRECAUTIONS AGAINST A TERRORIST ATTACK ON LIMERICK NUCLEAR PLANT.**

WE BELIEVE WHEN YOU REVIEW THE EVIDENCE YOU WILL AGREE THAT THIS IS IMPERATIVE. OUR LIVES AND POSSESSIONS ARE IN THE BALANCE.

Guarding Against A 9/11 Type Terrorist Attack Is Imperative-

- Knowing Limerick's fuel pools are vulnerable to unstoppable radioactive fires and meltdown from an aircraft attack, even after 9/11, NRC failed to require Exelon to spend the money to guard Limerick against a 9/11 type terrorist attack by plane or missile.
- Limerick Airport is about one mile away, but NRC failed to have it closed even after 9/11. NRC foolishly told ACE not to worry because Exelon owned the airport, even though Exelon still allowed flying lessons, a huge aircraft event every September, and frequent helicopter traffic.
- Soon after that a drunken pilot used the airport and we learned there was no effective means to shoot him down if that became necessary. Exelon no longer owns the airport, and to the best of our knowledge, pilot lessons are still given there.

The drunken pilot incident shows there was no way to stop a plane from attacking Limerick's vulnerable fuel pools or other dangerous areas. It proved it is possible for a plane taking off and landing at Limerick Airport to crash into Limerick's vulnerable fuel pools, using jet fuel to cause an unstoppable radioactive fire with an eventual meltdown.

Drunken Pilot Who Buzzed Limerick Nuclear Power Plant Sentenced

Posted on: Wednesday, 1 December 2004, 18:00 CST Source: Associated Press/AP
NORRISTOWN, Pa. - A drunken pilot who buzzed his plane near a nuclear power **plant** and came near six commercial airliners was sentenced to six to 23 months in prison on Tuesday.
John V. Salamone had a blood alcohol level of 0.15 percent when he landed the plane after an erratic, four-hour flight on January 15, 2004 over the Philadelphia region, authorities said. The legal limit for pilots, set by the Federal Aviation Administration, is 0.04 percent, half the amount for drivers in Pennsylvania. Salamone, 44, who faced up to nine years in prison, must also serve five years probation and undergo alcohol counseling, a Montgomery County judge ordered.

- Salamone was convicted of risking a catastrophe and reckless endangerment after prosecutors learned the initial state charge of driving under the influence does not apply to pilots. Lawmakers have since tried to rectify the legal loophole, passing a bill - now awaiting the governor's signature - that makes flying drunk a crime.
- Salamone, flying a single-engine Piper Cherokee, meandered into New Jersey and flew into forbidden airspace. He flew as low as 100 feet and within a quarter mile of the Limerick nuclear power plant, officials said.
- A Philadelphia police helicopter helped force the plane down. **Officials acknowledged at the time there was little they could do, physically, to bring the plane down** after the North American Aerospace Defense Command concluded it was not a terrorist threat.

"Nuke Plants Not Responsible For Airliner Attacks" 1/31/07 Mercury Article by Evan Brandt

- Exelon will not be required to protect our region against a plane or missile attack at Limerick Nuclear Power Plant, regardless of devastation that could be similar or possibly worse than that mentioned above after Chernobyl.
- Rather than requiring preventive measures, NRC is relying on post-crash measures and evacuation plans.
- NRC is not requiring the nuclear industry to provide the protection against 9/11 style terrorists attacks with airplanes or rocket-propelled grenades. NRC instead is protecting the financial interests of the nuclear industry.
- NRC's new plan assumes that a terrorist attack force would be relatively small and its weapons limited. Instead of sizing the design basis threat on an actual air or missile strike, NRC bases security standards on what the nuclear industry believes a private guard force can be expected to handle. NRC has allowed the nuclear industry to avoid the protection that is clearly needed in today's world.
- The nuclear industry argued that protecting nuclear plants against planes, missiles, or a large ground attack force should be the responsibility of the government.
- Senator Barbara Boxer, with jurisdiction over NRC wrote a letter that was ignored, stating "NRC's defense requirement should ensure that … the plants are prepared to defend against large attacking forces and commercial aircraft."

Evidence Below Shows Limerick Nuclear Plant's Security Has Been Woefully Inadequate. It Dispels NRC and Exelon's False Claims That Limerick Is "Adequately Protected".

- "***Nuclear Plant Guards Caught Sleeping On The Job***" **September, 2007**
  At NRC's 2007 spring meeting on Limerick, ACE reported information provided by a Limerick whistle blower about guards at night sleeping and being otherwise distracted. Both Exelon and NRC denied it was possible. It took video tape of sleeping guards at another Exelon nuclear plant, being seen on national TV to get Exelon and NRC to take this threat seriously enough to fire the Security Company.

- "***Al-Qaida Suspect Worked At Limerick Nuclear Plant"*** **March, 2010** Associated Press
  An Al-Quaida terrorist suspect working at Limerick undetected for 5 years is cause for concern. This incident verifies that screening for terrorists is lax. It shows that screening is ineffective during influxes of 1,500 to 2,000 workers changing radioactive fuel rods each year. This Al-Qaida suspect was able to get into the Limerick site for five years. Both NRC and Exelon FAILED To Uncover An Al-Qaida Suspect Working At Limerick During Refueling For 5 Years (2003 to 2007). Mercury staff writer Evan Brandt contributed to this report. **URL:** **http://www.pottsmerc.com/articles/2010/03/13/news/srv0000007808333.prt** See article from Mercury at the end of this report.

- **Detailed aerial views of the Limerick Nuclear Plant site are still on the internet, showing terrorists exactly where to attack.**

- **Virtual How-to Manual for Attacking a Nuclear Plant with an Airplane Titled, "*Evaluation of Air Craft Crash Hazards Analyses for Nuclear Power Plants"* was still available for download from DOE's website in March, 2010.** Reported in Patriot News 4/23/10
  - ✓ A 20 year old document was left on the internet until April 2010, showing the area that a plane could hit at a reactor with maximum effect, and cited targets that a plane could strike and cause radioactive releases.
  - ✓ This was discovered by a citizen researching sabotage and terrorism targeting nuclear plants. At the request of Three Mile Island's activist group, it was removed recently.
  - ✓ DOE says it was posted by mistake. Exelon, owner of TMI and Limerick, as usual downplayed the threat that such a document poses, with an uncredible industry post 9/11 study. Incredibly, Exelon's spokesperson admitted that a jet hitting a containment building would cause a fire - but failed to mention that fires can cause meltdowns.

- **At the 2010 Exelon PR event in Limerick, an Exelon employee at the security table failed to take concern seriously, actually laughing at alarming unprotected threats.**
  - ✓ Employees inaccurately claimed no risk from terrorists air strikes and missiles.
  - ✓ We were told a terrorist ground force could not get through. Yet, June 2010, 60 Minutes featured a story that validated our concern. A similarly guarded facility in South Africa was infiltrated all the way into the control room. The fence was carefully cut and the alarm system and guards were disabled.

Health and Economic Impacts Of A Terrorist Attack On Limerick's Spent Fuel Pools

Limerick Nuclear Plant is a ticking time bomb. Especially vulnerable to aircraft penetration, Limerick's fuel pools can be turned into weapons of mass destruction. Still, Exelon has not been required to spend the money to guard Limerick against terrorist missiles or air strikes.

Large volumes (over 6,000 assemblies-1,000 tons), of Limerick's highly radioactive wastes (spent fuel rods) — are stored in densely packed fuel pools, elevated five stories above and outside the reinforced containment structure for the reactor.

Limerick's design is similar to reactors in meltdowns at Fukushima. Roof-top fuel pools are highly vulnerable to loss of power and cooling water from an earthquake or other natural disasters, in addition to a variety of attacks by terrorists. With loss of cooling water, Limerick's fuel rods can heat up, self-ignite, and burn in an unstoppable fire, causing tens of thousands of deaths up to 500 miles away, according to a 2000 NRC study.

A meltdown in a spent fuel pool could cause fatal radiation-induced cancer in thousands of people as far as 500 miles from the site.

A 2004 Study by Dr. Edwin Lyman, Senior Scientist at the Union of Concerned Scientists, Concluded:

- **As many as 44,000 near-term deaths from acute radiation poisoning.**

- **518,000 long term deaths from cancer.**
- **Deaths could occur among people living as far as 60 miles downwind**.

A 2003 study by Dr. Frank Von Hippel, Director of Science and Global Security at Princeton University, concluded that:

- **A successful terrorist attack on a spent fuel storage pool could have consequences "significantly worse than Chernobyl."**
- **A catastrophic spent fuel fire could release a radiation plume that could** contaminate 8 to 70 times more land than Chernobyl. (Would include the entire **Philadelphia Metropolitan Region).**

A January 2003 study by Dr. Gordon Thompson, Director of the Institute for Resource and Security Studies (entitled "Robust Storage of Spent Nuclear Fuel: A Neglected Issue of Homeland Security") reviewed ways spent fuel pools are vulnerable to attack.

- A nuclear fire in 1 spent fuel pool would **"render about 95,000 square kilometers of land uninhabitable,"** (would cover about 75% of New York State, and into, segments of NJ and CT.)

Serious Concerns

Until April, 2010 a report was on the U.S. government Web-site that could help terrorists plan an airplane attack on a nuclear plant. That report was only removed recently because of repeated concerns and criticism expressed by a TMI security consultant. However, it is still on microfiche at some public libraries. The report was titled,

"Evaluation of Air Crash Hazards Analyses for Nuclear Power Plants."

- ✓ NRC downplayed the dangerous threat from this document in an associated press article 4-25-10
- ✓ NRC said agency (NRC) studies indicate "a low likelihood" that a crash would affect public health and safety because of "the inherent robustness" of plant structures. **Other studies show many nuclear plant structures and their fuel pools are not robust and that public health and safety would be greatly impacted, including at Limerick Nuclear Plant.**
- ✓ Exelon's spokesperson cited an Electric Power Research Institute conclusion that a large jet hitting a containment building would cause a fire but no structural breach and would not result in a large radiation release to the public. **Fires and explosions of an aircraft could breach the structure, according to some experts and lead to a meltdown.**

Limerick Airport is a public airport Only About One Mile From Limerick Nuclear Power Plant -

The extremely close proximity of Limerick Airport to the nuclear plant presents unnecessary risks. ACE was told by Exelon and NRC that risks were mitigated by Exelon owning the airport. Even if that were true, Exelon has since sold the airport.

Limerick Airport increases potential of an attack on Limerick by planes or missiles.

- ACE asked NRC to close Limerick Airport after 9/11. NRC deceptively and inaccurately claimed the public had no cause to worry because of increased security and Exelon owned the airport, therefore carefully controlling air traffic in and out of the airport. NEITHER IS TRUE! In fact, Exelon is currently trying to sell Limerick Airport.
- The recent drunken pilot incident at Limerick Airport shows authorities would be unable to stop an attack on Limerick Nuclear Plant. Even a small plane, loaded with fuel, exploded in a strategic location could cause a disaster, especially in high-level radioactive waste storage areas.
- If water boils and drains away, spent fuel assemblies will overheat and either melt or catch on fire. An accident near Limerick Nuclear Plant, such as the recent one with an inexperienced pilot, could

create havoc through a crash, followed by an explosion and fire too close to deadly radioactive fuel in pools or casks.

- Pilot lessons are still available at Limerick Airport according to area residents.
- Limerick Airport is used for helicopters from which missiles could easily be fired.

Two Other Public Airports Are Within 6 Miles Of Limerick

N47 - **Pottstown Municipal Airport (5 nm W)**
N10 - **Perkiomen Valley Airport (6 nm E)**

Why Limerick Nuclear Plant's Deadly Radioactive Spent Fuel Is Extremely Vulnerable To Aircraft Attacks!

- Limerick's spent fuel pool is not designed to withstand aircraft impacts and explosive forces.
- An aircraft or missile would not need to completely level the fuel pool building to cause harm.
- It would merely need to crack the concrete ceiling, walls, or floor of the spent fuel pool and drain the water out.
- Even small planes filled with fuel could cause fires or overheating in spent fuel storage areas.
- Weapons available on the black market and even some that can be legitimately purchased in the U.S. or explosives could cause casks holding high-level radioactive wastes stored above ground at Limerick to be penetrated resulting in the release of large amounts of radiation.
- Casks are line-of-sight visible from open access (i.e. unsecured) areas in some areas while other plants place casks inside unguarded chain-link fences.
- In fact, terrorists can locate all high-level radioactive waste storage areas at Limerick Nuclear Plant through the internet, and locate positions of the handful of guards.
- Public relations campaigns of Exelon and NRC attempt to make us believe rigorous security procedures are in place at Limerick Nuclear Plant.
  - **Nothing could be further from the truth when it comes to air strikes, missile attacks, and large attacking forces.**

Fully Aware Of Devastating Consequences, NRC Refuses to Require Exelon to Protect Limerick Nuclear Power Plant Against The Ultimate 9/11 Type Air Strike or Missile Attack.

The Nuclear Regulatory Commission (NRC) is the federal agency responsible for protecting the public's interests related to nuclear power plants. But, NRC is instead choosing to protect Exelon's profits. NRC's estimate of the devastating consequences of a plane crashing into a nuclear plant was once on their website, but then removed.

Even after a court ruling in California against NRC's position, NRC refused to include Limerick in precautionary actions.

"***Court Ruling Could Affect Local Nuke Project***" 6/11/06 Mercury Article by Evan Brandt

- **The court ruling related to a terrorist attack on radioactive fuel stored above ground at a California nuclear power plant should have included the same threats at Limerick Nuclear Plant.**

- The Alliance For A Clean Environment raised the same concerns as "Mother's for Peace" in California, about storing this deadly waste above ground and protecting it from terrorists planes or missiles.

- The appeals court concluded it was unreasonable for NRC to declare the "the possibility of a terrorist attack….is 'speculative'…at the same time government is spending time, effort and taxpayer money to combat the threat of terrorist attacks on nuclear power plants.

Even though NRC decided new nuclear plants should be designed to withstand a 9/11 type airplane attack, NRC is still refusing to require the same protection for Limerick.

"Agency Considers A-Plants' Vulnerability" – Published 11/9/06

- Planes are not on the list of weapons that reactors must be prepared to survive.
- *NRC decided that new nuclear power plants should be designed to withstand a 9/11 style airplane attack.*
- NRC refuses to include that requirement for older nuclear plants like Limerick Nuclear Power Plant, choosing to leave our region vulnerable to plane attacks.
- NRC also refused to consider the risk of terrorism in Environmental Impact Statements, such as the one they are now preparing for Limerick Nuclear Plant.

NRC repeatedly jeopardizes the public using dangerous deception to protect the interests of the nuclear industry.

Examples:

- NRC used a deceptive study from the lobbying arm of the nuclear industry to convince the public that it has nothing to fear, even if a nuclear plant were attacked by a plane fully loaded with fuel. NRC's illogical claim has allowed the nuclear industry to avoid the cost of protecting against air strikes by terrorists.
- At a meeting in Limerick July 13, 2006, ACE made a video of NRC illogically claiming that no radiation would be released off-site if the high-level radioactive wastes at Limerick were attacked with planes or missiles. This is obviously an unsubstantiated, baseless and irresponsible conclusion.
- NRC denies scientifically based conclusions from the National Academy of Sciences showing there is NO SAFE LEVEL of radiation exposure. Instead of working to minimize radiation threats from Limerick Nuclear Plant, NRC repeatedly and irresponsibly attempts to minimize public concern.
- When as many as 100 radioactive poisons could be released from Limerick Nuclear Plant in an attack, NRC irresponsibly and inaccurately claims radiation levels released from Limerick Nuclear Plant if attacked would not be a threat to public health. NRC totally ignores synergistic, additive, and cumulative harmful health impacts.
- NRC continues to ignore the conclusions from the BEIR VII report, the consequences from the Three Mile Island accident and Chernobyl, and common sense.
- Ironically, NRC still inexplicably denies the obvious association between documented elevated illness patterns around TMI after the disaster with the radiation released from that disaster.

ACE has video documentation of a meeting in Limerick where an NRC official stated that in the event of an accident at Limerick there was likely no need to tell the public immediately.

- NRC admitted NRC could wait hours or even days to alert the public to evacuate.
  The order to evacuate after the TMI accident came 3 days after the accident, unnecessarily exposing thousands of uninformed people to those radiation releases.
- NRC needs to value public health more than the interests of the nuclear industry.
  It doesn't serve the public's interests to wait to be informed of radiation releases.

➢ **NRC should inform the public immediately of any accidental radiation release from Limerick, and let each family decide what protective actions they need to take.**

NRC DECEPTION AND DENIAL ARE DISPUTED BY THE FACTS.

NRC disputed documented army test results when claiming high-level radioactive waste containers can't be penetrated with missiles.

NRC claimed 3 different time requirements related to high-level radioactive waste removal from Limerick's fuel pools (in writing to ACE).

- If the radioactive spent fuel rods are not adequately cooled after removal there is risk of a disaster caused by fire. NRC first said rods must remain in pools 5 years to be adequately cooled, then 1 year, then 3 years.
- We suspect NRC is abandoning precaution because Limerick's fuel pools are overloaded.

Without any evidence of safe removal of deadly high-level radioactive wastes from casks after 20 to 30 year storage, NRC continues to claim there will be no corrosion problems with removal of the steel holding Limerick's deadly wastes.

- NRC's own evidence of corrosion suggests otherwise.
- Yet, when learning of corrosion problems, NRC actually stopped the research.

Results from NRC's own studies show that several million people within 50 miles of Limerick Nuclear Plant could die from radiation released if a spent fuel assembly melts or catches on fire.

- Yet, at meetings in Limerick, NRC absurdly claimed radiation would not be released offsite in case of a terrorist attack on spent fuel.

NRC Studies Estimated People Living Within 50 Miles Could Die from Radiation Released When Spent Fuel Assemblies Melt or Catch On Fire.

- Spent fuel pools contain more highly radioactive fuel than the reactor cores.
- This high-level radioactive waste is a softer target that could yield graver consequences than an aircraft crashing through the reactor containment structure.
- Spent fuel pools at all U.S. nuclear plants are located outside the reactor containment structure. If water boils or drains away, spent fuel assemblies will overheat and either melt or catch fire.
- Spent fuel is now also stored in above ground concrete casks on-site.

NRC's Failed Oversight Of Security Guards At Limerick Nuclear Plant Could Have Led To Disaster

- Failure to discover, report, or take action against guard misconduct, including sleeping guards and romantic episodes on duty - reported to ACE and others in 2006.
- Failure to take action against Exelon's security company, Wackenhut, until finally forced into it at another nuclear plant by video of a sleeping guard. Previously, NRC ignored the report titled, *"Homeland Insecurity: How the Wackenhut Corporation is Compromising America's Nuclear Security".*
- NRC permitted Wackenhut, in a clear conflict of interest, to be in charge of testing itself and its competitors in simulated "force-on-force" terrorists attacks.
- The point is – Due to NRC's negligence there could have been a disaster. The security firm with sleeping and inattentive guards, Wackenhut, was finally fired but not because of NRC's oversight, but instead because a whistle blower took video and caused a media blitz.

Only a handful of guards cover 600 acres at the Limerick Nuclear Plant site.

- The property is bordered over a long distance by the Schuylkill River**.**
- Train tracks also run through Limerick Nuclear Power Plant property.
- It's possible only a handful of Limerick guards are trained to prevent only a five person terrorist attack.
- ACE asked how many guards work at Limerick Nuclear Plant on each shift, based on reports to us that guards were falling asleep because they were overworked and forced to take long shifts. NRC refused to answer.
- Unfortunately, NRC's information blackout policy since 2004 gives NRC a new level of secrecy that enables NRC to simply hide security problems with no accountability. This troubling policy could make us less safe.

Virtual Reconnaissance and the Security Threats from Nuclear Power Plants

By Paul Gunter

- Imagine some would-be enemy of the state sitting in a Wi-Fi café - now found practically anywhere on the globe - connecting his or her laptop computer to the internet for the virtual reconnaissance of a nuclear power plant in the United States. Today, such an enemy, perhaps sitting thousands of miles away, can determine where all the reactor's guard towers are. Maybe they also want to locate the high ground nearest to the reactor or where the plant shift changes occur. It is no problem to determine the location of nearby highways and staging areas that could be involved in an evolving attack plan.

They can virtually view a variety of pathways, survey on-site stairwells and ladders, map out an attack plan on reactor systems and lay it out in a table top exercise for a would-be adversary team to practice on. These aren't stolen and smuggled photographs. They are all available off the Web, free for the taking.

- Such information and more is available today on high-resolution mapping Web sites like http://maps.live.com and http://www.virtualbirdseye.com that publicly provide free updated state-of-the-art satellite photography, according to Scott Portzline, a security analyst with Three Mile Island Alert in Harrisburg, Pennsylvania. He has been grimacing over the threat that comes from the wide public availability of potentially national security-related details. Take for example the level of on-site security detail revealed in a "bird's eye view" of the on-site nuclear waste storage casks stored near Route 9 at the oldest nuclear power plant in the U.S., Oyster Creek nuclear power station in Lacey Township, New Jersey, less than 60 miles from New York City. Portzline writes in his May 13, 2009 letter to the United States Department of Homeland Security: "There now exists a very serious compromise of security at our nation's nuclear power plants. Due to the very high quality of satellite images, terrorists and saboteurs can see far too much detail, which gives specific advantages to an attacking force. Some of the defensive positions of nuclear plant guards are now revealed due to the elevated level of clarity and resolution. Furthermore, these images reveal pathways, stairways and potential staging areas giving terrorists the ability to plan the quickest or best route to the specific targeted buildings".
- Nuclear power has always been an inherently dangerous technology. That danger has significantly increased with malicious events like the truck bombing of the Murrah Federal Building by domestic terrorist, Timothy McVeigh, and the devastating al Qaeda hijacked aircraft attacks of September 11, 2001. If someone, by design or by insanity, wants to do maximum damage to public health, the environment and to economically dislocate potentially large geographic areas for a long time, nuclear power plants become the targets of choice.
- By necessity and by its very nature, nuclear power is becoming a more secretive operation, incompatible with an open democratic society. The public is already denied its due process to openly challenge nuclear power plant operating licensing proceedings that involve issues over inadequate site security and vulnerable on-site nuclear waste storage. The continued operation, timeless presence and potential expansion of nuclear power poses an increasing threat not only to public health and safety and to national security but to the civil liberties of an open society.
- The level of detail now widely available in an exponentially growing information age spotlights the concerns that Mr. Portzline has raised to federal officials. Federal action to blur the detail of virtual images of existing nuclear power plant sites is needed. However, such action in and of itself does not address the growing threat that this particular energy technology will continue to pose now and into the distant future. It does make potentially malicious reconnaissance much less easy to perform by remote and anonymous adversaries. Such suppressive action does, however, highlight and amplify a concern for our civil liberties and forces the question what other information forums must be obscured or denied the public and what other freedoms must be lost to protect us from the threat posed by nuclear power?
- Let's be clear - it is not that we need to fear or curtail the operation of legitimate internet businesses or ban high resolution satellite photography from Web sites. These are amazingly informative and educational sites in the new realm of virtual reality. Just take a look at another "bird's eye view" from the Web site Virtual Bird's Eye for an impressive virtual tour of the Horse Hollow Win Turbines in Taylor County, Texas, one of the world's largest wind turbine farms here in the United States. Taking the tour does not, of course, expose any guard towers or security threats. That's because there aren't any.

Cyber Attacks And Limerick Nuclear Power Plant

- A cyber attack on Limerick could disrupt power for an extended period, eventually leading to meltdown. If hackers can get into the Pentagon and other well guarded facilities, terrorists could get into Limerick's systems.
- Terrorists can attack Limerick Nuclear Plant through cyber attacks on computers and electronic controls inherent to the operation of Limerick's two reactors. One consequence could be loss of cooling water followed by a meltdown.
- The Obama Administration is sufficiently concerned about cyber attacks to have recently declared them an act of war.
- "Cyber-security" is yet another example of why we can't trust NRC to be diligent or effective in protecting public interests from the devastation of a terrorist attack on Limerick.
- NRC first recognized the need to enhance "cyber-security" at nuclear plants in 2001, after the 9/11 terrorists attack.
- Yet from 2001 until 2009, NRC failed to take any action to require improved "cyber-security plans" at nuclear plants.

- Eight years after 9/11, NRC finally issued guidance on how nuclear plants could go about assessing risk to their "cyber security". In 2009 NRC charged each plant with 3 "goals" instead of requiring immediate action to insure stringent "cyber-security" standards.
- 10 years after the 9/11/01 terrorists' attacks, Exelon finally completed a "cyber-security program" for Limerick Nuclear Plant (Reported in Mercury 8/10/11).
- The usual worrisome language was used to describe Exelon's Cyber Security Program.
- Limerick's "Cyber Security Program provides high assurance that digital computer and communication systems and networks …are adequately protected against cyber attacks, …up to threats considered likely."
- When hackers can penetrate Pentagon systems, NRC should have required more than adequate protection for even unlikely events, regardless of costs to Exelon, a multi-billion dollar corporation.
- Exelon's "assurance" of "adequate Cyber-Security" protection for "threats they consider likely" is hardly reassuring.

UNACCEPTABLE RISKS AT LIMERICK NUCLEAR PLANT

Because Limerick Nuclear Plant is a prime target, prevention is imperative!

- The region around Limerick Nuclear Plant is one of the most heavily populated (Over 8 Million People in 50 Miles).
- Philadelphia is located just 21 miles away.
- Limerick Units 1 and 2 are both GE Mark II designs, where the spent fuel pools are located over 60 feet above ground and outside the reinforced containment dome that houses the reactor.
- NRC admitted on the record October, 2000 that "*…Mark I and Mark II secondary containments generally do NOT appear to have any significant structures that might reduce the likelihood of aircraft penetration".*
- An aircraft crash would likely lead to a breach of the fuel pool and the loss of cooling water from the pool, potentially causing the zirconium cladding on the fuel rod assemblies to ignite, releasing up to 100% of the radiation contained in the pools.
- Consequences of such a large release of radiation from a fuel pool fire would be devastating and deadly to the surrounding community and hundreds of miles away.
- Such a danger persists for as long as the fuel remains in the pool, whether the reactor is operational or not.
- A reactor with Limerick design features is no longer licensed for construction.
- There are no security requirements to ensure a level of security commensurate with the dangers posed by a possible large force, airplane or missile attack on Limerick Nuclear Power Plant.
- The validity of security compliance tests performed at Limerick Nuclear Plant are in doubt, since they are only based on a small force ground attack, with no evidence supporting that as the only kind of attack being planned for Limerick Nuclear Plant .

NRC already has the authority to demand precaution and prevention.

- NRC's hands are not tied by a lack of funds or a lack of authority.
- NRC lacks the will to require the nuclear industry to be responsible.
- NRC is more interested in protecting the nuclear industry's bottom line on security costs than requiring nuclear plant operators to meet the real cost of defending nuclear power plants from terrorism using aircraft or missiles.

NRC Ignores Safeguards For Prevention!

- NRC refuses to consider adding structural features to reactor sites to prevent a successful air attack.
- NRC rejected calls by the public and policy-makers to consider the feasibility of directly protecting nuclear plants from air attack by imposing no-fly zones or deploying portable anti-aircraft systems.
- NRC fails to weigh the potential catastrophic consequences of a meltdown and large radiological release, especially in a heavily populated region such as ours, in NRC's requirements of the nuclear industry for preventive safeguards.
- Instead, NRC uses excuses for the nuclear industry to avoid responsibility and costs, simply referring to nuclear industry biased studies that evaluate consequences of air attacks.

<u>On-going security problems should be enough to prohibit a 20-year extension to Limerick's license.</u>

10/16/04 - RPHP, Public Citizen, Nuclear Reality Campaign, and ACE rallied around Exelon-owned PECO headquarters in Philadelphia, all stating that ongoing security problems should be enough on their own to prohibit a 20-year extension to Limerick's license.

Groups described health risks from nuclear power and criticized the failure to deal effectively with the on-going waste problem.

- "Limerick is a prime example of security problems and risks that we shouldn't see in an industry like nuclear power three years after 9/11, yet we do. A reactor with the same design as Limerick would never be built today. The industry and the NRC's soft approach is unacceptable", said Brendan Hoffman, Public Citizen.
- "We have nowhere to store the waste from nuclear power currently, and Exelon is seeking … to extend operating licenses (including Limerick), which will just create even more waste", said Geoff Ower, Nuclear Reality Campaign.
- Joseph Mangano, Radiation and Public Health Project, stated, "Routine nuclear operations, and not just a major accident or attack, can harm people."
- A study of radioactive strontium-90 in baby teeth near the Limerick Nuclear Plant found the highest levels of areas near seven plants studied.
- The Alliance For A Clean Environment (ACE) Urged Exelon To Address Limerick Nuclear Plant Security. Donna Cuthbert from ACE stated: "It's time we take action and force the industry (Exelon) and NRC to address health, safety, and security problems they have so far refused to recognize."
- In 1982, the CRAC 2 report to Congress, assessed consequences of an accident at Limerick. Consider what was calculated in 1982 to result from a Limerick accident.
    - ✓ 74,000 peak early fatalities
    - ✓ 610,000 peak early injuries
    - ✓ 34,000 cancer deaths
    - ✓ Over $400 Billion in Costs
- With the population up 24% in Montgomery County (2004), and as much as 64% in Chester County from the 1970 Census data used in the study, the results would be far more devastating today.
- Families in and around Pottstown and Philadelphia deserve to know just what kind of threat is sitting right in their backyard.

Since 1980 the population skyrocketed. It increased 180%.
Estimated costs of a Limerick disaster have also more than doubled (now $1 Trillion).

- **<u>How could NRC or anyone speaking in the public interests defend failing to guard Limerick Nuclear Plant against a plane or missile strike?</u>**

Residents throughout the entire region around Limerick Nuclear Plant, including some in Philadelphia, have signed ACE'S PETITION OPPOSING the EXTENSION of the OPERATING LICENSE for Limerick Units 1 and 2.

- **Security against terrorists is a major factor after the Japan nuclear disaster revealed that spent fuel pools like those at Limerick are vulnerable to terrorists attacks and other deadly events.**

2006 – The Union of Concerned Scientists Stated:

NRC must address the vulnerability of spent fuel storage at all U.S. nuclear power plants now. NRC regulations (10 CFR 73.55) require plant owners to provide adequate security to protect spent fuel – whether stored in pools or casks – from radiological sabotage.

The Population In The Region Of Limerick Nuclear Plant, Including Philadelphia, Should Support The Petition Filed August 10, 2004, pursuant to 10 C.F.R. 2.206, by the 45 member groups of the Nuclear Security Coalitions, and its request that NRC:

- ✓ ADDRESS STRUCTURAL VULNERABILITIES - Issue a Demand for Information to the licenses for all Mark I and II BWRs (INCLUDING LIMERICK NUCLEAR PLANT) and conduct a 6-month study of options
- ✓ Present the findings of the study at a conference where all stakeholders can attend, and provide transcribed comments and questions
- ✓ Develop a comprehensive plan that accounts for stakeholder concerns and addresses structural vulnerabilities of all Mark I and II BWRs within a 12-month period
- ✓ Issue Orders to the licensee for Limerick and all Mark I and II BWRs compelling incorporation of a comprehensive set of protective measures, including structural protections
- ✓ Make future operation of Limerick and each Mark I and II BWR contingent on addressing their structural vulnerability with participation and oversight by a panel of local stakeholders

Limerick Nuclear Plant needs tighter regulation and security because of its proximity to Philadelphia.

Limerick is one of the U.S. nuclear plants with extremely high population densities within 50 miles.

The U.S. Nuclear Regulatory Commission should re-examine its assumptions about safety at Limerick Nuclear Plant in such a densely populated area.

U.S. nuclear power plants that store thousands of metric tons of spent nuclear fuel pose risks of a crisis like the one in Japan.

U.S. nuclear plants had an estimated 63,000 metric tons (138.9 million pounds) of spent fuel stored on site as of January 2010, according to a report from the NRC. About 2,000 metric tons a year is expected to be added to that total, the NRC said.

Limerick Nuclear Plant should be closed. You cannot move almost 8 million people in the amount of time required to protect them. There aren't enough roads or mass transit to accommodate a massive exodus.

NRC and Exelon are using vast resources in a campaign of dangerous deception and illusion which seriously jeopardizes the future health, safety, and welfare of millions of people in this region.

- Those resources would be better spent in actually improving security and reducing risks.
- Terms 'robust' and 'well-guarded' used by Exelon and NRC for Limerick Nuclear Plant security are the height of hypocrisy.
- A handful of guards for 600 acres is not exactly 'well-guarded'. To ignore the need to have the capability to guard against air strikes and missile attacks when we know terrorists are capable of that can hardly be considered 'robust' security.
- If robust is used to refer to structure, NRC documentation shows Limerick Nuclear Plant is one with substandard containment. (Details included in this report.)

What is the danger?

- Limerick Nuclear Power Plant remains vulnerable to terrorist attacks that could result in the release of significant radiation – far more deadly than any "dirty bomb".
- Released radiation is a health hazard because it can damage or destroy cells in the body. Damaged cells can induce cancers years later or pass damage on to future generations. Dead cells can trigger infections or incapacitate organ functions.
- Government studies report that radioactive material releases from either the reactor or onsite spent fuel can kill and injure unprecedented numbers of people within 500 miles and render large regions uninhabitable for long periods, according to the Union of Concerned Scientists.

Given The Potential Consequences, NRC's Back-End Thinking and Deception Are Inexcusable!

- Instead of prevention, NRC is choosing to rely on post-attack measures (let the attack happen) and deal with the devastating consequences later (evacuation, cancers, and uninhabitable properties).
- No one should harbor any illusion that NRC's policies will prevent tomorrow's attack, when they would not have prevented yesterday's attack.
- The Union of Concerned Scientists stated that NRC's policy is questionable at best and regulatory malfeasance, at worst. Each nuclear reactor is a potential Chernobyl. It's the height of hypocrisy to claim they are safe.

Given what is at stake, NRC should require Exelon to provide the most protective preventive action up front!

- NRC should assume that terrorists will someday use a plane or missile to attempt to attack a nuclear plant and require the owners to guard against them.
- The Union of Concerned Scientists state the primary concern is radioactive fuel within the reactor and spent fuel stored onsite after removal that must continuously be cooled to prevent disaster.
- In spite of unprecedented threats to millions of people from an air strike or missile attack on nuclear plants (a known terrorist capability), NRC won't make decisions to hold the nuclear industry accountable for their extraordinary threat to society.
- They won't make decisions that cost Exelon or the rest of the nuclear industry more money.

August, 2004, 45 Groups petitioned NRC to review the security vulnerability present in the design of 32 reactors nation-wide.

- **In the 32 reactors, of which Limerick is one, the highly radioactive spent fuel is stored about 5 stories above ground and outside the reinforced containment dome that houses the reactor, <u>making it especially vulnerable to aircraft penetration.</u>**

➢ **NRC's oversight and implementation of adequate security measures for Limerick Nuclear Plant should include guarding against air strikes and missile attacks. Terrorists intent to strike nuclear plants is well known and these are known terrorist capabilities.**

Until Limerick closes, Exelon can and should provide the most precautionary measures at Limerick Nuclear Power Plant, measures that go well beyond the unprotective NRC requirements.

Exelon can and must prevent another Fukushima or Chernobyl in our region.

If Exelon refuses to guard against air strikes or missiles, Limerick's license renewal should be rejected immediately and Limerick should be closed.

Look what happened at Chernobyl:

Cancer Impacts

- **475,000 fatal cancers, plus equal non-fatal cancers occurred over time, both inside and outside the Soviet Union, from various radionuclides released, according to a leading radiation researcher, John Gofman, M.D., Ph.D. in 1986.**
- **10 years later, John Gofman predicted Chernobyl would kill or injure at least ONE MILLION people.**
- **There was a 30 to 60 fold spike in Thyroid Cancer in the affected area within 15 years, most probably attributable to the Chernobyl release according to the World Health Organization.**
- **Chernobyl children confirmed they are most vulnerable to radiation, even in relatively small doses. The American Academy of Sciences says children are extra sensitive to DNA-damaging effects of radiation, suffering higher rates of certain childhood cancers like leukemia and thyroid cancer.**
- **Epidemiologist, Rosalie Bertell, wrote a detailed rebuttal to IAEA's attempt to whitewash Chernobyl's never-ending legacy of cancer and debilitating disease. For excerpts contact www. radiation.org or call ACE (610) 326-2387**

Financial / Environmental Impacts

- **Hundreds of Billions of Dollars in Damage**
- **Millions of Acres Contaminated**
- **Millions Still Live on Contaminated Land**
- **Thousands Were Permanently Evacuated From Their Homes**
- **Sheep Were Quarantined or Slaughtered as far away as Scotland**
- **Milk Supplies Were Interdicted on the U.S. West Coast**
- **Rhode Island soil had Cesium-137 fallout from Chernobyl (Woods Hole Oceanographic Institute)**
- **Terrible On-going Misery Continues in Ukraine, Belarus, Russia, and elsewhere across the world**

NRC SHOULD START TELLING THE TRUTH ABOUT CHERNOBYL

MINIMIZING RISKS INTENTIONALLY DESTROYS NRC'S CREDIBILITY WITH THE PUBLIC.

PLEASE REVIEW RUSSIAN SCIENTISTS REPORT ON 5,000 STUDIES

This scientific book shows that by 2004 Chernobyl Caused 985,000 Additional Deaths Worldwide

The Truth About Consequences To People and The Environment

New York Academy of Science nyas.org/annals

Al-Qaida Suspect Worked at Limerick Nuclear Plant

Saturday, March 13, 2010 By Geoff Mulvihill, Associated Press Writer

LIMERICK — Before he was rounded up in a sweep of suspected al-Qaida terrorists in Yemen, Sharif Mobley was a laborer at five nuclear plant complexes in Maryland, New Jersey and Pennsylvania. One of them was Exelon Nuclear's Limerick Generating Station officials have confirmed.

Joseph Szafran, a spokesman for the Limerick plant, confirmed that Mobley worked there as a laborer, "doing basic maintenance work, erecting scaffolding, things like that." Szafran said he did not know the name of the contractor for which Mobley worked, but said it was not Wackenhut, the private contractor that, until two years ago, provided security services at Limerick and several other Exelon-owned plants.

Mobley worked at Limerick between 2003 and 2007, "and nothing since 2007," Szafran said. Although he would not confirm whether the plant had been visited by FBI investigators, Szafran did say "we are cooperating with the FBI and (Nuclear Regulatory Commission) investigations."

Authorities are investigating whether Mobley might have had any access to sensitive information that would have been useful to terrorists. Nuclear Regulatory Commission spokesman Neil Sheehan said Friday that investigations are under way into which areas Mobley entered. But he noted that areas containing nuclear fuel are tightly controlled, and that a laborer typically would not have access to security information or other sensitive matters. The plants are also checking areas where Mobley worked to ensure everything is in order, said NRC spokeswoman Diane Screnci.

Edwin Lyman, a senior staff scientist with the Union of Concerned Scientists, a watchdog of the nuclear power industry, said the case raises questions about security at the nation's nuclear power plants — even though Mobley has not been linked to any wrongdoing at any of them. Some of the information used to give temporary workers like Mobley clearance comes from other nuclear power companies and is sometimes incomplete, Lyman said. "The real question is: Was there information that the NRC or utilities could have seen that would have led to his disqualification?" Lyman asked.

Meanwhile, a law enforcement official said Friday that the U.S. government was aware of Mobley's potential extremist ties before Yemeni officials arrested him, but did not provide a time frame or details about what exactly was known about him. The official spoke on condition of anonymity to discuss an ongoing investigation.

The Nuclear Regulatory Commission said Friday that Mobley worked between 2002 and 2008 for contractors who did work at the Salem and Hope Creek plants in New Jersey; the Peach Bottom, Limerick and Three Mile Island facilities in Pennsylvania; and Calvert Cliffs in Maryland. Officials at PSEG Nuclear, which runs the complex in New Jersey, say he carried supplies and worked on routine maintenance mostly during periodic refueling outages, when hundreds of contracted employees descend upon the plants. The NRC says a laborer typically would not have access to security-related or sensitive information. Officials also say he passed screenings before he could work at the plants. The NRC says the screenings include criminal history checks, drug testing, psychological assessments and identity verification. The background checks are to be performed by either the nuclear plant operators or their contracting companies.

The plants also run behavior observation programs in which employees are taught to recognize and report suspicious activities.

Steve Kerekes, a spokesman for the industry trade group the Nuclear Energy Institute, said the industry has to share information about problem workers.

"To the best of our knowledge, with the regard to this individual, there was nothing to suggest any kind of problem with him," Kerekes said. "Had there been, under the system that we have, we have a personnel database that's in place that lets all our companies across the industry know instantaneously if someone is for some reason denied access or flagged for some other kind of reason related to their behavior."

Kerekes also said that before regulations changed in early 2003, workers could gain temporary access to plants before their screening was complete. It's not clear whether Mobley had access before he was completely cleared.

Mike Drewniak, a spokesman for New Jersey Gov. Chris Christie, said Mobley was never reported to be acting improperly and was not believed to have been involved in any breaches at the New Jersey plants.

Mobley is a 26-year-old natural-born U.S. citizen who grew up in Buena, New Jersey, and later lived in Philadelphia and Newark, Delaware. A former neighbor said he moved to Yemen about two years ago, supposedly to learn Arabic and study Islam.

He was among 11 al-Qaida suspects detained this month in a security sweep in Yemen's capital of San'a this month. He was taken to the hospital over the weekend after he complained of feeling ill. Yemeni officials said he snatched a gun from a security guard and fatally shot one guard and wounded another before being captured. A former friend said he believed Mobley was becoming radical before he moved to Yemen about two years ago. Roman Castro, an Army veteran who did a tour in Iraq after he and Mobley graduated from high school together in 2002, said Mobley had only these words for him in a chance meeting four years ago: "Get the hell away from me, you Muslim killer!"