Why Susquehanna 3 Is A Bad Idea

by Eric Joseph Epstein

Nuclear Trash On The River

The Susquehanna Steam Electric Station (SSES) contains the nation's 19th and 20th largest nuclear reactors. The plant currently generates **60 metric tons of nuclear waste annually. The** SSES is a **limited liability corporation** ("LLC"), and out of the rate base. A license extension, uprate or additional unit, will dramatically increase the gap in radiological decommissioning and expose taxpayers to increased financial burdens.

According to PP&L and PPL's Annual Reports, the Company cannot predict with any degree of confidence how much it will cost to decommission the SSES. Projected costs for nuclear decommissioning have increased wildly from 1981 to 2003. In 1981 PP&L predicted that its share to decommission SSES was between **$135 to $191** million. By 1985 the cost estimate had climbed to $285 million. And by 1991, the cost in 1988 dollars for the "radioactive portion" of decommissioning, was $350 million. PPL's contractor conducted a site-specific study which projected that the cost of decommissioning would be $725 million in 1993 dollars. By 2005, PPL projected costs to decommission Susquehanna to be almost **$936** million.

It's anybody guess what the final cleanup tab will be if the plant is relicensed - or if the nuclear garbage will even have a forwarding address. Moreover, PPL Electric's 1998 restructuring settlement agreement (in which the Company recovered **$2.8 billion** in stranded costs to build the Susquehanna nuclear power plant) provides for the collection of authorized nuclear decommissioning costs through the Competitive Transition Costs (CTC). The nuclear decommissioning cost recovery mechanism for $131 million **expires** on December 31, 2009, and the shareholders are the sole source of replacement revenues ("PPL Annual Report,"December 31, 2003, p.63.) .

As a limited liability corporation, PPL is subject to the whims and unprotected forces of the marketplace. The NRC can no longer assume that PPL Susquehanna enjoys the economic shield of rate payers and "that utilities commission would support project with favorable rate decisions" (New England Coalition on Nuclear Power v. US N.R.C., (1978 , CA 1) 582 F2d 87, 8 ELR 20707, 51 ALR Fed 451.)

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Three Mile Island Alert , Inc., tmia.com*, a safe-energy organization based in Harrisburg, Pennsylvania and founded in 1977. TMIA monitors Peach Bottom, Susquehanna, and Three Mile Island nuclear generating stations.*

The financial safety nets and assumptions embedded in the original application are gone. There is no rate recovery mechanism for nuclear safety upgrades, generic rulemaking orders, nuclear decommissioning increases, security, radiological monitoring, or nuclear fuel adjustments. The ability to safely operate a plant is intricately linked to the ability to provide and pay for a level of safety and security in the community.

PPL Susquehanna has not proven it has the requisite financial structures in place to safely operate a nuclear power plant; especially, a plant that is not linked to the savings of scale embedded in fleet operations. The SSES is a rare stand-alone plant that requires safety in-depth.

Prior to deregulation, nuclear applicants which were "financially challenged" were able to establish "reasonable assurance" they could raise money through capital markets precisely because the applicant was a public "electric utility." However, since the TMI accident and the advent of electric deregulation, the NRC can no longer presume favorable rate decisions by any utility commission. Nor can the Commission presume rate tariffs will supplant financial chasms created by limited liability corporations like PPL.

Water Drain

The 4,500 businesses in the Susquehanna River Basin employ 230,537 people and add $6.8 billion to the region's economy, depend on the water from the Susquehanna River, and are grossly **underinsured** in the event of a nuclear accident at the Susquehanna Steam Electric Station. Any alteration, contamination, increased removal or other disturbance impacts all business, commercial, and residential stake holders.

Dating back to the late 1940s, residents, business and commerce in the Basin became aware of the value of dependable, reliable, and economic sources of water. Water supplies can be disrupted or lost by another business using water from the same aquifer.

A sample of the magnitude of the amount of water used at nuclear power plant is readily evidenced at PPL's Susquehanna Steam Electric Station (SSES). Located on The Susquehanna River in Luzerne County, every day the plant loses 14.93 million gallons of water per unit as vapor out of the cooling tower stack. Eleven million gallons per day are returned to the river as cooling tower basin blow down. **On average, 29.86 million gallons per day are taken from the river and not returned**. This data is public information, and can be easily referenced by reviewing PPL's Pennsylvania Environmental Permit Report.

The Susquehanna River Basin Commission ("SRBC") and the Pennsylvania Department of Environmental Protection have been in the process of collecting, evaluating, and implementing a comprehensive water use plan for Pennsylvania known as Act 220.

Water shortages on the Lower Susquehanna reached critical levels in the summer of 2002. During the 2002 drought, the SSES was exempted from water conservation efforts. For the month of August 2002, 66 of 67 Pennsylvania counties had below normal precipitation levels. The SSES did not take any measures or precautions to "conserve" water. Moreover, recent and consistent droughts in Pennsylvania (2002) as well as flooding (2006) have forced state and regulatory bodies to reexamine water as a commodity in the Commonwealth of Pennsylvania.

Last year, despite the fact Columbia County was -3.6 inches below normal precipitation levels and Luzerne County was -3.2 inches under (a 51-75% decrease below the norm), the SSES continued to gobble up water as their neighbors conserved. (*DEP Drought Watch*, April 11, 2006)

PPL's relicensing and uprate applications did not include a hastily filed Application for Surface Water Withdrawal Request to Modify Application 19950301 EPUL-0578 (PPL Letter to SRBC, December 20, 2006, p. 2).

Morover, none of the filings include action plans to defeat external aquatic predators, manage or control water management with recent and emerging Pennsylvania standards, implement a tritium monitoring program or repair faulty or corroded piping.

The most disturbing admission contained in PPL's report to the Susquehanna River Basin Commission relates to corroding and poorly performing piping.

> The River Intake Structure flow meters to measure withdrawal. However, metering of the withdrawal has been inaccurate due mainly to corrosion and fouling of the intake pipes. The intake pipes are made of carbon steel, and PPL is evaluating replacement of sections of this pipe with stainless steel pipe to minimize flow measurement meter error... If the pipe replacement project proceeds and withdrawal quantities determined by the two methods are comparable, then PPL will use the metered withdrawal to periodically verify the calculated withdrawal based on the sum of cooling tower water loss, cooling tower blow down, and emergency spray makeup. If the metered withdrawal is significantly different from the calculated withdrawal, PPL will discuss with the Commission the appropriate next steps for measuring withdrawal. PPL will keep the Commission apprised of these activities.

The inability to coordinate with new and emerging regulations from the SRBC and Act 220 is a **self-inflicted hardship**. The NRC can not excuse PPL's omissions and failure to submit an action plan for state regulations. These regulations have been enacted, and were in the implementation stages for several years **prior** to PPL's filing. PPL, through its own haste to relicense the Susquehanna Electric Steam Station, left these obligations off of their relicensing matrix.

PPL Susquehanna's corporate family has a recent history of fouling water resources. On January 12, 2007 PPL Holtwood was ordered to stop the discharge of coal bottom ash into the Susquehanna River and was assessed a n $85,000 civil Penalty by the Department of Environmental Protection. Four days later, PPL announced it has reached a $1.5 million preliminary settlement to end a lawsuit over the 2005 fly ash spill at the Martins Creek power plant into the Delaware River.

The Susquehanna Steam Electric Station is a large industrial consumer of a valuable and limited commodity, and has responsibilities to coordinate water use like all other businesses. Any comprehensive and substantive water management plan must include the impact of relicensing and uprates planned for the SSES.

"PPL already has factored the increased generation output into its projected long-term compound annual growth rate of 11% and its 2010 earnings target of 3.50 per share." The Company needs to also include an impact statement that factors the synergetic impact of a 200 mw uprate, coupled with a 20 year license extension on the environment, and include implications for Accept 220 and regulations enacted by the SRBC in December, 2006.

Stressing An Aging Population

Pennsylvania is the third oldest state in the nation, and its fastest growing population segment is octogenarians. An aging population base has unique and sensitized needs that were not factored, considered, or analyzed in the licensee's application. Moreover, by its own admission, PPL's plan to raise electric prices by at least **20% to 30%** in the near future affects fixed-income and aging population bases especially hard. (Petition of PPL Electric Utilities Corporation for Approval of a Competitive Bridge Program, Pa PUC, Docket No: P00062227, 2006) An aging population base affects staffing, offsite support and response times, emergency planning and social services. These human components are critical ingredients in the infrastructure of any large industrial complex.

While PPL and the NRC have spent large sums of money and countless hours examining the effect of aging of reactor components and an aging management review pursuant to 10 C.F.R. §54.21(a) and 10 C.F.R. § 54.21(c), neither entity has examined the impact of relicensing on aging human beings who live within the shadow of the plant.

In Luzerne County, the population declined 1.8% between 2000 and 2003, and Columbia experienced a .9% increase. The U.S. Census Bureau reported that the average population of 65 years or older per county is 12.4%. However, the percent in Luzerne is 19.7% and in Columbia it is 15%. In Salem Township, host to the nuclear plant, the percentage of residents over 65 years of age is 19.6%.

Columbia and Luzerne Counties are two of six counties in the 29 county rate base "above the system average percentage of the poverty level." The data PPL uses is supplied by the Census Bureau and PA PUC's Bureau of Consumer Services, and indicate that 22.8% of the Luzerne County and 23% of the Columbia County populations qualify as "low-income households" eligible for energy assistance, i.e., living at or below the federal poverty levels.

People are not abstract hypotheticals that attorneys in DC can rework into a neat formula. Taken together, both counties are housing older Pennsylvanians less likely to be absorbed into a nuclear work force. These **senior citizens** are concurrently paying **higher electric rates, and more in property taxes** as a result of the operation of the Susquehanna Steam Electric Station.

The Company has not anticipated or planned to address the hardships it has created for the 65+ community: "PPL Electric has conducted no polling to gauge residential customers' awareness of rate caps and the impact that the removal of those caps would have on electric rates." (PPL EU, Pa PUC, Bridge to Competition, 2006).

The SSES area is an aging population with a significant portion of its residents living in poverty and facing rate shock and higher property taxes. If the Company can marshal the resources to seek approval for an uprate, relicensing and increase its rates, than it can find the time and resources to prepare an analysis to asses the impact of rate shock and property devaluations on the most vulnerable populations residing in its own backyard.

Failure to survey the impacts of relicensing on an aging community, while scouring the corners of an aging reactor, is a stunning indictment on the NRC's inability to grasp that a good workforce and a solid community are interchangeable parts.

Taxing the Community

PPL's tax analysis is fatally flawed and lacks historical perspective. The Company failed to assess the impact of Revenue Neutral Reconciliations at the SSES on local citizens, residents, taxpayers, and homeowners.

By limiting their historic snapshot from 2001-2005, PPL provides a false and incomplete fiscal picture of the impact their property devaluations and legal suits had on local taxing bodies. The transition from the PURTA to RNR has been a disaster. PPL has conveniently omitted the tax strain it has caused the Berwick Area School District, Salem Township, Luzerne County, residential consumers and senior citizens living on fixed incomes.

The applicant raised and attempted to address socioeconomic and tax related issues, but offered only cursory and superficial data. PPL failed to address the negative impact that the Revenue Neutral Reconciliation tax assessment has had on the school district, municipalities and residential consumers.

Relicensing a nuclear power plant should not impose economic hardships on the host community. PPL has successfully sued local taxing authorities, while at the same time increasing capacity and requesting a license extension. Either the NRC must reexamine the economic impact of SSES on the community, or address how relicensing a nuclear power plant while shifting the tax burden and increasing rates on an aging community is compatible with the NRC's mission.

In fact, PPL has agreed with Mr. Epstein on the import of the economics of the relicensing of the Susquehanna Electric Steam Station on the health and safety of the local community. In November 2006, as part of its effort to promote relicensing of the SSES, PPL and the nuclear industry released, *Economic Benefits of PPL Susquehanna Nuclear Power Plant An Economic Impac Study* by the Nuclear Energy Institute in Cooperation With PPL Corporation. Table 2-1. PPL Susquehanna Nuclear Power Plant specifically advertises and promotes the value of relicensing on local community, without evaluating any of the negative consequences Mr. Epstein identified in his Petition.

The impact of relicensing on the local community is material and germane and the NRC should not sanction the relicensing of nuclear power plant that will result increased property taxes and electric rates and through up their hands and shout, "Not my problem." The NRC can and must consider economic affects on a community since they are interrelated with the natural and physical effects of relicensing the SSES. (40 C.F.R. §1580.14, Met Ed V PANE, 460 U.S. 766, 722 (1983))

Deregulation shifted power plants back to the local tax rolls under the assumption that utilities would pay at least the same amount had they been subject to real estate taxes. However, after the utilities collected over **$11.4 billion in "stranded costs"** for building ill-advised nuclear power plants, they claimed that their generating stations had depreciated overnight and were only worth a fraction of pre-deregulation estimates.

PPL is now asking to extend the license of the Susquehanna Steam Electric Station under a new protocol which would adversely impact an aging population dependent on a fixed income levels. As a result of PPL's actions, this population that is being asked to absorb rising electric costs and property tax rates, in part due to the extended operation of the Susquehanna Steam Electric Station.