

January 13, 2008

United States of America  
Nuclear Regulatory Commission

In the Matter of	)	Docket Nos. 50-387-LR
PPL Susquehanna, LLC	)	50-388-LR
Susquehanna Steam Electric Station,	)	ASLBP No. 07-851-01-LR
Units 1 and 2	)	

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**Eric Joseph Epstein's Comments on Behalf of  
Three Mile Island Alert, Inc.  
Re: Nuclear Regulatory Commission's Scoping of Aging  
Management Systems for Susquehanna  
Nuclear Plant License Renewal Applications  
from PPL Susquehanna, LLC**

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Division of License Renewal  
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Washington, DC 20555-0001

Enclosed please find "Eric Joseph Epstein's Comments on Behalf of Three Mile Island Alert, Inc. Re: Nuclear Regulatory Commission's Scoping of Aging Management Systems for Susquehanna Nuclear Plant License Renewal Applications from PPL Susquehanna, LLC."

Respectfully submitted,

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## I. Background

Three Mile Island Alert, Inc. (“TMIA” or “TMI-Alert”) announced its decision to oppose PPL’s premature request to relicense the Susquehanna Steam Electric Station (“SSES”) to operate for 20 more years. PPL has applied to the Nuclear Regulatory Commission (“NRC”) for permission to run the Susquehanna Steam Electric Station until 2043 [Unit-1] and 2045 [Unit-2] at the Commission’s initial hearing convened in Berwick on November 16, 2006.

TMIA believes PPL’s application is premature. It would be irresponsible for federal regulators to begin a relicensing process 17 years before the original license expires. In short, PPL wants to secure an extension to preempt public challenges over additional safety problems, which tend to increase as nuclear reactors’ age.

In addition, Eric Epstein’s (“Epstein”) filings at the Susquehanna River Basin Commission (“SRBC”) and Nuclear Regulatory Commission relating to the relicensing and uprate of the Susquehanna Steam Electric Station (“SSES”) sought to refine and define, clarify and coordinate, and address issues that continue to fall through regulatory gaps. PPL and NRC filed Responses in opposition to Mr. Epstein’s concerns relating to water use, water chemistry and aquatic challenges. The Nuclear Regulatory Commission staff alleged that Mr. Epstein’s contention (T-1) is “outside of the scope” (1) and “not material” to this proceeding, and that there is not enough information (2) to establish a “genuine dispute.” (NRC Staff, p. 8)

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<sup>1</sup> U.S. NRC Atomic Safety & Licensing Board Panel, Memorandum & Order, In the Matter of the PPL Susquehanna LLC, (Susquehanna Steam Electric Station, Units 1 and 2), Docket Nos. 50-387 and 50-388-OLA, ASLBP No. 07854-01-BD01, July 27, 2007: Judge G. Paul Bollwerk, II, Memorandum and Order. III. Conclusion.

<sup>2</sup> The NRC staff and PPL continue to view the issues raised before the NRC as outside the scope of the NRC’s uprate proceeding. Please refer to *the NRC Staff’s Brief in Opposition to Mr. Epstein’s Appeal of LBP--07-10* (August 16, 2007), and *PPL Susquehanna’s Brief in Opposition to Appeal of Eric Joseph Epstein*. (August 16, 2007)

## II. Labor Reductions & “Outsourcing”

PPL Susquehanna LLC, the majority owner and operator of the Susquehanna Electric Station, is the corporate progeny of the original holding company, i.e., PP&L, that applied for, and obtained a license to operate the SSES. PPL raised financial issues throughout the license application but offered only cursory and superficial data relating to safety concerns and socioeconomic raised in Application and Appendix E: Environmental Report and 5.0-5.1.1 and 6.1, and SAMA: E.3.2 Population, E.3.3 Economy, 3.4 EMPLOYMENT Current Workforce, and E.4.5 Replacement Power Cost, and Susquehanna MACCS2 Economic Parameters Variable Description SSES Value, et al.

The nuclear industry is bleeding skilled workers. Training programs are not able to keep pace with retirements and attrition. According to an industry consultant, complicating the staffing problem in the nuclear industry is the fact that, “The nuclear industry doesn’t have the lead time to hire people off of the street and get them fully trained before existing employees start leaving through attrition and retirement.” (3)

NRC staff sounded the alarm regarding Commission staffing shortages several years ago, and noted the stress employees were under: “NRC’s employees are already deeply involved in time consuming tasks like reviewing 20-year license extension applications for existing plants”. (4)

The shortages may have contributed to “cut and paste” oversight during relicensing of several nuclear plants. On August 18, 2008, Senator Jeffrey E. Piccola (R-15th Senatorial District) and Eugene A. DePasquale (D-95th Legislative District) sent a letter to the NRC Commissioners, i.e., “Re: Findings and Responses of the NRC Office of the Inspector General Report on the License Renewal Program.” (OIG-07-A-15, September, 2007, p.11)

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3 “Employment Issues of Today and Tomorrow,” *Nuclear News*, American Nuclear Society, June 2005

4 SNL Electric Utility Report, *Platt Publications*, April 2005.

As you know, the federal relicensing system that has historically ensured nuclear plants are safe to operate for an extended period beyond their original license of 40 years has come under sharp criticism. The Nuclear Regulatory Commission's (NRC) Office of Inspector General (OIG) Audit of the NRC's Renewal Program (OIG-07-A-15) found certain safety evaluations lacked critical documentation.

Essentially, the Division of Licensing Renewal (DLR) lacks a complete report quality assurance process to ensure documentation of the staff's aging management program review methodology and substantive support for staff conclusions.

TMIA has yet to see any formal response from the NRC relating to these developments at the SSES. Moreover, we have received no assurance that "cut and paste" management evaluations did not take place during the NRC's review of the license extension at the Susquehanna Steam Electric Station.

Over six years ago Swedish regulators identified problems with decreasing safety margins at nuclear plants due to an over reliance on outside contractors. There is no evidence in this review that the NRC has monitored PPL's trend to out source safety. The Swedes committed to do more reviews of outside contractors competencies and skill sets: "This means that (we) have the same possibility of reviewing a contractor's operation as a license holder's and the same possibility of setting conditions and prohibitions." (5)

Although PPL has no official policy on "out sourcing," the Company is unable to quantify positions that have been eliminated as a result of this cost-cutting practices. "PPL Electric does not have a formal policy on outsourcing...PPL Electric has no record of how many internal Company positions may have been eliminated as a result of out sourcing" (D.A. Krall, PPL Response to Epstein, Set II, Q.7, May 17, 2004.)

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5 "Swedish regulator warns safety responsibility can't be outsourced."  
*Nucleonics Week*, Platts- McGraw Hill Companies, October 16, 2003.

External workers are increasingly supplementing an understaffed workforce. J.R. Schadt testified, “The increase in work by outsiders is primarily a function of utilizing additional outside contractors in lieu of PPL electric workforce. When PPL Electric planned its work for 2004, it compared its total man-hour needs to projected available PPL electric man-hours, any shortfall is made up with outside contractor labor” (J.R. Schadt, PPL Response Informal Data Requests, OCA, Q.6, June 10, 2004)

The amount of labor contracted to “work by others” is significant. In 2004, PPL’s reliance on “out sourcing” was projected to increase to \$53,362,932. Among the tasks "out sourced" include: service requests; power service problems; disconnects and reconnects; specific projects; maintenance; inspections; and consultant support services. (J.R. Schadt, PPL Response to OCA, Set XII, Q.2, May 20, 2004.)

PPL has requested that rate payers finance this policy. From 2003 through 2004, PPL decreased the number of transmission and distribution of (T&D) “bargaining unit” employees from 1,856 to 1,747 while increasing the number of nonunion employees from 497 to 505. ( J.R. Schadt & D.A. Krall, Response to Epstein, Data Request, 1, June 14, 2004)

PPL has chosen to atrophy departments not affected by layoffs. The current ratio of linesman to households, business to customers in general is .0006 employees in linesman type positions per customer” (D.A. Krall, PPL Response to Epstein, Set II, Q.8.) The Company noted that a rate increase is needed to help service a growing customer base, yet PPL has no plans to maintain or improve upon the existing ratio.

The Company is banking on efficiencies of scale to enhance compliance with regulatory standards: “In an effort to improve operational efficiency and reduce costs, PPL and its subsidiaries commenced a workforce reduction assessment in June 2002 that was executed to eliminate up to 598 employees or about 7% of PPL’s U.S. workforce” (PPL, 2003 Annual Report, p. 94.)

The NRC's Generic Environmental Impact Statement ("GEIS") failed to provide a baseline to assess staffing trends at the SSES, e.g., retirements, attrition, "early out," full time v. part time, and "out sourcing." Although PPL does not calculate its budget or prepare staffing levels on a per customer basis, it is clear that downsizing has actually increased pressures on PPL to seek lower costs through external contractors.

### **Unresolved and Open Issues:**

1) The Company is banking on efficiencies to enhance compliance with regulatory standards. Has the NRC qualified or quantified PPL's synergies?

2) The NRC accepted a staffing level figure at the Susquehanna Steam Electric Station that is significantly below comparable per reactor employment levels at the Three Mile Island Nuclear Generating Station and the Peach Bottom Atomic Power Station which operate a fleet. (See Appendix I)

Does the NRC possess a baseline to assess staffing trends at the SSES, e.g., retirements, attrition, "early out," full time v. part time, and "out sourcing?"

3) How will PPL achieve synergies of scale in a workforce that has no nuclear fleet?

4) What is the NRC position on PPL's growing dependancy on the out sourcing of staff? How will the NRC regulate contractors and subcontractors?

5) What is the average age of the SSES workforce, and how does it compare to the industry average?

6) What is the average overtime logged by SSES employees and how does it compare to the industry average? (6)

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6 "The NRC staff determined in September 2001 that a violation occurred on several occasions when on-shift staffing was below the minimum on-shift staffing requirements as defined in the plant's emergency plan. At the reduced on-shift staffing levels, certain emergency preparedness functions for an emergency at the site, including monitoring the unaffected unit for safety and operations support center coordination duties, would not be met." (US NRC, May 6, 2002.)

7) Where are SSES's workers going to come from in an industry that is already understaffed and in third oldest region in the country?

8) What is the NRC's formal response at the SSES relating to the letter from Senator Piccola and Rep. DePasquale?

9) What is PPL's plan to transfer institutional memory that will be exiting the SSES?

10) How much time must an NRC employee put between himself and employment in the nuclear industry?

### **III. Socioeconomics:**

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 or the NRC's GEIS.

The story tonight is the NRC's failure to examine an graying nuclear staff within the context of a aging region.

By its own admission PPL's plan to raise electric prices by at least 34.5% on January 1, 2010. "Rate shock" will devastate fixed-income and aging populations. (7) Additionally, PPL's "nuclear tax" will continue to be applied even after next month's rate increase for seniors who subscribe to Blue Cross Northeastern Pennsylvania. (8)

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7 Petition of PPL Electric Utilities Corporation for Approval of a Competitive Bridge Program, Pa PUC, Docket No: P00062227, 2006)

8 Effective January 1 through December 31, 2009, a 4% hike will kick in for Blue Care Senior Medical Plan for Blue Cross Northeastern PA *without* prescription coverage, and a 9.9 % hike will kick in for Blue Care Senior Medical Plan for Blue Cross Northeastern PA *with* prescription coverage.  
[http://www.ins.state.pa.us/ins/lib/ins/rates/2008\\_secondhalf/bcnp\\_1412.pdf](http://www.ins.state.pa.us/ins/lib/ins/rates/2008_secondhalf/bcnp_1412.pdf)

“Rate shock” is not considered as a socioeconomic impact, but the GEIS assuringly noted, “There would also be no disproportionately high or adverse health or environmental impact is as a result on minority and low-income populations in the region.” (4-55)

An aging population affects staffing, offsite support staffing, response times, emergency planning, and social services. These human components are critical ingredients in the infrastructure of any large industrial complex. The ripple impact was not discussed in the GEIS. Transportation and support services were limited to two paragraphs on 4-32.

In 2003, 16.2 million patients across the country arrived by ambulance for emergency department visits (14.2%). Or, about 31 ambulances arrived at an American emergency department every minute. Of ambulance-related visits, 39% were made by seniors, 68% were triaged as emergent or urgent, and 37% resulted in hospital-admission. (9)

The Bureau of Labor Statistics has calculated the average age and median years of tenure for persons in specific occupations in the United States. This data is useful for career planning, understanding turnover, and maintaining stability in volunteer recruitment. The average age of workers in EMT was 34.3 years old in 1998, compared to 38.0 years for all occupations in this country. (10)

The average age of an employee at a public power utility is 44. (11)

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9 Data from the 2003 ED component of the National Hospital Ambulatory Medical Care Survey were used for the analysis. Data was provided by 405 participating EDs on 40,253 visits. Data from supplemental questionnaires to the hospital staff were used to describe volume and frequency of ambulance diversions.

10 The Occupational Outlook Handbook (2006-2007).

11 “The Talent Bubble,” *Public Utilities Fortnightly*, February 2004.

The retirement of Baby's Boomers will affect the US economy, "possibly in dramatic ways. For example output will suffer...payroll benefit costs will balloon to finance increasing retirement and health care." For the power industry, "The situation is compounded by a shrinking supply of engineering graduates entering the utility industry...Given the likely preponderance of Baby Boomers among the current pool of 23,000 registered power engineers, the lack of graduates entering the workforce will exacerbate the problem." (12)

The problem is especially acute for the nuclear industry. "The U.S. graduates about 70,000 engineers each year, yet only 1,900 of those were enrolled in an nuclear degree program in 2007...In contrast the same study fund that about 35% of the current nuclear workforce will reach retirement age in the next five years, which is consistent with data describing the entire power generation industry." (13)

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 and work 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%.

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1 2 *Power*, "The nuclear option," p. 6, November , 2008.

1 3 "The Talent Bubble," *Public Utilities Fortnightly*, February 2004.

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 will be 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; PPL ) “There are no programs specifically targeted to senior citizens or that are available only to seniors...PPL Electric has no work papers, data or statistics on senior citizens (60 years of age or older) (PPL POLR, Response to Epstein Interrogatories, Set I, D.A. Krall, October 16, 2008)

PPL’s nuclear generating station is surrounded by an aging population with a significant portion of its residents living in poverty and facing “rate shock,” increased health care, 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 assess 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, is a stunning indictment on the NRC's inability to grasp that a stable and secure workforce and a solid community are interchangeable parts.

PPL and the NRC also failed to note that millions of dollars in regulated tax revenues are recovered by charging rate payers, e.g., \$245 million (2007) and \$265 (2006). Both entities also ignored the "transition costs" or nuclear taxes PPL sucks out of the same rate payer, i.e., \$574 million (2007) and \$884 (2006). (13)

More alarming is the fact that between January 1 and August 31, 2008, "PPL cut electricity to 28,561 customers" according to the Pennsylvania Public Utility Commission. "That's a boost of 111% over the number of PPL customers whose power was shut off during the same period in 2007. The number of people who've lost electricity statewide is up as well versus the same period last year, but only by 24%. (14) This data is absent from the NRC's review.

PPL agreed with TMIA relating to the import of economics on the relicensing of the Susquehanna Electric Steam Station. 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 Impact 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.

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13 "PPL Corporation 2007 Annual Report," Summary of Significant Accounting Policies, p. 64.)

14 "PPL cutting off more customers Unpaid bills: The number losing power is up 111% over 2007, *The Morning Call*, September 24, 2008.

## Unresolved and Open Issues:

- 1) How did the NRC decide to ignore the impact of “rate shock” on senior citizens living on a fixed income?
- 2) Does the NRC believe that PPL’s creation of a hardship class of senior citizens is not a socioeconomic impact?
- 3) PPL and the NRC have failed to ask - let alone answer - who is going to staff an aging nuclear power plant in the future. Does PPL have a plan in place to retain a skilled and graying work force? (15)
- 4) Who will transport and provide the emergency services for an economically distressed population in need of medical services? Who is going to take an aging population to the ER?
- 5) The Company and has not anticipated or planned to address the hardships it has created for the 65+ community. Can the NRC identify similar demographics for any other reactor community?
- 6) If the Company can marshal the resources to seek approval for an uprate, relicensing and increase its rates, why can’t it find the time and resources to prepare an analysis to assess the impact of “rate shock” and property devaluations on the most vulnerable populations residing in its own backyard?
- 7) A boost of 111% over the number of PPL customers whose power was shut off from 2006-2007 should set off alarms from the NRC. Why is the steep decline in shutoffs excluded from the socioeconomic study?

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15 The Marines have proven that targeted bonuses can work in recruiting and retaining skilled professionals. Retention bonuses have been increased from \$464 million to \$469.5 million and retention has ballooned from 24% to 35%.

[http://www.philly.com/inquirer/world\\_us/20090104\\_Marines\\_\\_rapid\\_expansion\\_is\\_years\\_ahead\\_of\\_schedule.html](http://www.philly.com/inquirer/world_us/20090104_Marines__rapid_expansion_is_years_ahead_of_schedule.html)

## **IV. Conclusion**

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.

PPL is asking to extend the license of the Susquehanna Steam Electric Station under a new protocol which would adversely impact an aging population dependent on fixed income levels.

PPL has successfully sued local taxing authorities and shifted the tax burden onto the shoulders of residential customers while at the same time increasing capacity and requesting a license extension.

The NRC attempted to address socioeconomic, tax related issues and staffing, but offered only cursory and superficial data. Relicensing a nuclear power plant should not impose economic hardships on the host community.

There has to be a better way. With health insurance outpacing inflation, property taxes steadily increasing, and electric rates poised to spike, can consumers afford to live near a nuclear power plant that produces never ending rate hikes?

# Susquehanna Steam Electric Station Units 1 & 2

License Renewal Application

Employment Page 3.4-1 September 2006

## 3.4 EMPLOYMENT Current Workforce

SSES employs a nuclear-related permanent workforce of approximately 1,200 employees and up to an additional 260 contract and matrixed employees; this is within the range of 600 to 800 personnel per reactor unit estimated in the GEIS (NRC 1996). Approximately 89 percent of SSES's permanent employees live in Luzerne or Columbia Counties, Pennsylvania. The remaining 11 percent are distributed across 14 counties in Pennsylvania with numbers ranging from 1 to 37 employees per county. A very small percentage (less than one percent) of the workforce lives outside of Pennsylvania.

The SSES reactors are on 24-month refueling cycles with Units 1 and 2 refueling on alternate years. During refueling outages, site employment increases above the permanent workforce by as many as 1,400 workers for temporary (25 to 30 days) duty.

## Three Mile Island:

- On January 4, 2005: TMI changed site vice-presidents for the third time in four years.
- December 13, 2006: The chief of security at Three Mile Island has been replaced, but plant officials are not saying why they made the change...This is the third person to hold the post since 2004.
- According to the "Top 50" list the *Patriot News* published on July 2, 2006, Exelon's staffing numbers were listed at 520: "Area employees: 520  
Description: Electricity and gas distributor in Illinois and Pennsylvania."
- AmerGen has been complaining that TMI-Alert has been low-balling their staffing at 550. They claim it's 620. Below are the figures TMIA has been working with based on AmerGen and Exelon's claims.