



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

September 1, 2009

Mr. Timothy S. Rausch  
Senior Vice President and Chief Nuclear Officer  
PPL Susquehanna, LLC  
769 Salem Boulevard  
Berwick, PA 18603-0467

**SUBJECT: MID-CYCLE PERFORMANCE ASSESSMENT LETTER –  
SUSQUEHANNA STEAM ELECTRIC STATION**

Dear Mr. Rausch:

On August 13, 2009, the NRC staff completed its performance review of Susquehanna Steam Electric Station (Susquehanna). Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results for the period from July 1, 2008 through June 30, 2009. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at your facility.

This performance review and enclosed inspection plan do not include security information. A separate letter designated and marked as "Official Use Only - Security information" will include the security cornerstone review and resultant inspection plan.

Overall, Susquehanna Units 1 and 2 operated in a manner that preserved public health and safety and fully met all cornerstone objectives. Plant performance for the most recent quarter, as well as for the first three quarters of the assessment cycle, was within the Licensee Response column of the NRC's Action Matrix, based on all inspection findings being classified as having very low safety significance (Green) and all PIs indicating performance at a level requiring no additional NRC oversight (Green). Therefore, we plan to conduct reactor oversight process (ROP) baseline inspections at your facility.

On January 28, 2009, we issued you a potential Chilling Effect Letter (CEL) regarding the Safety Conscious Work Environment (SCWE) at Susquehanna (ML090280115)<sup>1</sup>. In that letter we expressed concern with the progress and effectiveness of your actions to address indications of a declining SCWE and negative employee perceptions during 2008, as it may have impacted employee willingness to raise safety concerns and could lead to a chilling effect on site. In accordance with NRC Inspection Manual Chapter 0305, "Operating Reactor Assessment Program," the issuance of this CEL met the first criteria for consideration of a Substantive Cross

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<sup>1</sup> Designation in parenthesis refers to an ADAMS accession number. Documents referenced in this letter are publicly available using the accession number in ADAMS.

Cutting Issue (SCCI) in the area of SCWE. As a result, the NRC will evaluate whether a SCCI exists in the area of SCWE over three plant assessment cycles, including this current assessment.

In response to the CEL, you responded on the public docket via letters dated February 27, 2009 (ML090620124); March 13, 2009 (ML090760146); and June 23, 2009 (ML091800460) describing your plan to address the SCWE issues at Susquehanna and to update the NRC on the progress of these actions. We reviewed these letters and determined that they provided an acceptable written response to the NRC and proposed a reasonable plan to address SCWE issues. We also conducted follow-up inspections on site which are documented in NRC Inspection Reports 05000387 & 05000388/2008002 (ML091330762) and 05000387 & 50000388/2008003 (ML092230158). In addition, NRC management conducted several site visits and meetings with PPL management, including a public meeting on July 6, 2009, to discuss your plans for improving the work environment at Susquehanna and your progress to date (ML091940440).

We have determined through correspondence, meeting, and direct inspection that following issuance of the potential CEL, you have made reasonable progress in understanding the underlying causes and developing an action plan for addressing the SCWE issues at Susquehanna. You completed an appropriate root cause evaluation, identified reasonable causes for the SCWE issues, and scheduled corrective actions to address each of these causes. You also developed internal metrics to monitor and evaluate your progress in addressing the SCWE issues at Susquehanna. We also noted that the number of allegations received by the NRC during 2009, although still greater than the industry norm, were significantly lower than the same period in 2008. As a result, the NRC has determined that a SCCI for SCWE does not exist at this time.

The NRC will continue to monitor PPL's activities to address SCWE issues at Susquehanna through the baseline inspection program. We will review, through focused inspection samples, the progress and effectiveness of the corrective actions developed by your work environment root cause assessment team. We will review the results of the upcoming site-wide safety culture survey and your continuing assessment of the effectiveness of the action plan, evaluation of emergent issues, and adjustments to the plan, if appropriate. In the first quarter of 2010, we will also perform a biennial problem identification and resolution team inspection with special attention in the area of SCWE.

The enclosed inspection plan details the inspections, less those related to physical protection, scheduled through December 31, 2010. We also plan on conducting inspections related to Extended Power Uprate activities and operation of independent spent fuel storage facilities. The inspection plan is provided to allow for the resolution of any scheduling conflicts and personnel availability issues well in advance of inspector arrival onsite. Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last nine months of the inspection plan are tentative and may be revised at the end-of-cycle review.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

As you may know, the NRC is currently evaluating the scope and frequency of all the baseline inspection procedures as part of our biennial review of the ROP. If the results of the evaluation, or any other circumstances, cause us to change this inspection plan, we will contact you to discuss the change as soon as possible. Please contact Paul Krohn at 610-337-5120 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

**/RA/**

David C. Lew, Director  
Division of Reactor Projects

Docket Nos. 50-387; 50-388  
License Nos. NPF-14, NPF-22

Enclosure: Susquehanna Inspection/ Activity Plan

cc w/encl:

W. Spence, President and Chief Operations Officer  
C. Gannon, Vice President, Nuclear Operations  
R. Paley, General Manager, Plant Support  
R. Pagodin, General Manager, Nuclear Engineering  
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R. Osborne, Allegheny Electric Cooperative, Inc.  
D. Allard, Director, PA Dept of Environmental Protection  
Board of Supervisors, Salem Township  
J. Johnsrud, National Energy Committee, Sierra Club  
E. Epstein, TMI-Alert (TMIA)

**Susquehanna**  
**Inspection / Activity Plan**  
**07/01/2009 - 12/31/2010**

Unit Number	Planned Dates		Inspection Activity	Title	No. of Staff on Site
	Start	End			
			<b>71004 - POWER UPRATE</b>		<b>6</b>
1,2	03/01/2009	12/31/2009	IP 71004	Power Uprate	
			<b>7111111B - BIENNIAL REQUAL INSP WITH P/F RESULTS</b>		<b>3</b>
1,2	09/28/2009	10/02/2009	IP 7111111B	Licensed Operator Requalification Program	
			<b>71121 - OCC RAD SAFETY</b>		<b>1</b>
1,2	08/10/2009	08/14/2009	IP 7112101	Access Control to Radiologically Significant Areas	
1,2	08/10/2009	08/14/2009	IP 7112102	ALARA Planning and Controls	
1,2	08/10/2009	08/14/2009	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment	
			<b>ISFSI - ISFSI LOADING CAMPAING INSPECTION</b>		<b>1</b>
1	08/17/2009	08/21/2009	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
			<b>7111107T - HEAT SINK INSP</b>		<b>2</b>
1,2	09/21/2009	09/25/2009	IP 7111107T	Heat Sink Performance	
			<b>71121 - OCC RAD SAFETY</b>		<b>1</b>
1,2	11/30/2009	12/04/2009	IP 7112101	Access Control to Radiologically Significant Areas	
1,2	11/30/2009	12/04/2009	IP 7112102	ALARA Planning and Controls	
1,2	11/30/2009	12/04/2009	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment	
1,2	11/30/2009	12/04/2009	IP 71151-OR01	Occupational Exposure Control Effectiveness	
1,2	11/30/2009	12/04/2009	IP 71151-PR01	RETS/ODCM Radiological Effluent	
			<b>71152B - PI&amp;R</b>		<b>4</b>
1,2	01/11/2010	01/15/2010	IP 71152B	Identification and Resolution of Problems	
1,2	01/25/2010	01/29/2010	IP 71152B	Identification and Resolution of Problems	
			<b>ISFSI - ANNUAL SAMPLE - ISFSI INSPECTION</b>		<b>1</b>
1	01/01/2010	12/31/2010	IP 60855	Operation Of An ISFSI	
			<b>2515/173 - GROUNDWATER TI</b>		<b>1</b>
1,2	02/08/2010	02/12/2010	IP 2515/173	Review of the Implementation of the Industry Ground Water Protection Voluntary Initiative	
			<b>7111108G - U1 INSERVICE INSPECTION</b>		<b>1</b>
1	03/15/2010	03/19/2010	IP 7111108G	Inservice Inspection Activities - BWR	
			<b>71121 - OCC RAD SAFETY</b>		<b>1</b>
1	03/15/2010	03/19/2010	IP 7112101	Access Control to Radiologically Significant Areas	
1	03/15/2010	03/19/2010	IP 7112102-7112102R	ALARA - Required	
1	03/15/2010	03/19/2010	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment	
			<b>7112201 - PUB RAD SAFETY - RETS</b>		<b>1</b>
1,2	05/10/2010	05/14/2010	IP 7112201	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems	
			<b>71121 - OCC RAD SAFETY</b>		<b>1</b>
1,2	06/07/2010	06/11/2010	IP 7112101	Access Control to Radiologically Significant Areas	

This report does not include INPO and OUTAGE activities.  
This report shows only on-site and announced inspection procedures.

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	Start	End			
<b>71121 - OCC RAD SAFETY</b>					<b>1</b>
1,2	06/07/2010	06/11/2010	IP 7112102-7112102R	ALARA - Required	
1,2	06/07/2010	06/11/2010	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment	
<b>71121 - OCC RAD SAFETY</b>					<b>1</b>
1,2	08/23/2010	08/27/2010	IP 7112101	Access Control to Radiologically Significant Areas	
1,2	08/23/2010	08/27/2010	IP 7112102-7112102R	ALARA - Required	
1,2	08/23/2010	08/27/2010	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment	
1,2	08/23/2010	08/27/2010	IP 71151-OR01	Occupational Exposure Control Effectiveness	
<b>CDBI - COMPONENT DESIGN BASES INSPECTION</b>					<b>9</b>
1,2	09/13/2010	09/17/2010	IP 7111121	Component Design Bases Inspection	
1,2	09/27/2010	10/08/2010	IP 7111121	Component Design Bases Inspection	
<b>12/13EXM - INITIAL OPERATOR LICENSING EXAM</b>					<b>5</b>
1	12/13/2010	12/17/2010	U01793	FY11- SUSQUEHANNA U1&2 INITIAL OPERATOR LICENSING EXAM	
<b>EP EX - EP EXERCISE EVALUATION</b>					<b>4</b>
1,2	10/04/2010	10/08/2010	IP 7111401	Exercise Evaluation	
1,2	10/04/2010	10/08/2010	IP 7111404	Emergency Action Level and Emergency Plan Changes	
1,2	10/04/2010	10/08/2010	IP 71151-EP01	Drill/Exercise Performance	
1,2	10/04/2010	10/08/2010	IP 71151-EP02	ERO Drill Participation	
1,2	10/04/2010	10/08/2010	IP 71151-EP03	Alert & Notification System	
<b>7112202 - PUB RAD SAFETY - RADWASTE</b>					<b>1</b>
1,2	11/29/2010	12/03/2010	IP 7112202	Radioactive Material Processing and Transportation	
1,2	11/29/2010	12/03/2010	IP 71151-PR01	RETS/ODCM Radiological Effluent	

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