Britt T. McKinney
Sr. Vice President & Chief Nuclear Officer

PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603
Tel. 570.542.3149 Fax 570.542.1504
btmcklnney@pplweb.com

NOV 2 1 2005

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Stop OP1-17
Washington, DC 20555-0001

SUSQUEHANNA STEAM ELECTRIC STATION
PROPOSED AMENDMENT NO. 282 TO
FACILITY OPERATING LICENSE NPF-14:
PROPOSED CHANGE TO TECHNICAL SPECIFICATION 2.1.1.2
MCPR SAFETY LIMIT
AS-LEFT CORE LOADING PATTERN
PLA-5982 **Docket No. 50-387**

Reference: 1) *PLA-5967, B. T. McKinney (PPL) to Document Control Desk (USNRC), "Proposed Amendment No. 282 to Unit 1 Facility Operating License NPF-14 Proposed Change to Technical Specification 2.1.1.2 MCPR Safety Limit," dated October 14, 2005.*

2) *PLA-5976, B. T. McKinney (PPL) to Document Control Desk (USNRC), "Proposed Amendment No. 282 to Facility Operating License NPF-14: Proposed change to Technical Specification 2.1.1.2 MCPR Safety Limit Supplemental Information," dated October 21, 2005.*

3) *NRC Request for Additional Information (RAI) – Susquehanna Steam Electric Station Unit 1 (SSES 1) – Revised Minimum Critical Power Ratio Safety Limit (TAC No MC8626), dated November 1, 2005*

4) *PLA-5980, R. A. Saccone (PPL) to Document Control Desk (USNRC), "Proposed Amendment No. 282 to Unit 1 Facility Operating License NPF-14 Proposed Change to Technical Specification 2.1.1.2 MCPR Safety Limit Supplemental Information," dated November 2, 2005.*

The attachment to this letter provides the as-left core loading pattern for SSES Unit 1 which results from fuel rechanneling and shuffle activities recently completed during the current maintenance outage.

During the maintenance outage, 150 fuel bundles in the U1C14 core were measured for channel bow. As a result, 54 channels were replaced that exceeded pre-established criteria. Per the original Reference 4 plan, 56 bundles were discharged and replaced with 56 previously discharged twice-burned fuel bundles (discharged after U1C13). Due to some limited rechanneling difficulties, and post maintenance control rod stroking results, an additional 6 reinserts (described below) were necessary. As discussed in Reference 4, we originally expected to rechannel up to 77 fuel bundles.

A001

Channel bow measurements determined that 58 bundles required rechanneling. Rechanneling efforts were successful for 54 bundles; however, 4 bundles could not be rechanneled. These 4 bundles were operated in the U1 core for approximately 1¾ cycles. Because these bundles could not be rechanneled, they were subsequently discharged and replaced with 4 twice-burned bundles, whose bow was measured prior to insertion.

Post maintenance control rod stroking indicated that additional action was warranted for two control cells. As a result, an additional 2 bundles were discharged and replaced with previously characterized twice-burned fuel bundles from the spent fuel pool.

Since the reinserted twice-burned bundles are lower in reactivity than the bundles they replaced, there is no loss of shutdown margin. These bundles are designated as SQA-10 and SQA-11 on the attached as-left core-loading pattern.

As a result of fuel bundle rechanneling, shuffle activities, and control rod stroking, control cell friction in the core has been reduced. All control cells exhibiting friction prior to the shutdown and those susceptible to future friction have been addressed through channel replacements, fuel shuffling, or by reinserting previously discharged fuel. Visual inspection and bundle measurement results were consistent with pre-outage expectations and the MCPR Safety Limit in Reference 1 is valid for the core-loading pattern shown in the attachment.

Any questions regarding this request should be directed to Mr. Duane L. Filchner at (610) 774-7819.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 11-21-05

B. T. McKinney

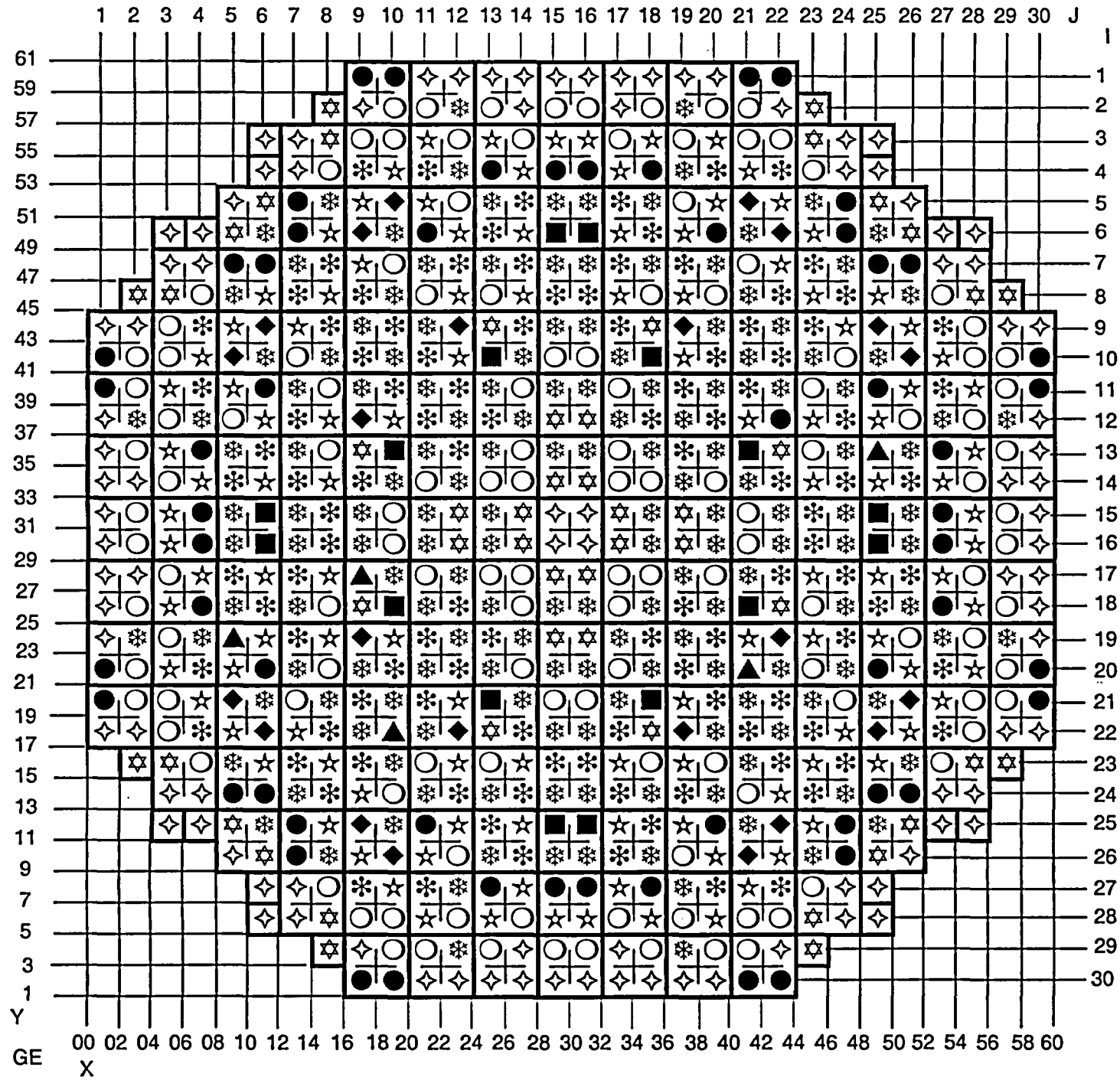
Attachment: As-Left Core Loading Pattern

cc: NRC Region I
Mr. B. A. Bickett, NRC Sr. Resident Inspector
Mr. R. V. Guzman, NRC Project Manager
Mr. R. Janati, DEP/BRP

Attachment to PLA-5982

As-Left Core Loading Pattern

SUSQUEHANNA UNIT 1 CYCLE 14 POST-MAINTENANCE OUTAGE
REFERENCE CORE LOADING PATTERN



- SQA-11 12GdZ/1Gd7 TWICE BURNED (3.44)
- SQA-11 13GdZ TWICE BURNED (3.86)
- SQA-12 12GdZ/1Gd7 ONCE BURNED (3.97)
- SQA-12 13Gd6/12GdZ ONCE BURNED (3.75)
- SQA-12 13Gd6/12GdZ ONCE BURNED (3.75) (SHUFFLED)
- SQA-12 12GdZ/1Gd7 ONCE BURNED (3.97) (SHUFFLED)
- SQA-13 14GdZ FRESH (4.12)
- SQA-13 14GdZ FRESH (3.90)
- SQA-11 12GdZ/1Gd7 TWICE BURNED (3.44) (REINSERT)
- SQA-10 12Gd6-1Gd3/12Gd7-1Gd3 TWICE BURNED(3.94) (REINSERT)

11/10/2005

G:\Nfe\Nfepkg\U1C14\NFE114032\Rev3\u1c14 coremap post_maint_outage_nrc_infoletter