



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

September 8, 2009

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

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 -  
RE: CONDENSATE PUMP TRIP TEST LICENSE CONDITION FOR  
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT NOS. 1 AND 2  
(TAC NOS. ME0223 AND ME0224)

Dear Mr. Rausch:

By letter dated November 18, 2008, as supplemented by letter dated April 13, 2009, PPL Susquehanna, LLC, (PPL or the licensee) submitted a request to the U.S. Nuclear Regulatory Commission (NRC), regarding the requirements of the License Conditions 2.C.(37)(b) and 2.C.(21)(b) for Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2), respectively.

The NRC staff has completed its review of the licensee's request. Based on the review of the information provided by the licensee, the NRC staff finds that completion of the tests specified in License Conditions 2.C.(37)(a) and 2.C.(21)(a) for SSES 1 and 2, respectively, and an additional proposed test following completion of all condensate and feedwater system modifications supporting the power uprate adequately demonstrate that a single condensate pump trip will not result in a loss of all feedwater and that a testing at full Extended Power Uprate level of 3952 MWt is not required.

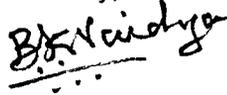
Therefore, the NRC staff finds the licensee's request regarding the requirements of the License Conditions 2.C.(37)(b) and 2.C.(21)(b) for SSES 1 and 2, respectively, not to perform a test at either unit during the power ascension test program demonstrating that a loss of one condensate pump would not cause a total loss of feedwater while operating at 3872 MWt to 3952 MWt (98% to 100% of the full uprated power level) with feedwater and condensate flow rates stabilized, acceptable.

T. S. Rausch

- 2 -

A copy of the NRC staff's safety evaluation is enclosed. Please contact me at 301-415-3308, if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "B. K. Vaidya", written over a horizontal line.

Bhalchandra K. Vaidya, Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure:  
Safety Evaluation

cc w/encl: Distribution via Listserv



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO THE REQUEST REGARDING  
CONDENSATE PUMP TRIP TESTING AT FULL UPATED POWER LEVEL  
PPL SUSQUEHANNA, LLC  
ALLEGHENY ELECTRIC COOPERATIVE, INC.  
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2  
FACILITY OPERATING LICENSE NOS. NPF-14 AND NPF-22  
DOCKET NOS. 50-387 AND 50-388

1.0 INTRODUCTION

By application dated November 18, 2008 (Reference 1), (Agencywide Documents Access and Management system (ADAMS) Accession No. ML083300363) as supplemented by letter dated April 13, 2009 (Reference 2) (ADAMS Accession No. ML091110471), PPL Susquehanna, LLC (PPL or the licensee), submitted a request not to perform the condensate pump trip test at full power level of Extended Power Uprate (EPU), as required by License Conditions 2.C.(37)(b) and 2.C.(21)(b) for Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2), respectively.

The license conditions (LCs) 2.C.(37)(b) and 2.C.(21)(b) for SSES 1 and 2, respectively, require that the licensee performs a condensate pump trip test on the first unit to reach full EPU power unless U.S. Nuclear Regulatory Commission (NRC) issues a letter notifying the licensee that the tests specified in LC 2.C.(37)(a) and LC 2.C.(21)(a) adequately demonstrate that a single condensate pump trip will not result in a loss of all feedwater while operating at the full EPU power level of 3952 MWt. The licensee asked the NRC to issue a letter under LCs 2.C.(37)(b) and 2.C.(21)(b) stating that the licensee need not perform the tests required by these LCs. The licensee requested that the letter state that completion of the tests specified in License Conditions 2.C.(37)(a) and 2.C.(21)(a) for SSES 1 and 2, respectively, and an additional proposed test following completion of all condensate and feedwater system modifications supporting the power uprate adequately demonstrate that a single condensate pump trip will not result in a loss of all feedwater and that a test performed at 3952 MWt is not required. This letter would satisfy License Conditions 2.C.(37)(b) and 2.C.(21)(b) for SSES 1 and 2, respectively. The letter would have the effect of releasing the licensee from the alternative requirement to perform a test at either unit during the power ascension test program demonstrating that a loss of one condensate pump would not cause a total loss of feedwater while operating at 3872 MWt to 3952 MWt (98 percent to 100 percent of the full uprated power level) with feedwater and condensate flow rates stabilized.

## 1.1 Background

At SSES 1 and 2, the condensate and feedwater system consists of the following major elements: four parallel motor-driven condensate pumps, six parallel condensate demineralizer vessels, three parallel feedwater heater strings, and three parallel turbine-driven feedwater pumps. Between each element, the condensate flow is typically combined into a common header. At the pre-uprate power level, the condensate and feedwater system was designed to permit continued operation of the plant at reduced power without reactor trip upon trip of one of the four condensate pumps, trip of one of the three reactor feed pumps, or isolation of one of the three strings of feedwater heaters. Prior to the power uprate, the licensee had modified the feedwater pump trip on low suction pressure to stagger the pump trip. The modification to stagger the feedwater pump trip was intended to prevent tripping of all three feedwater pumps simultaneously and to assure improved capability to survive a sudden reduction in suction pressure.

The license amendment approving SSES 1 and 2 operation at the uprated power level included license conditions related to condensate and feedwater system testing. License Conditions 2.C.(37)(a) and 2.C.(21)(a) for SSES 1 and 2, respectively, require that the licensee performs a condensate pump trip test on each unit during the unit's EPU power ascension test program within 336 hours of achieving and prior to exceeding 3733 MWt (94.5 percent of the full uprated power level) to demonstrate that a complete loss of feedwater will not occur. In addition, License Conditions 2.C.(37)(b) and 2.C.(21)(b) for SSES 1 and 2, respectively, require that the licensee perform a condensate pump trip test on the first unit to reach full EPU power unless NRC issues a letter notifying the licensee that the tests specified in License Conditions 2.C.(37)(a) and 2.C.(21)(a) for SSES 1 and 2, respectively, adequately demonstrate that a single condensate pump trip will not result in a loss of all feedwater while operating at the full EPU power level of 3952 MWt.

## 2.0 REGULATORY EVALUATION

The purpose of the EPU test program is to demonstrate that structures, systems, and components (SSCs) will perform satisfactorily in service at the proposed EPU power level. The test program also provides additional assurance that the plant will continue to operate in accordance with design criteria at EPU conditions. The NRC staff's review included an evaluation of transient testing necessary to demonstrate that plant equipment will perform satisfactorily at the proposed increased maximum licensed thermal power levels.

The acceptance criteria for the proposed EPU test program are based on 10 CFR Part 50, Appendix B, Criterion XI, which requires establishment of a test program to demonstrate that SSCs will perform satisfactorily in service. Additionally, specific review criteria are contained in NUREG-0800, Standard Review Plan (SRP) 14.2.1, "Generic Guidelines for EPU Testing Programs."

The NRC staff also utilized the following regulatory requirements and guidance documents in reviewing the licensee's request:

- General Design Criterion 1, "Quality standards and records," of 10 CFR Part 50 Appendix A, "General Design Criteria for Nuclear Power Plants," insofar as it applies to the specific plant, requires that SSCs important to safety be tested to quality standards

commensurate with the importance of the safety functions to be performed and that a quality assurance program be established and implemented to provide reasonable assurance that these SSCs will satisfactorily perform their safety functions.

- Criterion XI, "Test Control," of 10 CFR Part 50 Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," insofar as it applies to the specific plant requires establishment of a test program to assure that testing required to demonstrate that SSCs will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.
- 10 CFR 50.34, "Contents of applications; technical information," specifies requirements for the content of the original operating license application, including the requirement that the final safety analysis report (FSAR) include plans for preoperational testing and initial operations.

In order to meet the EPU test program acceptance criteria, the licensee should provide reasonable assurance that the proposed EPU test program, along with plant operating experience, computer modeling, and analyses, adequately demonstrates that SSCs will perform satisfactorily at EPU conditions. In particular, the EPU application and supporting justification should provide reasonable assurance that (1) any power-uprate-related modifications to the facility have been adequately constructed and implemented and (2) the facility can be operated at the proposed EPU conditions in accordance with design requirements and in a manner that will not endanger the health and safety of the public.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Evaluation – "Balance-Of-Plant Systems"

The licensee identified the following significant condensate and feedwater system modifications among those modifications planned in support of the power uprate:

1. replacement of condensate pump impellers with high head pump impellers,
2. modification of condensate pump minimum flow valves to support higher flow rates,
3. modification of all three reactor feed pump (RFP) turbines to support higher speeds, and
4. modification of RFP suction pressure trip setpoint and time delay.

The licensee completed a condensate pump trip test on Unit 1 at 3727 MWt on May 16, 2008. This test was based on Unit 1 License Condition 2.C.(37)(a). The test results satisfied the top-level acceptance criterion of maintaining at least one feedwater pump in service and the following licensee-established acceptance criteria:

1. The trip of one condensate pump shall not cause the trip of more than one feedwater pump.
2. A recirculation runback shall occur upon the trip of a condensate pump.
3. The margin to the RFP suction pressure trip setpoint shall not be less than 10 psi.

Although the test results satisfied the acceptance criteria, the licensee reported in Reference 2 that one of the four significant condensate and feedwater system modifications had not been

completed at the time of the test. This condition was anticipated in the staff safety evaluation approving operation at the uprated power level (Reference 3, ADAMS Accession No. ML081000038), and the potential for this modification to affect RFP reliability formed the basis for License Conditions 2.C.(37)(b) and 2.C.(21)(b) for SSES 1 and 2, respectively.

As part of the RFP turbine modifications supporting higher pump speeds, the licensee plans to install a digital integrated control system (ICS). In Reference 2, PPL explained that the RFP suction pressure transmitters will provide a pressure signal to the ICS. The ICS software will evaluate the pressure signal relative to the low suction pressure trip setpoint, and, when the setpoint is exceeded, actuate an RFP trip following the programmed time delay. Therefore, the ICS will perform an important role in the response of the condensate and feedwater system to the RFP suction pressure transient caused by a condensate pump trip.

In Reference 2, PPL described its plans for testing of the ICS. Testing of ICS will be in two major stages: a Factory Acceptance Test (FAT) and a Site Acceptance Test (SAT). The FAT tests the ICS from its inputs through the software driven digital components to the outputs. This test assures that the inputs and outputs are connected correctly and that the logic works properly between the associated inputs and outputs. The SAT confirms the integration of ICS with the connections to and from the other plant equipment. Successful completion of these tests would ensure that the low suction pressure trip function in ICS will perform as expected.

In Reference 2, PPL also described its revised condensate pump trip test plans to satisfy the license conditions. The licensee had originally intended to complete implementation of all modifications supporting operation at the uprated power level before the performance of the condensate pump trip test at 3733 MWt for Unit 2 in the spring 2009. However, due to delays affecting implementation of the ICS at SSES 1 and 2, PPL proposed performance of two condensate pump trip tests at 3733 MWt in addition to the completed test on Unit 1. Specifically, in Reference 2, PPL proposed the following tests in order to justify not performing the condensate pump trip at the full uprated power level:

- (a) Condensate pump trip on Unit 2 at about 3733 MWt as required by License Condition 2.C.(21)(a). PPL described that conditions for the Unit 2 test will be similar to those for the completed Unit 1 test, except an additional condensate filter and demineralizer will be installed on Unit 2. PPL anticipated that the installation of the additional filter and demineralizer will have little or no effect on the results of the pump trip when compared to Unit 1. PPL expected this test to demonstrate similar performance of Units 1 and 2.
- (b) Condensate pump trip on Unit 1 at about 3733 MWt after the installation of ICS, new reactor feed pump turbines, and a condensate filter and demineralizer. PPL expects this test to demonstrate the capability of both units with all EPU modifications installed.

By letter dated August 13, 2009, the licensee submitted the results of the condensate pump trip test on Unit 2 at about 3733 MWt as required by License Condition 2.C.(21)(a), which show that this test satisfies the acceptance criteria applied to the Unit 1 condensate pump trip test, as discussed in (a) above. The condensate pump trip test on Unit 1 at about 3733 MWt after the installation of ICS, new reactor feed pump turbines, and a condensate filter and demineralizer, discussed in (b) above, is planned in spring 2010. Provided the test, to be performed on Unit 1

in spring 2010, satisfies the acceptance criteria applied to the Unit 1 condensate pump trip test, the NRC staff agrees that the licensee has provided adequate justification for not performing the condensate pump trip test at the full uprated power, as specified in License Conditions 2.C.(37)(b) and 2.C.(21)(b) for SSES 1 and 2, respectively. As described in Reference 1, the licensee has established conservative models of the plant response to condensate and feedwater system transients. These models allow the licensee to establish appropriate setpoints for the RFP trip on low suction pressure. The licensee described component and system testing that verifies the proper functioning of the RFP controller and trip functions. Satisfaction of the licensee-developed acceptance criteria during the proposed condensate pump trip testing will provide confirmation that the Unit 2 response is consistent with the demonstrated Unit 1 response and that implementation of the final modifications in support of the power uprate will not adversely affect the capability of either unit to respond as designed to condensate and feedwater system transients.

### 3.2 Evaluation – Reactor Systems

The licensee performed a condensate pump trip test on Unit 1 at 3727 MWt (94.3 percent of full EPU power) on May 16, 2008. The trip of any one of the four condensate pumps is expected to yield similar results because the pumps are arranged in a parallel configuration, and therefore, performing the test on any one of the four condensate pumps is considered to be acceptable. The actual test results were bounded by conservatively predicted values of the static analysis model and the plant simulator. Water level decreased approximately 1 inch to an indicated level of 34 inches as predicted by the simulator. The Reactor Feedwater Pump (RFP) suction pressure decreased from 412 psig to 329 psig. The RFP suction pressure was predicted to be 304 psig by the static model and 305 psig by the plant simulator, which were conservative. Reactor power decreased to 69 percent, as was predicted by the simulator. All the Unit 1 condensate pump trip test acceptance criteria (Level 1 and Level 2) were satisfied. Consistent with the acceptance criteria, the test did not cause any RFP to trip, recirculation runback did occur, and feedwater flow to the reactor vessel was maintained.

Conservative prediction of RFP suction pressure for condensate pump trip test from 3727 MWt validate that the analytical tools employed by PPL to predict the results for a similar trip from full EPU power are conservative. The licensee performed analyses to predict the results of a potential condensate pump trip from full EPU power level of 3952 MWt. On the basis of the analyses, it is expected that a condensate pump trip at 3952 MWt will result in a single RFP trip; but a complete loss of feedwater is not predicted to occur.

Feedwater control system failure or RFP trip can lead to partial or complete loss of feedwater flow. Loss of feedwater flow results in a situation where the mass of steam leaving the reactor vessel exceeds the mass of water entering the vessel, resulting in a decrease in the coolant inventory available for core cooling. According to the NRC-approved licensing Topical Report (LTR) NEDC-32424P-A, "Generic Guidelines for General Electric Boiling Water Reactor Extended Power Uprate," (known as ELTR1), Appendix E.2.2, the safety criteria for the loss of feedwater flow event (maintenance of adequate transient core cooling) are met.

As part of the EPU analysis, the licensee submitted plant-specific calculations in the Power Uprate Safety Analysis Report (PUSAR) with a representative equilibrium ATRIUM-10 core for loss of feedwater flow (LOFW) event using the approach documented in ELTR1, and the NRC-approved LTR NEDC-32523P-A, "Generic Evaluations for General Electric Boiling Water

Reactor Extended Power Uprate," (known as ELTR2). The analysis also assumed the failure of the High-Pressure Coolant Injection (HPCI) system and used only the Reactor Core Isolation Cooling (RCIC) system to restore the reactor water level. This event is also a test of RCIC capacity. It was stated in the staff's safety evaluation for the SSES 1 and 2 EPU that the increased decay heat due to EPU operation results in a slower reactor water level recovery compared to current licensed thermal power (CLTP) case. The reactor level is automatically maintained above the top of the active fuel without any operator actions. The results show that the minimum water level inside the core shroud is 90 inches above the top of the fuel. The core remains covered throughout the transient and hence no cladding failure is predicted. Based on the level recovery and RCIC performance, as demonstrated by the plant-specific analysis, the NRC staff concluded that this transient is acceptable under EPU condition.

In the SSES 1 and 2 EPU safety evaluation, it was further stated that as a result of the transient analysis performed at EPU conditions, the licensee identified and requested a change in the licensing basis. The current licensing basis indicates that a loss of a single FWP or condensate pump will not initiate a reactor trip. However, at EPU conditions, when instrument inaccuracies and modeling uncertainties are considered, there is a possibility of a reactor trip on low reactor water level when one FWP is tripped. When a condensate pump is tripped, a reactor recirculation system runback is initiated. One RFP may trip on low suction pressure before the runback is effective and reactor water level is recovered for the reduced power level. These scenarios are bounded by the loss of total feedwater flow transient analyzed at EPU conditions.

By letter dated April 13, 2009 (Reference 2), the licensee proposed that they will perform the following additional tests in order to justify not performing the condensate pump trip at full EPU power level. The proposed tests and the basis for the tests are described below:

Test: Condensate pump trip on Unit 2 at 3733 MWt, as required by LC 2.C.(21)(a).

Basis: The conditions for the Unit 2 trip will be similar to those for the Unit 1 test except an additional condensate filter and demineralizer will be installed on Unit 2. The licensee anticipates that the installation of the additional filter and demineralizer will have little or no effect on the results of the pump trip when compared to Unit 1. The objective of this trip is to demonstrate that the performance of Units 1 and 2 are similar.

Test: Condensate pump trip on Unit 1 at 3733 MWt after the installation of ICS, new reactor feed pump turbines, and a condensate filter and demineralizer will be used to demonstrate the unit's capability after all EPU modifications are installed.

Basis: The objective of this trip is to demonstrate the unit's capability after all EPU modifications were installed. This test will be completed provided that the NRC staff determines that successful completion of this test along with the successful completion of the Unit 1 and Unit 2 tests (prior to completion of all EPU modifications) at 3733 MWt fulfill LC 2.C.(37) (b) for Unit 1 and LC 2.C.(21)(b) for Unit 2.

In the letter (Reference 2), it was further stated that based on (1) the results of the completed condensate pump trip test for Unit 1 at 3733 MWt, (2) an anticipated successful condensate pump trip test for Unit 2 at 3733 MWt, (3) an anticipated successful condensate pump trip test for Unit 1 at 3733 MWt with the EPU modifications installed, and (4) based on conservative predictions by the simulator and static model; the licensee believes that the analysis provided

demonstrates that performing a condensate pump trip test between 3872 MWt to 3952 MWt power level is unnecessary and, thus, fulfills the requirements of LCs 2.C.(37)(b) and 2.C.(21)(b). By letter dated August 13, 2009, the licensee submitted the results of the condensate pump trip test on Unit 2 at about 3733 MWt as required by License Condition 2.C.(21)(a), which show that this test satisfies the acceptance criteria applied to the Unit 1 condensate pump trip test.

After reviewing the information provided by the licensee, as discussed in this safety evaluation, the NRC staff believes that the condensate pump trip test at full EPU power level is not necessary because of the following reasons: (1) satisfactory Unit 1 test performance for condensate pump trip from 3727 MWt (94.3 percent of full EPU power); (2) successful condensate pump trip test for Unit 2 at 3733 MWt, and an anticipated successful condensate pump trip test for Unit 1 at 3733 MWt with the EPU modifications installed; (3) conservative analytical prediction for condensate pump trip from full EPU power level shows that one RFP may trip, yet complete loss of feedwater flow is unlikely; and (4) in an unlikely event, even if complete loss of feedwater flow should occur at full EPU power level, plant-specific EPU analysis showed that the core remains covered throughout the transient and hence no cladding failure is to occur. The NRC staff, therefore, concludes that the requirements delineated in LCs 2.C.(37)(b) and 2.C.(21)(b) will be satisfied, subject to satisfactory completion of the above mentioned tests, as proposed by the licensee.

#### 4.0 CONCLUSION

The NRC staff reviewed PPL' s request not to perform a condensate pump trip test at full EPU power level pursuant to LCs 2.C.(37) (b) and 2.C.(21) (b) for SSES 1 and 2, respectively. The NRC staff finds that the licensee' s request is acceptable, if the licensee-proposed testing described in its April 13, 2009 letter, at less than the full EPU power level, satisfies the licensee-developed acceptance criteria for the condensate pump trip test. The NRC staff finds that the licensee' s, submittals provided sufficient justification for not performing the integrated condensate pump trip test at the full EPU power level. The licensee' s justification includes development of conservative models to predict plant response to condensate and feedwater system transients, conduct of appropriate component and system testing, and performance of representative integrated testing at lower power levels. This justification is consistent with the Guidelines of Section III.C, " Justification for Eliminating EPU Power ascension Tests," to SRP 14.2.1, " Generic Guidelines for EPU Testing Programs," and is therefore acceptable.

#### 5.0 REFERENCES

1. Letter from W.H. Spence (PPL) to NRC, " SUSQUEHANNA STEAM ELECTRIC STATION UNIT 1 OPERATING LICENSE NO. NPF-14 LICENSE CONDITIONS 2.C.(37) (a) and 2.C.(37) (b) AND UNIT 2 OPERATING LICENSE NO. NPF-22 LICENSE CONDITIONS 2.C.(21) (a) AND 2.C.(21) (b)," November 18, 2008.
2. Letter from W.H. Spence (PPL) to NRC, " SUSQUEHANNA STEAM ELECTRIC STATION UNIT 1 OPERATING LICENSE NO. NPF-14 LICENSE CONDITIONS 2.C.(37) (a) and 2.C.(37) (b) AND UNIT 2 OPERATING LICENSE NO. NPF-22 LICENSE CONDITIONS 2.C.(21) (a) AND 2.C.(21) (b), SUPPLEMENT 1: RESPONSE TO RAIS," April 13, 2009.

3. Letter from NRC to Mr. B. T. McKinney (PPL), "SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - CORRECTIONS TO AMENDMENT NOS. 246 AND 224 REGARDING THE 13 PERCENT EXTENDED POWER UPRATE," May 5, 2008.

Principal Contributors: S. Jones  
M. Razzaque

Date: September 8, 2009

T. S. Rausch

- 2 -

A copy of the NRC staff's safety evaluation is enclosed. Please contact me at 301-415-3308, if you have any questions.

Sincerely,

**/RA/**

Bhalchandra K. Vaidya, Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure:  
Safety Evaluation

cc w/encl: Distribution via Listserv

DISTRIBUTION

PUBLIC	PD1-1 RF	RidsNrrDorLPL1-1	RidsNrrPMBVaidya (hard copy)
RidsNrrSLittle (hard copy)	RidsOGCRp	RidsNrrDorIDpr	RidsAcrcAcnw&mMailCenter
RidsRg1MailCenter	S. Jones, NRR/SBPB		M. Razzaque, NRR/SRXB
RidsNrrDssSrxb	RidsNrrDssSbpb		

ADAMS Accession No.: ML092220487

(\*) No substantial change from SE Input Memorandum

OFFICE	LPL1-1/PM	LPL1-1/LA	NRR/SBPB/BC	NRR/SRXB/BC	OGC	LPL1-1/BC
NAME	BVaidya	SLittle	GCasto	GCranston	Not Required per e-mail dated 09/01/09	NSalgado
DATE	9/02/09	9/02/09	08/05/09	06/23/09	09/01/09	9/08/09

OFFICIAL RECORD COPY