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

March 12, 2013

Mr. Dennis L. Koehl
President and CEO/CNO
STP Nuclear Operating Company
South Texas Project
P.O. Box 289
Wadsworth, TX 77483

SUBJECT: SOUTH TEXAS PROJECT, UNITS 1 AND 2 – REQUEST FOR RELIEF FROM THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND PRESSURE VESSEL CODE, SECTION XI, REQUIREMENTS FOR REACTOR PRESSURE VESSEL HEAD FLANGE O-RING LEAKOFF LINES NON-DESTRUCTIVE EXAMINATION (TAC NOS. ME9863 AND ME9864)

Dear Mr. Koehl:

By letter dated November 1, 2012 (Agencywide Document Access and Management System (ADAMS) Accession No. ML12321A021), as supplemented by letter dated November 5, 2012 (ADAMS Accession No. ML12321A027), STP Nuclear Operating Company (the licensee) submitted for U.S. Nuclear Regulatory Commission (NRC) review and approval Relief Request RR-ENG-3-10 for the third 10-year inservice inspection (ISI) interval at South Texas Project (STP), Units 1 and 2. The licensee requested relief from the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code), Section XI, non-destructive examination pressure requirement for the system leakage test applicable to the reactor pressure vessel (RPV) head flange O-ring leakoff lines pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.55a(a)(3)(ii). As an alternative to the leakage test at system operating pressure, the licensee proposed to examine the accessible portions of the system using VT-2 visual examination method.

The NRC staff has completed its review of the request and concludes that the proposed alternative provides reasonable assurance of structural integrity and leak tightness of the RPV flange O-ring leakoff lines. The NRC staff concludes that complying with the specified ASME Code requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. The NRC staff has determined that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(ii) and is in compliance with the requirements of the ASME Code, Section XI, for which relief was not requested. Therefore, the NRC authorizes the use of Relief Request RR-ENG-3-10 at the STP, Units 1 and 2, for the third 10-year ISI interval, which began on September 25, 2010, for Unit 1 and October 19, 2010, for Unit 2 and ends on September 24, 2020, for Unit 1, and October 18, 2020, for Unit 2.

Based on the information provided by the licensee in its letters dated November 1 and November 5, 2012, the NRC verbally authorized the use of relief request RR-ENG-3-10 on November 6, 2012 (ADAMS Accession No. ML12312A234). The enclosed safety evaluation documents the details of the technical basis for the NRC staff's authorization.

All other ASME Code, Section XI, requirements for which relief has not been specifically requested, remain applicable, including a third-party review by the Authorized Nuclear Inservice Inspector.

If you have any questions, please contact Balwant K. Singal at 301-415-3016 or by e-mail at Balwant.Singal@nrc.gov.

Sincerely,

Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

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

REQUEST FOR RELIEF

FROM AMERICAN SOCIETY OF MECHANICAL ENGINEERS BOILER AND

PRESSURE VESSEL CODE, SECTION XI, REQUIREMENTS

FOR REACTOR PRESSURE VESSEL HEAD FLANGE O-RING LEAKOFF LINES

NON-DESTRUCTIVE EXAMINATION

STP NUCLEAR OPERATING COMPANY

SOUTH TEXAS PROJECT, UNITS 1 AND 2

DOCKET NOS. 50-498 AND 50-499

1.0 INTRODUCTION

By letter dated November 1, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12321A021), as supplemented by letter dated November 5, 2012 (ADAMS Accession No. ML12321A027), STP Nuclear Operating Company (STPNOC, the licensee) requested relief from the requirements of the American Society of Mechanical Engineer Boiler and Pressure Vessel Code (ASME Code), Section XI, Article IWC-5220, for South Texas Project (STP), Units 1 and 2. Specifically, pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 50.55a(a)(3)(ii), in Relief Request No. RR-ENG-3-10, the licensee requested to use an alternative on the basis that complying with the specified ASME Code requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Relief Request No. RR-ENG-3-10 is applicable to the system leakage test of the reactor pressure vessel (RPV) head flange O-ring leakoff lines at STP, Units 1 and 2, for the third 10-year inservice inspection (ISI) interval.

Based on the information provided by the licensee in its letters dated November 1 and November 5, 2012, the NRC verbally authorized the use of relief request RR-ENG-3-10 on November 6, 2012 (ADAMS Accession No. ML12312A234). This safety evaluation documents the details of the technical basis for the NRC staff's authorization.

2.0 REGULATORY EVALUATION

The licensee requested authorization of an alternative to the requirements of Article IWC-5220 of Section XI of the ASME Code pursuant to 10 CFR 50.55a(a)(3)(ii).

The regulations in 10 CFR 50.55a(g)(4), state, in part, that ASME Code Class 1, 2, and 3 components (including supports) must meet the requirements, except the design and access provisions and the preservice examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components.

The regulations in 10 CFR 50.55a(a)(3), state, in part, that alternatives to the requirements of paragraph (g) of 10 CFR 50.55a may be authorized by the NRC if the licensee demonstrates that: (i) the proposed alternative provides an acceptable level of quality and safety, or (ii) compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Based on the above, and subject to the following technical evaluation, the NRC staff concludes that regulatory authority exists for the licensee to request the use of an alternative and the NRC staff to authorize an alternative proposed by the licensee.

3.0 TECHNICAL EVALUATION

3.1 Components Affected

The affected components are the leakoff lines associated with the RPV head flange O-rings. The leakoff lines are made of Alloy 600 and stainless steel (SS). Piping is ¾-inch ASME Code Class 2, schedule 160S, design pressure 2485 psig [pounds per square inch gauge] and material specification is BB2, SA-312, Grade 304 or 316. Monitor tubes supplied by the original equipment manufacturer are 1-inch, ASME Code Class 2, schedule 160S, SA-312 Grade 316 and 1.5-inch, ASME Code Class 2, Alloy 600, SB-166.

3.2 Applicable Code Requirement (as stated by the licensee)

> The applicable code is ASME [Code] Section XI, 2004 Edition (no addenda).
>
> [Subarticle] IWC-5220 [of the ASME Code, Section XI,] requires that the system leakage test shall be conducted at the system pressure obtained while the system, or portion of the system, is in service performing its normal operating function or at the system pressure developed during a test conducted to verify system operability (*e.g.*, to demonstrate system safety function or satisfy technical specification surveillance requirements).

The ASME Code, Section XI, requires the RPV head flange O-ring leakoff lines to be examined each inspection period.

3.3 Basis for Relief from Code Requirements (as stated by the licensee)

In accordance with the provisions of 10 CFR 50.55a(a)(3)(ii), STPNOC requests relief from the [ASME Code,] Section XI code requirement for system leakage tests of the RPV head flange O-ring leakoff lines on the basis that compliance with the code specified pressure requirement to test the leakoff lines at system operating pressure is impractical and would result in unusual difficulty without a compensating increase in the level of quality and safety.

The RPV head flange O-ring leakoff lines are separated from the reactor coolant system operating pressure by an inner O-ring and an outer O-ring [ ]. With the RPV head flange O-rings installed and performing their intended function, the leakoff lines are not expected to be pressurized during the system pressure test following a refueling outage. [It should be noted that for STP, Unit 1, the leakoff line associated with the inner O-ring is plugged due to degradation.]

With the RPV head removed, the configuration of the leakoff piping would require the lines to be plugged at the RPV flange to establish a boundary for a leakage test at system operating pressure. Performance of such a test would require installation and removal of the plugs that would result in significant radiation exposure, estimated at 1000-2000 mrem [millirems] per test. Applying system pressure to the leakoff lines is also not practical with the RPV head installed because it would require either intentionally failing the O-rings or pressurization in the direction opposite to the intended design function of the O-rings that could damage O-ring material. Purposely failing the O-rings to perform the code required pressure test would require purchase of a new set of O-rings, and additional time and radiation exposure to remove the RPV head, install new O-rings, and reinstall the head. This is considered to impose an undue hardship and burden.

3.4 Proposed Alternative and Basis for Use (as stated by the licensee)

In accordance with the provisions of 10 CFR 50.55a(a)(3)(ii), STPNOC proposes to examine the Class 2 portions of the leak detection system, consisting of the accessible portions of the RPV head flange O-ring leakoff lines (refer to Figures 1 and 2 [of the licensee's letter dated November 1, 2012]). The leakoff lines shall be examined using the VT-2 visual examination method. The test shall be conducted at ambient conditions after the refueling cavity has been filled to its normal refueling water level for at least four (4) hours, when the piping is subjected to the static pressure head.

The licensee's proposed alternative is based on the guidance provided in ASME Code Case N-805, "Alternative to Class 1 Extended Boundary End of Interval or Class 2 System Leakage Testing of the Reactor Vessel Head Flange O-Ring Leak-Detection System, Section XI, Division 1." The NRC staff notes that the staff has not approved Code Case N-805.

The licensee stated that it tests the RPV flange O-ring leakoff lines every outage at normal operating temperature and pressure with the RPV flange O-rings installed. The licensee further

stated that as described in the Updated Final Safety Analysis Report (UFSAR) Section 5.2.5.1.3, "Collection of Identified Leakage," leakage from the RPV flange is collected in the reactor coolant system drain tank (RCDT) and is identified by an increase in temperature that is monitored in the flange leakoff line. The UFSAR Section 5.3.3.1 providing description of the reactor vessel integrity design states, in part, that

> The reactor vessel flange and head are sealed by two hollow metallic O-rings. Seal leakage is detected by means of two leakoff connections: one between the inner and outer ring and one outside the outer O-ring. For Unit 1, a 1/8 in. threaded plug made of stainless steel has been installed and seal welded in the reactor vessel flange drain hole for the inner O-ring leakoff line.

As stated by the licensee in its letter dated November 1, 2012:

> The flange seal leakoff lines are essentially a leakage collection/detection system and would only function as a Class 2 pressure boundary in the event of failure of the O-rings separating the lines from reactor coolant system operating pressure. Any significant leakage in this condition would be expected to clearly exhibit boric acid accumulation that would be discernible during the proposed alternate VT-2 visual examination that will be performed. The static head developed with the leak detection line filled with water will allow for the detection of any gross indications in the line.

3.5 Duration of Proposed Alternative

The licensee stated that because the examination requirements cover the first period of the third 10-year ISI interval ending in September 24, 2013, the current plant conditions in STP, Unit 1 provide the last practical opportunity to meet the required examination frequency of once per inspection period. The licensee requested the relief for the duration of the third ten year ISI interval for STP Units 1 and 2. The third 10-year ISI interval began on September 25, 2010, for Unit 1, and October 19, 2010, for Unit 2, and ends on September 24, 2020, for Unit 1, and October 18, 2020, for Unit 2.

4.0 NRC Staff Evaluation

4.1 Leakoff Line Configuration

In a request for additional information (RAI) dated November 2, 2012 (ADAMS Accession No. ML12307A264), the NRC staff requested that the licensee clarify why a threaded plug had been installed and seal welded in the RPV flange drain hole for the inner O-ring leakoff line for STP, Unit 1, as discussed above in UFSAR Section 5.3.3.1 and Section E of the licensee's letter dated November 1, 2012. In its RAI response dated November 5, 2012, the licensee stated, in part, that

> A leak was discovered in the inner O-ring leakoff line upstream of the isolation valve, during [refueling outage] 1RE14 on 04/11/2008. Due to the location of the leak inside an embedded sleeve in the reactor cavity concrete floor near the

reactor, repair would have been exceptionally difficult. A decision was made to plug the inner leakoff line instead. This eliminated the leak path.

The inner and outer leakoff lines join together downstream of the isolation valves. The intent of the original design is to isolate the inner leakoff line after leakage past the first seal is detected and then rely only on the outer leakoff line. The intent of the original design was to have only one leakoff line active at a time. Therefore, removal of the inner leakoff line from service does not reduce the capability of O-ring leakoff. The current configuration is equivalent to the original design with the inner leakoff line isolation valve closed.

With the inner leakoff line plugged, any leakage past the inner O-ring seal will be confined between the inner and outer O-ring seals as long as the outer seal holds. Leakage that goes past the outer seal will drain through the outer leakoff line, with no reduction in capacity from that provided by the original design with the isolation valve closed on the inner leakoff line.

While the outer O-ring will function as it did before the design change, its configuration as a leakage indication line allows for a limited amount of leakage flow. In the case of more than limited leakage, primary coolant may flow past the reactor vessel flange to the cavity drainage system. Such leakage would be detected by containment leakage detection systems.

The NRC staff concludes that the licensee has clarified why the inner leakoff line is plugged and that the outer leakoff line will function as a leakage indication line as originally designed, which assumed only one leakage detection line to be active at a time.

4.2 Proposed System Leakage Test

In its RAI dated November 2, 2012, the NRC staff requested that the licensee clarify the statement in Section E of the licensee's letter dated November 1, 2012, which stated, in part, that "STP tests the RPV flange O-ring leakoff lines every outage at normal operating temperature and pressure with the RPV flange O-rings installed." In its RAI response dated November 5, 2012, the licensee stated that the ASME Code, Section XI, IWC-5221 requires that "the system leakage test shall be conducted at the system pressure obtained while the system, or portion of the system, is in service performing its normal operating function...." Based on this requirement, the licensee has visually examined (VT-2), during every outage, the leakoff lines after the O-rings were reinstalled, and the RCS had achieved normal operating pressure. In addition, by letter dated November 5, 2012, the licensee stated, in part, that

> Generally some leakage has been experienced during pressure/temperature ascension prior to the O-rings being fully "energized." However, if minimal or no leakage occurred, then the [leakoff] line would not have been subjected to a pressure higher than the RCDT [reactor coolant system drain tank] pressure of 2-6 psig.

> The line was tested every outage coincident with the ASME Class 1 pressure test. The new exam will be performed once per period as is required by [the ASME Code, Section XI, Table IWC-2500-1, Examination Category C-H.]

The NRC staff notes, that in the above test configuration, the leakoff line does not contain the high RCS operating pressure as required by the ASME Code, Section XI, IWC-5221, but the low RCDT pressure of 2-6 psig. For the proposed alternative, the licensee will conduct the system leakage test at ambient conditions after the refueling cavity has been filled to its normal refueling water level for at least four hours, when the piping is subjected to the static pressure head, which will also be lower than the RCS operating pressure. The NRC staff's first concern was whether the proposed low-test pressure would be sufficient to demonstrate the structural integrity and leak tightness of the leakoff line. If a leakoff line has a large through-wall crack, through-wall leakage from the leakoff line will be evident under either high- or low-pressure test condition. If the leakoff line has a very small and tight through-wall crack, the leakage may not be readily evident under the low-pressure test condition as it would be during the high-pressure test condition. However, in either the high- or low-pressure test condition, through-wall leakage from the leakoff line will be detected eventually as discussed in section 4.3 of this safety evaluation. The NRC staff notes that the requirements of the ASME Code, Section XI, IWC-5221 are focused on demonstrating the leak tightness rather than structural integrity, although the leak tightness of a pipe does demonstrate a certain degree of structural integrity. The NRC staff concludes that the proposed low-test pressure, although not as effective as high-test pressure, will provide reasonable assurance of the structural integrity and leak tightness of the leakoff line.

4.3 Leakage Detection Systems

The NRC staff's second concern was how the licensee detects the potential through-wall leakage during service under the proposed alternative and how soon the operator would be notified, if the proposed system leakage test was not able to identify through wall crack(s) in the leakoff line. By letter dated November 5, 2012, the licensee stated that leakage past the O-rings into the leakoff line in service would be indicated by an audible alarm in the control room when the line temperature setpoint of 20 °F [degrees Fahrenheit] above ambient is reached [Annunciator Procedure 0POP09-AN-05M2]. Control room operators would respond by observing leakoff temperature, and taking actions as directed by procedure.

The licensee stated that leakage upstream of leakoff line isolation valves, through pipe/tube wall, would be detected by containment leakage detection systems and daily performance of RCS inventory. The minimum detection sensitivity of these means is about 0.02 gallons per minute. For very low leakage rates below that which brings in alarm, leakage past the O-rings may be detected by rising RCDT levels.

In its letter dated November 5, 2012, the licensee stated, in part, that

> The technical specification limit for leakage past the O-rings through a crack in the line is 1 gallon/minute, the limits for RCS unidentified leakage. Leakage would not be considered PRESSURE BOUNDARY LEAKAGE as the O-ring/flange interface is a mechanical joint, not leakage through a pressure-retaining body. Leakage reaching 1 gallon/minute would necessitate placing the

> plant in COLD SHUTDOWN in accordance with Technical Specification 3/4.4.6, Reactor Coolant System Leakage. Following shutdown, the leaking pipe/tube would be identified and corrected. (Note: the portions of the leakoff lines upstream of the manual isolation valves are inside the biological shield wall, generally inaccessible at power for inspection.)

The NRC staff notes that, although the licensee will not be using the RCS operating pressure to perform the ASME Code-required system leakage test, the pressure from the hydrostatic head of water under the proposed alternative is sufficient to demonstrate the leak tightness and structural integrity of the leakoff line. Additionally, STP, Units 1 and 2, have an audible alarm in the control room and containment leakage detection systems with sensitivity of 0.02 gallons per minute to identify the leakage. The licensee is required to take corrective actions if the potential leakage exceeds the technical specification limits. The licensee's defense-in-depth measures on leakage detection alleviate the NRC staff's concerns of the licensee's request to deviate from using the RCS operating pressure to perform system leakage tests of the leakoff lines.

4.4 Scope of Examination

In an RAI dated November 2, 2012, the NRC staff requested that the licensee explain in detail how the leakoff lines will be inspected and which portion of the leakoff lines will and will not be inspected when performing the proposed system leakage test. In its RAI response dated November 5, 2012, the licensee stated, in part, that

> After completing the system lineup to pressurize the ASME Class 2 portion of the leakoff line and achieving the 4-hour hold time, the operator would perform a visual test (VT-2) inspection of the leakoff line. VT-2 examination does not require removal of insulation.

The NRC staff notes that the ASME Code, Section XI, IWA-5241, provides requirements for visual examination of insulated and non-insulated components. For segments of the line that are inaccessible for direct VT-2 visual inspection, examination would include inspection of the surrounding areas below the line for evidence of leakage as permitted by the ASME Code, Section XI, 2004 Edition, IWA-5241(b). The flex hose and monitor tube segments that are inaccessible for direct VT-2 visual inspection are shown on Figure RAI-1 of the licensee's letter dated November 5, 2012.

Each leakoff line consists of a 1-inch monitor tube connected to a flexible hose, then to 3/4-inch piping to isolation valves, then to 3/8-inch tubing to the RCDT as shown in Figure RAI-2 of the licensee's letter dated November 5, 2012. The monitor tubes connect to the reactor vessel flange, which contains 3/8-inch passages downstream of each O-ring to collect leakage as shown in Figure RAI-3 of the licensee's letter dated November 5, 2012.

The licensee stated that the Class 2 portions from the reactor vessel flange to the Class 2 boundaries (see Figure RAI-2) are required to be examined. The licensee will examine all accessible portions from the flex hose downstream pipe-tube adapter (see Figure RAI-2) in accordance with the ASME Code, Section XI, IWC-5000. For portions upstream of the flex hose downstream pipe-tube adapter, the surrounding areas below the line will be examined for evidence of leakage as permitted by the ASME Code, Section XI, IWA-5241(b).

The NRC staff concludes that the licensee's scope of inspection and inspection technique are acceptable because the licensee will perform VT-2 examination in accordance with the ASME Code, Section XI, IWA-5240 to look for leakage during the system leakage test of the leakoff line.

4.5 Hardship

The licensee identified the following hardship and difficulties in performing the ASME Code required system leakage test.

- In its letter dated November 1, 2012, the licensee stated that pressurization of the leakoff line from the discharge end to the RCS pressure, while possible, would result in damage to the RPV O-ring. Applying RCS pressure to the leakoff lines is not practical with the RPV head installed after refueling, because it would require either intentionally failing the O-rings or pressurizing the line with a hydrostatic test pump in the direction opposite to the intended design function of the O-rings, which could damage O-ring sealing material. Also, while it is possible to pressurize the leakoff line from the discharge end with the head removed, it would require the installation of plugs in the vessel end of the line. Installation of the plugs results in significant radiation exposure, estimated at 1000-2000 mrem per test.

- In its letter dated November 5, 2013, the licensee stated that performance of the ASME Code system leakage test using the RCS pressure after a scheduled plant shutdown, but before removing the reactor vessel head would encounter the same hardship as the test conducted during plant startup. Also, performing such a test may potentially introduce damaging debris to the flange surfaces that would result in the additional radiation exposure if subsequent repairs are required.

The NRC staff concludes that the licensee has provided sufficient and valid hardship arguments regarding performing the system leakage test in accordance with the ASME Code, Section XI, IWC-5220 of the leakoff lines.

Based on the above, the NRC staff concludes that the licensee has provided sufficient basis to demonstrate that performing the system leakage test in accordance with the ASME Code, Section XI, IWC-5220, would result in a hardship and unusual difficulty without a compensating increase in quality and safety. The NRC staff further concludes that the proposed alternative will provide reasonable assurance that the structural integrity and leak tightness of the reactor vessel head flange O-ring leakoff lines will be maintained for the third 10-year ISI interval.

5.0 CONCLUSION

As set forth above, the NRC staff concludes that the proposed alternative provides reasonable assurance of structural integrity and leak tightness of the reactor vessel flange O-ring leakoff lines. The NRC staff determined that complying with the specified ASME Code requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(ii) and is in compliance with the requirements of the ASME Code, Section XI for which relief was not

requested. Therefore, the NRC authorizes the use of Relief Request RR-ENG-3-10 at the STP, Units 1 and 2, for the third 10-year ISI interval, which ends on September 24, 2020, for Unit 1, and October 18, 2020, for Unit 2.

All other ASME Code, Section XI requirements for which relief has not been specifically requested and approved in this relief request remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Principal Contributor: John Tsao

Date: March 12, 2013

All other ASME Code, Section XI, requirements for which relief has not been specifically requested, remain applicable, including a third-party review by the Authorized Nuclear Inservice Inspector.

If you have any questions, please contact Balwant K. Singal at 301-415-3016 or by e-mail at Balwant.Singal@nrc.gov.

Sincerely,

/RA/

Michael T. Markley, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-498 and 50-499

Enclosure:
Safety Evaluation

cc w/encl: Distribution via Listserv

DISTRIBUTION:
PUBLIC
LPLIV Reading
RidsAcrsAcnw_MailCTR Resource
RidsNrrDeEpnb Resource
RidsNrrDorlLpl4 Resource
RidsNrrPMSouthTexas Resource
RidsNrrLAJBurkhardt Resource
RidsOgcRp Resource
RidsRgn4MailCenter Resource,
JTsao, NRR/DE/EPNB
JCassidy, EDO RIV

ADAMS Accession No. ML13004A339 *SE email dated December 18, 2012

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DE/EPNB/BC	NRR/DORL/LPL4/BC
NAME	BSingal	JBurkhardt	TLupold*	MMarkley
DATE	2/22/13	2/19/13	12/18/12	3/12/13

OFFICIAL AGENCY RECORD