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**DOMINION ENERGY KEWAUNEE, INC.**  
**KEWAUNEE POWER STATION**  
**2006 STEAM GENERATOR TUBE INSPECTION REPORT**

As required by Kewaunee Power Station (KPS) Technical Specifications (TS), Dominion Energy Kewaunee, Inc. hereby submits the steam generator tube inspection report.

KPS TS 6.9.b.4 requires submittal of the report 180 days after the initial entry into intermediate shutdown following completion of an inspection performed in accordance with the Specification 6.22, Steam Generator Program. During the 2006 KPS refueling outage, a steam generator inspection was performed in accordance with TS 6.22. KPS entered into the intermediate shutdown mode on October 20, 2006.

Attached is the required report and includes the following:

- The scope of inspections performed on each steam generator.
- Active degradation mechanisms found.
- Nondestructive examination techniques utilized for each degradation mechanism.
- Location, orientation (if linear), and measured sizes (if available) of service induced indications.
- Number of tubes plugged during the inspection outage for each active degradation mechanism.
- Total number and percentage of tubes plugged to date.
- Results of condition monitoring, including the results of tube pulls and in situ testing.
- Effective plugging percentage for all plugging in each steam generator.

If you have questions or require additional information, please feel free to contact Mr. Gerald Riste at 920-388-8424.

Very truly yours,

Leslie N. Hartz  
Site Vice President, Kewaunee Power Station

Attachment

Commitments made by this letter: NONE

A001

cc: Regional Administrator  
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**ATTACHMENT 1**

**2006 STEAM GENERATOR TUBE INSPECTION REPORT**

**180-DAY NRC REPORT REGARDING STEAM GENERATOR TUBE INSPECTION  
PER TECHNICAL SPECIFICATION 6.22**

**KEWAUNEE POWER STATION  
DOMINION ENERGY KEWAUNEE, INC.**

## ATTACHMENT 1

### 180-DAY NRC REPORT REGARDING STEAM GENERATOR TUBE INSPECTION PER TECHNICAL SPECIFICATION 6.22

The following satisfies Kewaunee Power Station (KPS) Technical Specification (TS) reporting requirement section 6.9.b.4. This is to provide a 180-day report regarding steam generator tube inspections conducted in accordance with KPS TS 6.22.

During the fall 2006 KPS refueling outage, a steam generator inspection in accordance with TS 6.22 was completed for both steam generators 1A and 1B. Therefore, the reporting requirement of KPS TS 6.9.b.4 applies.

Initial entry into INTERMEDIATE SHUTDOWN occurred on October 20, 2006; therefore, this report is required to be submitted by April 18, 2007.

KPS steam generator lower assemblies were replaced in 2001 with Alloy 690 thermally-treated tubing. Tube supports are of a quatrefoil broached hole design and are fabricated from 405SS. In the u-bend region three sets of anti-vibration bars provide support, also fabricated from 405SS.

The fall 2006 inspection marked the 2<sup>nd</sup> In-service inspection since replacement. At the time of this inspection the steam generators had accumulated approximately 33 effective full power months since the 1<sup>st</sup> In-Service Inspection. This is within the first half of the first 144 EFPM inspection period as described in TS 6.22.d.2.

*Italicized* wording represents technical specification verbiage. Each item is followed by a response.

*A report shall be submitted within 180 days after the initial entry into INTERMEDIATE SHUTDOWN following completion of an inspection performed in accordance with the Specification 6.22, Steam Generator (SG) Program. The report shall include:*

#### ***a. The scope of inspections performed on each SG***

Each of the following was performed in BOTH steam generators 1A and 1B

- ◆ 100% Full-Length Inspection utilizing Bobbin Coil
- ◆ 20% Hot Leg Top of Tubesheet (+/- 2") utilizing Rotating Coil, biased toward the peripheral tubes
- ◆ 20% Row 1 u-bend region utilizing Rotating Coil
- ◆ 100% of Dings, Dents, and Bulges > 2 volts with Rotating Coil
- ◆ 100% of Bobbin identified Possible Loose Parts with Rotating Coil
- ◆ 100% of Bobbin identified I-codes with Rotating Coil

**b. Active degradation mechanisms found**

No active degradation mechanisms were found during the fall 2006 inspection.

**c. Nondestructive examination techniques utilized for each degradation mechanism**

No degradation mechanisms were detected during the fall 2006 inspection. All eddy current techniques that were utilized were qualified techniques per Appendix H of the PWR Steam Generator Examination Guidelines, Revision 6. The following techniques were used for the relevant and potential degradation mechanisms as discussed within the inspection Degradation Assessment and Appendix H document:

<b>Mechanism</b>	<b>Location</b>	<b>Detection Method(s)</b>
Loose Part Wear	Free Span	Bobbin
	TTS	Rotating
		Visual
Wear	AVB / U-bends	Bobbin
Pitting	CL Sludge Pile	Bobbin
ODSCC	Transition Zone	Rotating
	Tube Supports	Bobbin
	Free Span	Bobbin
	Ding/Dent <5 volt	Bobbin
	Ding/Dent >5 volt	Rotating
	Low Row U-bend	Rotating
	High Row U-bend	Bobbin

**d. Location, orientation (if linear), and measured sizes (if available) of service induced indications**

No tube wall degradation was associated with any indications detected during the fall 2006 inspection. The following are tables for SG 1A and 1B that show fall 2006 inspection 'indications' that were not called during the pre-service inspection.

Steam Generator 1A:

<b>Bobbin Coil</b>	<b>Row</b>	<b>Column</b>	<b>Location</b>		<b>% TW</b>	<b>Rotating Coil</b>
DSI	33	28	AV6	+0.06	n/a	NDF
DSI	35	28	AV6	+0.03	n/a	NDF
DSI	38	28	AV1	+0.00	n/a	NDF

Steam Generator 1B:

Bobbin Coil	Row	Column	Location		% TW	Rotating Coil
DSI	33	27	AV6	+0.08	n/a	NDF
DSI	34	27	AV5	+0.08	n/a	NDF

Definitions:

DSI – Distorted Support Signal with Indication

NDF – No Defect Found (using diagnostic technique, i.e. Rotating Coil)

***e. Number of tubes plugged during the inspection outage for each active degradation mechanism***

Zero tubes were plugged during the fall 2006 inspection. No active degradation mechanisms were identified during the fall 2006 inspection.

***f. Total number and percentage of tubes plugged to date***

To date, following the fall 2006 inspection, there are zero tubes plugged in both steam generators 1A and 1B.

***g. The results of condition monitoring, including the results of tube pulls and insitu testing***

Condition Monitoring was completed. Neither steam generator 1A nor 1B exceeded any performance criteria during the last inspection cycle (since spring 2003 inspection). No damage mechanisms were required to be evaluated due to the lack of a degradation mechanism being found during the inspection, therefore no tube pulls or in situ pressure testing was conducted. Steam generator operational assessment from spring 2003 inspection was concluded to be conservative and no corrective actions were required.

***h. The effective plugging percentage for all plugging in each SG***

There are zero tubes plugged and zero sleeves installed in both steam generators 1A and 1B. Therefore, effective plugging is 0% (zero) in both steam generators 1A and 1B.