WOLF CREEK
NUCLEAR OPERATING CORPORATION

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MAR 2 5 2004

RA 04-0041

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Reference: Westinghouse Letter SAP-04-17, dated March 17, 2004, Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station Unit 1, 10 CFR 50.46 Annual Notification and Reporting for 2003

Subject: Docket No. 50-482: 10 CFR 50.46 Annual Report of ECCS Model Changes

Gentlemen:

This letter provides the annual report for the Emergency Core Cooling System (ECCS) Evaluation Model changes and errors for the 2003 model year that affect the Peak Cladding Temperature (PCT) for Wolf Creek Generating Station (WCGS). This letter is provided in accordance with the criteria and reporting requirements of 10 CFR 50.46(a)(3)(ii), as clarified in Section 5.1 of WCAP-13451, "Westinghouse Methodology for Implementation of 10 CFR 50.46 Reporting." Regulation 10 CFR 50.46(a)(3)(ii) states, in part, "For each change to or error discovered in an acceptable evaluation model or in the application of such a model that affects the temperature calculation, the applicant or licensee shall report the nature of the change or error and its estimated effect on the limiting ECCS analysis to the Commission at least annually as specified in section 50.4. If the change or error is significant, the applicant or licensee shall provide this report within 30 days and include with the report a proposed schedule for providing a reanalysis or taking other action as may be needed to show compliance with section 50.46 requirements."

Wolf Creek Nuclear Operating Corporation (WCNOC) has reviewed the notification of 10 CFR 50.46 reporting information pertaining to the ECCS Evaluation Model changes that were implemented by Westinghouse for 2003 as described in the above Reference. The review concludes that the effect of changes to, or errors in, the Evaluation Models on the limiting transient PCT is not significant for 2003. Therefore, the report of the ECCS Evaluation Model changes is provided on an annual basis.

Attachment I provides an assessment of the specific changes and enhancements to the Westinghouse Evaluation Models for 2003. These model changes and enhancements, except for the change associated with the NOTRUMP Bubble Rise/Drift Flux Model Inconsistencies, do not have impacts on the PCT and will generally not be presented on the PCT rackup forms.

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Attachment II provides the calculated Large Break Loss of Coolant Accident (LOCA) and Small Break LOCA PCT margin allocations in effect for the 2003 WCGS evaluation models. The PCT values determined in the Small Break and Large Break LOCA analysis of record, combined with all of the PCT allocations, remain well below the 10 CFR 50.46 regulatory limit of 2200 degrees Fahrenheit. Therefore, WCGS is in compliance with 10 CFR 50.46 requirements and no reanalysis or other action is required.

No commitments are identified in this correspondence.

If you have any questions concerning this matter, please contact me at (620) 364-4126, or Ms. Jennifer Yunk at (620) 364-4272.

Very truly yours,

Robert Hamm
For

Kevin J. Moles

KJM/pb

Attachment I – Assessment of Changes to the Westinghouse Emergency Core Cooling System (ECCS) Evaluation Models for Large and Small Break Loss of Coolant Accidents (LOCA)
Attachment II – Emergency Core Cooling System (ECCS) Evaluation Model Peak Cladding Temperature (PCT) Margin Utilization

cc: J. N. Donohew (NRC), w/a
D. N. Graves (NRC), w/a
B. S. Mallet (NRC), w/a
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ASSESSMENT OF CHANGES TO THE WESTINGHOUSE EMERGENCY CORE COOLING SYSTEM (ECCS) EVALUATION MODELS FOR LARGE AND SMALL BREAK LOSS OF COOLANT ACCIDENTS (LOCA)

Non-Discretionary Changes With PCT Impact

NOTRUMP Bubble Rise/Drift Flux Model Inconsistencies

Non-Discretionary Changes With No PCT Impact

BART Quench Model Calculations
BASHER Calculation of BASH Metal Heat Inputs
Inconsistencies in Vessel Geometric Input Data
LOCBART Fuel Rod Plenum Modeling
LOCBART Grid Mass Balance
NOTRUMP Drift Flux Model Inconsistencies
NOTRUMP Inverted T-Node Sign Convention
NOTRUMP Vapor Region Formation Logic
SBLOCA Burnup Study Methodology
SBLOCTA Burst Logic
SBLOCTA ZIRLO™ Cladding Creep Constants

Enhancements/Forward-Fit Discretionary Changes

SATIMP/SPADES Updates
SBLOCTA Oxide-to-Metal Ratio
SBLOCTA Gap Conductance Model
General Code Maintenance

NOTRUMP BUBBLE RISE/DRIFT FLUX MODEL INCONSISTENCIES

Background

NOTRUMP was updated to resolve some inconsistencies in several drift flux models as well as the nodal bubble rise/droplet fall models. In summary, these changes include: bubble rise and droplet fall model calculations were made consistent with flow link calculations. Corrections were made to limits employed in the vertical counter-current flooding models. Checking logic was added to correct situations where drift flux model inconsistencies could result (i.e. prevent liquid flow from an all-vapor node and vapor flow from all-liquid node). Also, a more rigorous version of the Yeh Drift Flux Model was implemented since the previous version of this model was incorrectly restricted to a 50% void fraction limit. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

Plant-specific calculations using the NOTRUMP code demonstrate that the implementation of these corrections leads to a conservative estimate of 0°F PCT effect for 10 CFR 50.46 purposes.

BART QUENCH MODEL CALCULATIONS

Background

BART is used to perform the core reflood heat transfer calculations in BASH and LOCBART. The BART portions of BASH and LOCBART were updated to resolve some minor logic problems that led to anomalous behavior in the quench model. These changes represent Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1981 Westinghouse Large Break LOCA Evaluation Model with BASH

Estimated Effect

Sample BASH and LOCBART calculations demonstrated that these changes have either no effect or a negligible effect on the core inlet flooding rate and PCT and will be assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

BASHER CALCULATION OF BASH METAL HEAT INPUTS

Background

BASHER is used to generate the plant-specific input models for BASH. Some minor errors were discovered in the calculation of geometric terms used with the BASH metal heat model. As discussed below, it was determined that correcting these errors would have a negligible effect on results, so BASHER updates will be deferred to a future code release. When corrected, these changes will represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1981 Westinghouse Large Break LOCA Evaluation Model with BASH

Estimated Effect

The changes described above are small and are considered to have a negligible effect on BASH results. These changes will be deferred to a future code release and are assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

INCONSISTENCIES IN VESSEL GEOMETRIC INPUT DATA

Background

Several inconsistencies were identified in the specification of vessel geometric data for plant-specific input models. These changes were evaluated for impacts on current licensing-basis analyses, and will be incorporated into the corresponding input databases on a forward-fit basis. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1981 Westinghouse Large Break LOCA Evaluation Model with BASH
1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

A combination of sensitivity calculations and engineering evaluation led to the conclusion that the identified changes have a negligible effect on large and small break LOCA analysis results. These changes will therefore be assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

LOCBART FUEL ROD PLENUM MODELING

Background

A LOCBART calculation performed under non-standard conditions predicted burst to occur in the fuel rod plenum node. This situation does not occur for standard PWR licensing calculations, and is now precluded for all calculations by bypassing the burst calculations for the fuel rod plenum node. This change represents a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1981 Westinghouse Large Break LOCA Evaluation Model with BASH

Estimated Effect

This situation does not occur for standard PWR licensing calculations and is assigned a 0°F PCT effect for 10 CFR 50.46 reporting purposes.

LOCBART GRID MASS BALANCE

Background

In the LOCBART spacer grid heat transfer model, a mass balance is applied to ensure that the available liquid can support the predicted wetting. Three discrepancies related to the grid mass balance in LOCBART were discovered and corrected, with a tendency for improved grid wetting in some instances. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1981 Westinghouse Large Break LOCA Evaluation Model with BASH

Estimated Effect

Sample LOCBART calculations demonstrated that these changes have a negligible effect on PCT that will be assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

NOTRUMP DRIFT FLUX MODEL INCONSISTENCIES

Background

NOTRUMP was updated to resolve some inconsistencies in the resetting of certain parameters in the drift flux models when single phase conditions are determined to exist. The previous coding had inadvertently omitted certain conditions on drift velocity and void fraction which are now included. Also, in the node boundary mixture level crossing logic, several partial derivatives for liquid and vapor volumetric fluxes with respect to mass flux in the void fraction model were erroneously set to zero. The correct partial derivative calculations were added to the code. In addition, several instances (stacking logic, accumulator empty logic and pump critical flow logic) where flow link specific volumes were incorrectly always based on saturated conditions were corrected. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

The subject changes involve logic that is seldom used in standard EM calculations. As such, the estimated effect on PCT calculations is 0°F for 10 CFR 50.46 reporting purposes.

NOTRUMP INVERTED T-NODE SIGN CONVENTION

Background

This change deals with the correction of the sign convention for inverted T-nodes, which was incorrectly applied via input into the EM. It can potentially impact the reactor vessel lower plenum node and the lower reactor coolant pump node in the standard EM. This change represents a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

This error affected the mixture/vapor interfacial area within a fluid node. Because these conditions only exist momentarily within the pump stack node and never in the reactor vessel lower plenum, it is judged that the impact of this error correction is insignificant. Based on this judgment, coupled with the fact that plant model calculations show this to be the case, the correction of this error will be assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

NOTRUMP VAPOR REGION FORMATION LOGIC

Background

The logic governing formation of a vapor region within a fluid node in NOTRUMP was corrected to allow superheated conditions where appropriate, instead of saturated conditions which may not exist at that instant. This change represents a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

Typically, region formation conditions in standard EM calculations occur at saturation. If a region is formed at superheat conditions, the amount of superheat is usually small and the region quickly reaches saturated conditions. As such, the nature of these changes leads to an estimated PCT impact of 0°F.

SBLOCA BURNUP STUDY METHODOLOGY

Background

The guidance for performing small break LOCA burnup studies was expanded to ensure the capture of the maximum local oxidation, in addition to the peak cladding temperature as directed previously. This change represents a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

This change does not affect the limiting PCT, which was adequately captured in the previous burnup study guidance. For local oxidation, a combination of SBLOCTA calculations and engineering evaluation led to the conclusion that all plants within Westinghouse Pittsburgh analysis cognizance remain in compliance with the 17% limit of 10 CFR 50.46.

SBLOCTA BURST LOGIC

Background

The burst logic in SBLOCTA was updated to preclude burst from occurring at more than one axial elevation on a given rod. This change represents a Non-Discretionary Change in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

Most SBLOCTA calculations predict burst at no more than one axial elevation per rod and are therefore unaffected by this discrepancy. For the affected cases, SBLOCTA calculations and/or engineering evaluation led to the conclusion that resolving the discrepancy would not produce an increase in the limiting PCT. This change is therefore assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

SBLOCTA ZIRLO™ CLADDING CREEP CONSTANTS

Background

SBLOCTA was updated to correct two of the constants in the high-temperature creep model for ZIRLO™ cladding, which were found to disagree with the basis documentation. These changes represent a closely-related group of Non-Discretionary Changes in accordance with Section 4.1.2 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

The changes identified above lead to a small change in the creep rate over a limited range of temperatures, which is considered to have a negligible effect on results and will be assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

SATIMP/SPADES UPDATES

Background

SATIMP and SPADES are used to generate the plant-specific input models for SATAN-VI and NOTRUMP, respectively. Some minor improvements were made to SATIMP and SPADES, primarily to provide more rigorous calculations of certain SATAN-VI and NOTRUMP inputs. An example of these changes is to replace linear interpolation with parabolic interpolation in the SATIMP calculation of the reactor coolant pump head at steady-state operating conditions. These changes represent Discretionary Changes that will be implemented on a forward-fit basis, in accordance with Section 4.1.1 of WCAP-13451.

Affected Evaluation Models

1981 Westinghouse Large Break LOCA Evaluation Model with BASH
1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

The nature of these changes leads to an estimated PCT effect of 0°F for both large and small break LOCA.

SBLOCTA OXIDE-TO-METAL RATIO

Background

An option has been added to SBLOCTA to allow conversion of the user-specified zirconium-oxide thickness into equivalent cladding reacted. This adjustment is made during problem initialization, and the cladding outside diameter is modified accordingly. This change represents a Discretionary Change that will be implemented on a forward-fit basis, in accordance with Section 4.1.1 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

A sample SBLOCTA calculation showed that this change has a minimal effect on PCT. This change will be implemented on a forward-fit basis and will be assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

SBLOCTA GAP CONDUCTANCE MODEL

Background

The convective term in the SBLOCTA pellet-to-cladding gap conductance model was updated for consistency with the corresponding model in LOCBART. Included in this change is the implementation of a PAD-version-specific value of the gap reduction factor, which is specified by the user in the SBLOCTA input file. This change represents a Discretionary Change that will be implemented on a forward-fit basis, in accordance with Section 4.1.1 of WCAP-13451.

Affected Evaluation Models

1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

Sample SBLOCTA calculations showed that this change has a negligible effect on PCT. This change will be implemented on a forward-fit basis and will be assigned a 0°F PCT impact for 10 CFR 50.46 reporting purposes.

GENERAL CODE MAINTENANCE

Background

Various changes in code input and output format have been made to enhance usability and help preclude errors in analyses. This includes both input changes (e.g., more relevant input variables defined and more common input values used as defaults) and input diagnostics designed to preclude unreasonable values from being used, as well as various changes to code output which have no effect on calculated results. In addition, various blocks of coding were rewritten to eliminate inactive coding, optimize the active coding, and improve commenting, both for enhanced usability and to facilitate code debugging when necessary. These changes represent Discretionary Changes that will be implemented on a forward-fit basis, in accordance with Section 4.1.1 of WCAP-13451.

Affected Evaluation Models

1981 Westinghouse Large Break LOCA Evaluation Model with BASH
1985 Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Estimated Effect

The nature of these changes leads to an estimated PCT impact of 0°F.

***** LARGE BREAK LOCA PEAK CLAD TEMPERATURE (PCT) MARGIN UTILIZATION *****

Evaluation Model:	1981 EM with BASH
Fuel:	17X17 V5H w/IFM, non-IFBA 275 psig
Peaking Factor:	FQ=2.50, F_{dH}=1.65
SG Tube Plugging:	10%
Power Level:	3565 MW_{th}
Limiting transient:	C_D=0.4, Min. SI, Reduced Tavg

A. ANALYSIS OF RECORD (Rerating 8/92)		
Peak Cladding Temperature (PCT):	1916°F	(1)
B. PRIOR PERMANENT ECCS MODEL ASSESSMENTS	ΔPCT = 80°F	(2)
C. PLANNED PLANT CHANGE EVALUATIONS		
1. Loose Parts	ΔPCT = 20°F	(3)
2. Containment Purge Evaluation	ΔPCT = 0°F	(4)
3. Cycle 10 Fuel Assembly Design Changes	ΔPCT = 95°F	(5)
4. Fuel Rod Crud	ΔPCT = 0°F	(6)
TOTAL 10 CFR 50.59 LARGE BREAK ASSESSMENTS	ΔPCT =115°F	
D. 2003 10 CFR 50.46 MODEL ASSESSMENTS (Permanent Assessment of PCT Margin)		
1. None	ΔPCT = 0°F	
E. TEMPORARY ECCS MODEL ISSUES	ΔPCT = 0°F	
F. OTHER MARGIN ALLOCATIONS		
1. Transition Core Penalty	ΔPCT = 0°F	(7)
2. Cold Leg Streaming Temperature Gradient	ΔPCT = 0°F	(8)
3. Rebaseline of Limiting AOR Case (12/96)	ΔPCT = -63°F	(9)
4. Adjustment for LOCBART Zirc-Water Oxidation Error	ΔPCT = -5°F	(10)
LICENSING BASIS PCT + MARGIN ALLOCATIONS	**PCT = 2043°F**	
CUMULATIVE ABSOLUTE MAGNITUDE OF PCT CHANGES SINCE LAST 30-DAY REPORT (LETTER ET 99-0045)	**Σ|ΔPCT| = 32°F**	

Notes:

1. Westinghouse Topical Report WCAP-13456, "Wolf Creek Generating Station NSSS Rerating Licensing Report," October 1992.

2. Westinghouse to WCNOC letter SAP-03-23, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, 10 CFR 50.46 Annual Notification and Reporting for 2002," March 7, 2003.
3. Westinghouse to WCNOC letter SAP-90-148, "Wolf Creek Nuclear Operating Corporation, RCS Loose Parts Evaluation," April 18, 1998.
4. Westinghouse to WCNOC letter SAP-94-102, "Containment Mini purge Isolation Valve Stroke Time Increase," January 12, 1994.
5. Westinghouse to WCNOC letter 97SAP-G-0009, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, Safety Assessment for the Wolf Creek Generating Station with ZIRLO™ Fuel Assemblies," February 7, 1997.
6. Westinghouse to WCNOC letter 97SAP-G-0075, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, Wolf Creek Crud Deposition/Axial Offset Anomaly Safety Evaluation," September 29, 1997.
7. Transition core penalty applies on a cycle-specific basis for reloads utilizing both V5H (with IFMs) and STD fuel until a full core of V5H is achieved. Since a full core of V5H has been attained, the 50°F transition core penalty is no longer applicable and has been removed.
8. Westinghouse to WCNOC letter SAP-93-701, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, 10 CFR 50.46 Notification and Reporting Information," January 25, 1993. [A PCT benefit of 2.5 degrees Fahrenheit was assessed; however, a benefit of zero (0) degrees Fahrenheit will be tracked for reporting purposes].
9. Westinghouse to WCNOC letter SAP-99-148, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, 10 CFR 50.46 BART/BASH Evaluation Model Mid-Year Notification and Reporting for 1999," September 22, 1999.
10. This assessment is a function of analysis PCT plus certain margin allocations and as such may increase/decrease with margin allocation changes.

***** SMALL BREAK PEAK CLAD TEMPERATURE (PCT) MARGIN UTILIZATION *****

Evaluation Model:	1985 EM with NOTRUMP
Fuel:	17X17 V5H w/IFM, non-IFBA 275 psig
Peaking Factor:	FQ=2.50, F_{dH}=1.65
SG Tube Plugging:	10%
Power Level:	3565 MW_{th}
Limiting transient:	3-inch Break

A. ANALYSIS OF RECORD (Rerating 8/92)		
Peak Cladding Temperature (PCT):	1510°F	(1)
B. PRIOR PERMANENT ECCS MODEL ASSESSMENTS	ΔPCT = 44°F	(2)
C. PLANNED PLANT CHANGE EVALUATIONS		
1. Loose Parts	ΔPCT = 45°F	(3)
2. Cycle 10 Fuel Assembly Design Changes	ΔPCT = 1°F	(6)
3. Reduced Feedwater Inlet Temperature	ΔPCT = 10°F	(4)
4. Fuel Rod Crud	ΔPCT = 4°F	(5)
5. Auxiliary Feedwater Temperature Increase	ΔPCT = 16°F	(8)
TOTAL 10 CFR 50.59 SMALL BREAK ASSESSMENTS	ΔPCT = 76°F	
D. 2003 10 CFR 50.46 MODEL ASSESSMENTS (Permanent Assessment of PCT Margin)		
1. NOTRUMP Bubble Rise/Drift Flux Model Inconsistency Corrections	ΔPCT = 0°F	(9)
E. TEMPORARY ECCS MODEL ISSUES		
1. None	ΔPCT = 0°F	
F. OTHER MARGIN ALLOCATIONS		
1. Cold Leg Streaming Temperature Gradient	ΔPCT = 7°F	(7)
LICENSING BASIS PCT + MARGIN ALLOCATIONS	**PCT = 1637°F**	
CUMULATIVE ABSOLUTE MAGNITUDE OF PCT CHANGES SINCE LAST 30-DAY REPORT (LETTER ET 99-0024)	**$\Sigma\|\Delta PCT\|$ = 35°F**	

Notes:

1. Westinghouse Topical Report WCAP-13456, "Wolf Creek Generating Station NSSS Rerating Licensing Report," October 1992.

2. Westinghouse to WCNOC letter SAP-03-23, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, 10 CFR 50.46 Annual Notification and Reporting for 2002," March 7, 2003.
3. Westinghouse to WCNOC letter SAP-90-148, "Wolf Creek Nuclear Operating Corporation, RCS Loose Parts Evaluation," April 18, 1990.
4. Westinghouse to WCNOC letter SAP-96-119, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, Small Break LOCA Evaluation for Reduced Feedwater Temperature," May 30, 1996.
5. Westinghouse to WCNOC letter 97SAP-G-0075, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, Wolf Creek Crud Deposition/Axial Offset Anomaly Safety Evaluation," September 29, 1997. (This penalty will be carried until such time it is determined to no longer apply).
6. Westinghouse to WCNOC letter 97SAP-G-0009, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, Safety Assessment for the Wolf Creek Generating Station with ZIRLO™ Fuel Assemblies," February 7, 1997.
7. Westinghouse to WCNOC letter SAP-93-701, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, 10 CFR 50.46 Notification and Reporting Information," January 25, 1993.
8. Westinghouse to WCNOC letter SAP-98-138, "Wolf Creek Nuclear Operating Corporation, Wolf Creek Generating Station, Assessment of an Increase in Auxiliary Feedwater Temperature," July 23, 1998.
9. Westinghouse to WCNOC letter SAP-03-103, "10 CFR 50.46 Mid-Year Notification and Reporting for 2003," November 14, 2003.