

## PMLevyCOLPEm Resource

---

**From:** Kitchen, Robert [Robert.Kitchen@duke-energy.com]  
**Sent:** Friday, January 03, 2014 3:52 PM  
**To:** Habib, Donald  
**Cc:** Waters, David; Gamberg, Robert C  
**Subject:** FW: Documents Available for Condensate Return Audit  
**Attachments:** PXS Calc List Rev 0.docx

Don - Attached is listing of WEC documents that support condensate return design change. We have a call on Monday to discuss availability of these for NRC audit next week. The calculations that are being revised will not be available until week of 1/20.

-----Original Message-----

**From:** Smith, Sylena E [[smithse@westinghouse.com](mailto:smithse@westinghouse.com)]  
**Sent:** Friday, January 03, 2014 03:33 PM Eastern Standard Time  
**To:** Kitchen, Robert  
**Cc:** RICE, APRIL R; Aughtman, Amy G.; Franzone, Steve  
**Subject:** Documents Available for Condensate Return Audit

**\*\*\* This is an EXTERNAL email. Exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email. \*\*\***

Hello,

Attached is a list of documents the NRC can use for developing their audit plan. They have seen most of these titles before. And they have reviewed two of the test reports.

Sincerely yours,

**Sylena E. Smith**

APOG Project Manager  
International Licensing & Regulatory Support  
Nuclear Power Plants



Suite 117  
1000 Westinghouse Drive  
Cranberry Township, PA 16066  
Phone: +1 (412) 374-4994  
Mobile: +1 (724) 504-2946  
Fax: +1 (724) 940-8505  
Email: [smithse@westinghouse.com](mailto:smithse@westinghouse.com)  
Home Page: [www.westinghousenuclear.com](http://www.westinghousenuclear.com)

**Hearing Identifier:** Levy\_County\_COL\_Public  
**Email Number:** 1224

**Mail Envelope Properties** (A0C0A819D3B935458A74ACB9D554AE1E4B091730)

**Subject:** FW: Documents Available for Condensate Return Audit  
**Sent Date:** 1/3/2014 3:52:24 PM  
**Received Date:** 1/3/2014 3:52:32 PM  
**From:** Kitchen, Robert

**Created By:** Robert.Kitchen@duke-energy.com

**Recipients:**

"Waters, David" <David.Waters2@duke-energy.com>  
Tracking Status: None  
"Gamberg, Robert C" <Robert.Gamberg@duke-energy.com>  
Tracking Status: None  
"Habib, Donald" <Donald.Habib@nrc.gov>  
Tracking Status: None

**Post Office:** IMCLTEXCP60.nam.ent.duke-energy.com

<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	1301	1/3/2014 3:52:32 PM
image001.png	6500	
PXS Calc List Rev 0.docx		23383

**Options**

**Priority:** Standard  
**Return Notification:** No  
**Reply Requested:** No  
**Sensitivity:** Normal  
**Expiration Date:**  
**Recipients Received:**



# Shutdown Temperature Evaluation & Condensate Return Supporting Calculations

---

The following documents will be available for audit.

## **Condensate return calculations (Available week of January 21)**

APP-PXS-M3C-071, Rev. 1, Containment Response Analysis for Long-Term PRHR Operation

WGOTHIC analysis that develops the containment response for long-term PRHR operation to support the IRWST condensate return study.

APP-PXS-M3C-072, Rev. 1, Condensate Return to IRWST for Long Term PRHR Operation

Uses the steam mass losses to calculate the condensate losses occurring on the containment shell.

APP-PXS-M3C-020, Rev. 3, PRHR HX Sizing / Performance

Determines the PRHR HX performances in natural/forced flow, the RCS cooldown and the related IRWST heatup and boildown. Calculates IRWST level and volume with input from APP-PXS-M3C-034.

APP-SSAR-GSC-536, Rev. 2, **AP1000** Safe Shutdown Temperature Evaluation

Details the updated LOFTRAN Safe Shutdown Temperature analysis.

## **Reference documents**

APP-PXS-M3C-002, Rev. 0, “Passive Core Cooling System (PXS) Condensate Return Downspout Sizing”

Establishes the parameters which define the PXS Downspouts and confirms that DBA conditions do not preclude the PXS downspouts from performing their safety function.

APP-PXS-M3C-034, Rev. 3, Containment Floodup Level

Determined the initial containment flood levels following ADS actuation, the final wall-to-wall flooding level and the time that level can be reached.

## **Test reports**

WCAP-12980, Rev. 3, “AP600 Passive Residual Heat Removal Heat Exchanger Test Final Report”

Part of this report provides the results of Transient Tests conducted to determine the mixing characteristics of the IRWST. Subsection 8.4 summarizes the conclusions of these tests.

TS-SEE-III-11-03, Rev. 1, “**AP1000** PXS Condensate Drain Gutter Test Specification” (previously reviewed)

TR-SEE-III-12-01, Rev 0, “**AP1000** PXS Condensate Return Test Report” (previously reviewed)

## **Drawings**

### **AP1000 PXS P&IDs**

- a. APP-PXS-M6-001, Rev. 10
- b. APP-PXS-M6-002, Rev. 11
- c. APP-PXS-M6-003, Rev. 9
- d. APP-PXS-M6-004, Rev. 10
- e. APP-PXS-M6-005, Rev. 0