

## PMBelCOL PEmails

---

**From:** Habib, Donald  
**Sent:** Wednesday, January 27, 2010 11:51 AM  
**To:** Habib, Donald; Sebrosky, Joseph; 'rgrumbir@gmail.com'; 'alsterdis@tva.gov'; 'erg-xl@cox.net'; 'pshastings@duke-energy.com'; 'kslays@duke-energy.com'; 'Bob Hirmanpour'; 'Spink, Thomas E'; 'Ryan, William T III'; Wes Sparkman; VogtleCOL Resource; Amy Aughtman  
**Cc:** PMBelCOL PEmails; Hodgdon, Ann; Martin, Jody; Joshi, Ravindra; Coffin, Stephanie; VogtleCOL Resource  
**Subject:** RE: Draft RAI 4281 - 6.4 Control Room Habitability System  
**Attachments:** RAI 4281.doc

To All -

One for Correction. The attached RAI 4281 (previously sent and attached) is related to control room habitability of Vogtle, *not Bellefonte*.

Please excuse this error.

Donald C. Habib  
Project Manager  
U.S. Nuclear Regulatory Commission  
Office of New Reactors, DNRL/NWE1  
Room T-6D14  
Washington, DC 20555  
301-415-1035  
[dch3@nrc.gov](mailto:dch3@nrc.gov)

---

**From:** Habib, Donald  
**Sent:** Wednesday, January 27, 2010 11:38 AM  
**To:** Habib, Donald; Sebrosky, Joseph; 'rgrumbir@gmail.com'; 'alsterdis@tva.gov'; 'erg-xl@cox.net'; 'pshastings@duke-energy.com'; 'kslays@duke-energy.com'; 'Bob Hirmanpour'; 'Spink, Thomas E'; 'Ryan, William T III'; Wes Sparkman; VogtleCOL Resource  
**Cc:** PMBelCOL PEmails; Hodgdon, Ann; Martin, Jody; Joshi, Ravindra; Coffin, Stephanie  
**Subject:** RE: Draft RAI 4281 - 6.4 Control Room Habitability System

To All,

Attached is the correct RAI document. The previously attached document was sent in error.

Donald C. Habib  
NRO/DNRL  
AP1000 Projects Branch 1  
301-415-1035

---

**From:** Habib, Donald  
**Sent:** Wednesday, January 27, 2010 11:10 AM  
**To:** Sebrosky, Joseph; 'rgrumbir@gmail.com'; 'alsterdis@tva.gov'; 'erg-xl@cox.net'; 'pshastings@duke-energy.com'; 'kslays@duke-energy.com'; 'Bob Hirmanpour'; 'Spink, Thomas E'; 'Ryan, William T III'; Wes Sparkman; VogtleCOL Resource  
**Cc:** PMBelCOL PEmails; Hodgdon, Ann; Martin, Jody; Joshi, Ravindra; Coffin, Stephanie  
**Subject:** Draft RAI 4281 - 6.4 Control Room Habitability System

To All,

Attached is a draft Bellefonte RAI related to the staff's review of control room habitability. Please contact me within 3 days if a conference call is required for clarification, or the final RAI will be issued.

Thank you,

Donald C. Habib  
Project Manager  
U.S. Nuclear Regulatory Commission  
Office of New Reactors, DNRL/NWE1  
Room T-6D14  
Washington, DC 20555  
301-415-1035  
[dch3@nrc.gov](mailto:dch3@nrc.gov)

**Hearing Identifier:** Bellefonte\_COL\_Public\_EX  
**Email Number:** 1766

**Mail Envelope Properties** (E3D0DF334F617344BE38EB00C881B1B30A2437D36E)

**Subject:** RE: Draft RAI 4281 - 6.4 Control Room Habitability System  
**Sent Date:** 1/27/2010 11:50:51 AM  
**Received Date:** 1/27/2010 11:50:54 AM  
**From:** Habib, Donald

**Created By:** Donald.Habib@nrc.gov

**Recipients:**

"PMBelCOL PEmails" <PMBelCOL.PEmails@nrc.gov>  
Tracking Status: None  
"Hodgdon, Ann" <Ann.Hodgdon@nrc.gov>  
Tracking Status: None  
"Martin, Jody" <Jody.Martin@nrc.gov>  
Tracking Status: None  
"Joshi, Ravindra" <Ravindra.Joshi@nrc.gov>  
Tracking Status: None  
"Coffin, Stephanie" <Stephanie.Coffin@nrc.gov>  
Tracking Status: None  
"VogtleCOL Resource" <VogtleCOL.Resource@nrc.gov>  
Tracking Status: None  
"Habib, Donald" <Donald.Habib@nrc.gov>  
Tracking Status: None  
"Sebrosky, Joseph" <Joseph.Sebrosky@nrc.gov>  
Tracking Status: None  
"rgrumbir@gmail.com" <rgrumbir@gmail.com>  
Tracking Status: None  
"alsterdis@tva.gov" <alsterdis@tva.gov>  
Tracking Status: None  
"erg-xl@cox.net" <erg-xl@cox.net>  
Tracking Status: None  
"pshastings@duke-energy.com" <pshastings@duke-energy.com>  
Tracking Status: None  
"kslays@duke-energy.com" <kslays@duke-energy.com>  
Tracking Status: None  
"Bob Hirmanpour" <bobhirman@live.com>  
Tracking Status: None  
"Spink, Thomas E" <tespink@tva.gov>  
Tracking Status: None  
"Ryan, William T III" <wtryan@tva.gov>  
Tracking Status: None  
"Wes Sparkman" <wasparkm@southernco.com>  
Tracking Status: None  
"VogtleCOL Resource" <VogtleCOL.Resource@nrc.gov>  
Tracking Status: None  
"Amy Aughtman" <agaughtm@southernco.com>  
Tracking Status: None

**Post Office:** HQCLSTR01.nrc.gov

**Files**

MESSAGE  
RAI 4281.doc

**Size**

2033  
32250

**Date & Time**

1/27/2010 11:50:54 AM

**Options****Priority:**

Standard

**Return Notification:**

No

**Reply Requested:**

No

**Sensitivity:**

Normal

**Expiration Date:****Recipients Received:**

Request for Additional Information No. 4281 Revision 1

Vogle  
Southern Nuclear Operating Co.  
Docket No. 52-0025 and 52-0026  
SRP Section: 06.04 - Control Room Habitability System  
Application Section: 6.4

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

06.04-\*\*\*

1. Provide data to facilitate the staff's confirmatory analysis.

To assure the control room habitability per GDC 19 during a hypothetical accidental release of methoxypropylamine and ammonium bisulfite, the staff requests the following chemical data for confirmatory analysis with respect to these two chemicals (the applicant has specified these two chemicals as 60% aqueous solution):

Boiling Point, Critical Pressure, Critical Temperature, Density (gas), Flash Point, Freezing Point, Heat Capacity (gas, constant pressure), Heat Capacity (liquid, constant pressure), Molecular Weight, Specific Gravity, Heat of Vaporization

Provide references or bases (e.g. chemical specification from vendor, formula, etc.) to support the above chemical data and the 60% aqueous solution assumption.

06.04-\*\*\*

1. Justify analysis methodology and information.

The applicant used the ALOHA and TOXDISP methodologies to perform the chemical release analysis. Provide the following for review:

- a. Information and data that links ALOHA and TOXDISP from chemical evaporation to concentration in control room,
- b. Justification of the TOXDISP results of  $10E-37$  for stability class F, which the staff estimates to be greater when HABIT is used,
- c. The cross-sectional area of the building structure projected on a plane perpendicular to the wind direction,
- d. Justification of the "Urban or Forest" assumption for ground roughness as input in ALOHA (such as by reference to design features described in the FSAR).

2. Justify the data of air exchange per hour used in the analysis and correct it in the FSAR.

The data for air exchange per hour used in the analysis are not the same as the data shown in the FSAR (e.g. 0.391 in Section 2.2.3). Provide:

- a. Calculation details for the analysis data,

b. Revision of the data shown in the FSAR, so that it is consistent with the analysis data.