

**From:** "MILLER, D BRYAN" <dmill14@entergy.com>  
**To:** "KALYANAM, N. KALY" <nxxk@nrc.gov>  
**Date:** 1/20/04 12:52PM  
**Subject:** Waterford 3 UHS and Tornados

Kaly,

In an effort to reduce Waterford 3's vulnerability to unnecessary plant shutdowns Entergy is evaluating the possible revision or deletion of Action 'c' in TS 3.7.4, Ultimate Heat Sink (UHS). TS 3.7.4, Action 'c' imposes a one hour shutdown requirement when Waterford 3 is under a tornado watch and one or more of the dry cooling tower fans under the tornado missile shield are inoperable. As you may remember, each train of the UHS contains 15 dry cooling tower fans (nine of which are under tornado missile shields) and eight wet cooling tower fans.

During our licensing basis review for this effort, we reviewed the September 15, 2000 NRC safety evaluation (SE) (attached) issued to Waterford 3 regarding the use of the TORMIS methodology for evaluating "unprotected" plant features from tornado missiles. In this SE, the dry cooling tower fans, motors, and associated conduits/electrical boxes were identified as "unprotected" and evaluated with the conclusion being that no additional missiles protection was required. Based on this conclusion, Entergy sees no need for a specific TS action statement requiring a one hour shutdown just because one of the dry cooling tower fans under the missile shield is inoperable provided of course that the total number of operable (protected (i.e., under the tornado missile shield) plus "unprotected") fans is sufficient to cool the essential heat loads.

Does the NRC concur with Entergy's interpretation of the September 15, 2000 SE that the dry cooling tower fans which are not under the tornado missile shield will survive a tornado?

We are available to discuss this further if you think that a conference call would be of assistance.

Thanks,  
D. Bryan Miller  
NS&L - Waterford 3  
504-739-6692

<<in000117.pdf>>

We would like to discuss with Kaly a proposal to amend TS 3/4.7.4 Ultimate Heat Sink. The amendment would essentially delete action c, delete the asterisk on table 3.7-3 related to the tornado watch and revise the associated TS bases. As primary justification for the amendment we will rely on the SER issue to W3 on Sept. 15, 2000. (ILN 00-0117). In short, the SER states that we (W3) demonstrated that the probability of a tornado missile strike on certain components, including the dry cooling tower fans and motors and associated conduits and electrical boxes, is  $6.4 \times 10^{-7}$ , which is below the acceptance criterion of  $10^{-6}$  per year. We plan to use this information to take credit for the DCT fans above the missile shield being operable essentially giving us an additional 6 DCT we can rely on.

**From:** "MILLER, D BRYAN" <dmill14@entergy.com>  
**To:** "KALYANAM, N. KALY" <nzk@nrc.gov>  
**Date:** 1/29/04 4:27PM  
**Subject:** FW: Tornado Missile

Kaly,

As a follow-up to the call this morning regarding the dry cooling tower fans, we would like to get a formal review of the 9/7/2000 SE and any SE issued for use of TORMIS in response to David's question below. Since this may require 5 to 10 hours of research time, please open a TAC as necessary for this review. Any insights you can give us regarding the interpretation of the 9/7/2000 SE will be helpful in our preparation of the forthcoming TS change.

Thanks,  
Bryan Miller

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

**From:** VIENER, DAVID M  
**Sent:** Thursday, January 29, 2004 9:45 AM  
**To:** MILLER, D BRYAN  
**Cc:** SCOTT, GREGORY C; REESE, JOSEPH S; MUNSHI, SID; HOLMAN, JERRY B; BRENNAN, TIMOTHY P; MADERE, DAVID C; LEONARD, THEODORE R; WHIDDON, DAVID D; WIEGERT, EDMOND G  
**Subject:** Tornado Missile

Bryan

The plant has requested to remove the one hour ACTION given in T.S. 3/4.7.4 requiring all 9 DCT fans under the missile shield to be operable if a tornado watch is in effect. The SER dated 9/7/2000 (attached) documents that the remaining 6 DCT fans that are not under the missile shield are considered protected based on using TORMIS to analyze probability of tornado missile strikes. Based on this information, I am proposing the tornado analysis be revised to credit the remaining unprotected portion of the DCT for heat removal. My request of the NRC is to review the SER dated 9/7/2000 to determine the following:

\* Can the plant's licensing basis be changed under 50.59 to state the entire DCT is considered missile protected and assumed to be available for heat removal following a tornado event?

Hope the question is specific enough.

David