

**DIFFERING PROFESSIONAL OPINION**

1. DPO CASE NUMBER

**INSTRUCTIONS:** Prepare this form legibly and submit three copies to the address provided in Block 14 below.

2. DATE RECEIVED

3. NAME OF SUBMITTER

**Evangelos, C. Marinos**

4. POSITION TITLE

**Branch Chief**

5. GRADE

**GG-15**

6. OFFICE/DIVISION/BRANCH/SECTION

**NRR/DORL/LPLII-1**

7. BUILDING

**OWN**

8. MAIL STOP

**O 8G-9A**

9. SUPERVISOR

**Catherine Haney**

10. DESCRIBE THE PRESENT SITUATION, CONDITION, METHOD, ETC., WHICH YOU BELIEVE SHOULD BE CHANGED OR IMPROVED.  
(Continue on Page 2 or 3 as necessary.)

**In August of 1999 Combustion Engineering / AMAG (now Westinghouse /AMAG) submitted Topical Report CENPD-397-P-A, "Improved Flow Measurement Accuracy Using Crossflow Ultrasonic Flow Measurement Technology" for staff review. The staff issued a Safety Evaluation Report (SER) on the Crossflow instrument dated March 20, 2000, accepting the documented accuracy of Crossflow.**

**Prior to issuance of the SER, however, the Caldon Corporation, a competitor to Westinghouse/AMAG, starting from February 15, 2000 to present, has been challenging the adequacy of the Crossflow instrument to meet its claimed accuracy. As a result of this challenge, NRR management established an "Independent Task Group" to re evaluate the staff conclusions on the acceptability of the Crossflow instrument. (See continuation next page)**

11. DESCRIBE YOUR DIFFERING OPINION IN ACCORDANCE WITH THE GUIDANCE PRESENTED IN NRC MANAGEMENT DIRECTIVE 10.159.  
(Continue on Page 2 or 3 as necessary.)

**As Technical Manager in charge of part of the review of the Westinghouse /AMAG topical report CENPN-397-P-A and as Approving Official of numerous Power Uprates using this instrument, I continue to support the conclusions reached in the March 20, 2000 SER. These conclusions were further reaffirmed by NRR management in the allegation response to Caldon dated February 25, 2005 and by subsequent Westinghouse/AMAG documentation on empirical data from laboratory testing and plant specific performance data.**

**This topical report, like others routinely reviewed by the staff, contains the essential elements and theoretical formulations of the technology that are supported by empirical data repeatedly explained to the staff. It is, therefore, imperative that the panel interview experts from Westinghouse/AMAG, present users of the instrument, including the two applicants, Ft. Calhoon and Calvert Cliffs. (See continuation next page)**

12. Check (a) or (b) as appropriate:

- a. Thorough discussions of the issue(s) raised in item 11 have taken place within my management chain; or  
 b. The reasons why I cannot approach my immediate chain of command are:

SIGNATURE OF SUBMITTER

DATE

SIGNATURE OF CO-SUBMITTER (if any)

DATE

*EC Marinos*

*12/18/06*

13. PROPOSED PANEL MEMBERS ARE (in priority order):

1. **Jennifer Uhle**
2. **Francis Akstulewicz**
3. **Patrick Milano**

14. Submit this form to:

Differing Professional Opinions Program Manager

Office of: \_\_\_\_\_

Mail Stop: \_\_\_\_\_

**15. ACKNOWLEDGMENT**

THANK YOU FOR YOUR DIFFERING PROFESSIONAL OPINION. It will be carefully considered by a panel of experts in accordance with the provisions of NRCMD 10.159, and you will be advised of any action taken. Your interest in improving NRC operations is appreciated.

SIGNATURE OF DIFFERING PROFESSIONAL OPINIONS PROGRAM MANAGER (DPOPM)

PRE-CONDITIONS MET

YES  NO

DATE OF ACKNOWLEDGMENT

*A-99*

**DIFFERING PROFESSIONAL OPINION  
(Continued)**

CONTINUE ITEM 10, ITEM 11, AND/OR ITEM 12 FROM PAGE 1. *(Indicate the block number to which this information applies.)*

**( Continuation for item 10)**

**Attached documentation and embedded references provide a detailed record of the evolution of the issue and the Task Group's contradictory and unsupported conclusions intended to reverse the staff acceptance of the Crossflow instrument and thus accommodate Caldon in its relentless pursuit to gain market advantage. This will damage our Nuclear Industry's options to apply sound technologies to assure safety and efficiency in the use of our national resources.**

**I have made presentations to management and I have extensively documented the technical basis which was used by management in rejecting the Caldon allegation, in support of the agency conclusions on the acceptability of the Crossflow instrument as stated in the March 20, 2000 SER. The indisputable facts presented by Westinghouse/AMAG, myself and the I&C Branch ( during my assignment as the Chief of the Branch), that reaffirm the adequacy of the Crossflow instrument have been ignored, and presently the instrument has been declared unacceptable for feedwater flow measurement in support of Power Uprates. The staff and management that have made this determination are those responsible for the erroneous conclusions previously reached in the Task Group Report. Notwithstanding that those Task Group Report conclusions were invalidated by the allegation response to Caldon which was formally concurred by the authors of the Task Group Report.**

**(Continuation for item 11)**

**By e-mail dated October 18, 2006, Thomas Martin, Director, Division of Safety Systems (DSS), NRR , transmitted a safety evaluation prepared by DSS fort withdrawing approval of the Westinghouse/AMAG Crossflow instrument topical report and requested my concurrence. I reviewed the safety evaluation and determined that there was no basis for withdrwal of the approval. I transmitted my non concurrence to that safety evaluation by e-mail, dated October 19, 2006, to Warren Lyon, as instructed by Thomas Martin.**

**On November 9, 2006 I received an unsatisfactory response to my non concurrence, from Thomas Martin. The safety evaluation was signed by Thomas Martin and was transmitted, on November 9, 2006, to Ho Nieh, Deputy Director, Division of Policy and Rulemaking, NRR, for transmittal to Westinghouse.**