

July 30, 2012

MEMORANDUM TO: Martin C. Murphy, Chief  
Mechanical & Civil Engineering Branch  
Division of Engineering

FROM: Chakrapani Basavaraju, Mechanical Engineer **/RA/**  
Mechanical & Civil Engineering Branch  
Division of Engineering

SUBJECT: INTERNATIONAL TRIP REPORT – JULY 2012 ASME PVP  
CONFERENCE

I attended the 2012 ASME PVP Conference held at Sheraton Centre Toronto Hotel in Toronto, Canada during July 15-19, 2012. Attached is the summary trip report.

Enclosure :  
As stated

CONTACT : Chakrapani Basavaraju, NRR/DE/EMCB  
(301) 415-1221

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<b>DATE</b>	07/ 30 /12

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## **INTERNATIONAL TRIP REPORT – JULY 2012 ASME PVP CONFERENCE**

### **SUBJECT**

Trip Report for International travel to attend 2012 ASME PVP Conference held at Sheraton Centre Toronto hotel in Toronto, Canada during July 15-19, 2012.

### **DATES OF CONFERENCE**

July 15 through July 19, 2012

### **ATTENDEE, TITLE AND AGENCY AFFILIATION**

Chakrapani Basavaraju, Mechanical Engineer  
Mechanical and Civil Engineering Branch (EMCB), Division of Engineering (DE), Office of Nuclear Reactor Regulation (NRR)

### **OTHER NRC ATTENDEES**

David Rudland RES/DE  
Howard Rathbun RES/DE  
Christopher S. Bajwa - NMSS/SFST  
Do-Jun Shim RES contractor  
Harold Adkins - NMSS Contractor

### **BACKGROUND/PURPOSE**

The purpose of this international trip is to attend the conference, attend PVP technical committee meeting as a member of the Design & Analysis (D&A) technical Committee, chair 3 D&A sessions, co-chair 1 D&A session on Non-linear Analysis, and understand the latest developments in the design and analysis of mechanical components, piping, and pressure vessels from the presentations by technical experts from all over the world.

### **SUMMARY OF TRIP REPORT**

The conference consisted of more than 550 technical papers organized into 150 sessions, panel sessions, tutorials, and exhibits on NDE (Non-destructive examination) and software demonstrations. The participants from Europe, Africa, the Middle East, Asia, the Americas, and the Oceania Islands were present at the conference. The topics included a broad range of fields such as advances in Design and analysis of mechanical and piping components, pressure vessels, Code and Standards, Computer applications, Bolted Joints, Fluid Structure Interaction, Materials & Fabrication, Seismic Engineering, Finite element analysis, Vibrations and dynamic loading.

As a member of the PVP's Design and Analysis (D &A) Technical Committee, I attended the committee meetings which included planning for the next year conference, 2013 ASME PVP Conference. I am session developer and organize 4 sessions on D&A of Piping & Piping Components with 15 to 16 technical papers.

I performed the peer reviews for 2 conference papers: PVP2012-78801: Failure Analysis for Burst of the High Temperature Steam Pipe, and PVP2012-78776: Determination of Material damping values for High Density Polyethylene Pipe Materials.

ENCLOSURE

In addition, I was the chair for 3 conference sessions: (i) 2.1H (DA-2-1) that consisted of 3 papers (PVP2012-78152, PVP2012-78161, and PVP2012-78197),; (ii) 2.3H (DA-2-3) that consisted of 4 papers (PVP2012-78685, PVP2012-78686, PVP2012-78717, and PVP2012-78790 (iii) 2.4H (DA-2-4) that consisted of 4 papers (PVP2012-78331, PVP2012-78422, PVP2012-78800, and PVP2012-78801).

I was also the co-chair for one conference session: 2.2I (DA-4-3) on Nonlinear Analysis that consisted of 4 papers (PVP2012-77198, PVP2012-78654, PVP2012-78752, PVP2009-78001, and PVP2012-78674).

Furthermore, I was session developer for 4 conference sessions on Design & Analysis of Piping & Piping Components 2.1H (DA-2-1), 2.2H (DA-2-2), 2.3H (DA-2-3), and 2.4H (DA-2-4) that consisted of 3 papers, 4 papers, 4 papers, and 4 papers respectively, coordinating peer reviews and assigning papers to D&A sessions.

I also attended sessions with paper presentations on Flow Induced Vibrations, Thermal hydraulic Phenomena and Interactions, Welding Residual Stress and Flaw Evaluation and Distortion Simulation; Environmental fatigue Issues, Leak before Break; and Piping and Equipment Dynamics. I attended the authors' briefing sessions for the sessions I chaired. Finally, I attended the plenary lecture on "Nuclear Refurbishment at Ontario Power Generation".

I attended some selected sessions during the five days of the conference, where papers of direct interest to my background are presented by experts. As a result, I was able to enrich my knowledge in the areas such as weld residual stresses, acoustic vibrations, sub-modeling and finite element analysis, polyethylene piping, and Environmental fatigue. This knowledge gained will enhance my skills as a technical reviewer, and is beneficial to the agency.

I am attaching 3 papers that are of special interest to our branch.

Chakrapani Basavaraju

Attachments:

- Paper # PVP2012-78085 :Acoustic Resonance in a Reservoir-Double Pipe-Orifice System. (ML12208A219)
- Paper # PVP2012-78581 :LBB Under Beyond Design Basis Seismic Loading. (ML12208A222)
- Paper # PVP2012-78301 :Fatigue Life of Strain Hardened Austenitic Stainless Steel in Simulated PWR Primary Water. (ML12208A223)