PVP 2008
2008 Pressure Vessels & Piping Conference
“Nuclear Power Plant Renaissance; Change in Paradigm”

Marriott on Magnificent Mile
Chicago, Illinois USA
The American Society of Mechanical Engineers
Pressure Vessels & Piping Division
PVP2008 Conference Committees

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PVP Conference Chair

Luc H. Geraets
PVP Technical Program Chair

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KPVP Coordinator, Korea Region
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JSME Coordinator, Japan Region
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Materials and Fabrication
Noel O’Dowd

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Narendra K. (Nick) Gupta

Seismic Engineering
Spyros A. Karamanos

Student Paper Competition
M.K. Au-Yang

ASME NDE Division
William C. Springer

NDE Demonstration Forum
Carl E. Jaske

Software Demonstration Forum
James F. Cory, Jr.

Pressure Vessels and Piping Division
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Thou-Han Liu 1998–99

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Richard C. Gwaltney 1996–97

Shoei-Sheng Chen 1995–96

Greg L. Hollinger 1994–95

Carl E. Jaske 1993–94

Rudy J. Scavuzzo 1992–93

Sam Y. Zamrik 1991–92

G. E. Otto Widera 1990–91

Robert H. Mallett 1989–90

Robert W. Swindeman 1988–89

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Jeffrey T. Fong 1986–87

Don B. Van Fossen 1985–86

James R. Farr 1984–85

Charles F. Nash 1983–84

Donald S. Griffin 1982–83

Richard H. Gallagher* 1981–82

L. Eugene Hultbert 1980–81

Robert E. Nickell 1979–80

Roger F. Reedy 1978–79

David H. C. Pai 1977–78

Pedro V. Marcal 1976–77

Harold H. Waite 1975–76

Robert L. Cloud 1974–75

Charles V. Moore 1973–74

Irvin Berman* 1972–73

Danos Kallas* 1971–72

Robert J. Cepuch 1970–71

Charles F. Larson 1969–70

Gurth P. Eschenbrenner 1968–69

Vito Salerno* 1967–68

* Deceased

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ASME Journal of Pressure Vessel Technology
Editor
G. E. O. (Otto) Widera
Welcome to PVP 2008

Join us in Chicago, Illinois, for the 2008 ASME Pressure Vessels and Piping Conference. More than 150 paper and panel sessions are planned, as well as workshops, tutorials, NDE and Software Demonstration Forums, and the Student Paper Competition. The PVP conference continues to be the international technical forum for the information exchange in different topics related to Pressure Vessel and Piping technologies. The conference presents an excellent forum for the participants to further their knowledge-base by being exposed to diverse topics and exchange opinions and ideas both from industries and academia. The ASME Pressure Vessels and Piping Division is the sponsor of the PVP-2008 Conference with participation by the ASME NDE Division, Korean Society of Pressure Vessels and Piping (K-PVP), Chinese Society of Pressure Vessels (C-PV) and Japan Society of Mechanical Engineers (JSME). Technical papers presented in this Conference are separated into tracks in accordance with their technical areas and published in the Conference proceedings in the form of a CD ROM. The ASME Pressure Vessels and Piping Division is sponsoring this Conference in collaboration with the ASME NDE Division. With participation from the Americas, Europe, Oceania and Asia, our Conference will continue to shape the technology in the pressure vessel industry on a truly global basis.

In addition to the technical programs we have planned exciting social events beginning with conference-wide reception on Monday evening, two separate site seeing tours for families and guests on Monday and Tuesday which include: Downtown Financial District, Shops and Boutiques on the Magnificent Mile, Navy Pier, John Hancock Observatory, 90 minute Narrated Architectural Cruise, "Millennium Park" with its sculpture, waterfalls and gardens, Victorian Mansions, Northwestern University, Baha’i House of Worship, Chicago Botanic Gardens and more. The Dinner Cruise on Board of the Luxurious “Spirit of Chicago” on Wednesday evening will provide you a unique opportunity to view the beautiful “Chicago Skyline” from Lake Michigan and it will feature, Scrumptious Dinner Buffet, Live Entertainment and a 30 minutes of FIREWORKS for all to enjoy.

PVP 2008 Program Layout

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>7:30 am 8:15 am</td>
<td>Arrival</td>
<td>Authors’ Breakfast/Briefing Registration Open (7:30 am – 4:00 pm)</td>
<td>Authors’ Breakfast/Briefing Registration Open (7:30 am – 4:00 pm)</td>
<td>Authors’ Breakfast/Briefing Registration Open (7:30 am – noon)</td>
<td>Authors’ Breakfast/Briefing Registration Open (7:30 am – 3:00 pm)</td>
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<tr>
<td>8:30 am 10:15 am</td>
<td>ANSYS Workshop Rapid Structural Analysis for Pressure Vessel Design (9:00 am – 11:30 am)</td>
<td>Block 1.1 Technical Sessions NDE Demo</td>
<td>Block 2.1 Technical Sessions Software Demo</td>
<td>Block 3.1 Technical Sessions</td>
<td>Block 4.1 Technical Sessions</td>
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<td>10:30 am 12:15 pm</td>
<td>Open</td>
<td>Block 1.2 Plenary Session NDE Demo</td>
<td>Block 2.2 Technical Sessions Software Demo</td>
<td>Block 3.2 Technical Sessions</td>
<td>Block 4.2 Technical Sessions</td>
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<tr>
<td>12:15 pm 1:45 pm</td>
<td>ANSYS Workshop Modeling Fluid Structure Interaction (1:00 pm – 3:30 pm)</td>
<td>Lunch Technical Committee Meetings</td>
<td>Lunch Technical Committee Meetings</td>
<td>Honors &amp; Awards Luncheon (12:30 pm – 2:15 pm)</td>
<td>Lunch</td>
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<tr>
<td>2:00 pm 3:45 pm</td>
<td>Registration Opens (3:00 pm – 6:00 pm)</td>
<td>Block 1.3 Technical Sessions NDE Demo</td>
<td>Block 2.3 Technical Sessions Software Demo</td>
<td>Block 3.3 Open</td>
<td>Block 4.3 Technical Sessions</td>
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<tr>
<td>4:00 pm 5:45 pm</td>
<td>Special Tutorial (4:00 pm – 6:00 pm)</td>
<td>Block 1.4 Technical Sessions NDE Demo</td>
<td>Block 2.4 Technical Sessions Software Demo</td>
<td>Block 3.4 Open</td>
<td>Block 4.4 Technical Sessions Conference Evaluation</td>
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<tr>
<td>Evening</td>
<td>Open</td>
<td>Conference-Wide Reception Chicago Ballroom (6:30 pm – 8:00 pm)</td>
<td>Open</td>
<td>Conference Social Event Fireworks Cruise Aboard the Spirit of Chicago (6:30 pm – 10:00 pm)</td>
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OPENING CEREMONY and PLENARY SESSION
“Nuclear Power Plant Renaissance; Change in Paradigm”

The Conference opens on Monday, July 28, at 10:30 a.m. in the Chicago Ballroom. Representatives of the American Society of Mechanical Engineers will welcome the attendees.

Welcome and Opening Remarks

Sam Y. Zamrik, Past President of ASME, 2007-08

Welcome and Opening Remarks

Sam Zamrik, the 126th President of ASME, a consultant and professor emeritus of engineering mechanics at the Pennsylvania State University, has been an active member of ASME, and is a fellow of the society. He joined the society 34 years ago. Since then, he served as a member of the Board of Governors, the Vice President of the Society’s Council on Engineering, and had fiscal and organizational responsibility for four technical divisions.

Dr. Zamrik also served on other ASME Boards including Codes and Standards and Professional Development and Publications. Furthermore, he served as Editor of the ASME Journal of Pressure Vessels Technology from 1993-2005 and Chair of the Pressure Vessels and Piping Division in 1992.

During his presidency, Dr. Zamrik continued to implement the Society’s Continuity and Change initiative. He chaired a critical Continuity and Change team: the Reorganization Review Team (RRT). As president, Dr. Zamrik focused on increasing the participation of engineering students, early career engineers, women and minorities within ASME, and actively promoting programs to better address their needs.

Dr. Zamrik has received numerous honors and awards. The Pressure Vessels and Piping Division has named the journal Literature award as “The Sam Zamrik Literature Award” to honor his dedication to the division and the journal. He received the ASME Pressure Vessels and Piping Medal in 1996, the ASME Central Pennsylvania Section's Outstanding Mechanical Engineer of the Year award in 1992, the Robert M. McGrattan Literature Award in 1991, the ASME Service Award in 2006, the PSU ESM outstanding alumni award in 2006 and the Penn State Engineering Society distinguished service award in 2007.

Plenary Speaker

Laura A. Dudes
Deputy Director, Division of Engineering
Office of New Reactors
Nuclear Regulatory Commission

New Reactor Licensing: Design Reviews and Engineering Issues

This discussion will focus on the Nuclear Regulatory Commission’s one step licensing process, an overall status of the engineering reviews associated with the applications, and discussion of some of the technical challenges associated with the licensing review of digital instrumentation and controls, mechanical components and structural engineering for the new generation of nuclear power plants.

Laura A. Dudes is the Deputy Director, Division of Engineering, Office of New Reactors (NRO) at the Nuclear Regulatory Commission (NRC).

Ms. Dudes joined the NRC in 1994 as a Reactor Engineer Intern in the Office of Nuclear Reactor Regulation (NRR). In 1996, she transferred to Region I where she served as a Reactor Engineer in the Division of Reactor Safety, in this capacity she was responsible for the engineering and inspection reviews for many nuclear power plants in the
northeast. She also performed specialized motor operated valve operability inspections during this time.

In 1997, Ms. Dudes became the Resident Inspector at Indian Point 3, and in 1999, the Senior Resident Inspector at Oyster Creek. In 2002, Ms. Dudes returned to NRC headquarters as a Technical Assistant and Enforcement Coordinator in NRR, and in 2002 was selected as Chief of the New Reactor Licensing Branch. In 2006, Ms. Dudes was selected to participate in the Senior Executive Service (SES) Candidate Development Program and was selected into her current position upon completion of this program in 2007.

Ms. Dudes received a B.E. degree in Mechanical Engineering and an M.S. degree in Mechanical Engineering from Stevens Institute of Technology.

Plenary Speaker

Anthony R. Pietrangelo
Vice President, Regulatory Affairs
Nuclear Energy Institute

Planning for Success;
Reasoned Expectations for the New Nuclear Plant Construction

This discussion will provide an assessment of the challenges and risks of new nuclear plant construction and steps being taken by the nuclear industry to mitigate and manage those risks.

Mr. Pietrangelo has 27 years experience in the nuclear energy industry, where his responsibilities have run the gamut of nuclear plant construction, licensing and operations.

Mr. Pietrangelo has been with the Nuclear Energy Institute (NEI) and its predecessor organizations since 1989, responsible for the management of risk-informed regulatory initiatives, performance-based regulation and other comprehensive technical, regulatory issues. He was promoted to vice president in 2006 and is currently responsible for executive oversight of sections including new plant deployment, nuclear plant security, emergency planning and safety-focused regulation.

He developed and implemented the strategy for NEI’s risk-informed regulatory reform activities, including industry interface with the U.S. Nuclear Regulatory Commission staff and senior management and presentations to the commission on this and related topics.

In his tenure at NEI, Mr. Pietrangelo has led industry efforts in areas including regulatory guidance on configuration risk management, shutdown/outage management, and risk-informed, performance-based regulation. He was instrumental in leading industry efforts on applying risk insights on the Regulatory Oversight Process Mitigating Systems Performance Index.

Prior to joining NEI, Mr. Pietrangelo was with Westinghouse Electric Corp. as a project engineer for the construction, testing and start-up of nuclear power plants in Brazil, South Korea, the Philippines and the United States.

Mr. Pietrangelo is a graduate of the Columbia University School of Engineering and Applied Science with a Bachelor of Science degree in industrial engineering and holds a Master of Business Administration degree from the Keller Graduate School of Management.

HONORS and AWARDS LUNCHEON

The ASME PVP Division Honors and Awards Luncheon, in which all Division and selected ASME Society awards are presented, will be held on Wednesday, July 30, at 12:30 pm in the Chicago Ballroom. The top PVP Division award, the Pressure Vessel and Piping Medal, will be presented to Arturs Kalnins.

PVP Medal Recipient

Arturs Kalnins
Lehigh University
Bethlehem, PA

Arturs Kalnins has been a Professor of Mechanics in the Department of Mechanical Engineering and Mechanics of the P. C. Rossin College of Engineering and Applied Science at Lehigh University since 1960. Over the years, he has been teaching basic mechanics courses as well as advanced courses in finite element analysis, plates and shells and theory of stability. Recognized as a gifted and innovative teacher by his students, he has been awarded the 1988 Pi Tau Sigma Teaching award and the 1988 Joel Spira Mechanical Engineering and Mechanics award for distinguished teaching. He was a 1977 Fulbright-Hayes Fellow at the University of Innsbruck, Tirol, Austria. He has lectured at the University of Mexico, Mexico City, Mexico; Petrobras Company in Rio de Janeiro, Brazil; the Pennsylvania State University, University Park, Pennsylvania; and Ishikawajima-Harima Heavy Industries Company, Yokohama, Japan. Since retiring on August 31, 2004, he has continued to be active in both teaching and research.

Starting from the 1960s, Prof. Kalnins’ research in the area of plates and shells lead to the development of the KSHEL computer program. This program allows the analysis of thin shells of revolution for static loading assuming elastic or plastic material behavior, and creep, as well as for free vibrations and buckling. The program found wide use in the pressure vessel industry as a powerful and useful tool for the design and analysis of...
pressure vessel components until commercial finite element codes became generally available and powerful enough for the analysis of realistic geometries.

Prof. Kalnins subsequently concentrated on advancing plastic design methods for pressure vessels. He developed design rules for torispherical heads (published as WRC Bulletin 364 and 414) and formed heads (ASME Code Case 2260 and 2261). As a result, much more efficient designs for such heads can now be used. He established an easy-to-use method to perform plastic limit analyses with commercial finite element programs. This method is currently in use in the nuclear industry and is starting to find even wider acceptance in the pressure vessel industry due to its two key assets, simplicity and the more efficient designs that it often allows.

In addition to advancing the state of the art with his valuable research, Arturs Kalnins has been an untiring promoter of plastic design methods in the pressure vessel community. Since 1999, he has organized many technical sessions in this field at the ASME PVP Conferences. He has also given tutorials on the use of FEA to perform plastic ASME Code analysis at three Conferences. The tutorials were very well received and extremely popular, indicating the large interest from the industry in his research and also the appeal of his teaching style.

Prof. Kalnins has been a very active member of various ASME Code committees, most recently the Section III Subgroup on Design and Analysis and the Working Group vessels, as well as the Section VIII Rewrite committees. In all these, he has vigorously promoted plastic analysis methods for all aspects of Design by Analysis. He has spent much effort to make the existing Code rules more useful for designers using the current Finite Element based analysis methods, and to develop better alternatives. His greatest achievement, however, must be that he always tried to simplify and make more accessible, which promoted the understanding and application of advanced analysis methods both among students and engineering professionals in the pressure vessel community.

WORKSHOPS and TUTORIALS

Special Tutorial: This is a 2 hour conference session held on Sunday afternoon. The session leader will make available the necessary presentation material.

Technical Tutorials: These tutorials are one-half day conference sessions and are integrated into the conference schedule. Attendees may purchase a set of the “Tutorial Notes”; the charge is set as low as possible based on the cost of production.

Each attendee will receive a “Certificate of Attendance” as proof that the attendee has participated in the “2 hour Special Tutorial” or the “4 hour Technical Tutorial.”

PVP Division will not assign Continuing Education Units (CEUs) on these certificates; however, attendees may negotiate CEU credits with their respective licensing boards. Following is the line-up for the tutorial sessions for the 2008 PVP conference.

WORKSHOPS

Sunday, July 27, 9:00 am – 11:30 am
Chicago Ballroom D
Rapid Structural Analysis for Pressure Vessel Design
by Adrian Gamboa, Ansys, Inc., Seattle, WA, USA
Pressure vessel codes can only be applied to known values of stress, and this cannot always be easily determined by hand calculation with more complex vessel geometries. The ANSYS Pressure Vessel Module addresses this need by helping to build, analyze, and check pressure vessels against industry standards. This workshop will show how to use the ANSYS Pressure Vessel Module to analyze and check a design, and give hands on experience with examples.

Sunday, July 27, 1:00 pm – 3:30 pm
Chicago Ballroom D
Modeling Fluid Structure Interaction
by Hoang Vinh, Ansys, Inc., El Dorado Hills, CA, USA
This workshop will focus on the use of ANSYS products to perform semi-implicit matrix-coupled fluid-structure-interaction (FSI) calculations within the ANSYS Workbench environment. Given some familiarity with finite element analysis and computational fluid dynamics, attendees will be able to setup and perform FSI calculations at the end of the workshop.

SPECIAL TUTORIAL

Sunday, July 27, 4:00 pm – 6:00 pm
Chicago Ballroom E
The Engineer in the Witness Chair
by Dr. Dennis K. Williams, Sharoden Engineering Consultants
This presentation is intended to introduce the practicing consultant and corporate engineering specialist to the particulars of providing “expert witness” testimony in the courtroom. The role of the engineer in the litigation process is covered from initial client contact to a day in the witness chair. Topics include the engineer’s investigation, the importance of the discovery process, depositions, and the engineering expert witness at trial. Case studies, including those involving piping components and ASME B&PV Code vessels, will be utilized.

TECHNICAL TUTORIALS

Monday, July 28, 2:00 pm – 5:45 pm
Chicago Ballroom E
Recent Developments in Analysis and Design of Piping for Seismic Loads
by Abhinav Gupta & Vernon C. Matzen, North Carolina State University
This tutorial is intended for engineers working in piping analysis and design. The emphasis will be modeling, analysis, and design for seismic loads. The tutorial will be divided into four main categories:

- Fundamental concepts in structural dynamics and modeling
- Recent developments in response spectrum method for seismic analysis of piping
- Background and recent developments in the definition of B2 Stress Indices for piping components
- ASME Initiative on reliability-based load and resistance factor design for piping components. Each topic will include representative exam-
Tuesday, July 29, 2:00 pm – 5:45 pm  
**Chicago Ballroom E**  
**Applications of the ASME Code to Radioactive Materials Packaging**  
by Allen C. Smith, Savannah River National Laboratory, and Y.Y. Liu, Argonne National Laboratory

The tutorial will familiarize the participants with the functional and regulatory requirements for radioactive materials packages. It will show how the regulations and practical considerations result in imposition of the ASME Code for package design and fabrication. The following topics will be covered:

- Relationship between regulatory requirements and applicable Code Sections
- The Code Sections typically employed in design and fabrication of packaging
- The relationship of the Code to other functional requirements
- Recommended practices for regulatory testing of packages.

Thursday, July 31, 8:30 am – 12:15 pm  
**Chicago Ballroom E**  
**Automated Ultrasonic Testing vs. Radiography (AUT vs. RT)**  
by Michael Moles, Olympus NDT Canada

This seminar overviews the developments in automated ultrasonics (AUT), and compares AUT with radiography (RT) for weld inspections. The advantages – and limitations – of AUT are described, including a brief mention of the economics of switching from RT to AUT. Though radiography is the current technology in many cases, it has major limitations on safety, environment, and licensing, plus limited capability for detecting critical planar defects. In contrast, AUT has high Probability of Detection of critical planar defects, plus the capability of sizing defects. In particular, the capability of AUT to size defects vertically permits the use of Engineering Critical Assessment, which is more beneficial than workmanship criteria.

**NDE and SOFTWARE FORUMS**

**NDE Demonstration Forum**  
Monday, July 28, 8:00 am – 5:00 pm  
**Chicago Ballroom Foyer**

The NDE Demonstration Forum will be held on Monday, July 28. NDE Vendors will present and discuss their capabilities, equipment, and services in the Regency Foyer (B-Level) adjacent to the Conference Registration area. For additional information, please contact Dr. Carl E. Jaske, CC Technologies, at Carl.Jaske@dnv.com.

**Software Demonstration Forum**  
Tuesday, July 29, 8:00 am – 5:00 pm  
**Chicago Ballroom Foyer**

The Software Demonstration Forum will be held on Tuesday, July 29. Software Vendors will present and discuss their capabilities, equipment, and services in the Regency Foyer (B-Level), adjacent to the Conference Registration area. For additional information, please contact James F. Cory, Jr., UGS, Inc., at james.cory@siemens.com.

**SOCIAL PROGRAMS and TOURS**

**Conference-Wide Reception**  
**Chicago Ballroom**  
Monday, July 28, 6:30 pm - 8:00 pm

All the conference registrants and their registered guests are invited to attend this special reception. Meet new and old friends and renew acquaintances while enjoying a relaxing evening with variety of appetizers and cash bar.

No charge for registered conference participants and registered guests

**The Best of Chicago**  
Monday, July 28, 9:00 am – 2:00 pm

See State Street, that great street, Downtown Financial District Shops and Boutiques on the Magnificent Mile, Hancock Observatory, Navy Pier, 90 minute Narrated Architectural Cruise on Chicago River Experience going through the Chicago locks as your boat rises from the river to meet the lake Visit Millennium Park, with its sculpture, waterfalls and gardens.

Per Person: $56; 7-12 years $40; 6 and under Free

**Mansions, Temples and Gardens**  
Tuesday, July 29, 10:00 am – 3:00 pm

Victorian mansions and Northwestern University, Visit the Baha’i House of Worship. Chicago Botanic Gardens in Glencoe; a 45-minute narrated tram ride will show the serenity of the Japanese Garden, the majestic beauty of the formal rose garden and the English Walled Garden, and the Herb and Perennial Gardens.

Per Person: $44; 7-12 years $34; 6 and under Free

**CONFERENCE SPECIAL EVENT**

**Fireworks Cruise Aboard the Spirit of Chicago**  
**Dinner Buffet, Live Entertainment and Fireworks**  
Wednesday, July 30, 7:00 pm – 10:00 pm

The Spirit of Chicago cruise ship is a personal celebration setting unlike any other in the city! Step aboard the Spirit of Chicago cruise at Navy Pier for an evening of unparalleled cruising fun on the lakefront in Chicago.

**Coffee Breaks and Refreshments**

Coffee and refreshments are available throughout the week in the Regency Foyer (B-Level). This hub of activity features the forums, coffee breaks, guest activity information area, and registration.

**Badge Required for all Events**

Please wear your badge for admission to all Conference activities. Your badge also provides a helpful introduction to other Conference attendees.
Enjoy this luxurious Chicago cruise ship while you dine, dance; enjoy star-quality entertainers and breathtaking skyline views. Come aboard the Spirit of Chicago for a celebration of freedom, fun and fabulous fireworks on the lake, all enhanced by a never-ending view of the greatest skyline in America. Enjoy an evening filled to the brim with wonderful cuisine. You will enjoy the “Grande Dinner Buffet”, where you can sample a little bit of everything, or just select your favorite fare from variety of salads to the main courses of fish, chicken and beef entrees accompanied by seasonal vegetables, assorted-freshly baked rolls, fresh selection of Cookies, Cakes, Bars, Pastries, and Seasonal Fruits. An experience that will be remembered and talked about for a long time to come. The Spirit cruise departs from the historic Navy Pier on Lake Michigan. Transportation from the Hotel to Navy Pier will be provided.

Per Person: $75; 7-12 years $60; 6 and under Free

CONFERENCE INFORMATION

Technical Sessions and Programs
All technical sessions will be held at the Marriott in three locations: 2nd Floor, 3rd Floor and 5th Floor. Each room will be equipped with an LCD projector that can be connected to a personal computer for electronic presentation (e.g., Microsoft PowerPoint). Please note that ASME will not provide personal computers, 35mm slide projectors, VCR’s, or overhead projectors. Personal computers are the responsibility of the session developer or presenter. It is strongly recommended that authors provide their materials to the session developer at the authors’ breakfast so that all the papers in a session can be loaded onto one computer. Authors are recommended to have their presentations on a flash (pen) drive in the event that compatibility problems occur between their computers and the LCD.

The location of the session rooms is shown in the Hotel Floor Plan on the back cover of this program.

Student Paper Competition
Tuesday, July 28, 8:30 am – 10:15 am, 10:30 am – 12:15 pm & 2:00 pm – 3:45 pm
Lakeview, 2nd Floor
Three sessions of the student paper competition sponsored by the PVPD Senate will be held on Tuesday, July 29. M.K. Au-Yang, the PVPD Senate President, will conduct these sessions. Undergraduate and graduate students will have the opportunity to participate in a competition to select the outstanding student paper. The presentations will be judged on the basis of paper content and presentation. The winners will be announced at the Honors and Awards Luncheon on Wednesday, July 30.

Technical Committee Meetings
Monday & Tuesday, July 28 & 29, 12:15 pm – 1:45 pm

The Pressure Vessels and Piping Division Technical Committees will meet during the noon time on Monday, July 28, and Tuesday, July 29. Visitors are encouraged to attend and take an active part in PVP committee activities. All committee meetings, schedules, and rooms will be listed in the Final Program.

Honors and Awards Luncheon
Wednesday, July 30, 12:30 pm – 2:15 pm
Chicago Ballroom

The Division Honors Luncheon, honoring all Division Award Recipients and the 2008 PVP Medalist, Arturs Kalnins, will be held on Wednesday, July 30, from 12:30 pm until approximately 2:15 pm in the Chicago Ballroom on the 5th Floor. One ticket is included in the Full Conference registration fee. Additional tickets may be purchased at the Conference Registration desk.

Authors Breakfast/Briefing
Monday – Thursday, July 28 – 31, 7:30 am – 8:15 am
Chicago Ballroom

Authors, Panelists, Session Developers, Chairs, and Vice-Chairs are requested to attend a breakfast briefing in the Chicago Ballroom (5th Floor) on Monday through Thursday at 7:30 am on the morning of their sessions. Session protocol will be discussed and the participants will have the opportunity to become better acquainted with one another before their scheduled sessions. Authors are encouraged to place all the presentations for their session on one computer at the authors’ breakfast.

Registration Hours
The ASME registration desk will be open during the following hours to provide advance registrants with their materials, to process on site registrations, and to provide conference information:

Sunday, July 27 3:00 pm – 6:00 pm
Monday, July 28 7:30 am – 4:00 pm
Tuesday, July 29 7:30 am – 4:00 pm
Wednesday, July 30 7:30 am – Noon
Thursday, July 31 7:30 am – 3:00 pm

On-Site Registration Fees (US dollars)
For those not registered in advance, the on-site registration fees are:

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<tr>
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<th>Full Registration</th>
<th>One Day</th>
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<tr>
<td>Member</td>
<td>MBR1 $520</td>
<td>MBR2 $420</td>
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<tr>
<td>Author/Panelist</td>
<td>AUP1 $520</td>
<td>AUP2 $420</td>
</tr>
<tr>
<td>Coop. Soc. Member***</td>
<td>CSC1 $520</td>
<td>CSC2 $420</td>
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<tr>
<td>Session Chair</td>
<td>CHM1 $520</td>
<td>CHM2 $420</td>
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<td>Session Vice Chair</td>
<td>CHV1 $520</td>
<td>CHV2 $420</td>
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<tr>
<td>Non-Member</td>
<td>NMB1 $590</td>
<td>NMB2 $510</td>
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<tr>
<td>ASME Life Member Retired**</td>
<td>LMRD $50</td>
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<td>ASME Student Member**</td>
<td>STNT N/C</td>
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<tr>
<td>Student Non-Member**</td>
<td>STNM $50</td>
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<tr>
<td>Guest/Spouse</td>
<td>SPOS N/C</td>
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* Full and One Day registration fees include a coupon for the Conference Proceedings CD containing all the published technical papers. Full registration also includes a ticket for the Honors Luncheon.
** These registration categories do not include a coupon towards the Conference Proceedings CD or a ticket for the Honors Luncheon.
*** To qualify for discounted registration fees, you must be a member of ASME, or one of the cooperating societies listed below. Please fill in your society affiliation and membership number on the registration form.
Cooperating Societies
If you are a member of one of the following "cooperating societies," you may register at the ASME member rate: ASME-Albania, CAI-Argentina, IEAust-Australia, BSE-Bahrain, BSME Belgium, ABCM-Brazil, CSME-Canada, CMES-P.R. China, CSME-Taipei, ACIEM-Colombia, CIT-Costa Rica, CMEA Cyprus, CMES-Czech Republic, IDA-Denmark, CIME-Ecuador, ESME-Egypt, ESME-Ethiopia, AFM France, ISF-France, GAES-Republic of Georgia, GhIE-Ghana, HAMEE-Greece, HKIE Hong Kong, GTE-Hungary, IE-India, IME-India, IE-Indonesia, IE-Ireland, ISM-Mexico, SMIME-Mexico, KIN1-The Netherlands, IPENZ-New Zealand, NSF-Norway, PSME-Philippines, SIMP-Poland, OE-Portugal, RSME-Romania, RAN-Russia, UMEET-Serbia & Montenegro, IE-Singapore, SIMP-Slovakia, ZSITS-Slovenia, SAIMechE-South Africa, FAIIE-Spain, SM-R-Sweden, APETT-Trinidad & Tobago, TMMOB Turkey, USME/UAN-Ukraine, IE-United Kingdom, ImechE-United Kingdom, AICHe, AIME, ASCE, IEEE-United States, CIV-Venezuela, SMIET-J-Yugoslavia.

Conference Publications
Scottsdale, 5th Floor
Papers presented at the ASME PVP 2008 Conference are published on a CD available at the Conference. Information on paper titles and authors are included in the final program. All attendees registered for the entire Conference (i.e., Full Registration) will receive a coupon redeemable for one CD containing all the technical papers presented in the Conference. Bound volumes of Conference Proceedings may be ordered at the Conference, for post-conference shipping, subject to there being sufficient demand for the respective volumes. A list of volumes is available in the Conference publication room, which features a variety of ASME publications.

Ship Your Conference Proceedings
You can ship your ASME Publications to your home or office right from the Conference. Bring your books to the shipping booth in the Publication Sales room and they will be packaged and shipped for you. Inquire at the Publication Sales room for location and fees.

Disabled Registrants
Whenever possible, arrangements can be made for disabled registrants, if advance notice is given. Please indicate any special needs on the registration form, or contact Serena Scher at ScherS@asme.org with your request.

Tax Deductibility
Expenses of attending professional meetings have been held to be tax deductible as ordinary business expenses for U.S. citizens. Please check changes in the tax code for the current level of deduction, as this is subject to change.

Guest/Family Programs
Guest and Family members of registrants are invited for a daily Continental Breakfast, in the Guest Hospitality Room, the Halsted Room, on the 4th floor. Admission to the Guest Hospitality during breakfast hours (7:00 am - 9:30 am) is free but is strictly limited to the spouses and children of registered Conference attendees. Conference Badges are required for admis-
<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Meeting</th>
<th>Room</th>
<th>Responsible Person</th>
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<tr>
<td>Sunday, July 27, 2008</td>
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<tr>
<td>8:30 AM – 1:30 PM</td>
<td>PVPD Executive Committee</td>
<td>Old Town</td>
<td>J.F. Cory, Jr.</td>
</tr>
<tr>
<td>1:00 PM – 5:00 PM</td>
<td>TG Sessions (SG on HPV) (SC VIII)</td>
<td>O'Hare</td>
<td>Umberto d'Urso</td>
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<td>Monday, July 28, 2008</td>
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<tr>
<td>12:15 PM – 1:45 PM</td>
<td>PVPD Design and Analysis Technical Committee</td>
<td>Old Town</td>
<td>M.B. Ruggles-Wrenn</td>
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<tr>
<td>12:15 PM – 1:45 PM</td>
<td>PVPD Operations, Applications and Components Technical Committee</td>
<td>River North</td>
<td>D. H. Martens</td>
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<tr>
<td>12:15 PM – 1:45 PM</td>
<td>PVPD Codes and Standards Technical Committee</td>
<td>Printers Row</td>
<td>G.Chakrabarti</td>
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<tr>
<td>12:15 PM – 1:45 PM</td>
<td>PVPD Fluid-Structure Interaction Technical Committee</td>
<td>Lakeview</td>
<td>M. Fischer</td>
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<tr>
<td>12:15 PM – 1:45 PM</td>
<td>PVPD Nanotechnology Task Force</td>
<td>Water Tower</td>
<td>Y.W. Kwon</td>
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<tr>
<td>2:00 PM – 3:45 PM</td>
<td>PVPD International Coordination Committee</td>
<td>Printers Row</td>
<td>D.A. Lidbury</td>
</tr>
<tr>
<td>4:00 PM – 5:45 PM</td>
<td>PVPD Senate</td>
<td>Lakeview</td>
<td>M.K. Au-Yang</td>
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<td>8:30 AM – 5:00 PM</td>
<td>SG High Pressure Vessels (SC VIII)</td>
<td>O'Hare</td>
<td>Umberto d'Urso</td>
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<td>Tuesday, July 29, 2008</td>
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<tr>
<td>10:00 AM – 12:15 PM</td>
<td>ICPVT - 9</td>
<td>Old Town</td>
<td>G.E.O. Widera</td>
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<tr>
<td>10:30 AM – 12:15 PM</td>
<td>PVPD Publications Committee</td>
<td>Printers Row</td>
<td>Y.W. Kwon</td>
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<td>12:15 PM – 1:45 PM</td>
<td>PVPD High Pressure Technical Committee</td>
<td>Old Town</td>
<td>D.T. Peters</td>
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<td>PVPD Computer Technology Technical Committee</td>
<td>River North</td>
<td>J. Martin</td>
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<td>PVPD Seismic Engineering Technical Committee</td>
<td>Printers Row</td>
<td>V.C. Matzen</td>
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<td>12:15 PM – 1:45 PM</td>
<td>PVPD Materials and Fabrication Technical Committee</td>
<td>Lakeview</td>
<td>P.S. Lam</td>
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<td>12:15 PM – 1:45 PM</td>
<td>ASME NDE Executive Committee</td>
<td>Water Tower</td>
<td>W.T. Springer</td>
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<td>PVPD Honors Committee</td>
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<td>L.H. Geraets</td>
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<tr>
<td>4:00 PM – 5:45 PM</td>
<td>SPC Jury</td>
<td>Printers Row</td>
<td>M.K. Au-Yang</td>
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<td>PVP10 Program Committee</td>
<td>Lakeview</td>
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<td>ASME TG on Impulsively Loaded Vessels</td>
<td>O'Hare</td>
<td>R.E. Nickell</td>
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<td>JPVT Editors</td>
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<td>M.E. Nitzel</td>
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<td>1:00 PM – 5:00 PM</td>
<td>Ad Hoc Committee on High Pressure Systems Standards</td>
<td>O'Hare</td>
<td>Umberto d'Urso</td>
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<td>Welding Residual Stress Program Review</td>
<td>Old Town</td>
<td>D. Rutland</td>
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<td>A.A. Dermenjian</td>
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<td>PVPD General Committee</td>
<td>Lakeview</td>
<td>A.A. Dermenjian</td>
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<tr>
<td>4:00 PM – 5:45 PM</td>
<td>PVPD Conference Evaluation</td>
<td>Lakeview</td>
<td>R.S. Hafner</td>
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</table>
Publications

Papers presented at the 2008 PVP Conference will be published in bound volumes, to be purchased at the conference for post-conference shipping, subject to sufficient demand from the authors. The list of volumes is presented below. Other books of interest, Codes and Standards, Transactions, Journals and free literature regarding ASME publications will be available at the conference. During the Conference, all publications will be sold at the ASME member price. Prepaid orders will be taken for publications that are not available at the Conference. All fully paid Conference registrants will receive a CD-ROM containing the papers presented at PVP08. A complete set of the volumes covering the 2008 PVP Conference publications may be purchased as a package at a 10% discount. ASME accepts payment in cash ($US), checks ($US), travelers' checks ($US), VISA, MasterCard, American Express, Diners Club, and Discover (all credit card charges in $US). Technical papers and bound volumes may be ordered after the Conference by contacting the ASME Order Department, 22 Law Drive, P. O. Box 2300, Fairfield, NJ 07007-2300 or by calling 1-800-THE-ASME. Payment by check or credit card (VISA, MasterCard, American Express, Diners Club, and Discover) must accompany your order. California, Georgia, Illinois, and Texas purchasers must add the appropriate sales tax or furnish a tax exemption certificate. Foreign checks are not accepted. You may also ship your Conference publications home or to your office right from the Publication Sales. A shipping booth will be set up for your convenience so you do not have to carry your books home. The Publication Sales area will be open during the following hours:

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<tr>
<th>Sunday, July 27</th>
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<td>Wednesday, July 30</td>
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<tr>
<td>Thursday, July 31</td>
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**Volume Title and Volume Editor(s)**

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<tr>
<th>Codes &amp; Standards—2008</th>
<th>94</th>
<th>$88</th>
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<tbody>
<tr>
<td>edited by K. Hasegawa and D. Scarth (Topics include Structural Integrity; Fatigue; Fracture Toughness; Environmental Fatigue; Interaction of Multiple Flaws; Emerging Codes and Standards Issues; ASME Code Section XI; Recent Developments in ASME, Korean, Chinese, Japanese, European Codes and Standards; Recent Developments in Japanese Codes and Standards; High Temperature Codes and Standards; API/ASME Code Fitness-for-Services, Ratcheting; and Constraint Loss Evaluation.)</td>
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<th>Computer Applications/Technology &amp; Bolted Joints—2008</th>
<th>38</th>
<th>$52</th>
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<tr>
<td>edited by H. Bouzid (Topics include Design and Analysis of Bolted Joints; Leak Tightness and Fugitive Emissions; Assembly of Bolted Joints; Threaded Fasteners; Computational Applications in Fatigue, Fracture, and Damage Mechanics; Nonlinear FEA; New; Computational Models for Limit Load and Elastic-Plastic FEA; and New and Emerging Methods of Analysis and Applications.)</td>
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<th>Design and Analysis—2008</th>
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<td>edited by C. D. Rodery (Topics include Design and Analysis of Pressure Vessels, Heat Exchangers and Components; Design and Analysis of Piping and Piping Components; Fatigue; Fracture Mechanics and Damage; Inelastic and Nonlinear Analysis, Limit Load Analysis; Stress Classification and Design-by-Analysis Methodologies; Composite Materials and Structures; Structural Reliability Analysis and Buckling; Thermal Stresses in Vessels, Piping, and Components; Fitness-for-Service Evaluations; CFD and FSI in Design and Analysis; Elevated Temperature Design; Piping and Equipment Dynamics and Dynamic Response Analysis; Design and Analysis of Bolted Flange Joints; and Design and Analysis of Expansion Joints; and Analysis of Shock and Water Hammer Loads.)</td>
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<th>Fluid-Structure Interaction—2008</th>
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<th>$64</th>
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<td>edited by J.-F. Sigrist (Topics include Thermal-Hydraulic Phenomena and Interactions with Vessels, Piping and Components; 12th International Symposium on Emerging Technology for Fluid, Structure, and Fluid-Structure Interactions; Structures under Extreme Loading Conditions; and Fluid Structure Interaction and Sloshing.)</td>
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<th>High-Pressure Technology, Nondestructive Evaluation, and Student Paper Competition—2008</th>
<th>39</th>
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<tbody>
<tr>
<td>edited by R. Dixon, B. Springer, M. K. Au-Yang, and J. Todd (Topics include New and Emerging Methods in High Pressure Design and Analysis; Methodology in Material Development; Fatigue, Fracture and Life Prediction; Impulsive Loading in Pressure Equipment; General NDE issues; License Renewal and Life Extension Issues; Coke Drum Inspection Issues; and student papers.)</td>
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<tr>
<td>Volumes</td>
<td>No. of Papers</td>
<td>Conference Price</td>
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<td><em>Materials and Fabrication—2008</em> edited by N. O’Dowd (Topics include Application of Fracture Mechanics in Failure Assessment; Flaw Evaluation Using Master Curve; Welding Simulation and Weld Integrity; Materials for Hydrogen Service; Materials for Hydrogen Service; Welding and Residual Stress; European Programs in Structural Integrity; Fitness-for-Service and Failure Assessment; Materials and Technologies Applicable to Nuclear Power Plants; Graphite Technology for Nuclear Power Applications; Environmental Fatigue and Fracture; Wall Thinning Caused by Flow Accelerated Corrosion; Mechanistic Materials Modeling; Application of Statistical Methods in PVP Design, Analysis, &amp; Decision Making; New Developments in Fabrication Technologies; Mechanistic Materials Modeling; Assessment of Multiple and Complex Flaws; Integrity Issues with Stress Corrosion Cracking; Fracture at Elevated Temperature; Structural Integrity of Pipelines and Pressure Vessels; Small-Scale and Miniature Mechanical Testing; Leak Before Break Assessment; and Failure Prevention via Robust Design and Continuous NDE Monitoring.)</td>
<td>162</td>
<td>$128</td>
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<tr>
<td><em>Operations, Applications, and Components—2008</em> edited by N. Gupta and M. R. Feldman (Topics include Safety, Reliability and Risk Assessment; Qualification and Testing; Monitoring, Diagnostic and Inspection; Toxic Substances – Storage and Transportation; Pumps and Valves; Operations and Maintenance; Piping and Piping Supports; Aging Management and Life Extension; and Regulations, Codes and Standards.)</td>
<td>73</td>
<td>$76</td>
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<tr>
<td><em>Seismic Engineering—2008</em> edited by S. A. Karamanos (Topics include Seismic Evaluation of Systems, Structures, and Components; Seismic Isolation and Passive Vibration Control; Structural Dynamics (Linear and Non-Linear); Seismic Assessment and Evaluation of Lifeline Systems; Experimental and Analytical Studies in Systems Interactions; and Seismic Behavior of Storage Tanks and Associated Equipment.)</td>
<td>38</td>
<td>$52</td>
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**PVP 2009**

**SPONSORED BY THE ASME**

**PRESSURE VESSELS AND PIPING DIVISION**

Join us in Prague, Czech Republic, for the 2009 ASME Pressure Vessels and Piping Conference!

*Prague Hilton*

*Pobrezni 1, 186 00 Prague 8, Czech Republic*

*July 26 – 30, 2009*

“Sustainable Energy for the Third Millennium”

The PVP conference continues to be the outstanding international technical forum for the participants to further their knowledge-base by being exposed to diverse topics and exchange opinions and ideas both from industries and academia in different topics related to Pressure Vessel and Piping technologies for the Power and Process Industries. PVP is looking forward to fruitful technical exchanges from participants in Europe, Africa, Middle East, Asia, Americas and the Oceania islands.

The ASME Pressure Vessels and Piping Division is the sponsor of the PVP-2009 Conference with participation by the ASME NDE Division. More than 150 paper and panel sessions are planned, as well as workshops, tutorials, NDE and Software Demonstration Forums, and the Student Paper Competition.

**GENERAL TOPICS:** (1) Codes & Standards; (2) Computer Technology and Bolted Joints; (3) Design & Analysis; (4) Fluid-Structure Interaction; (5) High Pressure Technology; (6) Materials & Fabrication; (7) Operations, Applications, & Components; (8) Seismic Engineering; (9) Non Destructive Examination; (10) Nanotechnology and (11) Student Paper Competition.

**SCHEDULE:** Abstracts are due by **November 17, 2008.** Authors will be notified of abstract acceptance by **December 15, 2008.** Draft papers are due by **March 02, 2009.** Paper peer review comments will be returned by **March 30, 2009.** Final reviewed papers in ASME format for publication and the 1903 Copyright Transfer Form for each paper must be received by **April 20, 2009.** All accepted papers will be published via CD-ROM/DVD.

**INFORMATION:** Mail, fax, or e-mail any query to the Conference Chair, the Technical Program Chair or the Sponsoring Chair (listed below):

**PVP Conference Chair**

Luc H. Geraets, Ph. D.
SUEZ Nuclear Activities
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Brussels, BELGIUM B-1000
Phone/Fax: +32 2 510 7442/7411
E-mail: luc.geraets@suez.com

**PVP Technical Program Chair**

Prof. Young W. Kwon
Naval Postgraduate School
Dept. of Mechanical & Astronautical Engineering
700 Dyer Road
Monterey, CA 93943, USA
Phone/Fax: 831-656-3468/2238
E-mail: ywkwon@nps.edu

Pressure Vessels and Piping Division invites all Professional Organizations to Sponsor our Annual Conference

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Carl E. Jaske
CC Technologies, Inc.
5777 Frantz Road
Dublin, OH 43017-1386
Phone/Fax: 614-761-1214 / 1633
E-mail: Carl.Jaske@dnv.com
SESSION TITLES BY SESSION BLOCK

Sessions are arranged in Session Blocks in the format ‘X.VZ’, where: ‘X’ indicates the Day, “V” indicates the Session Block, and “Z” indicates the Conference Session Room. Conference Session Rooms are as follows: A = Chicago Ballroom A; B = Chicago Ballroom B; C = Chicago Ballroom C; D = Chicago Ballroom D; E = Chicago Ballroom E; F = Chicago Ballroom F; G = Chicago Ballroom G; H = Chicago Ballroom H; J = Cook; K = Denver; L = Dupage; M = Houston; N = Kane; O = Los Angeles; P = McHenry; Q = Miami; R = Chicago Ballroom Foyer; S = Chicago Ballroom A/B/C/D/E; TC1 = Old Town; TC2 = River North; TC3 = Printers Row; TC4 = Lakeview; TC5 = Kansas City; TC6 = Scottsdale; TC7 = Wrigleyville; TC8 = Streeterville; TC9 = Halsted; TCA = Water Tower; TCB = O’Hare. The TC designations are the Technical Committee session references.

SUNDAY, JULY 27, 2008

Block 0.1: Sunday, July 27 (9:00 am – 11:30 am)
0.1D (TW-2-1) ANSYS WORKSHOP: RAPID STRUCTURAL ANALYSIS FOR PRESSURE VESSEL DESIGN

Block 0.2: Sunday, July 27 (1:00 pm – 3:30 pm)
0.2D (TW-2-2) ANSYS WORKSHOP: MODELING FLUID STRUCTURE INTERACTION

Block 0.3: Sunday, July 27 (4:00 pm – 6:00 pm)
0.3E (TW-1-1) SPECIAL TUTORIAL: THE ENGINEER IN THE WITNESS CHAIR

MONDAY, JULY 28, 2008

Block 1.1: Monday, July 28 (8:30 am – 10:15 am)
1.1F (MF-2-1) APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—1
1.1G (MF-5-1) WELDING, RESIDUAL STRESS 1
1.1H (MF-7-1) FITNESS FOR SERVICE AND FAILURE ASSESSMENT
1.1J (CS-12-1) RECENT DEVELOPMENTS IN EUROPEAN CODES AND STANDARDS—1
1.1K (FSI-3-1) PARTICLE-BASED SIMULATION APPROACHES
1.1L (DA-12-1) ELEVATED TEMPERATURE DESIGN
1.1M (OAC-4-1) THERMAL—1
1.1N (CS-4-1) ENVIRONMENTAL FATIGUE AND FRACTURE TOUGHNESS—II
1.1O (MF-8-1) MATERIALS FOR NUCLEAR REACTOR APPLICATIONS
1.1P (CT-2-1) DESIGN AND ANALYSIS OF BFJ-I
1.1Q (DA-9-1) THERMAL STRESSES IN PIPING AND VESSELS
1.1R (MF-21-1) NDE DEMONSTRATION FORUM—PART 1

Block 1.2: Monday, July 28 (10:30 am – 12:15 pm)
1.2R (MF-21-2) NDE DEMONSTRATION FORUM—PART 2
1.2S PVP OPENING CEREMONY AND PLENARY SESSION

Block 1.3: Monday, July 28 (2:00 pm – 3:45 pm)
1.3A (DA-3-2) DESIGN AND ANALYSIS OF COMPONENTS
1.3B (FSI-2-1) THERMAL-HYDRAULIC PHENOMENA AND INTERACTIONS WITH VESSELS, PIPING, AND COMPONENTS
1.3C (OAC-6-1) LNG SERVICE EXPERIENCES
1.3D (DA-4-1) REACTOR PRESSURE VESSEL—1
1.3E (TW-1-2) TECHNICAL TUTORIAL—IA: RECENT DEVELOPMENTS IN ANALYSIS AND DESIGN OF PIPING FOR SEISMIC LOADS
1.3F (MF-2-2) APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—2
1.3G (MF-5-2) WELDING, RESIDUAL STRESS 2
1.3H (MF-15-1) ELEVATED FRACTURE I
1.3J (CS-11-1) FRACTURE AND FATIGUE FLAW ASSESSMENT OF JAPANESE WES 2805 RULE
1.3K (NDE-2-1) RECENT TECHNOLOGIES FOR DAMAGE EVALUATION
1.3L (CS-6-1) EMERGING CODES AND STANDARDS
1.3M (OAC-8-1) AGING MANAGEMENT AND LIFE EXTENSION I
1.3N (CS-4-2) ENVIRONMENTAL FATIGUE AND FRACTURE TOUGHNESS—II
1.3O (MF-8-2) MATERIALS DATA COLLABORATION AND USE FOR NUCLEAR REACTOR DEVELOPMENT I
1.3P (CT-2-2) DESIGN AND ANALYSIS OF BFJ-II
1.3Q (DA-2-1) DESIGN AND ANALYSIS OF PRESSURE VESSELS, HEAT EXCHANGERS AND COMPONENTS—1
1.3R (MF-21-3) NDE DEMONSTRATION FORUM—PART 3

Block 1.4: Monday, July 28 (4:00 pm – 5:45 pm)
1.4A (DA-3-3) DESIGN AND ANALYSIS OF COMPONENTS
1.4B (FSI-2-3) THERMAL-HYDRAULIC PHENOMENA AND INTERACTIONS WITH VESSELS, PIPING, AND COMPONENTS
1.4C (OAC-2-1) QUALIFICATION-MATERIAL-TESTING AND INTEGRITY
1.4D (DA-4-2) REACTOR PRESSURE VESSEL—2
1.4E (TW-1-3) TECHNICAL TUTORIAL—IB: RECENT DEVELOPMENTS IN ANALYSIS AND DESIGN OF PIPING FOR SEISMIC LOADS
1.4F (MF-2-3) APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—3
1.4G (MF-5-3) WELDING, RESIDUAL STRESS 3
1.4H (FSI-4-1) FORUM ON FLUID TRANSIENTS, PAPERS
1.4J (CS-11-2) DESIGN, INSPECTION AND INTEGRITY EVALUATION IN JAPANESE AND KOREAN CODES
1.4K (NDE-2-2) NEW NDE APPLICATIONS I
1.4L (CS-2-1) STRUCTURAL INTEGRITY OF PRESSURE COMPONENTS
1.4M (OAC-7-1) CONTINUED SAFE OPERATION OF PIPING AND PIPING SUPPORTS
TUESDAY, JULY 29, 2009

Block 2.1: Tuesday, July 29 (8:30 am – 10:15 am)
2.1E (NDE-3-1) SPENCER H. BUSH MEMORIAL LECTURE
2.1F (MF-16-1) STRUCTURAL INTEGRITY OF PIPELINES AND PRESSURE VESSELS—1
2.1G (MF-5-4) WELDING, RESIDUAL STRESS 4
2.1H (FSI-5-1) FLUID STRUCTURAL INTERACTION AND SLOSHING: GENERAL INTERACTION
2.1J (CS-7-1) ASME CODE SECTION XI ACTIVITIES—1
2.1K (SPC-1-1) STUDENT PAPER COMPETITION 1-BS/MS LEVEL
2.1L (CS-3-1) FATIGUE ISSUES IN PRESSURE VESSELS—I
2.1M (OAC-4-3) STRUCTURAL—ANALYSIS
2.1N (DA-4-3) REACTOR PRESSURE VESSEL—3
2.1O (MF-17-1) SMALL-SCALE AND MINIATURE MECHANICAL TESTING
2.1P (HP-1-1) DESIGN & ANALYSIS
2.1Q (CT-4-1) ASSEMBLY OF BOLTED JOINTS I
2.1R (CT-16-1) PVP SOFTWARE DEMONSTRATION FORUM—PART 1

Block 2.2: Tuesday, July 29 (10:30 am – 12:15 pm)
2.2A (DA-3-4) DESIGN AND ANALYSIS OF PIPING AND PIPING COMPONENTS
2.2B (FSI-3-2) FLUID FLOW AND FLEXIBLE CONFINEMENTS
2.2C (OAC-6-2) FFS ASSESSMENT APPLICATION
2.2D (DA-4-4) REACTOR PRESSURE VESSEL—4
2.2E (NDE-6-1) BS + 30 : THE NEW PARADIGM FOR ENGINEERING LICENSURE IN THE US
2.2F (MF-2-4) APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—4
2.2G (MF-5-5) WELDING, RESIDUAL STRESS 5
2.2H (MF-4-1) MATERIALS FOR HYDROGEN SERVICE—I
2.2J (CS-7-2) ASME CODE SECTION XI ACTIVITIES—2
2.2K (SPC-1-2) STUDENT PAPER COMPETITION 2-PH.D. LEVEL
2.2L (CS-3-2) FATIGUE ISSUES IN PRESSURE VESSEL DESIGN—II
2.2M (OAC-8-2) AGING MANAGEMENT AND LIFE EXTENSION II
2.2N (SE-11-1) COMPOSITE MATERIALS AND STRUCTURES
2.2O (CT-4-2) ASSEMBLY OF BOLTED JOINTS II
2.2P (HP-2-1) FE METHODOLOGY IN MATERIAL DEVELOPMENT
2.2Q (CT-4-3) STATUS REPORT—IMPROVEMENTS TO ASME PCC-1-2000—GUIDELINES FOR PRESSURE BOUNDARY BOLTED FLANGE JOINT ASSEMBLY

Block 2.3: Tuesday, July 29 (2:00 pm – 3:45 pm)
2.3A (DA-3-4) COMPOSITE MATERIALS AND STRUCTURES
2.3B (FSI-3-3) FLUID FLOW AROUND SLENDER STRUCTURES
2.3C (OAC-6-3) REPAIR STRATEGY—1
2.3D (DA-4-5) ASSESSMENT OF COMPONENTS—1
2.3E (TW-1-4) TECHNICAL TUTORIAL—IIB: APPLICATIONS OF THE ASME CODE TO RADIOACTIVE MATERIALS PACKAGING
2.3F (MF-2-5) APPLICATIONS OF FRACTURE MECHANICS—5: FLAW EVALUATION USING THE MASTER CURVE
2.3G (MF-5-6) WELDING, RESIDUAL STRESS 6
2.3H (MF-4-2) MATERIALS FOR HYDROGEN SERVICE—II
2.3J (CS-7-3) ASME CODE SECTION XI ACTIVITIES—3
2.3K (SPC-1-3) STUDENT PAPER COMPETITION 3-PH.D. LEVEL
2.3L (CS-19-1) ASSESSMENT OF CONSTRAINT CONDITIONS IN ISO/DIS PROCEDURE AND FITNET PROCEDURE
2.3M (OAC-4-4) DEVELOPMENT AND USE ISSUES
2.3N (SE-11-1) SEISMIC BEHAVIOUR OF SYSTEMS, STRUCTURES AND COMPONENTS
2.3O (MF-14-1) SCC INTEGRITY I—IMPLICATION OF WOLF CREEK CRACKING
2.3P (HP-3-1) FE METHODOLOGY IN MATERIAL DEVELOPMENT
2.3Q (CT-4-3) STATUS REPORT—IMPROVEMENTS TO ASME PCC-1-2000—GUIDELINES FOR PRESSURE BOUNDARY BOLTED FLANGE JOINT ASSEMBLY
2.3R (CT-16-3) PVP SOFTWARE DEMONSTRATION FORUM—PART 3

Block 2.4: Tuesday, July 29 (4:00 pm – 5:45 pm)
2.4A (DA-7-2) COMPOSITE MATERIALS AND STRUCTURES
2.4B (FSI-3-4) TUBE BUNDLE VIBRATION
2.4C (OAC-3-1) MONITORING, DIAGNOSTIC AND INSPECTIONS
2.4D (DA-4-6) ASSESSMENT OF COMPONENTS—2
2.4E (TW-1-5) TECHNICAL TUTORIAL—IIB: APPLICATIONS OF THE ASME CODE TO RADIOACTIVE MATERIALS PACKAGING
2.4F (MF-2-6) APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—6
2.4G (MF-15-2) ELEVATED FRACTURE II
2.4H (MF-12-1) MECHANISTIC MATERIALS MODELING INCLUDING LOCAL APPROACHES 1
2.4J (CS-8-1) RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS
2.4K (CT-10-1) RECENT DEVELOPMENT OF PRESSURE EQUIPMENT STANDARD IN CHINA—I
2.4L (CS-19-2) ASSESSMENT OF CONSTRAINT INCORPORATING RESIDUAL STRESS AND STRENGTH MIS-MATCH
2.4M (OAC-1-1) FAILURE ASSESSMENTS OF CRACKS
2.4N (SE-12-1) SEISMIC BEHAVIOUR OF STORAGE TANKS AND
Thursday, July 31, 2008

Block 4.1: Thursday, July 31 (8:30 am – 10:15 am)

4.1E (TW-1-6) TECHNICAL TUTORIAL—IIIA: AUTOMATED ULTRASONIC TESTING VS. RADIOGRAPHY (AUT VS. RT)
4.1F (MF-11-2) STRUCTURAL INTEGRITY FOR PIPES WITH WALL THINNING CAUSED BY FAC
4.1G (MF-5-9) WELDING, RESIDUAL STRESS 9
4.1H (MF-13-1) ASSESSMENT OF MULTIPLE AND COMPLEX FLAWS
4.1J (CS-16-1) RATCHETTING ISSUES IN PRESSURE VESSEL DESIGN
4.1K (FSI-3-5) TURBOMACHINERY
4.1L (CS-9-1) PIPE DESIGN, STRENGTH AND WALL THINNING IN KOREAN AND JAPANESE CODES
4.1M (OAC-9-1) REGULATORY AND CODE CONSIDERATIONS FOR TRANSPORTATION AND STORAGE OF RADIOACTIVE MATERIALS
4.1N (SE-9-1) EXPERIMENTAL AND ANALYTICAL STUDIES IN SYSTEMS INTERACTION I
4.1O (MF-20-1) INTEGRATION OF ROBUST DESIGN METHODOLOGY WITH NDE AND WEB-BASED MONITORING
4.1P (CT-12-1) NEW AND EMERGING METHODS OF ANALYSIS AND APPLICATIONS

Block 4.2: Thursday, July 31 (10:30 am – 12:15 pm)

4.2A (DA-6-1) STRESS CLASSIFICATION AND DESIGN-BY-ANALYSIS METHODOLOGIES
4.2B (FSI-6-1) IMPACT AND PENETRATION
4.2C (OAC-6-4) REPAIR STRATEGY—2
4.2D (DA-14-1) DESIGN & STRESS ANALYSIS OF PVP FLANGES
4.2E (TW-1-7) TECHNICAL TUTORIAL—IIIB: AUTOMATED ULTRASONIC TESTING VS. RADIOGRAPHY (AUT VS. RT)
4.2F (MF-16-3) STRUCTURAL INTEGRITY OF PIPELINES AND PRESSURE VESSELS—3
4.2G (MF-5-10) WELDING, RESIDUAL STRESS 10
4.2H (MF-9-1) GRAPHITE TECHNOLOGY FOR NUCLEAR POWER APPLICATIONS
4.2J (CS-12-3) RECENT DEVELOPMENTS IN EUROPEAN CODES AND STANDARDS-3
4.2K (FSI-3-6) SHOCK WAVE APPLICATIONS
4.2L (CS-9-2) PROBABILISTIC ASSESSMENT FOR DEGRADED PIPING FOR KOREAN AND JAPANESE CODES
4.2M (OAC-4-5) THERMAL—2
4.2N (SE-9-2) EXPERIMENTAL AND ANALYTICAL STUDIES IN SYSTEMS INTERACTION II
4.2O (MF-20-2) INTEGRATION OF FRACTURE MECHANICS, FATIGUE MECHANICS, AND NDE
4.2P (DA-4-10) LOOSENING OF FASTENERS

Wednesday, July 30, 2008

Block 3.1: Wednesday, July 30 (8:30 am – 10:15 am)

3.1E (DA-4-9) FATIGUE—1
3.1F (FSI-4-2) FORUM ON FLUID TRANSIENTS
3.1G (MF-5-7) WELDING, RESIDUAL STRESS 7
3.1H (MF-12-2) MECHANISTIC MATERIALS MODELING INCLUDING LOCAL APPROACHES 2
3.1I (CS-12-2) RECENT DEVELOPMENTS IN EUROPEAN CODES AND STANDARDS—2
3.1J (CS-12-2) RECENT DEVELOPMENTS IN EUROPEAN CODES AND STANDARDS—2
3.1K (NDE-4-1) CURRENT EFFORTS IN THE LICENSE RENEWAL AND LIFE EXTENSION AREAS
3.1L (CS-5-1) INTERACTION AND MODELING FOR MULTIPLE FLAWS (1)
3.1M (OAC-8-3) AGING MANAGEMENT AND LIFE EXTENSION III
3.1N (SE-5-1) STRUCTURAL DYNAMICS (LINEAR AND NONLINEAR)
3.1O (MF-6-2) EUROPEAN PROGRAMS IN STRUCTURAL INTEGRITY—I
3.1P (HP-5-1) PAPER/PANEL SESSION ON DESIGN AND ANALYSIS OF IMPULSIVELY LOADED VESSELS
3.1Q (CT-5-1) THREADING FASTENERS

Block 3.2: Wednesday, July 30 (10:30 am – 12:15 pm)

3.2E (DA-19-1) STATUS OF NEW NUCLEAR PLANT CONSTRUCTION PROJECTS IN USA
3.2F (MF-16-2) STRUCTURAL INTEGRITY OF PIPELINES AND PRESSURE VESSELS—2
3.2G (MF-5-8) WELDING, RESIDUAL STRESS 8
3.2H (MF-12-3) MECHANISTIC MATERIALS MODELING INCLUDING LOCAL APPROACHES 3
3.2I (CS-15-1) API 579/ASME CODE FITNESS-FOR-SERVICE ACTIVITIES
3.2J (CS-10-2) RECENT DEVELOPMENT IN NEW ENERGY PRESSURE EQUIPMENT IN CHINA—I
3.2K (CS-10-2) RECENT DEVELOPMENT IN NEW ENERGY PRESSURE EQUIPMENT IN CHINA—I
3.2L (CS-5-2) INTERACTION AND MODELING FOR MULTIPLE FLAWS (2)
3.2M (OAC-1-5) COUNTERFEIT/SUBSTANDARD INDUSTRIAL PARTS AND MATERIALS, AND THEIR IMPACT ON SAFETY AND RELIABILITY
3.2N (SE-6-1) SEISMIC ASSESSMENT OF LIFELINE SYSTEMS
3.2O (MF-14-2) SCC INTEGRITY 2
3.2P (HP-5-2) PANEL SESSION ON IMPULSIVELY LOADED VESSELS
3.2Q (CT-5-2) LOOSENING OF FASTENERS

Block 3.3: Wednesday, July 30 (2:30 pm – 5:00 pm)

3.3E (DA-19-1) STATUS OF NEW NUCLEAR PLANT CONSTRUCTION PROJECTS IN USA
3.3F (MF-16-2) STRUCTURAL INTEGRITY OF PIPELINES AND PRESSURE VESSELS—2
3.3G (MF-5-8) WELDING, RESIDUAL STRESS 8
3.3H (MF-12-3) MECHANISTIC MATERIALS MODELING INCLUDING LOCAL APPROACHES 3
3.3I (CS-15-1) API 579/ASME CODE FITNESS-FOR-SERVICE ACTIVITIES
3.3J (CS-10-2) RECENT DEVELOPMENT IN NEW ENERGY PRESSURE EQUIPMENT IN CHINA—I
3.3K (CS-10-2) RECENT DEVELOPMENT IN NEW ENERGY PRESSURE EQUIPMENT IN CHINA—I
3.3L (CS-5-2) INTERACTION AND MODELING FOR MULTIPLE FLAWS (2)
3.3M (OAC-1-5) COUNTERFEIT/SUBSTANDARD INDUSTRIAL PARTS AND MATERIALS, AND THEIR IMPACT ON SAFETY AND RELIABILITY
3.3N (SE-6-1) SEISMIC ASSESSMENT OF LIFELINE SYSTEMS
3.3O (MF-14-2) SCC INTEGRITY 2
3.3P (HP-5-2) PANEL SESSION ON IMPULSIVELY LOADED VESSELS
3.3Q (CT-5-2) LOOSENING OF FASTENERS
4.2Q (CT-11-1) COMPUTATIONAL MODELS FOR ELASTIC-PLASTIC FEA

Block 4.3: Thursday, July 31 (2:00 pm – 3:45 pm)

4.3A (DA-11-1) VIBRATION, EXPERIMENTAL TECHNIQUES AND COMPUTATIONAL FLUID DYNAMICS IN PRESSURE VESSEL DESIGN

4.3B (FSI-6-2) BLAST AND MEASUREMENTS

4.3C (OAC-5-1) PUMPS AND VALVES

4.3D (DA-14-2) DESIGN & ANALYSIS OF BOLTED CONNECTIONS

4.3E (DA-5-1) INELASTIC AND NONLINEAR ANALYSIS

4.3F (MF-19-1) LEAK BEFORE BREAK ASSESSMENTS

4.3G (MF-5-11) WELDING, RESIDUAL STRESS

4.3J (CS-13-1) HIGH TEMPERATURE CODES AND STANDARDS

4.3K (FSI-3-7) APPLICATIONS IN PRESSURE VESSEL AND PIPING

4.3L (CS-10-3) RECENT DEVELOPMENT OF PRESSURE EQUIPMENT STANDARD IN CHINA

4.3M (OAC-4-8) DESIGN AND FABRICATION ISSUES

4.3N (SE-7-1) SEISMIC ISOLATION

4.3O (MF-20-3) CONTINUOUS WEB-BASED NDE MONITORING AND PVP FAILURE EVENT DATABASES

4.3P (NDE-2-3) NEW NDE APPLICATIONS

Block 4.4: Thursday, July 31 (4:00 pm – 5:45 pm)

4.4B (FSI-5-2) FLUID STRUCTURE INTERACTION AND SLOSHING: SLOSHING AND STRUCTURAL BEHAVIOR

4.4C (OAC-8-4) AGING MANAGEMENT AND LIFE EXTENSION IV

4.4J (CS-14-1) DEVELOPMENT, MODELING AND APPLICATION OF ELEVATED TEMPERATURE MATERIALS

4.4K (FSI-3-8) MULTIPHYSICS

4.4L (CS-10-4) RECENT DEVELOPMENT IN NEW ENERGY PRESSURE EQUIPMENT IN CHINA

4.4M (OAC-1-2) RISK ASSESSMENT OF PIPELINE SYSTEMS

4.4N (SE-3-1) SEISMIC ISOLATION AND PASSIVE VIBRATION CONTROL

4.4P (NDE-5-1) COKE DRUM INSPECTION
DAILY SESSION LISTING

Sessions are arranged in Session Blocks in the format ‘X.VZ’, where: ‘X’ indicates the Day, “V” indicates the Session Block, and “Z” indicates the Conference Session Room. Conference Session Rooms are as follows: A = Chicago Ballroom A; B = Chicago Ballroom B; C = Chicago Ballroom C; D = Chicago Ballroom D; E = Chicago Ballroom E; F = Chicago Ballroom F; G = Chicago Ballroom G; H = Chicago Ballroom H; J = Cook; K = Denver; L = Dupage; M = Houston; N = Kane; O = Los Angeles; P = McHenry; Q = Miami; R = Chicago Ballroom Foyer; S = Chicago Ballroom A/B/C/D/E.

SUNDAY, JULY, 27

July 22, 2008 (9:00 am – 6:30 pm)

SESSION 0.1D (TW-2-1)
Sunday, July 27, 9:00 am – 11:30 am, Chicago Ballroom D, 5th Floor
ANSYS WORKSHOP: RAPID STRUCTURAL ANALYSIS FOR PRESSURE VESSEL DESIGN
Sponsored by: Fluid-Structure Interaction Technical Committee
Presented by: A. Gamboa, Ansys, Inc., Seattle, WA, USA
Developed by: M. E. Nitzel, M. E. Nitzel Engineering Services, Nampa, ID, USA

SESSION 0.3D (TW-2-2)
Sunday, July 27, 1:00 pm – 3:30 pm, Chicago Ballroom D, 5th Floor
ANSYS WORKSHOP: MODELING FLUID STRUCTURE INTERACTION
Sponsored by: Fluid-Structure Interaction Technical Committee
Presented by: H. Vinh, Ansys, Inc., El Dorado Hills, CA, USA
Developed by: M. E. Nitzel, M. E. Nitzel Engineering Services, Nampa, ID, USA

SESSION 0.4E (TW-1-1)
Sunday, July 27, 4:00 pm – 5:45 pm, Chicago Ballroom E, 5th Floor
SPECIAL TUTORIAL: THE ENGINEER IN THE WITNESS CHAIR
Sponsored by: The PVP Division Conference Committee
Presented by: D. Williams, Sharoden Engineering Consultants, P.A., Matthews, NC, USA

MONDAY, JULY, 28

Block 1.1: Monday, July 28 (8:30 am – 10:15 am)

SESSION 1.1F (MF-2-1)
Monday, July 28, 8:30 am – 10:15 am, Chicago Ballroom F, 5th Floor
APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—1
Sponsored by: Materials & Fabrication Committee
Presented by: P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA; Y. Kim, University of South Carolina, Columbia, SC, USA
Developed by: P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA
Chair: P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA
Co-Chair: A.-H. I. Mourad, United Arab Emirates University, Al-Ain, United Arab Emirates

PVP2008-61186: NUMERICAL SIMULATION OF CUP-CONE FRACTURE IN A ROUND TENSILE BAR
Y. Kim, Y. J. Chao, University of South Carolina, Columbia, SC, USA; P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA

PVP2008-61228: COMPARATIVE STUDY OF STRESS CORROSION CRACKING OF 304L AND 316L STAINLESS STEEL IN LOW CONCENTRATION SODIUM HYDROXIDE SOLUTION WITH HIGH TEMPERATURE
G. Jian-ming, L. Jian-jie, J. Yong, T. Jianqun, Nanjing University of Technology, Nanjing, Jiangsu, China

PVP2008-61513: NUMERICAL INVESTIGATION TO EXAMINE THE EFFECT OF INTRODUCING A CRACK IN A RESIDUAL STRESS FIELD
S. Kamel, K. Nikbin, Imperial College London, London, United Kingdom; N. O’Dowd, University of Limerick, Limerick, Ireland

PVP2008-61608: PREDICTION OF CHARACTERISTIC LENGTH AND FRACTURE TOUGHNESS IN DUCTILE-BRITTLE TRANSITION
Z. X. Wang, H. M. Li, Jiangsu University, Zhenjiang, Jiangsu Province, China; Y. J. Chao, University of South Carolina, Columbia, SC, USA; P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA

SESSION 1.1G (MF-5-1)
Monday, July 28, 8:30 am – 10:15 am, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 1
Sponsored by: The PVP Division Conference Committee
Presented by: D. Williams, Sharoden Engineering Consultants, P.A., Matthews, NC, USA

Co-Chair: C. M. Davies, Imperial College London, London, United Kingdom

PVP2008-61200: THE EFFECTS OF PLATE DIMENSIONS ON RESIDUAL STRESSES IN WELDED THIN STEEL PLATES
C. M. Davies, D. Dye, K. Nikbin, Imperial College London, London, United Kingdom; R. Wimpory, HMI, Berlin, Germany

PVP2008-61250: EXPERIMENTAL STUDY ON GIRTH WELDS OF X80 HIGH DEFORMABILITY PIPELINE
X. He, Tubular Goods Research Center of CNPC, Xi’an, China

PVP2008-61348: MEASUREMENT AND MODELLING OF RESIDUAL STRESSES IN FRACTURE TOUGHNESS SPECIMENS EXTRACTED FROM LARGE COMPONENTS
S. Lewis, S. Hossain, D. Smith, C. Truman, Bristol University, Bristol, United Kingdom

PVP2008-61762: DESIGN AND MANUFACTURE OF WELDED PLATE SPECIMENS FOR RESIDUAL STRESS EXPERIMENTS

Chair: C. Truman, Bristol University, Bristol, United Kingdom
Co-Chair: C. M. Davies, Imperial College London, London, United Kingdom

PVP2008-61200: THE EFFECTS OF PLATE DIMENSIONS ON RESIDUAL STRESSES IN WELDED THIN STEEL PLATES
C. M. Davies, D. Dye, K. Nikbin, Imperial College London, London, United Kingdom; R. Wimpory, HMI, Berlin, Germany

PVP2008-61250: EXPERIMENTAL STUDY ON GIRTH WELDS OF X80 HIGH DEFORMABILITY PIPELINE
X. He, Tubular Goods Research Center of CNPC, Xi’an, China

PVP2008-61348: MEASUREMENT AND MODELLING OF RESIDUAL STRESSES IN FRACTURE TOUGHNESS SPECIMENS EXTRACTED FROM LARGE COMPONENTS
S. Lewis, S. Hossain, D. Smith, C. Truman, Bristol University, Bristol, United Kingdom

PVP2008-61762: DESIGN AND MANUFACTURE OF WELDED PLATE SPECIMENS FOR RESIDUAL STRESS EXPERIMENTS

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S. Lewis, S. Hossain, D. Smith, C. Truman, Bristol University, Bristol, United Kingdom

PVP2008-61762: DESIGN AND MANUFACTURE OF WELDED PLATE SPECIMENS FOR RESIDUAL STRESS EXPERIMENTS
P. Hurrell, Rolls-Royce plc, Derby, United Kingdom

SESSION 1.1H (MF-7-1)
Monday, July 28, 8:30 am – 10:15 am, Chicago Ballroom H, 5th Floor
FITNESS FOR SERVICE AND FAILURE ASSESSMENT
Developed by: B. Wiersma, Savannah River National Laboratory, Aiken, SC, USA
Chair: B. Wiersma, Savannah River National Laboratory, Aiken, SC, USA
Co-Chair: M. Cohn, Aptech Engineering Services, Sunnyvale, CA, USA
PVP2008-61227: EFFECT OF HEAT TREATMENT ON CORROSION AND FRACTURE BEHAVIOR OF SPV50Q HIGH STRENGTH STEEL WELDMENT IN H2S-CONTAINING ENVIRONMENT
T. Jianqun, G. Jian-ming, J. Yong, G. Luyang, Nanjing University of Technology, Nanjing, Jiangsu, China
PVP2008-61239: CASE STUDIES OF PULSED EDDY CURRENT TO MEASURE WALL LOSS IN FEEDWATER PIPING AND HEATER SHELLS
M. Cohn, J. Norton, Aptech Engineering Services, Sunnyvale, CA, USA
PVP2008-61245: EVALUATION OF HISTORICAL LONGITUDINAL SEAM WELD FAILURES IN GRADES 11, 12, AND 22 MATERIALS
M. Cohn, S. Paterson, Aptech Engineering Services, Inc., Sunnyvale, CA, USA
PVP2008-61255: SOME ISSUES IN FITNESS FOR SERVICE ASSESSMENT OF WALL THINNED CANDU FEEDER PIPES
J. Jin, R. Awad, S. Eom, Canadian Nuclear Safety Commission, Ottawa, ON, Canada

O. Grisolia, C. D. Site, A. Tonti, ISPESL, Rome, Italy

SESSION 1.1K (FSI-3-1)
Monday, July 28, 8:30 am – 10:15 am, Denver, 5th Floor
PARTICLE-BASED SIMULATION APPROACHES
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: M. Fischer, Technical Consultant, München, Germany; M. Moatamedi, Institute for Materials Research, University of Salford, Manchester, United Kingdom
Chair: M. Fischer, Technical Consultant, München, Germany
Co-Chair: M. Moatamedi, Institute for Materials Research, University of Salford, Manchester, United Kingdom
PVP2008-61042: SELECTION OF OPTIMAL MODELS FOR THE DISCRETE ELEMENT METHOD: THE SINGLE PARTICLE PERSPECTIVE
H. Kruggel-Emden, S. Wirtz, V. Scherer, Ruhr-University Bochum, Bochum, Germany
PVP2008-61041: A NUMERICAL STUDY ON THE SENSITIVITY OF THE DISCRETE ELEMENT METHOD: THE MULTI PARTICLE PERSPECTIVE
H. Kruggel-Emden, S. Wirtz, V. Scherer, Ruhr-University Bochum, Bochum, Germany; S. Rickelt, Department of Energy Plant Technology, Bochum, Germany
PVP2008-61522: A NEW APPROACH TO SIMULATE TRANSIENT HEAT TRANSFER WITHIN THE DISCRETE ELEMENT METHOD
S. Rickelt, S. Wirtz, V. Scherer, Ruhr-Universitaet Bochum, Bochum, NRW, Germany
PVP2008-61023: COUPLED FINITE ELEMENT BASED LATTICE BOLTZMANN EQUATION AND STRUCTURAL FINITE ELEMENTS FOR FLUID-STRUCTURE INTERACTION APPLICATION
Y. Kwon, Naval Postgraduate School, Monterey, CA, USA; J. C. Jo, Korea Institute of Nuclear Safety, Daejon, Korea (Republic)

SESSION 1.1J (CS-12-1)
Monday, July 28, 8:30 am – 10:15 am, Cook, 3rd Floor
RECENT DEVELOPMENTS IN EUROPEAN CODES AND STANDARDS—1
Sponsored by: Codes and Standards Committee
Developed by: B. Dogan, EPRI, Charlotte, NC, USA
Chair: B. Dogan, EPRI, Charlotte, NC, USA
Co-Chair: M. Brumovsky, Nuclear Research Institute Rez plc, Rez, Czech Republic
PVP2008-61315: ASSESSMENT AND TEST OF THE CREEP-FATIGUE CRACK BEHAVIOR FOR A HIGH TEMPERATURE COMPONENT
H.-Y. Lee, J.-H. Lee, Korea Atomic Energy Research Institute, Daejeon, Korea (Republic); K. Nikbin, Department of Mechanical Engineering, Imperial College London, London, United Kingdom
PVP2008-61428: CREEP DAMAGE, DUCTILITY AND EXPECTED LIFE FOR MATERIALS WITH DEFECTS
P. Auerkari, S. Holmström, J. Rantala, J. Salonen, VTT, Espoo, Finland
PVP2008-61527: RECENT DEVELOPMENTS OF RCC-MR CODE FOR HIGH TEMPERATURE REACTOR AND ITER PROJECTS
O. Gelineau, C. Escaravage, D. Bonne, Areva NP, Lyon, France; M. Sperandio, Secretary of AFCEN RCC-MR Committee, Lyon, France; B. Drubay, CEA, Gif-sur-Yvette, France
PVP2008-61678: NEW ITALIAN STANDARDS FOR CREEP-OPERATED PRESSURE EQUIPMENT
O. Grisolia, C. D. Site, A. Tonti, ISPESL, Rome, Italy

SESSION 1.1L (DA-12-1)
Monday, July 28, 8:30 am – 10:15 am, Dupage, 3rd Floor
ELEVATED TEMPERATURE DESIGN
Sponsored by: Design and Analysis Committee
Developed by: W. Koves, UOP LLC, Des Plaines, IL, USA; T. McGreevy, ETD, Washington, IL, USA
Chair: W. Koves, UOP LLC, Des Plaines, IL, USA
Co-Chair: J. Abou-Hanna, Bradley University, Peoria, IL, USA
PVP2008-61437: DETERMINATION OF CREEP PROPERTIES FROM SMALL PUNCH TEST
Y. Li, KEMA Nederland BV, Arnhem, Gelderland, Netherlands
PVP2008-61579: COMPARISON OF ISOCRONOUS METHOD AND TIME-EXPLICIT MODEL FOR CREEP ANALYSIS
M. Zhao, UOP, A Honeywell Company, Des Plaines, IL, USA; W. Koves, UOP LLC, Des Plaines, IL, USA
PVP2008-61408: CRACK INITIATION PROCESS FOR SEMI-CIRCULAR NOTCHED PLATE IN FATIGUE TEST AT ELEVATED TEMPERATURE
O. Watanabe, B. Bubphachot, University of Tsukuba, Tsukuba, Ibaraki, Japan; N. Kawasaki, Japan Atomic Energy Agency, Ibaraki, Japan; N. Kasahara, University of Tokyo, Tokyo, Japan
R. Kurosawa, Yokogawa Electric Corporation, Koufu, Yamanashi, Japan; T. Sawa, Y. Tatsumi, Hiroshima University, Higashihiroshima, Hiroshima, Japan; S. Nagata, Toyo Engineering Corporation, Narashino, Japan

PVP2008-61952: EFFECT OF HOBT TEST PARAMETERS ON EXPANDED PTFE GASKETS (Presentation Only)

W. Lee, Inertech, Inc., Monterey Park, CA, USA; H. Bouzid, Ecole de Technologie Superieure, Montreal, QC, Canada; J. Huang, Inertech Inc., Monterey Park, CA, USA

SESSION 1.1Q (DA-9-1)
Monday, July 28, 8:30 am – 10:15 am, Miami, 5th Floor
THERMAL STRESSES IN PIPING AND VESSELS
Sponsored by: Design and Analysis Committee
Developed by: A. Segall, The Pennsylvania State University, University Park, PA, USA
Chair: S. Iyer, Atomic Energy of Canada Limited, Mississauga, ON, Canada
Co-Chair: J. McCabe

PVP2008-61174: FATIGUE AND CRACK GROWTH ANALYSIS OF A THICK INSTRUMENTATION RING SUBJECTED TO THERMAL FATIGUE CYCLING
R. S. Piehler, T. Damiani, Bechtel Bettis, Inc., West Mifflin, PA, USA

PVP2008-61225: SPECTRA THERMAL FATIGUE TESTS UNDER FREQUENCY CONTROLLED FLUID TEMPERATURE VARIATION—SUPERPOSED SINUSOIDAL TEMPERATURE FLUCTUATION TESTS
N. Kawasaki, S. Kobayashi, S. Hasebe, Japan Atomic Energy Agency, Ibaraki, Japan; H. Takasho, Joyo Industries Ltd, Ibaraki, Ibaraki, Japan; N. Kasahara, University of Tokyo, Tokyo, Japan

PVP2008-61824: THOUGHTS ON THE DECONVOLUTION OF THERMAL—AND STRESS-STATES FROM TRANSIENT HISTORIES
A. Segall, The Pennsylvania State University, University Park, PA, USA

SESSION 1.1R (MF-21-1)
Monday, July 28, 8:30 am – 10:15 am, Chicago Ballroom Foyer, 5th Floor
NDE DEMONSTRATION FORUM—PART 1
Sponsored by: PVP Senate, Materials and Fabrication Technical Committee and ASME NDE Engineering Division

Block 1.2: Monday, July 28 (10:30 am – 12:15 pm)

SESSION 1.2R (MF-21-2)
Monday, July 28, 10:30 am – 12:15 pm, Chicago Ballroom Foyer, 5th Floor

PVP2008-61549: NUMERICAL ANALYSES OF SURGE LINE PIPING TO ASSESS THERMAL STRATIFICATION PHENOMENON
S.-W. Woo, S.-B. Choi, Y.-S. Chang, J.-B. Choi, Y.-J. Kim, Sungkyunkwan University, Suwon, Gyeonggi-do, Korea (Republic); J. H. Lee, J.-S. Kim, H.-D. Chung, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic)

PVP2008-61636: LOAD AND RESISTANCE FACTOR DESIGN FOR NUCLEAR PIPES: BENEFITS AND CHALLENGES
K. Arthiti, University of Maryland, College Park, MD, USA

PVP2008-61642: DEVELOPMENT AND VALIDATION OF ANALYSIS METHOD FOR SIMULATING RESIDUAL STRESSES IN DISSIMILAR METAL PIPE BUTT WELDS
D. E. Killian, S. Mahmoud, AREVA NP Inc, Lynchburg, VA, USA
SESSION 1.3B (FSI-2-1)
Monday, July 28, 2:00 pm – 3:45 pm, Chicago Ballroom B, 5th Floor
THERMAL-HYDRAULIC PHENOMENA AND INTERACTIONS WITH VESSELS, PIPING, AND COMPONENTS
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: F. Moody, Consultant, Murphys, CA, USA
PVP2008-61203: A STUDY ON VIBRATION CONTROL FOR REHEATER SPRAY PIPING
PVP2008-61318: EXPERIMENTAL STUDY OF ACOUSTIC AND FLOW-INDUCED VIBRATIONS IN BWR MAIN STEAM LINES AND STEAM DRYERS
S. Takahashi, Hitachi, Ltd. Power & Industrial Systems R & D Laboratory, Hitachi-shi, Ibaraki, Japan; M. Ohtsuka, K. Okuyama, Hitachi, Ltd., Hitachi, Japan; T. Ito, K. Yoshikawa, Hitachi-GE Nuclear Energy, Ltd., Hitachi, Japan
PVP2008-61010: STEAM PIPE RUPTURE FORCE ON VESSEL INTER- NALS
F. Moody, Consultant, Murphys, CA, USA
PVP2008-61164: THE STUDY ON THE IMPACT OF FSI ON THE FUEL ASSEMBLY DESIGN OPTIMIZATION
K.-T. Kim, Y.-K. Jang, J.-I. Kim, Korea Nuclear Fuel, Daejeon, Korea (Republic)
SESSION 1.3C (OAC-6-1)
Monday, July 28, 2:00 pm – 3:45 pm, Chicago Ballroom C, 5th Floor
LNG SERVICE EXPERIENCES
Sponsored by: Operations, Applications, and Components Committee
Developed by: A. Cheta, Shell Global Solutions (USA), Inc., Houston, TX, USA; T. Tahara, Petroleum Association of Japan, Tokyo, Japan
Chair: D. Martens, Black & Veatch, Overland Park, KS, USA
Co-Chair: T. Tahara, Petroleum Association of Japan, Tokyo, Japan
PVP2008-61620: DISCUSSION OF ISSUES RELATED TO SURGE IN LNG PIPELINES AT OFFLOADING TERMINALS
S. McGuffie, Porter McGuffie, Inc., Lawrence, KS, USA
PVP2008-61614: THE STUDY ON THE IMPACT OF FSI ON THE FUEL ASSEMBLY DESIGN OPTIMIZATION
K.-T. Kim, Y.-K. Jang, J.-I. Kim, Korea Nuclear Fuel, Daejeon, Korea (Republic)
SESSION 1.3D (DA-4-1)
Monday, July 28, 2:00 pm – 3:45 pm, Chicago Ballroom D, 5th Floor
REACTOR PRESSURE VESSEL—1
Sponsored by: Design and Analysis Committee
Developed by: D. Moinereau, Electricité de France—EDF R&D—Département MMC, Moret-sur-Loing, France
Chair: M. Brumovsky, Nuclear Research Institute Rez plc, Rez, Czech Republic
Co-Chair: D. Siegele, Fraunhofer Institut für Werkstoffmechanik, Freiburg, Germany
PVP2008-61025: REMARKS TO THE UPPER SHELF MASTER CURVE CONCEPT
J. Novak, Nuclear Research Institute Rez, Rez, Czech Republic
PVP2008-61234: MODELLING MIXED MODE BRITTLE CRACK PROPAGATION IN A PWR VESSEL STEEL
Benoit Prabel, S. Marie, CEA, Gif-sur-Yvette, France; A. Combescure, LaMCoS, Lyon, France
PVP2008-61650: INSIGHTS AND OBSERVATIONS ARISING FROM CURVE-FITTING THE CHARPY V-NOTCH AND TENSILE DATA CONTAINED WITHIN THE UNITED STATES’ LIGHT WATER REACTOR SURVEILLANCE DATABASE
M. Ericksonkirk, A. Shaikh, Nuclear Regulatory Commission, Rockville, MD, USA; M. EricksonKirk, Phoenix Engineering Associates Inc., Rockville, MD, USA
SESSION 1.3E (TW-1-2)
Monday, July 28, 2:00 pm – 3:45 pm, Chicago Ballroom E, 5th Floor
TECHNICAL TUTORIAL: RECENT DEVELOPMENTS IN ANALYSIS AND DESIGN OF PIPING FOR SEISMIC LOADS—I
Sponsored by: The PVP Division Conference Committee
Presented by: A. Gupta, V. C. Matzen, North Carolina State University, Raleigh, NC, USA
SESSION 1.3F (MF-2-2)
Monday, July 28, 2:00 pm – 3:45 pm, Chicago Ballroom F, 5th Floor
APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESS- MENT—2
Sponsored by: Materials & Fabrication Committee
Developed by: P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA; Y. Kim, University of South Carolina, Columbia, SC, USA
Chair: P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA
Co-Chair: Y.J. Chao, University of South Carolina, Columbia, SC, USA
PVP2008-61055: THE STRESS DISTRIBUTION AHEAD OF A TAPERED CRACK
E. Smith, Manchester University School of Materials, Manchester, United Kingdom
PVP2008-61303: ASSESSMENT OF THE EFFECT OF THE NOTCH RADIUS ON DUCTILE STABLE CRACK GROWTH
A.-H. I. Mourad, United Arab Emirates University, Al-Ain, United Arab Emirates
PVP2008-61800: A GENERALIZED ANISOTROPIC HARDENING RULE BASED ON THE MROZ MULTI-YIELD-SURFACE MODEL
K. S. Choi, Pacific Northwest National Laboratory, Richland, WA, USA; J. Pan, University of Michigan, Ann Arbor, MI, USA

PVP2008-61162: DEVELOPMENT OF SIMPLIFIED PLASTIC COLLAPSE ASSESSMENT PROCEDURE FOR ELBOW WITH SURFACE FLAW SIMULTANEOUSLY SUBJECTED TO INTERNAL PRESSURE AND EXTERNAL BENDING MOMENT
K. Oyamada, The High Pressure Gas Safety Institute of Japan/Graduate School of Ibaraki University, Japan; Tokyo, Japan; S. Konosu, Ibaraki University, Hitachi, Ibaraki, Japan

SESSION 1.3G (MF-5-2)
Monday, July 28, 2:00 pm – 3:45 pm, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 2
Developed by: P. Dong, Battelle Memorial Institute, Columbus, OH, USA; A. Sherry, The University of Manchester, Manchester, United Kingdom
Chair: L. Fredette, Battelle Memorial Institute, Columbus, OH, USA
Co-Chair: P. M. Scott, Battelle Memorial Institute, Columbus, OH, USA
PVP2008-61148: WELDING RESIDUAL STRESS ANALYSIS USING AXISYMMETRIC MODELING FOR SHROUD SUPPORT STRUCTURE
K. Ogawa, Japan Nuclear Energy Safety Organization, Tokyo, Japan; Y. Okuda, T. Saito, T. Hayashi, R. Sumiya, Toshiba Corporation, Yokohama, Japan
PVP2008-61170: NUMERICAL MODELLING OF RESIDUAL STRESS AND DISTORTION IN WELDED THIN STEEL PLATES
M. Tsunori, C. M. Davies, D. Dye, K. Nikbin, Imperial College London, London, United Kingdom
PVP2008-61247: WELD RESIDUAL STRESS AND DISTORTION ANALYSIS OF THE ARES I-X UPPER STAGE SIMULATOR (USS)
F. W. Brust, Jr., Engineering Mechanics Corp. of Columbus, Columbus, OH, USA; I. Raju, NASA Langley Research Center, Hampton, VA, USA; N. Knight, D. Dawicke, D. Phillips; C. Derrick, NASA GRC, Cleveland, OH, USA
PVP2008-61285: WELDING RESIDUAL STRESS SOLUTIONS FOR SIMILAR METAL SURGE LINE NOZZLES WELDS
D. Rudland, T. Zhang G. M. Wilkowski, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; A. Csontos, US NRC, Washington, DC, USA

SESSION 1.3H (VF-15-1)
Monday, July 28, 2:00 pm – 3:45 pm, Denver, 5th Floor
ELEVATED FRACTURE I
Developed by: N. O’Dowd, University of Limerick, Limerick, Ireland; B. Dogan, EPRI, Charlotte, NC, USA
Chair: T. Ogata, CRIEPI, Tokyo, Japan
Co-Chair: B. Dogan, EPRI, Charlotte, NC, USA
PVP2008-61088: APPLICATION OF THE ELECTRICAL POTENTIAL DROP TECHNIQUE TO THE PIPE WALL THINNING MONITORING IN THERMAL POWER PLANTS
Y. Kayamori, T. Inoue, Nippon Steel Corporation, Futsu, Chiba, Japan; H. Hirama, Kawasaki Heavy Industries Ltd., Akashi, Hyogo, Japan; K. Michiba, Kawasaki Heavy Industries, Ltd., Kobe, Hyogo, Japan; S. Aihara, The University of Tokyo, Bunkyo-ku, Tokyo, Japan; Y. Hagihara, Sophia University, Tokyo, Tokyo, Japan
PVP2008-61259: TRANSFORMATION OF BS7448-CTOD TO ASTM E1290-CTOD
Y. Kayamori, T. Inoue, Nippon Steel Corporation, Futsu, Chiba, Japan; T. Tagawa, Nago University, Nago, Aichi, Japan

SESSION 1.3K (ND-2-1)
Monday, July 28, 2:00 pm – 3:45 pm, Denver, 5th Floor
RECENT TECHNOLOGIES FOR DAMAGE EVALUATION
Sponsored by: NDE Engineering
Developed by: N. Tada, Okayama University, Okayama, Japan; S. Hamada, Tokyo Electric Power Company, Tokyo, Japan
PVP2008-61088: APPLICATION OF THE ELECTRICAL POTENTIAL DROP TECHNIQUE TO THE PIPE WALL THINNING MONITORING IN THERMAL POWER PLANTS
L. Esposito, N. Bonora, University of Cassino, Cassino, Italy

PVP2008-61386: A COMPARATIVE STUDY OF A SINGLE DAMAGE-PARAMETER LIFE PREDICTION METHOD AND A PHYSICALLY-BASED DAMAGE MECHANICS METHOD
S. Leen, W. Sun, Univ. of Nottingham, Nottingham, United Kingdom; T. Hyde, S. Peravali, Eon UK, Nottingham, United Kingdom
PVP2008-61415: CREEP-ENVIRONMENT INTERACTIONS OF ALLOY 617 AT ELEVATED TEMPERATURE
D. Kim, C. Jang, KAIST, Daejeon, Korea (Republic); W. S. Ryu, KAERI, Daejeon, Korea (Republic)
PVP2008-61519: DAMAGE EVOLUTION AND LIFE PREDICTION OF A P91 LONGITUDINAL WELDED TUBE UNDER INTERNAL PRESSURE CREEP
T. Ogata, T. Sakai, M. Yaguchi, CRIEPI, Tokyo, Japan

SESSION 1.3J (VF-11-1)
Monday, July 28, 2:00 pm – 3:45 pm, Cook, 3rd Floor
FRACTURE AND FATIGUE FLAW ASSESSMENT OF JAPANESE WES 2805 RULE
Sponsored by: Codes and Standards Committee
Developed by: K. Hasegawa, JNES, Tokyo, Japan; H. Machida, Tepco Systems Corporation, Tokyo, Japan
Chair: I. Hadley, TWI Ltd, Cambridge, United Kingdom
Co-Chair: Y. Hagihara, Sophia University, Tokyo, Japan
PVP2008-61096: RECENT DEVELOPMENTS IN JAPANESE FLAW ASSESSMENT METHODS OF WES 2805
Y. Hagihara, Sophia University, Tokyo, Japan; M. Kurihara, JFE-Techno-Research Corporation, Chiba, Japan; H. Yoshinari, National Maritime Research Institute, Tokyo, Japan; T. Miyata, Nagoya University, Nagoya, Japan
PVP2008-61256: IMPROVEMENT OF CTOD CALCULATION IN JAPANESE FLAW ASSESSMENT METHODS OF WES2805
Y. Kayamori, T. Inoue, Nippon Steel Corporation, Futsu, Chiba, Japan; H. Hirama, Kawasaki Heavy Industries Ltd., Akashi, Hyogo, Japan; K. Michiba, Kawasaki Heavy Industries, Ltd., Kobe, Hyogo, Japan; S. Aihara, The University of Tokyo, Bunkyo-ku, Tokyo, Japan; Y. Hagihara, Sophia University, Tokyo, Tokyo, Japan
SESSION 1.3L (CS-6-1)
Monday, July 28, 2:00 pm – 3:45 pm, Dupage, 3rd Floor
EMERGING CODES AND STANDARDS
Sponsored by: Codes and Standards Committee
Developed by: M. Rana, Praxair, Inc, Tonawanda, NY, USA
Chair: G. Karcher
Co-Chair: M. Rana, Praxair, Inc, Tonawanda, NY, USA
PVP2008-61576: STATUS OF CODE DEVELOPMENT FOR ASME B&PV CODE, SECTION III, DIVISION 3
PVP2008-61907: BENDING FATIGUE OF Pipe AND PIPING COMPONENTS FABRICATED FROM HIGH DENSITY POLYETHYLENE MATERIALS
T. M. Adams, S. Hall, Stevenson & Associates, Cleveland, OH, USA; R. Scavuzzo, Professor of Mechanical Engineering Emeritus, Akron, OH, USA; D. Munson, Munson and Associates, Los Altos, CA, USA; J. W. Andrasik, Smihthers Scientific Laboratories, Inc., Akron, OH, USA; S. Findlan, EPRI, Charlotte, NC, USA
PVP2008-61906: TENSILE TESTING AND MATERIAL PROPERTY DEVELOPMENT OF HIGH DENSITY POLYETHYLENE PIPE MATERIALS
T. M. Adams, S. Hall, Stevenson & Associates, Cleveland, OH, USA; R. Scavuzzo, Professor of Mechanical Engineering Emeritus, Akron, OH, USA; D. Munson, Munson and Associates, Los Altos, CA, USA; J. W. Andrasik, Smihthers Scientific Laboratories, Inc., Akron, OH, USA; S. Findlan, EPRI, Charlotte, NC, USA

SESSION 1.3N (CS-4-2)
Monday, July 28, 2:00 pm – 3:45 pm, Kane, 3rd Floor
ENVIRONMENTAL FATIGUE AND FRACTURE TOUGHNESS—II
Sponsored by: Codes and Standards and Materials and Fabrication Committees
Developed by: H. Mehta, GE Hitachi Nuclear, Sunol, CA, USA; M. Higuchi, IHI Technology Service, Yokohama, Japan; D. Scarth, Kinectrics, Toronto, ON, Canada; R. C. Cipolla, Apteck Engineering Services, Inc., Sunnyvale, CA, USA
Chair: A. Van Der Sluys, Consultant, Barberton, OH, USA
Co-Chair: M. Higuchi, IHI Technology Service, Yokohama, Japan
PVP2008-61181: APPLICATION OF MASTER CURVE METHOD TO FRACTURE TOUGHNESS ESTIMATION OF THE TRANSPORT AND STORAGE CASK MATERIAL
K. Hojo, K. Yoshimoto, R. Yamamoto, Mitsubishi Heavy Industries, Ltd., Takasago, Japan; T. Matsuoka, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; U. Mayer, MPA Stuttgart, Stuttgart, Germany
PVP2008-61695: DR. SUMIO YUKAWA’S CONTRIBUTIONS IN THE DEVELOPMENT OF NON-DUCTILE FAILURE PREVENTION RULES IN THE ASME CODE
H. Mehta, GE Hitachi Nuclear, Sunol, CA, USA
PVP2008-61912: FLAW EVALUATION IN DISSIMILAR METAL WELD
C. Faidy, EDF—SEPTEN, Villeurbanne, France
PVP2008-61917: TEMPERATURE DEPENDENCE OF REACTOR WATER ENVIRONMENTAL FATIGUE EFFECTS ON CARBON, LOW ALLOY AND AUSTENITIC STAINLESS STEELS
W. O'Donnell, O'Donnell Consulting Engineers, Inc., Bethel Park, PA, USA

SESSION 1.3O (MF-8-2)
Monday, July 28, 2:00 pm – 3:45 pm, Los Angeles, 5th Floor

MATERIALS DATA COLLABORATION AND USE FOR NUCLEAR REACTOR DEVELOPMENT I
Sponsored by: Materials and Fabrications
Developed by: W. Ren, Oak Ridge National Laboratory, Oak Ridge, TN, USA; H.-H. Over, Joint Research Centre, Petten, Netherlands

Chair: B. Corwin, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Co-Chair: R. Swindeman, CromaTech, Oak Ridge, TN, USA

PVP2008-61275: THE WEB-ENABLED MATERIALS DATABASE OF THE EUROPEAN COMMISSION WITH ITS XML RELATED DATA ENTRY PART AND INTEGRATED ANALYSIS TOOLS TO SUPPORT GEN IV NUCLEAR POWER PLANT DEVELOPMENT
H.-H. Over, T. Ojala, Joint Research Centre, Petten, Netherlands

PVP2008-61585: UTILIZATION OF MINIMAL MATERIAL DATA IN DESIGN
D. Marriott, Stress Engineering Services, Inc., Mason, OH, USA; E. J. Westerkamp, Coordinated Solutions, LLC, West Chester, OH, USA

PVP2008-61923: DEVELOPMENT STATUS AND FUTURE PLANS OF U.S. GEN IV MATERIALS HANDBOOK (Presentation Only)
W. Ren, Oak Ridge National Laboratory, Oak Ridge, TN, USA

Chair: B. Corwin, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Co-Chair: R. Swindeman, CromaTech, Oak Ridge, TN, USA

SESSION 1.3P (CT-2-2)
Monday, July 28, 2:00 pm – 3:45 pm, McHenry, 3rd Floor

DESIGN AND ANALYSIS OF BFJ—II
Sponsored by: Computer Technology Committee
Developed by: H. Kockelmann, University of Stuttgart, Stuttgart, BW, Germany; H. Bouzid, Ecole de Technologie Superieure, Montreal, QC, Canada
Chair: T. Kobayashi, National Institute for Materials Science, Tokyo, Japan
Co-Chair: J. Veiga, Teadit Industria e Comercio Ltda, Rio de Janeiro, RJ, Brazil

PVP2008-61189: STRESS ANALYSIS AND SEALING PERFORMANCE EVALUATION OF PIPE FLANGE CONNECTION AT ELEVATED TEMPERATURE
Y. Takagi, H. Torii, Tokyo Electric Power Company, Yokohama, Japan; T. Sawa, Hiroshima University, Higashihiroshima, Hiroshima, Japan; N. Kawasaki, Hiroshima University, Higashi-Hiroshima, Japan

PVP2008-61418: EFFECTS OF TEMPERATURE CHANGE ON BOLT LOAD AND GASKET LOAD OF BOLTED FLANGE CONNECTIONS
S. Nagata, Toyo Engineering Corporation, Narashino, Japan; T. Sawa, Hiroshima University, Higashihiroshima, Hiroshima, Japan

PVP2008-61530: CONCEPT FOR THE GUARANTEE OF THE INTEGRITY OF BOLTED FLANGED CONNECTIONS IN A GERMAN NUCLEAR POWER PLANT
M. Schaaf, F. Schoeckel, AMTEC Services, Laufen, Germany; J. Bartonicek, JB Consulting, Neckarwestheim, Germany

PVP2008-61226: EVALUATION OF THE LOAD CAPACITY OF REAMER BOLT BY NUMERICAL ANALYSIS
T. Fukouka, M. Nomura, M. Yamashita, Kobe University, Kobe, Japan
SESSION 1.3R (MF-21-3)
Monday, July 28, 2:00 pm – 3:45 pm, Chicago Ballroom Foyer, 5th Floor
NDE DEMONSTRATION FORUM—PART 3
Sponsored by: PVP Senate, Materials and Fabrication Technical Committee and ASME NDE Engineering Division

Block 1.4: Monday, July 28 (4:00 pm – 5:45 am)

SESSION 1.4A (DA-3-3)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom A, 5th Floor
DESIGN AND ANALYSIS OF COMPONENTS
Sponsored by: Design and Analysis Committee
Chair: C. Basavaraju, USNRC, Rockville, MD, USA
Co-Chair: S. Iyer, Atomic Energy of Canada Limited, Mississauga, ON, Canada
PVP2008-61049: BUCKLING OF LOCAL THIN AREA UNDER EXTERNAL PRESSURE
C. Nadarajah, T. Schachinger, ExxonMobil Research & Engineering, Fairfax, VA, USA
PVP2008-61082: THE DESIGN OF FABRIC EXPANSION JOINT GAS SEAL MEMBRANES
R. Broyles, D. Peterson, Senior Flexonics Pathway Inc., Oak Ridge, TN, USA
PVP2008-61854: DYNAMIC BURST PRESSURE SIMULATION OF CYLINDRICAL SHELLS
C. Cheng, BIT 7, Inc Madison, WI, USA; G. E. O. Widera, Marquette University, Milwaukee, WI, USA
PVP2008-61855: DYNAMIC BURST PRESSURE SIMULATION OF CYLINDER-CYLINDER INTERSECTIONS
C. Cheng, BIT 7, Inc Madison, WI, USA; G. E. O. Widera, Marquette University, Milwaukee, WI, USA

SESSION 1.4B (FSI-2-3)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom B, 5th Floor
THERMAL-HYDRAULIC PHENOMENA AND INTERACTIONS WITH VESSELS, PIPING, AND COMPONENTS
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: F. Moody, Consultant, Murphys, CA, USA
PVP2008-61204: CFD ANALYSIS OF THERMALLY STRATIFIED FLOW AND HEAT TRANSFER IN A PWR PRESSURIZER SURGE LINE
J. C. Jo, D. G. Kang, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic)
PVP2008-61501: EFFECT OF VERTICAL PIPE LENGTH ON THE THERMAL STRATIFICATION IN THE SURGE LINE
Y.-J. Kim, M.-W. Kim, H.-S. Lee, E. Ko, GNEC Inc, Daejeon, Korea (Republic)
PVP2008-61895: RESEARCH AND DESIGN OF SEALING DEVICE IN HOT WATER CIRCULATING PUMP FOR HIGH TEMPERATURE AND HIGH PRESSURE
J. Mu, S. Zheng, H. Deng, S. Zhang, Zhejiang University of Technology, Hangzhou, China; Z. Cai, China Institute of Water Resources and Hydropower Research, Beijing, China
PVP2008-61453: PREVENTION OF TRANSFORMER TANK EXPLOSION, PART 2: DEVELOPMENT AND APPLICATION OF A NUMERICAL SIMULATION TOOL
R. Brady, P. Magnier, G. Perigaud, Transformer Protector Corporation (TPC), Kingwood, TX, USA; S. Muller, G. De Bressy, Sergi Holding, Achères, France

SESSION 1.4C (OAC-2-1)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom C, 5th Floor
QUALIFICATION-MATERIAL-TESTING AND INTEGRITY
Sponsored by: Operations, Applications, and Components Committee
Developed by: G. Bezdikian, Georges Bezdikian Consulting, Le Vesinet, France
Chair: P. Contri, Joint Research Center—Institute for Energy, Petten, Netherlands
Co-Chair: G. G. Young, Entergy Nuclear, Russellville, AR, USA
PVP2008-61445: EVALUATION OF STRUCTURAL INTEGRITY FOR A DRY STORAGE SYSTEM WITH SPACER DISKS IN A SCALE MODEL DROP TEST
W.-S. Choi, K.-O. Nam, K.-S. Bang, J.-C. Lee, K.-S. Seo, Korea Atomic Energy Research Institute, Daejeon, Korea (Republic)
PVP2008-61551: NUCLEAR PWR PLANTS MANAGING THE EXPERIENCES ON CAST DUPLEX COMPONENTS ON REACTOR COOLANT CIRCUIT
G. Bezdikian, Georges Bezdikian Consulting, Le Vesinet, France
PVP2008-61020: EXPERIENCE WITH EXTENDED POWER UPRATE AT LEIBSTADT NUCLEAR POWER PLANT
R. Engel, K. Zichanowicz, Leibstadt Nuclear Power Plant, Leibstadt, Switzerland
PVP2008-61880: RECENT REACTOR HEAD DROP ANALYSIS FOR COMPLYING NUREG-0612 APPENDIX A GUIDELINES
P. Hoang, M. Amin, C. W. Mak, Sargent Lundy LLC, Chicago, IL, USA

SESSION 1.4D (DA-4-2)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom D, 5th Floor
REACTOR PRESSURE VESSEL—2
Sponsored by: Design and Analysis Committee
Developed by: D. Moineureau, Electricité de France—EDF R&D—Département MMC, Moret-sur-Loing, France
Chair: S. Chapuliot, CEA, Gif-sur-Yvette, France
Co-Chair: P. Gilles, AREVA NP, Paris la Défense, France
PVP2008-61474: SEMI-LARGE SCALE EXPERIMENTS PERFORMED ON SPECIMENS WITH UNDERCLAD CRACKS
SESSION 1.4E (TW-1-3)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom E, 5th Floor
TECHNICAL TUTORIAL: RECENT DEVELOPMENTS IN ANALYSIS AND DESIGN OF PIPING FOR SEISMIC LOADS—II
Sponsored by: The PVP Division Conference Committee
Presented by: A. Gupta, V. C. Matzen, North Carolina State University, Raleigh, NC, USA

SESSION 1.4F (MF-2-3)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom F, 5th Floor
APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—3
Sponsored by: Materials & Fabrication Committee
Developed by: J. J.-A. Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Chair: J. J.-A. Wang, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Co-Chair: S. Yin, Oak Ridge National Laboratory, Oak Ridge, TN, USA

SESSION 1.4G (MF-5-3)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 3
Developed by: M. Mochizuki, Osaka University, Suita, Osaka, Japan; D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Chair: R. Dennis, Frazer-Nash Consultancy, Bristol, United Kingdom
Co-Chair: D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA

SESSION 1.4H (FSI-4-1)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom H, 5th Floor
FORUM ON FLUID TRANSIENTS, PAPERS
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: F. Moody, Consultant, Murphys, CA, USA, A. H. Arastu, Bechtel Power Corporation, San Francisco, CA, USA

PVP2008-61011: SHOCK REFLECTION AT INTERFACE OF BUBBLY LIQUID
F. Moody, Consultant, Murphys, CA, USA

PVP2008-61526: PREVENTION OF TRANSFORMER TANK EXPLOSION, PART 1: EXPERIMENTAL TESTS ON LARGE TRANSFORMERS
S. Muller, Sergi Holding, Achères, France; R. Brady, P. Magnier, G. Perigaud, Transformer Protector Corporation (TPC), Kingwood, TX, USA; G. De Bressy, Sergi Holding, Achères, France
SESSION 1.4J (CS-11-2)
Monday, July 28, 4:00 pm – 5:45 pm, Cook, 3rd Floor
DESIGN, INSPECTION AND INTEGRITY EVALUATION IN JAPANESE AND KOREAN CODES
Sponsored by: Codes and Standards Committee
Developed by: K. Hasegawa, JNES, Tokyo, Japan; Y. W. Park, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic)
Chair: Y.-W. Park, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic)
Co-Chair: D.-J. Shim, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
PVP2008-61827: THE PRESENT AND THE FUTURE OF KOREAN ELECTRIC POWER INDUSTRY CODE
H. Byun, S. Yoon, J. Kim, S. Lee, Korea Electric Association, Seoul, Korea (Republic)
PVP2008-61492: INCORPORATION OF THE NEW IRRADIATION EMBRITTLEMENT CORRELATION METHOD INTO THE JAPANESE CODE OF SURVEILLANCE TESTS FOR REACTOR VESSEL MATERIALS
S. Asada, M. Tomimatsu, Mitsubishi Heavy Industries Ltd, Kobe, Japan; T. Hirano, IHI, Japan; Yokohama, Japan; N. Soneda, Central Research Institute of Electric Power Industry, Komae, Japan; N. Yamashita, Tokyo Electric Power Company, Tokyo, Japan; A. Yonehara, Kansai Electric Power Company, Fukui-Prefecture, Japan
PVP2008-61848: FATIGUE DESIGN OF SYSTEM INTEGRATED MODULAR ADVANCED REACTOR PRESSURIZER (Presentation Only)
Y. W. Park, H.-D. Chung, J. H. Lee, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic); S.-B. Choi, Y.-S. Chang, Y.-J. Kim, Sungkyunkwan University, Suwon, Gyeonggi-do, Korea (Republic)
PVP2008-61255: CHALLENGES AND STATUS OF DEVELOPMENT OF INSPECTION RULES IN JAPANESE FITNESS-FOR-SERVICE (FFS) CODE
K. Dozaki, The Japan Atomic Power Company, Tokyo, Japan

SESSION 1.4K (NDE-2-2)
Monday, July 28, 4:00 pm – 5:45 pm, Denver, 5th Floor
NEW NDE APPLICATIONS I
Sponsored by: NDE Engineering Division, Materials & Fabrication, and Operations, Applications & Components
Developed by: W. Springer, University of Arkansas, Fayetteville, AR, USA
PVP2008-61251: DEVELOPMENT OF NONLINEAR ULTRASOUND SYSTEM USING PMN-PT PIEZOELECTRIC CRYSTAL
T. Mihara, University of Toyama, Toyama, Japan; Y. Ohara, K. Yamanaka, Toyama, Japan; S. Iwamoto, Tokyo Electric Power Company, Tokyo, Japan
PVP2008-61277: PIPEWIZARD VERSION 4—A NEW, IMPROVED PIPELINE AUT GIRTH WELD INSPECTION SYSTEM
M. Moles, Olympus NDT, Toronto, ON, Canada; S. Labbé, Olympus NDT, Québec, QC, Canada
PVP2008-61451: DELAMINATION IDENTIFICATION IN QUASI-ISOTROPIC CFRP LAMINATE USING ELECTRIC POTENTIAL TECHNIQUE
M. Ueda, Y. Kato, Nihon University, Tokyo, Japan; A. Todoroki, Tokyo Institute of Technology, Tokyo, Japan
PVP2008-61517: EVALUATION OF THE CORROSION RATE FOR ACIDIC BOTTOM PLATES OF AN ABOVEGROUND OIL TANK BY THE AE METHOD
N. Kasai, K. Utatsu, S. Kitsukawa, S. S. Park, K. Sekine, Yokohama National University, Yokohama, Kanagawa, Japan; T. Mitsu, Japan Oil, Gas and Metals National Corporation, Kawasaki, Japan

SESSION 1.4L (CS-2-1)
Monday, July 28, 4:00 pm – 5:45 pm, Dupage, 3rd Floor
STRUCTURAL INTEGRITY OF PRESSURE COMPONENTS
Sponsored by: Codes and Standards Committee
Developed by: Y. Hari, University of North Carolina at Charlotte, Charlotte, NC, USA
Chair: Y. Hari, University of North Carolina at Charlotte, Charlotte, NC, USA
Co-Chair: D. Williams, Sharoden Engineering Consultants, P.A., Matthews, NC, USA
PVP2008-61066: DESIGN AND ANALYSIS OF AN ASH COLLECTOR HOPPER
B. Antaal, Y. Hari, University of North Carolina at Charlotte, Charlotte, NC, USA
PVP2008-61178: STRUCTURAL INTEGRITY OF PENETRATION NOZZLE OF REACTOR PRESSURE VESSEL HEAD OF PWR PLANT
K. Hojo, N. Ogawa, Y. Iwamoto, Kazutoshi Ohoto, Mitsubishi Heavy Industries, Ltd., Takasago, Japan; S. Asada, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; S. Hirano, The Kansai Electric Power Co. Inc., Mikata-gun Fukui Prefecture, Japan
PVP2008-61282: FINITE ELEMENT ANALYSIS OF A BASIC WIND TANK
Y. Hari, University of North Carolina at Charlotte, Charlotte, NC, USA; J. J. McCormick, Innovative Design—Group, Charlotte, NC, USA
PVP2008-61378: STATISTICAL ANALYSIS OF RESIDUAL STRESS PROFILES USING A HEURISTIC METHOD
H. Teng, S. Bate, D. W. Beardsmore, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom
PVP2008-61411: EFFECTIVENESS OF STAINLESS STEEL BUFFER LAYER TO ADDRESS HOT CRACKING DURING WELD OVERLAY REPAIR OF DISSIMILAR METAL ALLOY 62/182 WELDS WITH STAINLESS STEEL PIPING
N. Cofie, R. L. Bax, C. S. Lohe, Structural Integrity Associates, San Jose, CA, USA; R. E. Smith, Structural Integrity Associates, Huntersville, NC, USA; L. D. Yepez, D. Parker, Welding Services Inc., Norcross, GA, USA; B. Hermanns, J. Valsvig, Southern California Edison, San Clemente, CA, USA

SESSION 1.4M (OAC-7-1)
Monday, July 28, 4:00 pm – 5:45 pm, Houston, 5th Floor
CONTINUED SAFE OPERATION OF PIPING AND PIPING SUPPORTS
SESSION 1.4Q (DA-2-2)
Monday, July 28, 4:00 pm – 5:45 pm, Miami, 5th Floor
DESIGN AND ANALYSIS OF PRESSURE VESSELS, HEAT EXCHANGERS AND COMPONENTS—2
Sponsored by: Design and Analysis Committee
Developed by: D. LaBounty, Fluor Corporation, Aliso Viejo, CA, USA; J. Taagepera, Chevron Energy Technology Co., Richmond, CA, USA; T. Seipp, Becht Engineering Canada, Ltd., Calgary, AB, Canada
Chair: D. LaBounty, Fluor Corporation, Aliso Viejo, CA, USA
Co-Chair: J. Taagepera, Chevron Energy Technology Co., Benicia, CA, USA
PVP2008-61271: INITIAL INVESTIGATION INTO OPTIMIZING DESIGN OF A PRESSURE VESSEL SADDLE
S. Khan, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
PVP2008-61805: COMPARISON OF CONE-TO-CYLINDER JUNCTION REINFORCEMENT REQUIREMENTS BETWEEN ASME SECTION VIII, AND CODE CASE 2286
K. Bardia, D. LaBounty, T. Breig, Fluor Corp., Aliso Viejo, CA, USA
PVP2008-61176: SCF AND FATIGUE ANALYSIS OF SPHERE-NOZZLE INTERSECTIONS WITH LTA
M. Qadir, D. Redekop, U of Ottawa, Ottawa, ON, Canada
PVP2008-61177: FEM STRESS ANALYSIS OF TEE INTERSECTIONS WITH LTA
T. Ahmad, M. Qadir, D. Redekop, U of Ottawa, Ottawa, ON, Canada

SESSION 1.4R (MF-21-4)
Monday, July 28, 4:00 pm – 5:45 pm, Chicago Ballroom Foyer, 5th Floor
NDE DEMONSTRATION FORUM—PART 4
Sponsored by: PVP Senate, Materials and Fabrication Technical Committee and ASME NDE Engineering Division

TUESDAY, JULY 29

Block 2.1: Tuesday, July 29 (8:30 am – 10:15 am)

SESSION 2.1E (NDE-3-1)
Tuesday, July 29, 8:30 am – 10:15 am, Chicago Ballroom E, 5th Floor
SPENCER H. BUSH MEMORIAL LECTURE
Sponsored by: NDE Engineering Division, Codes & Standards, Materials & Fabrication Committee, and Operations, Applications, & Components Committee
Developed by: W. Springer, University of Arkansas, Fayetteville, AR, USA; O. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA
PVP2008-61826: THE HISTORY AND FUTURE OF NDE IN NUCLEAR POWER PLANT MATERIALS DEGRADATION MANAGEMENT
S. Doctor, Pacific Northwest National Laboratory, Richland, WA, USA

SESSION 2.1F (MF-16-1)
Tuesday, July 29, 8:30 am – 10:15 am, Chicago Ballroom F, 5th Floor
STRUCTURAL INTEGRITY OF PIPELINES AND PRESSURE VESSELS—1
Sponsored by: Materials and Fabrication Committee
Developed by: S. Cravero, Tenaris, Campana, Buenos Aires, Argentina; X. Zhu, Battelle Memorial Institute, Columbus, OH, USA
Chair: S. Cravero, Tenaris, Campana, Buenos Aires, Argentina
Co-Chair: X. Zhu, Battelle Memorial Institute, Columbus, OH, USA
PVP2008-61024: FRACTURE ASSESSMENT PROCEDURES FOR STEEL PIPELINES USING A MODIFIED REFERENCE STRESS SOLUTION
T. Tkaczyk, Techni UK Ltd, Westhill, Aberdeenshire, United Kingdom; N. O’Dowd, University of Limerick, Limerick, Ireland, K. Nikbin, Imperial College London, London, United Kingdom
PVP2008-61393: INFLUENCE OF WELD MISMATCH ON THE STRUCTURAL INTEGRITY OF PIPES FOR REELING
G. Castelluccio, S. Cravero, H. Ernst, Tenaris, Buenos Aires, Buenos Aires, Argentina
PVP2008-61198: TECHNICAL SPECIFICATION FOR SUBSEA PIPELINES ALTERNATIVE CRITERIA BASED IN FRACTURE MECHANICS
P. Zumpano Jr., T. B. Kaspary, PETROBRAS, Sao Jose dos Campos, sao Paulo, Brazil; G. V. P. Donato, E. Hippert Jr., PETROBRAS, Rio de Janeiro, Rio de Janeiro, Brazil
PVP2008-61095: SAFETY FACTOR OF AUSTENITIC STAINLESS STEEL PRESSURE VESSELS WITH STRAIN-STRENGTHENING
G. Chen, Y. Deng, East China University of Science and Technology, School of Mechanical and Power Engineering, Shanghai, China; X. Yang, Hubei Special Equipment Safety Inspection and Research Institute, Wuhan, Hubei, China

SESSION 2.1G (MF-5-4)
Tuesday, July 29, 8:30 am – 10:15 am, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 4
Developed by: C. Truman, Bristol University, Bristol, United Kingdom; E. Keim, Areva, Erlangen, Germany
Chair: F. W. Brust, Jr., Engineering Mechanics Corp. of Columbus, Columbus, OH, USA
Co-Chair: J. Bouchard, The Open University, Milton Keynes, United Kingdom
PVP2008-61441: EFFECT OF SURFACE-MACHINING AND BUTT-WELDING ON RESIDUAL STRESS AND HARDNESS OF TYPE 316L STAINLESS STEEL PIPES
W. Asano, M. Mochizuki, M. Toyoda, Osaka University, Suta, Osaka, Japan; J. Katsuyama, Japan Atomic Energy Agency, Ibaraki, Japan; K. Onizawa, Japan Atomic Energy Agency, Tokai-mura, Japan
SESSION 2.1N (DA-4-3)  
Tuesday, July 29, 8:30 am – 10:15 am, Kane, 3rd Floor  
REACTOR PRESSURE VESSEL—3  
Sponsored by: Design and Analysis Committee  
Developed by: D. Moinereau, Electricité de France—EDF R&D—Département MMC, Moret-sur-Loing, France  
Chair: D. Siegele, Fraunhofer Institut für Werkstoffmechanik, Freiburg, Germany  
Co-Chair: S. Bugat  
PVP2008-61232: DEMONSTRATION OF WPS BENEFIT WITH LARGE SCALE TESTS—THE BATMAN TEST SERIES  
S. Chapuliot, L. Ferry, T. Yuritzinn, CEA, Gif-sur-Yvette, France; D. Moinereau, A. Dahl, Electricité de France—EDF R&D—Département MMC, Moret-sur-Loing, France; P. Gilles, AREVA NP, Paris la Défense, France, France  
PVP2008-61483: LARGE SCALE FRACTURE MECHANICS TESTING  
M. Brumovsky, Nuclear Research Institute Rez plc, Rez, Czech Republic  
PVP2008-61809: APPLICATION OF THE BEREMIN MODEL FOR EVIDENCING THE WARM PRESTRESS EFFECT IN AN IRRADIATED REACTOR PRESSURE VESSEL CONTAINING A SEMI-ELLiptical SUBCLAD DEFECT UNDER SMALL AND LARGE LOCA CONDITIONS  
P. Gilles, AREVA NP, Paris la Défense, France, France; J. Devaux, ESI France, Lyon, France; J. P. Izard, AREVA NP, Paris La Défense, France

SESSION 2.1O (MF-17-1)  
Tuesday, July 29, 8:30 am – 10:15 am, Los Angeles, 5th Floor  
SMALL-SCALE AND MINIATURE MECHANICAL TESTING  
Developed by: A. Motarjemi, Det Norske Veritas (DNV) Ltd, London, United Kingdom  
Chair: A. Motarjemi, Det Norske Veritas (DNV) Ltd, London, United Kingdom  
Co-Chair: K. Hasegawa, JNES, Tokyo, Japan  
PVP2008-61044: EFFECT OF DYNAMIC LOADING RATES ON CLEAVAGE FRACTURE TOUGHNESS PROPERTIES OF STEELS  
R. Moskovic, Magnox North, Bristol, United Kingdom; J. A. Joyce, US Naval Academy, Department of Mechanical Engineering, Annapolis, MD, USA  
PVP2008-61252: APPLICATION OF NONDESTRUCTIVE INSTRUMENT-ED INDENTATION TECHNIQUE IN SMALL-SCALE TESTING OF PRESSURE VESSEL AND PIPING SYSTEMS  
K.-W. Lee, K.-H. Kim, Frontics Inc., Seoul, Korea (Republic); K.-H. Kim, Seoul National University, Seoul, Korea (Republic); Y.-H. Choi, H.-D. Chung, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic)
SESSION 2.1P (HP-1-1)
Tuesday, July 29, 8:30 am – 10:15 am, McHenry, 3rd Floor

DESIGN & ANALYSIS

Developed by: J. Keltjens, SABIC Europe, Geleen, Netherlands
Chair: J. Keltjens, SABIC Europe, Geleen, Netherlands
Co-Chair: D. Peters, Structural Integrity Associates, Edinboro, PA, USA

PVP2008-61037: ELASTIC-PLASTIC SOLUTIONS FOR OPEN-END THICK WALLED CYLINDERS Subjected to INTERNAL AND EXTERNAL PRESSURE
R. Dixon, Structural Integrity Associates, Huntersville, NC, USA; E. Perez, E.I. DuPont de Nemours, Wilmington, DE, USA

PVP2008-61413: ELASTIC-PLASTIC ANALYSIS OF THICK-WALLED TOROIDAL PRESSURE VESSELS
R. Adibi-Asl, AECL, Mississauga, ON, Canada

PVP2008-61146: DEVELOPMENT OF ALTERNATE METHODS FOR-establishing DESIGN MARGINS FOR ASME SECTION VIII DIVISION 3
S. Terada, Kobe Steel Ltd., Takasago, Hyogo, Japan

PVP2008-61127: COMPARISON BETWEEN API579-1 AND ASME VIII DIVISION 3 STRESS INTENSITY FACTOR SOLUTIONS USED FOR FRACTURE MECHANICS AND FATIGUE ANALYSIS OF THICK WALLED CYLINDERS
J. Keltjens, SABIC Europe, Geleen, Netherlands

SESSION 2.1Q (CT-4-1)
Tuesday, July 29, 8:30 am – 10:15 am, Chicago Ballroom Foyer, 5th Floor

PVP SOFTWARE DEMONSTRATION FORUM—PART 1
Sponsored by: Computer Technology Committee
Developed by: J. F. Cory, Jr., Siemens PLM Software, Milford, OH, USA

Block 2.2: Tuesday, July 29 (10:30 am – 12:15 pm)

SESSION 2.2A (DA-3-4)
Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom A, 5th Floor

DESIGN AND ANALYSIS OF PIPING AND PIPING COMPONENTS
Sponsored by: Design and Analysis Committee
Developed by: S. Morrison, M5 Engineering Inc, Calgary, AB, Canada; R. Leishear, Savannah River National Laboratory, Aiken, SC, USA
Chair: S. Morrison, M5 Engineering Inc, Calgary, AB, Canada
Co-Chair: R. Leishear, Savannah River National Laboratory, Aiken, SC, USA

PVP2008-61050: AN ANALYTICAL SOLUTION FOR CALCULATING STRESSES ON LAP PATCHES USED ON PIPES AND PRESSURE VESSELS
J. Frew, Virginia Sealing Products, Inc., Hopewell, VA, USA; T. H Ragsdale, Virginia Sealing Products, Inc., Prince George, VA, USA; C. Wyler, Eastman Chemical, Kingsport, TN, USA

PVP2008-61399: PRACTICAL APPLICATION OF FASTER PRELOAD GUIDANCE RESEARCH
J. Waterland, Virginia Sealing Products, Inc., Hopewell, VA, USA; J. Ludman, E.I. DuPont, Wilmington, DE, USA

PVP2008-61410: FASTENER LOAD PRELOAD GUIDANCE FOR ASME B16.5 WELDING NECK FLANGES
R. Wacker, Dupont, Newark, DE, USA

PVP2008-61951: ELASTIC LOAD LIMIT PARAMETERS FOR BOLTED FLANGE JOINTS (Presentation Only)
T. Paulin, Paulin Research Group, Houston, TX, USA; J. Payne, Jpac Inc, Long Valley, NJ, USA

PVP2008-61398: ONGOING WORK WITH PVP2007-26387 “DETERMINATION AND QUALIFICATION OF ALTERNATIVE FLANGE ASSEMBLY PROCEDURES” AND RESULTING GASKET RETORQUE DWELL PERIODS BASED ON ALTERNATIVE FLANGE ASSEMBLY PROCEDURES
J. Frew, Virginia Sealing Products, Kingsport, TN, USA; J. Waterland, Virginia Sealing Products, Inc., Hopewell, VA, USA; T. H Ragsdale, Virginia Sealing Products, Inc., Prince George, VA, USA; C. Wyler, Eastman Chemical, Kingsport, TN, USA

PVP2008-61399: PRACTICAL APPLICATION OF FASTER PRELOAD GUIDANCE RESEARCH
J. Waterland, Virginia Sealing Products, Inc., Hopewell, VA, USA; J. Ludman, E.I. DuPont, Wilmington, DE, USA

PVP2008-61410: FASTENER LOAD PRELOAD GUIDANCE FOR ASME B16.5 WELDING NECK FLANGES
R. Wacker, Dupont, Newark, DE, USA

PVP2008-61951: ELASTIC LOAD LIMIT PARAMETERS FOR BOLTED FLANGE JOINTS (Presentation Only)
T. Paulin, Paulin Research Group, Houston, TX, USA; J. Payne, Jpac Inc, Long Valley, NJ, USA

SESSION 2.1R (CT-16-1)
Tuesday, July 29, 8:30 am – 10:15 am, Chicago Ballroom Foyer, 5th Floor

PVP SOFTWARE DEMONSTRATION FORUM—PART 1
Sponsored by: Computer Technology Committee
Developed by: J. F. Cory, Jr., Siemens PLM Software, Milford, OH, USA

Block 2.2: Tuesday, July 29 (10:30 am – 12:15 pm)
SESSION 2.2B (FSI-3-2)

Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom B, 5th Floor

FLUID FLOW AND FLEXIBLE CONFINEMENTS
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: J.-F. Sigrist, DCNS Propulsion, Nantes, France; C. Giannopapa, European Space Agency, Noordwijk, Netherlands
Chair: J.-F. Sigrist, DCNS Propulsion, Nantes, France
Co-Chair: C. Giannopapa, European Space Agency, Noordwijk, Netherlands

PVP2008-61330: WAVE PROPAGATION IN THIN-WALLED AORTIC ANALOGUES
C. Giannopapa, European Space Agency, Noordwijk, Netherlands; J. M. B. Kroot, Eindhoven University of Technology, Eindhoven, Netherlands

PVP2008-61672: FLEXURAL WAVES IN FLUID-FILLED TUBES SUBJECT TO AXIAL IMPACT
K. Inaba, J. E. Shepherd, California Institute of Technology, Pasadena, CA, USA

PVP2008-61613: EFFECT OF INTERNAL BUBBLY FLOW ON CHANNEL VIBRATION: COMPARISON BETWEEN EXPERIMENT AND MODEL
M. M. Zhang, J. Katz, A. Prosperetti, Johns Hopkins University, Baltimore, MD, USA

SESSION 2.2C (OAC-6-2)

Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom C, 5th Floor

FFS ASSESSMENT APPLICATION
Sponsored by: Operations, Applications, and Components Committee
Developed by: T. Tahara, Petroleum Association of Japan, Tokyo, Japan; A. Ohno, Mitsui Chemical Co., Osaka-hu, Japan
Chair: A. Cheta, Shell Global Solutions (USA), Inc., Houston, TX, USA
Co-Chair: T. Kaida, Sumitomo Chemical Co., Ltd., Nihama, Japan

PVP2008-61248: AN OWNER-USER EXPERIENCE WITH VARIOUS HEAT EXCHANGER TUBULAR NDE METHODS
J. Reynolds, Reynolds Associates, Steamboat Springs, CO, USA; W. D. Wang, Shell Global Solutions, Houston, TX, USA

PVP2008-61628: CREEP DAMAGE ANALYSIS OF HIGH PRESSURIZED STEAM HEADERS USING OMEGA METHOD
G. Jung, D. S. Kim, P. Parikh, Shell Global Solutions, Houston, TX, USA; J. A. Penso, Shell Global Solutions US, Cypress, TX, USA

PVP2008-61806: EXPERIMENTAL AND NUMERICAL VALIDATION OF FITNESS-FOR-SERVICE ASSESSMENT FOR CYLINDRICAL AND SPHERICAL PRESSURE VESSEL WITH LOCAL METAL LOSS
T. Kaida, Sumitomo Chemical Co., Ltd., Nihama, Japan

SESSION 2.2D (DA-4-4)

Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom D, 5th Floor

REACTOR PRESSURE VESSEL—4
Sponsored by: Design and Analysis Committee
Developed by: D. Molinreau, Electricité de France—EDF R&D—Département MMC, Moret-sur-Loing, France
Chair: D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom
Co-Chair: M. Kirk, USA Nuclear regulatory Commission, Rockville, MD, USA

PVP2008-61231: BRITTLE FractURE CRITERIA TRANSPOSABILITY EVALUATION BY TESTING ON DIFFERENT SPECIMEN GEOMETRIES
S. Chapuliot, S. Marie, CEA, Gif-sur-Yvette, France

PVP2008-61327: EXPERIMENTAL AND NUMERICAL INVESTIGATION OF SUB-CLAD AND SURFACE CRACKS IN CLADDED COMPONENTS
J. Hohe, M. Brand, D. Siegle, Fraunhofer Institut für Werkstoffmechanik, Freiburg, Germany

PVP2008-61486: ASSESSMENT OF THE REACTOR PRESSURE VESSEL INTEGRITY IN PTS CONDITIONS. PRESENTATION AND DEMONSTRATION OF SECURE, A NUMERICAL TOOL DEVELOPED BY EDF TO REALISE AUTOMATICALLY INTEGRITY ASSESSMENTS.
A. Dahl, C. Messelier-Gouze, EDF R&D, Moret-sur-Loing, France

SESSION 2.2E (NDE-6-1)

Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom E, 5th Floor

PANEL SESSION: BS + 30: THE NEW PARADIGM FOR ENGINEERING LICENSURE IN THE US
Sponsored by: NDE Engineering Division, Codes & Standards, Materials & Fabrication Committee, and Operations, Applications, & Components Committee
Developed by: W. Springer, University of Arkansas, Fayetteville, AR, USA

SESSION 2.2F (MF-2-4)

Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom F, 5th Floor

APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—4
Sponsored by: Materials & Fabrication Committee
Developed by: D. Scarth, Kinectrics, Toronto, ON, Canada
Chair: D. Scarth, Kinectrics, Toronto, ON, Canada
SESSION 2.2G (MF-5-5)
Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 5
Developed by: J. Broussard, Dominion Engineering, Inc., Reston, VA, USA
Co-Chair: M. Mochizuki, Osaka University, Osaka, Japan
PVP2008-61073: UK RESEARCH PROGRAMME ON RESIDUAL STRESSES—A REVIEW OF PROGRESS
S. Bate, Serco Technical & Assurance Services, Warrington, United Kingdom; P. Hurrell, Rolls-Royce Plc, Derby, United Kingdom; J. A. Francis, M. Turski, University of Manchester, Manchester, United Kingdom
PVP2008-61339: A STATISTICAL FRAMEWORK FOR ANALYSING WELD RESIDUAL STRESSES FOR STRUCTURAL INTEGRITY ASSESSMENT
B. Nadri, C. Truman, D. Smith, University of Bristol, Bristol, United Kingdom; P. J. Bouchard, British Energy, Gloucester, Gloucestershire, United Kingdom
PVP2008-61416: ANALYTICAL EVALUATION OF WELD RESIDUAL STRESS DISTRIBUTION FOR BWR PIPING
M. Ando, K. Nakata, Japan Nuclear Energy Safety Organization, Tokyo, Japan; R. Sumiya, M. Ito, N. Tanaka, Toshiba Corporation, Yokohama, Japan
PVP2008-61558: THREE DIMENSIONAL ASPECTS OF COMPUTATIONAL WELD MODELING
F. W. Brust, Jr., D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA

SESSION 2.2H (MF-4-1)
Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom H, 5th Floor
MATERIALS FOR HYDROGEN SERVICE—I
Sponsored by: Materials and Fabrication Committee
Developed by: M. P. H. Brongers, Det Norske Veritas (DNV), Dublin, OH, USA; Y. Tanaka, Nippon Steel Corp., Futsu, Chiba, Japan; A. Duncan, Savannah River National Laboratory, Aiken, SC, USA
Chair: M. P. H. Brongers, Det Norske Veritas (DNV), Dublin, OH, USA
Co-Chair: A. Duncan, Savannah River National Laboratory, Aiken, SC, USA
PVP2008-61240: HYDROGEN-ASSISTED FRACTURE OF TYPE 316 STAINLESS STEEL AT SUB-AMBIENT TEMPERATURE
C. San Marchi, B. P. Somerday, Sandia National Laboratories, Livermore, CA, USA; X. Tang, G. H. Schiroky, Swagelok, Solon, OH, USA
PVP2008-61298: MEASUREMENT OF SUSTAINED-LOAD CRACKING THRESHOLDS FOR STEELS IN HYDROGEN DELIVERY AND STORAGE
K. A. Nibur, B. P. Somerday, C. San Marchi, D. K. Balch, Sandia National Laboratories, Livermore, CA, USA
PVP2008-61390: HYDROGEN EFFECTS ON THE FRACTURE TOUGHNESS PROPERTIES OF FORGED STAINLESS STEELS
M. J. Morgan, Savannah River National Laboratory, Aiken, SC, USA
PVP2008-61849: DEVELOPMENT OF NEW MATERIAL TESTING APPARATUS IN 230 MPa HYDROGEN AND EVALUATION OF HYDROGEN GAS EMBRITTLEMENT OF METALS
S. Fukuyama, M. Imade, T. Iijima, K. Yokogawa, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

SESSION 2.2J (CS-7-2)
Tuesday, July 29, 10:30 am – 12:15 pm, Cook, 3rd Floor
ASME CODE SECTION XI ACTIVITIES—2
Sponsored by: Codes and Standards Committee
Developed by: D. Scarth, Kinetics, Toronto, ON, Canada; R. C. Cipolla, Aptech Engineering Services, Inc., Sunnyvale, CA, USA
Chair: D. Scarth, Kinetics, Toronto, ON, Canada
Co-Chair: R. C. Cipolla, Aptech Engineering Services, Inc., Sunnyvale, CA, USA
PVP2008-61110: DEVELOPMENT OF Z-FACTOR FOR CIRCUMFERENTIAL PART-THROUGH SURFACE CRACKS IN DISSIMILAR METAL WELDS
D.-J. Shim, G. M. Wilkowski, D. Rudland, F. W. Brust, Jr., Engineering Mechanics Corp. of Columbus, Columbus, OH, USA; K. Ogawa, Japan Nuclear Energy Safety Organization, Tokyo, Japan
PVP2008-61840: TECHNICAL BASIS FOR REVISIONS TO IWB-3640 FOR ALLOY 600/82/162 FLAW EVALUATION
W. Bamford, Westinghouse Electric, Madison, PA, USA; R. C. Cipolla, Aptech Engineering Services, Inc., Sunnyvale, CA, USA; D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; G. DeBoo, Exelon Corporation, Warrenville, IL, USA
PVP2008-61639: RECENT APPLICATIONS OF ASME CODE CASE N-513 FOR EVALUATION OF NONPLANAR LEAKING FLAWS
R. O. McGill, Structural Integrity Associates, San Jose, CA, USA; K. L. Den Herder, Nuclear Management Company, Welch, MN, USA; D. B. Patten, FirstEnergy Nuclear Operating Company, Akron, OH, USA; S. P. Queen, Exelon Corporation, Middletown, PA, USA

SESSION 2.2K (SPC-1-2)
Tuesday, July 29, 10:30 am – 12:15 pm, Lakeview, 2nd Floor
STUDENT PAPER COMPETITION 2—PH.D. LEVEL
Sponsored by: PVP Senate
Developed by: M. K. Au-Yang, Independent Consultant, Lynchburg, VA, USA; I. Kisisel, Sargent & Lundy LLC, Chicago, IL, USA
Chair: M. K. Au-Yang, Independent Consultant, Lynchburg, VA, USA
Co-Chair: J. Todd, Penn State University, State College, PA, USA

PVP2008-61391: AXIALLY COMPRESSED CYLINDRICAL SHELL CONTAINING AXISYMMETRIC RANDOM IMPERFECTIONS: FOURIER SERIES TECHNIQUES AND ASME SECTION VIII DIVISION 2 RULES
G. Brar, Y. Hari, University of North Carolina at Charlotte, Charlotte, NC, USA; D. Williams, Sharoden Engineering Consultants, P.A., Matthews, NC, USA

PVP2008-61400: PROBABILISTIC MULTISCALE MODELS FOR FRACTURE ANALYSIS OF FUNCTIONALLY GRADED COMPOSITES
A. Chakraborty, S. Rahman, University of Iowa, Iowa City, IA, USA

PVP2008-61328: APPLICATION OF PLASTIC REGION TIGHTENING BOLT TO FLANGE JOINT ASSEMBLY-DOWNSIZING OF FLANGE JOINT AND BEHAVIOR OF BOLT FORCE UNDER INTERNAL PRESSURE
S. Kaneda, H. Tsuji, Tokyo Denki University, Saitama, Japan

SESSION 2.2L (CS-3-2)
Tuesday, July 29, 10:30 am – 12:15 pm, Dupage, 3rd Floor
FATIGUE ISSUES IN PRESSURE VESSEL DESIGN—II
Sponsored by: Codes and Standards Committee
Developed by: A. Kalnins, Lehigh University, Bethlehem, PA, USA
Chair: W. Reinhardt, Atomic Energy of Canada Limited, Mississauga, ON, Canada
Co-Chair: C. Hinnant, Paulin Research Group, Houston, TX, USA

PVP2008-61771: ANALYSIS OF VARIABLE AMPLITUDE FATIGUE DATA OF THE P355NL1 STEEL USING THE EFFECTIVE STRAIN DAMAGE MODEL
H. F. S. G. Pereira, UCVE, IDMEC—Polo FEUP, Porto, Portugal; D. L. DuQuesnay, Royal Military College of Canada, Kingston, ON, Canada; A. M. P. De Jesus, University of Trás-os-Montes and Alto Douro, Vila Real, Portugal

PVP2008-61222: A COMPARATIVE STUDY OF FACTOR K_e IN DESIGN BY ANALYSIS FOR FATIGUE EVALUATION
R. Gurdal, AREVA, Lynchburg, VA, USA; S. Xu, Kinectrics Inc, Toronto, ON, Canada

PVP2008-61915: COMPARISON OF STRAIN RANGE MEASURES AND ENVIRONMENTAL FATIGUE CALCULATION METHODOLOGIES FOR THE STEPPED PIPE TESTS
R. Gurdal, AREVA, Lynchburg, VA, USA; S. Xu, Kinectrics Inc, Toronto, ON, Canada

SESSION 2.2M (OAC-8-2)
Tuesday, July 29, 10:30 am – 12:15 pm, Houston, 5th Floor
AGING MANAGEMENT AND LIFE EXTENSION II
Sponsored by: PVPD Operations, Applications, & Components Technical Committee
Developed by: V. Shah, Argonne National Laboratory, Argonne, IL, USA; G. Bezdikian, Georges Bezdikian Consulting, Le Vesinet, France
Chair: M. Brumovsky, Nuclear Research Institute Rez plc, Rez, Czech Republic
Co-Chair: A. Morris, E.ON UK, Power Technology, Nottingham, United Kingdom

PVP2008-61861: PLANT LIFE MANAGEMENT OF EDF PWR NUCLEAR FLEET AND EPR FLAMANVILLE 3 DESIGN: SAFETY AND PRESSURE VESSELS REQUIREMENTS
F. Hedin, EDF Generation—Nuclear Engineering, Villeurbanne, France

PVP2008-61524: ASSESSMENT OF THE REAL FATIGUE USAGE OF THE VOLUME CONTROL SYSTEM
K.-D. Tulke, EnBW Kernkraft, Philippsburg, Germany; F. Schoeckle, AMTEC Services, Lauffen, Germany

SESSION 2.2N (SE-11-1)
Tuesday, July 29, 10:30 am – 12:15 pm, Kane, 3rd Floor
FORUM ON SEISMIC DESIGN OF PIPING SYSTEMS FOR THE YEAR 2010
Sponsored by: Seismic Engineering Committee
Developed by: G. Slagis, G C Slagis Associates, Pleasant Hill, CA, USA
Chair: G. Slagis, G C Slagis Associates, Pleasant Hill, CA, USA
Co-Chair: D. T. Clark, Idaho National Laboratory, Idaho Falls, ID, USA

PVP2008-61052: THE 2007 FORUM ON SEISMIC DESIGN OF PIPING SYSTEMS FOR THE YEAR 2010
G. Slagis, G C Slagis Associates, Pleasant Hill, CA, USA

SESSION 2.2O (MF-11-1)
Tuesday, July 29, 10:30 am – 12:15 pm, Los Angeles, 5th Floor
MANAGEMENT FOR WALL THINNING CAUSED BY FLOW ACCELERATED CORROSION
Sponsored by: Material and Fabrication
Developed by: K. Hasegawa, JNES, Tokyo, Japan; Y.-J. Kim, Korea University, Seoul, Korea (Republic)
Chair: Y.-W. Park, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic)
Co-Chair: K. Takahashi, Yokohama National University, Yokohama, Kanagawa, Japan
PVP2008-61185: FLOW ACCELERATED CORROSION—ENTRANCE EFFECT
A. Barth, South Carolina Electric & Gas, Jenkinsville, SC, USA; H. Crockett, EPRI, Charlotte, NC, USA; L. F. Goyette, Pacific Gas & Electric, Avila Beach, CA, USA; J. Horowitz, Sequoia Consulting Group, Inc., Attleboro, MA, USA; R. Montgomery, PSEG Nuclear, Hancocks Bridge, NJ, USA
PVP2008-61311: A COMPARISON OF FAC PROGRAMS IN JAPAN AND USA
H. Crockett, EPRI, Charlotte, NC, USA; N. Hiranuma, Tokyo Electric Power Company, Tokyo, Japan; M. Honjin, TEPSCO, Charlotte, NC, USA; J. Horowitz, Sequoia Consulting Group, Inc., Attleboro, MA, USA
PVP2008-61161: CURRENT WALL THINNING MEASURED ON PIPING SYSTEM OF MAIN OR AUXILIARY BOILER PLANT IN SHIPS
H. Shiihara, H. Matsushita, Y. Nagayama, Nippon Kaiji Kyokai, Hiroshima Branch, Hiroshima, Japan
PVP2008-61823: THE COMSY-CODE FOR THE DETECTING OF PIPING DEGRADATION DUE TO FLOW-ACCELERATED CORROSION
A. Zander, H. Nopper, AREVA NP GmbH, Erlangen, Germany

SESSION 2.2P (HP-2-1)
Tuesday, July 29, 10:30 am – 12:15 pm, McHenry, 3rd Floor
NEW AND EMERGING METHODS OF APPLICATION & ADVANCEMENT IN HIGH PRESSURE
Developed by: L. Antalffy
Chair: L. Antalffy
Co-Chair: M. Mann, KMT Waterjet Systems, Inc., Baxter Springs, KS, USA
PVP2008-61124: ADVANCES IN DYNAMIC ANALYSIS FOR HYPERCOMPRESSOR CYLINDER VALVES
M. Bianchini, N. Campo, S. Francini, GE Oil & Gas Nuovo Pignone, Florence, Italy; V. Rengasamy, GE Energy, Bangalore, Karnataka, India
PVP2008-61286: FLOW COEFFICIENT EVALUATION OF POPPET VALVES USED IN RECIPROCATING COMPRESSORS FOR LIQUEFIED PETROLEUM GAS (LPG)
E. Giacomelli, M. Schiavone, F. Manfrone, A. Raggi, Dott. Ing. Mario Cozzani S.r.L, Arcola(SP), Italy
PVP2008-61700: MODELING AND OPTIMIZATION OF ULTRA HIGH PRESSURE VESSEL WITH SELF-PROTECTIVE FLAT STEEL RIBBONS WOUND AND TOOTH-LOCKED QUICK-ACTUATING END CLOSURE
X. Ma, T. Qiang, Jiangsu Province Special Equipment Safety Supervision Inspection Institute, NanJing, Jiangsu, China; Z. Ding, Sichuan Province Lutianhua Company Limited, Luzhou, Sichuan, China; H. Chen, J. Zheng, Zhejiang University, Hangzhou, Zhejiang, China
PVP2008-61638: OPTIMIZATION OF COMPRESSION AND STORAGE REQUIREMENTS AT HYDROGEN REFUELING STATIONS
A. Elgowainy, M. Mintz, Argonne National Laboratory, Argonne, IL, USA; B. Kelly, Nexant, Inc., San Francisco, CA, USA; M. Hooks, TIAX LLC, Cupertino, CA, USA; M. Paster, U.S. Department of Energy, Washington, DC, USA

SESSION 2.2Q (CT-4-2)
Tuesday, July 29, 10:30 am – 12:15 pm, Miami, 5th Floor
ASSEMBLY OF BOLTED JOINTS II
Sponsored by: Computer Technology Committee
Developed by: J. Waterland, Virginia Sealing Products, Inc., Hopewell, VA, USA; J. Payne, Jpac Inc, Long Valley, NJ, USA
Chair: J. Waterland, Virginia Sealing Products, Inc., Hopewell, VA, USA
Co-Chair: T. Sawa, Hiroshima University, Higashihiroshima, Hiroshima, Japan
PVP2008-61115: A NEW TIGHTENING METHODOLOGY OF GASKETED JOINT BASED ON NONLINEAR FINITE ELEMENT ANALYSIS
S. Nassar, Z. Wu, Oakland University, Rochester, MI, USA; X. Yang, Oakland University, Auburn Hills, MI, USA
PVP2008-61337: BLOW OUT SAFETY OF BOLTED FLANGE CONNECTIONS
H. Kockelmann, E. Roos, University of Stuttgart, Stuttgart, BW, Germany; R. Hahn, MPA Stuttgart, Stuttgart, Germany; J. Bartonicek, JB Consulting, Neckanwestheim, Germany
PVP2008-61454: APPLICATION OF BOLTED FLANGE JOINT ASSEMBLY GUIDELINES HPIS Z103 TR To ePTFE SHEET GASKET
H. Tsuji, Y. Terui, Tokyo Denki University, Saitama, Japan
PVP2008-61583: A PRACTICAL APPROACH TO EVALUATING FASTENER PRELOAD RETENTION WITH ELASTOMERIC GASKETS
D. Reid, S. Beret, Virginia Sealing Products, Kingwood, TX, USA; J. Frew, Virginia Sealing Products, Kingsport, TN, USA

SESSION 2.2R (CT-16-2)
Tuesday, July 29, 10:30 am – 12:15 pm, Chicago Ballroom Foyer, 5th Floor
PVP SOFTWARE DEMONSTRATION FORUM—PART 2
Sponsored by: Computer Technology Committee
Developed by: J. F. Cory, Jr., Siemens PLM Software, Milford, OH, USA

Block 2.3: Tuesday, July 29 (2:00 pm – 3:45 pm)

SESSION 2.3A (DA-7-1)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom A, 5th Floor
COMPOSITE MATERIALS AND STRUCTURES
Sponsored by: Design and Analysis Committee
SESSION 2.3A (OAC-6-3)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom B, 5th Floor
FLUID FLOW AROUND SLENDER STRUCTURES
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: M. Souli; M. Moatamedi, Institute for Materials Research, University of Salford, Manchester, United Kingdom
Chair: M. Souli
Co-Chair: M. Moatamedi, Institute for Materials Research, University of Salford, Manchester, United Kingdom
PVP2008-61003: A NUMERICAL SIMULATION OF VORTEX INDUCED VIBRATION ON A ELASTICALLY SUPPORTED CIRCULAR RIGID CYLINDER AT MODERATE REYNOLDS NUMBERS
J.-F. Sigrist, DCNS Propulsion, La Montagne, France; C. Allery, C. Beghein, Université de La Rochelle, La Rochelle, France
PVP2008-61036: PHYSICAL AND NUMERICAL STUDY OF THE INTERACTION BETWEEN A FLUID AND AN OSCILLATING CYLINDER
M. Duclercq, D. Broc, CEA Saclay, Gif-sur-Yvette, France
PVP2008-61035: AN EXPERIMENTAL AND NUMERICAL INVESTIGATION OF FLOW OVER A HYDROFOIL IN TRANSIENT REGIMES BASED ON WALL-PRESSURE ANALYSIS
A. Ducoin, IRENav, Brest Armées, France; J.-A. Astolfi, F. Deniset, Ecole Navale, Brest Armées, France; J.-F. Sigrist, DCNS Propulsion, Nantes, France; V. Soyer, DCNS Propulsion, La Montagne, France
PVP2008-61230: ANALYTICAL METHOD FOR THE CALCULATION OF J PARAMETER FOR SURFACE CRACKS IN PIPING WELDS
S. Mane, Y. Kayser, CEA, Gif-sur-Yvette, France; P. Le Deffieu, EDF, Moret-sur-Loing, France
PVP2008-61452: ELASTIC-PLASTIC ANALYSIS OF AN ELBOW WITH AXIAL PART-THROUGH INTERNAL CRACK AT CROWN UNDER IN-PLANE BENDING
G. Papadakis, King’s College London, London, United Kingdom; C. Liang, X. Luo, University of Glasgow, Glasgow, United Kingdom

SESSION 2.3B (OAC-6-3)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom C, 5th Floor
REPAIR STRATEGY—1
Sponsored by: Operations, Applications, and Components Committee
Developed by: T. Tahara, Petroleum Association of Japan, Tokyo, Japan; S. Yoshida, Yokohama National University, Yokohama, Japan
Chair: T. Tahara, Petroleum Association of Japan, Tokyo, Japan
Co-Chair: R. Kayano, The Japan Steel Works, Ltd., Hokkaido, Japan
PVP2008-61083: SIMULATION OF LEAKAGE BEHAVIOR ON BOLTED FLANGED CONNECTIONS IN ELEVATED TEMPERATURE SERVICE
F. Ando, Chiyoda Advanced Solutions, Yokohama, Kanagawa, Japan; Y. Ido, Japan Petroleum Energy Center, Tokyo, Japan; T. Oginuma, Chiyoda Koshio, Yokohama, Kanagawa, Japan
PVP2008-61779: DEVELOPMENT OF A DISSIMILAR TEMPER BEAD WELDING PROCEDURE FOR AMINE TOWER REPAIRS
M. Boring, Y.-P. Yang, Edison Welding Institute, Columbus, OH, USA
PVP2008-61085: BUCKLING CHARACTERISTICS OF FLOATING ROOF PONTOONS IN ABOVEGROUND STORAGE TANKS SUBJECT-ED TO BENDING LOAD IN TWO DIRECTIONS
S. Yoshida, Yokohama National University, Yokohama, Japan; K. Kitamura, Kochi National College of Technology, Kochi, Japan

SESSION 2.3C (OAC-6-3)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom D, 5th Floor
ASSESSMENT OF COMPONENTS—1
Sponsored by: Design and Analysis Committee
Developed by: D. Moineureau, Electricité de France—EDF R&D—Département MMC, Maret-sur-Loing, France
Chair: J. Nowak, Nuclear Research Institute Rez plc, Rez, Czech Republic
Co-Chair: S. Marie, CEA, Gif-sur-Yvette, France
PVP2008-61051: ENGINEERING CRITICAL ASSESSMENTS OF DUC-TILEPIPES WITH AXIAL FLAWS AND HIGH STRAIN HARDENING CAPACITY
C. Ruggieri, University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil
PVP2008-61230: ANALYTICAL METHOD FOR THE CALCULATION OF J PARAMETER FOR SURFACE CRACKS IN PIPING WELDS
S. Mane, Y. Kayser, CEA, Gif-sur-Yvette, France; P. Le Deffieu, EDF, Moret-sur-Loing, France; P. Gilles, AREVA NP, Paris la Défense, France; B. Barthelet, EDF, Saint Denis, France; J. Schwab, EDF, Lyon, France
PVP2008-61452: ELASTIC-PLASTIC ANALYSIS OF AN ELBOW WITH AXIAL PART-THROUGH INTERNAL CRACK AT CROWN UNDER IN-PLANE BENDING
C. Ruggieri, University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil
K.M. Prabhakaran, S. Bhate, V. Bhasin, A.K. Ghosh, Bhabha Atomic Research Centre, Mumbai, Maharashtra, India

PVP2008-61394: SIMULATION OF REACTOR PRESSURE VESSEL INTERNAALS THERMAL STRESS DUE TO INTERNAL HEAT GENERATION AND ENVIRONMENTAL BOUNDARY CONDITIONS USING STRESS TRANSFER FUNCTIONS
M. A. Gray, E. L. Cranford III, C. Y. Yang, Westinghouse Electric Co. LLC, Madison, PA, USA; C. Gilmore, Westinghouse Electric Co. LLC, Monroeville, PA, USA; S. G. Guillot, Westinghouse Electric Co. LLC, Nivelles, Belgium

SESSION 2.3E (TW-1-4)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom E, 5th Floor
TECHNICAL TUTORIAL: APPLICATIONS OF THE ASME CODE TO RADIOACTIVE MATERIALS PACKAGING—I
Sponsored by: The PVP Division Conference Committee
Presented by: A. C. Smith, Savannah River National Laboratory, Aiken, SC, USA; Y. Liu, Argonne National Laboratory, Argonne, IL, USA

SESSION 2.3F (MF-2-5)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom F, 5th Floor
APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—5
Sponsored by: Materials & Fabrication Committee
Developed by: T.-L. Sham, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Chair: T.-L. Sham, Oak Ridge National Laboratory, Oak Ridge, TN, USA; S. Yin, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Co-Chair: S. Yin, Oak Ridge National Laboratory, Oak Ridge, TN, USA
PVP2008-61058: A NEW RATIONALE FOR SCATTER IN FRACTURE TOUGHNESS MEASUREMENTS
S. Noronha, AREVA NP Inc, Lynchburg, VA, USA
PVP2008-61059: A DISLOCATION SIMULATION APPROACH TO PHYSICAL BASIS OF MASTER CURVE
S. Noronha, H. Gumawardane, AREVA NP Inc, Lynchburg, VA, USA
PVP2008-61388: CLEAVAGE FRACTURE ANALYSIS OF CLADDED BEAMS WITH AN EMBEDDED FLAW UNDER FOUR-POINT BENDING
S. Yin, P. Williams, R. Bass, Oak Ridge National Laboratory, Oak Ridge, TN, USA
PVP2008-61523: FLAW ASSESSMENT IN A PETRO-CHEMICAL SPHERICAL SHELL BY USING FAD METHOD
D. H. Cho, J.-B. Choi, Y.-S. Chang, Y.-J. Kim, Sungkyunkwan University, Suwon, Korea (Republic); S. I. Han, Korea Institute of Gas Safety Research & Development, Republic of Korea, Shiheung, Korea (Republic)

SESSION 2.3G (MF-5-6)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 6
Developed by: A. Sherry, The University of Manchester, Manchester, United Kingdom; E. Keirn, Areva, Erlangen, Germany
Chair: P. Hurrell, Rolls-Royce plc, Derby, United Kingdom
Co-Chair: C. Ohms, Joint Research Centre, Petten, Netherlands
PVP2008-61341: MEASUREMENT AND PREDICTION OF THE RESIDUAL STRESS FIELD IN AN AUTOGENOUSLY WELDED STAINLESS STEEL PLATE
H. Alizadeh, S. Lewis, S. Hossain, D. Smith, C. Truman, University of Bristol, Bristol, United Kingdom; C. Gill, Rolls-Royce, Derby, United Kingdom
PVP2008-61402: EFFECTS OF PIPE DIMENSIONS AND OUTER SURFACE-BUTTERING WELD CONDITIONS ON RESIDUAL STRESS DISTRIBUTIONS
N. Yanagida, Hitachi, Ltd., Hitachi, Ibaraki, Japan
PVP2008-61469: RESIDUAL STRESS MEASUREMENTS IN AUTOGENOUS SA508 STEEL WELDS
J. A. Francis, M. Turski, P. J. Withers, University of Manchester, Manchester, United Kingdom; P. Hurrell, C. T. Watson, Rolls Royce Plc, Derby, United Kingdom; S. Bate, A. Warren, Serco, Warrington, Cheshire, United Kingdom; J. R. Kornmeier, Technische Universität München, München, Germany
PVP2008-61509: THE PREDICTION OF RESIDUAL STRESSES IN AUTOGENOUSLY WELDED FERRITIC BEAMS
A. Warren, I. Symington, S. Bate, Serco, Warrington, Cheshire, United Kingdom; J. A. Francis, M. Turski, University of Manchester, Manchester, United Kingdom; P. Hurrell, Rolls-Royce plc, Derby, United Kingdom

SESSION 2.3H (MF-4-2)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom H, 5th Floor
MATERIALS FOR HYDROGEN SERVICE—II
Sponsored by: Materials and Fabrication Committee
Developed by: M. P. H. Brongers, Det Norske Veritas (DNV), Dublin, OH, USA; Y. Tanaka, Nippon Steel Corp., Futtsu, Chiba, Japan; A. Duncan, Savannah River National Laboratory, Aiken, SC, USA
Chair: M. P. H. Brongers, Det Norske Veritas (DNV), Dublin, OH, USA
Co-Chair: A. Duncan, Savannah River National Laboratory, Aiken, SC, USA
PVP2008-61460: ACCELERATION TEST ON TEMPER EMBRITTLEMENT OF 2.25Cr1Mo STEEL FOR HYDRO-CRACKING REACTOR
J. Zhao, Nanjing University of Technology, Nanjing, Jiangsu, China
PVP2008-61777: HYDROGEN EFFECTS ON THE BURST PROPERTIES OF TYPE 304L STAINLESS STEEL FLAWED VESSELS
M. J. Morgan, M. C. Hall, P.-S. Lam, W. D. Thompson, Savannah River National Laboratory, Aiken, SC, USA
PVP2008-61316: EXPERIMENTAL INVESTIGATION OF HYDROGEN EFFECT ON MECHANICAL PROPERTIES OF 304L STAINLESS STEEL
J. Yong, G. Jian-ming, T. Jianqun, G. Luyang, Nanjing University of Technology, Nanjing, Jiangsu, China

SESSION 2.3J (CS-7-3)
Tuesday, July 29, 2:00 pm – 3:45 pm, Cook, 3rd Floor
ASME CODE SECTION XI ACTIVITIES—3
Sponsored by: Codes and Standards Committee
Developed by: D. Scarth, Kinectrics, Toronto, ON, Canada; R. C. Cipolla, Aptech Engineering Services, Inc., Sunnyvale, CA, USA
Chair: D. Scarth, Kinectrics, Toronto, ON, Canada
Co-Chair: R. C. Cipolla, Aptech Engineering Services, Inc., Sunnyvale, CA, USA
PVP2008-61514: STRUCTURAL EVALUATION OF DEGRADED CONTAINMENT PENETRATION SLEEVES
D. J. Vasquez, A. J. Smith, K. K. Dwivedy, Dominion Resources Services, Inc., Glen Allen, VA, USA
PVP2008-61803: TECHNICAL BASIS FOR USING A MASTER CURVE IN LIEU OF THE CODE Kic CURVE IN ASME BOILER & PRESSURE VESSEL CODE
K. Yoon, AREVA NP Inc., Chantilly, VA, USA; J. Merkle, Oak Ridge National Laboratory, Oak Ridge, TN, USA

SESSION 2.3K (SPC-1-3)
Tuesday, July 29, 2:00 pm – 3:45 pm, Lakeview, 2nd Floor
STUDENT PAPER COMPETITION 3—PH.D. LEVEL
Sponsored by: PVP Senate
Developed by: M. K. Au-Yang, Independent Consultant, Lynchburg, VA, USA; I. Kisisel, Sargent & Lundy LLC, Chicago, IL, USA
Chair: M. K. Au-Yang, Independent Consultant, Lynchburg, VA, USA
Co-Chair: J. Todd, Penn State University, State College, PA, USA
PVP2008-61076: STANDARDIZATION OF CTOD TOUGHNESS CORRECTION FOR CONSTRAINT LOSS IN STEEL COMPONENTS
F. Minami, M. Ohata, Osaka University, Suita, Osaka, Japan
PVP2008-61142: EQUIVALENT CTOD RATIO & FOR CORRECTION OF CTOD FOR CONSTRAINT LOSS
M. Ohata, F. Minami, Osaka University, Suita, Osaka, Japan
PVP2008-61680: RELATIONSHIP BETWEEN WEIBULL PARAMETER AND FRACTURE TOUGHNESS OF STRUCTURAL STEELS
T. Hanada, JFE Steel Corporation, Chiba, Japan; M. Ohata, F. Minami, Osaka University, Suita, Osaka, Japan
PVP2008-61631: APPLICATION OF EQUIVALENT CTOD RATIO TO FRACTURE ASSESSMENT OF STRUCTURAL COMPONENTS
S. Igi, JFE Steel Corporation, Chiba, Japan; M. Ohata, F. Minami, Osaka University, Suita, Osaka, Japan
PVP2008-61637: FITNET FFS METHODOLOGIES FOR THE ASSESSMENT OF LOW CONSTRAINT CONDITIONS: OVERVIEW, CONTENTS AND NEW CONTRIBUTIONS
S. C. González, F. Gutiérrez-Solana, University of Cantabria, Santander, Cantabria, Spain; M. Kocak, GKSS Research Center, Geesthacht, Germany

SESSION 2.3L (OAC-4-4)
Tuesday, July 29, 2:00 pm – 3:45 pm, Houston, 5th Floor
DEVELOPMENT AND USE ISSUES
Sponsored by: Operations, Applications, and Components Committee
Developed by: M. R. Feldman, Oak Ridge National Laboratory, Knoxville, TN, USA
Chair: A. C. Smith, Savannah River National Lab, Aiken, SC, USA
Co-Chair: C. Bajwa, US Nuclear Regulatory Commission, Rockville, MD, USA
PVP2008-61215: IMPACT TESTING OF STAINLESS STEEL MATERIAL AT COLD TEMPERATURES
S. Snow, D. K. Morton, R. Blandford, Idaho National Laboratory, Idaho Falls, ID, USA
PVP2008-61269: EFFECT OF CHEMISTRY VARIATIONS OF WROUGHT N06022 PLATES ON THE REPASSIVATION POTENTIAL IN 1 M NaCl AT 90°C
K. G. Mon, Areva FS, Las Vegas, NV, USA; R. B. Rebak, GE Global Research Center, Schenectady, NY, USA
PVP2008-61272: LONG-TERM ENVIRONMENTAL DEGRADATION OF ZIRCONIUM ALLOYS IN CONTACT WITH SPENT NUCLEAR FUEL—A REVIEW
R. B. Rebak, GE Global Research Center, Schenectady, NY, USA
PVP2008-61877: HEADSPACE GAS EVALUATION OF WELDED PLUTONIUM STORAGE CONTAINERS
B. Hardy, M. Arnold, S. Hensel, Savannah River National Lab, Aiken, SC, USA

SESSION 2.3M (CS-19-1)
Tuesday, July 29, 2:00 pm – 3:45 pm, Dupage, 3rd Floor
ASSESSMENT OF CONSTRAINT CONDITIONS IN ISO/DIS PROCEDURE AND FITNET PROCEDURE
Sponsored by: Codes and Standards Committee
Developed by: F. Minami, Osaka University, Suita, Osaka, Japan; M. Kocak, GKSS Research Center, Geesthacht, Germany
Chair: F. Minami, Osaka University, Suita, Osaka, Japan
Co-Chair: S. Cicero González, University of Cantabria, Santander, Cantabria, Spain
PVP2008-61076: STANDARDIZATION OF CTOD TOUGHNESS CORRECTION FOR CONSTRAINT LOSS IN STEEL COMPONENTS
F. Minami, M. Ohata, Osaka University, Suita, Osaka, Japan
PVP2008-61142: EQUIVALENT CTOD RATIO & FOR CORRECTION OF CTOD FOR CONSTRAINT LOSS
M. Ohata, F. Minami, Osaka University, Suita, Osaka, Japan
PVP2008-61680: RELATIONSHIP BETWEEN WEIBULL PARAMETER AND FRACTURE TOUGHNESS OF STRUCTURAL STEELS
T. Hanada, JFE Steel Corporation, Chiba, Japan; M. Ohata, F. Minami, Osaka University, Suita, Osaka, Japan
PVP2008-61631: APPLICATION OF EQUIVALENT CTOD RATIO TO FRACTURE ASSESSMENT OF STRUCTURAL COMPONENTS
S. Igi, JFE Steel Corporation, Chiba, Japan; M. Ohata, F. Minami, Osaka University, Suita, Osaka, Japan
PVP2008-61637: FITNET FFS METHODOLOGIES FOR THE ASSESSMENT OF LOW CONSTRAINT CONDITIONS: OVERVIEW, CONTENTS AND NEW CONTRIBUTIONS
S. C. González, F. Gutiérrez-Solana, University of Cantabria, Santander, Cantabria, Spain; M. Kocak, GKSS Research Center, Geesthacht, Germany
SESSION 2.3N (SE-1-1)
Tuesday, July 29, 2:00 pm – 3:45 pm, Kane, 3rd Floor
SEISMIC EVALUATION OF SYSTEMS, STRUCTURES AND COMPONENTS
Sponsored by: Seismic Engineering Committee
Developed by: D. T. Clark, Idaho National Laboratory, Idaho Falls, ID, USA; G. Slagis, G C Slagis Associates, Pleasant Hill, CA, USA
Chair: D. T. Clark, Idaho National Laboratory, Idaho Falls, ID, USA
Co-Chair: G. Slagis, G C Slagis Associates, Pleasant Hill, CA, USA
PVP2008-61243: UNIQUE METHOD FOR GENERATING DESIGN EARTHQUAKE TIME HISTORIES
R. Spears, Idaho National Laboratory, Idaho Falls, ID, USA
PVP2008-61244: UNIQUE METHOD FOR GENERATING DESIGN EARTHQUAKE TIME HISTORY SEEDS
R. Spears, Idaho National Laboratory, Idaho Falls, ID, USA
PVP2008-61449: DYNAMIC STRENGTH EVALUATION OF STRAIGHT PIPE USING ENERGY BALANCE METHOD
K. Minagawa, S. Fujita, Tokyo Denki University, Tokyo, Japan; S. Kitamura, Shigeki Okamura, Japan Atomic Energy Agency, Ibaraki, Japan
PVP2008-61306: SCC INTEGRITY 1—IMPLICATION OF WOLF CREEK CRACKING
Sponsored by: Materials and Fabrication
Developed by: D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Chair: D.-J. Shim, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Co-Chair: R. Dixon, Structural Integrity Associates, Huntersville, NC, USA
PVP2008-61032: THE EVALUATION OF THE 3-D RESIDUAL STRESS FIELD DUE TO HYDRAULIC AUTOFRETTAGE IN A FINITE LENGTH CYLINDER INCORPORATING THE BAUSCHINGER EFFECT FACTOR BASED ON THE “ZERO OFFSET YIELD STRESS”
J. Perry, M. Perl, Ben-Gurion University of the Negev, Beer-Sheva, Israel
PVP2008-61573: AN ANALYTICAL FRAMEWORK FOR THE SOLUTION OF AUTOFRETTAGED TUBES UNDER CONSTANT AXIAL STRAIN CONDITION
E. Hosseiniyan, G.-H. Farrahi, Sharif University of Technology, Tehran, Iran
PVP2008-61482: ON THE MATERIAL MODELING OF THE AUTOFRETTAGE STRESS ANALYSIS INCLUDING THE ‘SINGLE EFFECTIVE MATERIAL’
A. Parker, Defence Academy UK/University of Cranfield, Lewes, East Sussex, United Kingdom; M. C. Gibson, A. Hameed, J. G Hetherington, University of Cranfield, Swindon, Wiltshire, United Kingdom; E. Troiano, US Army, Benet Research Labs, Watervliet, NY, USA;
SESSION 2.3O (MF-14-1)
Tuesday, July 29, 2:00 pm – 3:45 pm, Los Angeles, 5th Floor
SCC INTEGRITY 1—IMPLICATION OF WOLF CREEK CRACKING
Sponsored by: Materials and Fabrication
Developed by: D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Chair: D.-J. Shim, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Co-Chair: R. Dixon, Structural Integrity Associates, Huntersville, NC, USA
PVP2008-61032: THE EVALUATION OF THE 3-D RESIDUAL STRESS FIELD DUE TO HYDRAULIC AUTOFRETTAGE IN A FINITE LENGTH CYLINDER INCORPORATING THE BAUSCHINGER EFFECT FACTOR BASED ON THE “ZERO OFFSET YIELD STRESS”
J. Perry, M. Perl, Ben-Gurion University of the Negev, Beer-Sheva, Israel
PVP2008-61573: AN ANALYTICAL FRAMEWORK FOR THE SOLUTION OF AUTOFRETTAGED TUBES UNDER CONSTANT AXIAL STRAIN CONDITION
E. Hosseiniyan, G.-H. Farrahi, Sharif University of Technology, Tehran, Iran
PVP2008-61482: ON THE MATERIAL MODELING OF THE AUTOFRETTAGE STRESS ANALYSIS INCLUDING THE ‘SINGLE EFFECTIVE MATERIAL’
A. Parker, Defence Academy UK/University of Cranfield, Lewes, East Sussex, United Kingdom; M. C. Gibson, A. Hameed, J. G Hetherington, University of Cranfield, Swindon, Wiltshire, United Kingdom; E. Troiano, US Army, Benet Research Labs, Watervliet, NY, USA;
SESSION 2.3P (HP-3-1)
Tuesday, July 29, 2:00 pm – 3:45 pm, McHenry, 3rd Floor
FE METHODOLOGY IN MATERIAL DEVELOPMENT
Developed by: C. Morgan, ExxonMobil Chemical Company, Baton Rouge, LA, USA
Chair: C. Morgan, ExxonMobil Chemical Company, Baton Rouge, LA, USA
Co-Chair: R. Dixon, Structural Integrity Associates, Huntersville, NC, USA
PVP2008-61038: MATERIAL MODELING FOR AUTOFRETTAGE STRESS ANALYSIS INCLUDING THE ‘SINGLE EFFECTIVE MATERIAL’
A. Parker, Defence Academy UK/University of Cranfield, Lewes, East Sussex, United Kingdom; M. C. Gibson, A. Hameed, J. G Hetherington, University of Cranfield, Swindon, Wiltshire, United Kingdom; E. Troiano, US Army, Benet Research Labs, Watervliet, NY, USA;
PANEL SESSION: STATUS REPORT—IMPROVEMENTS TO ASME PCC-1-2000—GUIDELINES FOR PRESSURE BOUNDARY BOLTED FLANGE JOINT ASSEMBLY
Developed by: J. Payne, Jpac Inc, Long Valley, NJ, USA; C. Neely, Becht Engineering Co., Inc, WV Office, St. Albans, WV, USA
Chair: J. Payne, Jpac Inc, Long Valley, NJ, USA
Co-Chair: C. Neely, Becht Engineering Co., Inc, WV Office, St. Albans, WV, USA
PVP2008-61946: OPENING REMARKS AND NEW GENERAL UPDATES OF PCC-1-2000 UPDATES (Panel)
C. Neely, Becht Engineering Co., Inc, WV Office, St. Albans, WV, USA
PVP2008-61947: NEW APPENDIX F, ALTERNATIVES TO LEGACY TORQUE INCREMENTS, NEW APPENDIX GPD, BEST ASSEMBLY LOAD FOR A GIVEN FLANGE JOINT (Panel)
W. Brown, The Equity Engineering Group, Inc, Shaker Heights, OH, USA
PVP2008-61950: NEW FLANGE JOINT LEAKAGE TROUBLESHOOTING GUIDE (Panel)
J. Payne, Jpac Inc, Long Valley, NJ, USA
PVP2008-61949: ACCREDITATION OF CERTIFYING ORGANIZATION, NEW APPENDIX L, USE OF MULTIPLE TOOLS (Panel)
D. Lay, Hytorc, Highland, USA
PVP2008-61948: APPENDIX E, IMPROVED FLANGE JOINT ALIGNMENT GUIDELINES, APPENDIX RBV REUSE OF BOLTS (Panel)
E. Hayman, Supperior Plant Services, Cleveland, USA
SESSION 2.3R (CT-16-3)
Tuesday, July 29, 2:00 pm – 3:45 pm, Chicago Ballroom Foyer, 5th Floor
PVP SOFTWARE DEMONSTRATION FORUM—PART 3
Sponsored by: Computer Technology Committee
Developed by: J. F. Cory, Jr., Siemens PLM Software, Milford, OH, USA

Block 2.4: Tuesday, July 29 (4:00 pm – 5:45 pm)

SESSION 2.4A (DA-7-2)
Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom A, 5th Floor
COMPOSITE MATERIALS AND STRUCTURES
Sponsored by: Design and Analysis Committee
Developed by: M. Ruggles-Wrenn, Air Force Institute of Technology, Wright-Patterson Air Force Base, OH, USA; P. Mertiny, University of Alberta, Edmonton, AB, Canada
Chair: M. Ruggles-Wrenn, Air Force Institute of Technology, WPAFB, OH, USA
Co-Chair: J. Abou-Hanna, Bradley University, Peoria, IL, USA
PVP2008-61540: EFFECT OF THE FIBER-REINFORCEMENT MATERIAL ON THE LEAKAGE FAILURE IN POLYMER COMPOSITE PIPING
P. Mertiny, K. Juss, University of Alberta, Edmonton, AB, Canada
PVP2008-61727: EFFECT OF WASHERS AND BOLT TENSION ON THE BEHAVIOR OF THICK COMPOSITE JOINTS
V. Virupaksha, S. Nassar, Oakland University, Rochester, MI, USA
PVP2008-61435: FINITE ELEMENT ANALYSIS OF Al-CARBON FIBER/EPoxy COMPOSITE LAMINATES
P. Liu, Zhejiang University, Hangzhou, Zhejiang, China
PVP2008-61606: MULTI-OBJECTIVE OPTIMAL DESIGN OF SANDWICH COMPOSITE LAMINATES USING SIMULATED ANNEALING AND FEM
A. Sarhadi, Ferdowsi University, Tehran, Iran; M. Tahani, F. Kolahan, Ferdowsi University of Mashhad, Mashhad, Iran; M. Sarhadi, Marvdasht University, Shiraz, Iran
SESSION 2.4B (FSI-3-4)
Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom B, 5th Floor
TUBE BUNDLE VIBRATION
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: M. Fischer, Technical Consultant, München, Germany; M. Souli
Chair: M. Fischer, Technical Consultant, München, Germany
Co-Chair: M. Souli
PVP2008-61625: TOWARDS A VALIDATION DATABASE FOR SIMULATION OF FLUIDELASTIC INSTABILITY IN NORMAL TRIANGULAR HEAT EXCHANGER TUBE ARRAYS
J. Mahon, C. Meskell, Trinity College, Dublin, Ireland
PVP2008-61382: APPLICABILITY OF THE “WAVY-WALL” MODEL OF FLUIDELASTIC INSTABILITY TO A NORMAL TRIANGULAR TUBE ARRAY
J. Harel, C. Meskell, Trinity College, Dublin, Ireland
PVP2008-61570: TOWARD A GLOBAL MODEL FOR FSI IN TUBE BUNDLES
D. Broc, CEA Saclay, Gif-sur-Yvette, France
PVP2008-61002: DYNAMIC ANALYSIS OF A STEAM GENERATOR TUBE BUNDLE WITH FLUID-STRUCTURE INTERACTION
J.-F. Sigrist, DCNS Propulsion, La Montagne, France; D. Broc, CEA Saclay, Gif-sur-Yvette, France
SESSION 2.4C (OAC-3-1)
Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom C, 5th Floor
Monitoring, Diagnostic and Inspections
Sponsored by: Operations, Applications, and Components
Developed by: M. Brumovsky, Nuclear Research Institute Rez plc, Rez, Czech Republic
Chair: M. Brumovsky, Nuclear Research Institute Rez plc, Rez, Czech Republic
Co-Chair: I. Ezekoye, Westinghouse Electric Company, Pittsburgh, PA, USA

**PVP2008-61150: HIGH-SPEED SMART TRANSDUCER INTERFACE FOR STRAIN GAGES**

Al. Reich, S. Doherty, J. Shaw, Streamline Automation, LLC, Huntsville, AL, USA; A. Nelius, Aerospace Testing Alliance, Arnold AFB, TN, USA; K. Williams, University of Alabama, Tuscaloosa, AL, USA

**PVP2008-61479: WAYS FOR EXTENSION OF THE REACTOR PRESSURE VESSEL LIFETIME**

M. Brumovsky, Nuclear Research Institute Rez plc, Rez, Czech Republic

**PVP2008-61601: APPLICATION OF TIME SYNCHRONOUS Averaging, SPECTRAL KURTOSIS AND SUPPORT VECTOR MACHINES FOR BEARING FAULT IDENTIFICATION**

C. K. Nguepjop, N. W. Mureithi, A.A. Lakis, Ecole Polytechnique de Montreal, Montreal, QC, Canada

**PVP2008-61691: ON LEAK DIAGNOSIS OF PIPELINE USING COMPUTATIONAL PIPELINE MONITORING**

K. A. F. Moustafa, United Arab Emirates University, Al Ain, United Arab Emirates; G. M. Nawara, H. Elawady, M. Fouad, Zagazig University, Zagazig, Egypt

**SESSION 2.4D (DA-4-6)**

Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom D, 5th Floor

ASSESSMENT OF COMPONENTS—2

Sponsored by: Design and Analysis Committee

Developed by: D. Moinereau, Electricité de France—EDF R&D—Département MMC, Moret-sur-Loing, France

Chair: C. Ruggieri, University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil

Co-Chair: J.-P. Mathieu, EDF R&D, Moret-sur-Loing, France

**PVP2008-61026: A MESH INDEPENDENT GTN DAMAGE MODEL AND ITS APPLICATION IN SIMULATION OF DUCTILE FRACTURE BEHAVIOUR**

M. K. Samal, B. K. Dutta, H. S. Kushwaha, Bhabha Atomic Research Centre, Mumbai, India; M. Seidenfuss, E. Roos, University of Stuttgart, Stuttgart, Germany

**PVP2008-61035: A REVISED APPROACH TO DAMAGE MEASUREMENTS BASED ON STIFFNESS LOSS TECHNIQUE**

N. Bonora, A. Ruggiero, S. De Meo, D. Gentile, L. Esposito, University of Cassino, Cassino, Italy

**PVP2008-61035: MANAGEMENT OF HEADER END CAP CRACKING IN AN HRSG FABRICATED FROM P91 AND OTHER STEELS**

I. Paterson, C. R. Brett, E.ON UK Power Technology, Nottingham, Nottinghamshire, United Kingdom

**PVP2008-61673: ENVIRONMENTAL FATIGUE TEST OF CF8M WITH A SMALL AUTOCLAVE SIMULATING PWR CONDITIONS**

I.-Se. Jeong, G.-H. Ha, T.-R. Kim, Kore Electric Power Research Institute, Daejeon, Korea (Republic)

**SESSION 2.4E (TW-1-5)**

Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom E, 5th Floor

TECHNICAL TUTORIAL: APPLICATIONS OF THE ASME CODE TO RADIOACTIVE MATERIALS PACKAGING—II

Sponsored by: The PVP Division Conference Committee

Presented by: A. C. Smith, Savannah River National Laboratory, Aiken, SC, USA; Y. Liu, Argonne National Laboratory, Argonne, IL, USA

**SESSION 2.4F (MF-2-6)**

Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom F, 5th Floor

APPLICATIONS OF FRACTURE MECHANICS IN FAILURE ASSESSMENT—6

Sponsored by: Materials & Fabrication Committee

Developed by: D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom

Chair: D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom

Co-Chair: A. Toft, Serco, Warrington, Cheshire, United Kingdom

**PVP2008-61219: EXPERIMENTAL DETERMINATION OF J-R CURVES USING SENB SPECIMEN AND P-CMOD DATA**

X. Zhu, B. Leis, Battelle Memorial Institute, Columbus, OH, USA

**PVP2008-61346: PREDICTION OF FRACTURE UNDER GENERALISED ELASTIC-PLASTIC LOADING**

S. Lewis, D. Smith, C. Truman, University of Bristol, Bristol, United Kingdom

**PVP2008-61689: EBSD ANALYSIS OF FRACTURE SEPARATION IN X80 LINE PIPE STEEL**

Y. Li, L. Zhu, Tubular Goods Research Centre of China National Petroleum Company, Xi’an, ShannXi, China

**PVP2008-61750: A FATIGUE CRACK DRIVING FORCE PARAMETER**

Y. Xiong, Z. Gao, Zhejiang University of Technology, Hangzhou, Zhejiang, China; J. Katsuta, Takeshi Sakiyama, University of Nagasaki, Ngasaki, Japan

**SESSION 2.4G (MF-15-2)**

Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom G, 5th Floor

ELEVATED FRACTURE II

Developed by: B. Dogan, EPRI, Charlotte, NC, USA; K. Nikbin, Imperial College London, London, United Kingdom

Chair: F. W. Brust, Jr., Engineering Mechanics Corp. of Columbus, Columbus, OH, USA

Co-Chair: N. O’Dowd, University of Limerick, Limerick, Ireland

**PVP2008-61401: SMALL PUNCH CREEP PROPERTIES OF HEAT AFFECTED ZONES OF REDUCED Activation FERRITIC STEEL**

T. Kato, S. Komazaki, Y. Kohno, MURoran Institute of Technology, Muroran, Japan; H. Tanigawa, Japan Atomic Energy Agency, Tokai, Japan

**PVP2008-61406: CREEP CRACK GROWTH OF P92 WELDS**

M. Yatomi, A. Fuji, IHI Corporation, Yokohama, Japan; M. Tabuchi, NIMS, Tsukuba, Japan; Y. Hasegawa, Nippon Steel Corporation, Chiba, Japan; K. I. Kobayashi, Chiba University, Chiba, Japan; T. Yokobori Jr., Tohoku University, Sendai, Japan; T. Yokobori, Teikyo University, Tokyo, Japan
PVP2008-61502: THE INFLUENCE OF SPECIMEN GEOMETRY AND TEST TIMES ON HIGH TEMPERATURE CRACK GROWTH BEHAVIOUR IN PARENT AND WELDED 316H STAINLESS STEEL
C. M. Davies, K. Nikbin, Imperial College London, London, United Kingdom; R. Wimpory, HMI, Berlin, Germany; M. Tabuchi, NIMS, Tsukuba, Japan; D. Dean, BE Generation, Gloucester, United Kingdom

SESSION 2.4H (MF-12-1)
Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom H, 5th Floor
MECHANISTIC MATERIALS MODELING INCLUDING LOCAL APPROACHES 1
Developed by: A. Sherry, University of Manchester, Manchester, United Kingdom; E. Keim, Areva, Erlangen, Germany; D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom; A. Sisan, DNV, London, United Kingdom; S. Ortner, Nexia Solutions Ltd., Didcot, Oxfordshire, United Kingdom
Chair: A. Sherry, University of Manchester, Manchester, United Kingdom
Co-Chair: E. Keim, Areva, Erlangen, Germany

PVP2008-61080: THE WEIBULL STRESS MODEL FOR PREDICTING CLEAVAGE FRACTURE IN THE DUCTILE-TO-BRITTLE TRANSITION REGION
X. Gao, University of Akron, Akron, OH, USA; J. Petti, Sandia National Laboratory, Albuquerque, NM, USA; R. Dodds, Jr., University of Illinois at Urbana-Champaign, Urbana, IL, USA

PVP2008-61371: LOCAL APPROACH STUDIES OF THE EFFECT OF LOAD HISTORY ON DUCTILE FRACTURE
R. O. Howells, A. P. Jivkov, D. W. Beardsmore, J. Sharples, Serco, Warrington, Cheshire, United Kingdom; C. T. Watson, Rolls Royce Plc, Derby, United Kingdom

D. W. Beardsmore, Serco Technical and Assurance Services, Warrington, United Kingdom

PVP2008-61262: FINITE ELEMENT MODELLING OF TRANSGRANULAR CHLORIDE STRESS CORROSION CRACKING IN 304L AUSTENITIC STAINLESS STEEL
M. R. Wenman, S. E. Jarman, K. R. Trehewey, P. R. Chard-Tuckey, Defence College of Management and Technology, Gosport, United Kingdom; J. Barton, Rolls-Royce, Derby, United Kingdom

SESSION 2.4J (CS-8-1)
Tuesday, July 29, 4:00 pm – 5:45 pm, Cook, 3rd Floor
RECENT DEVELOPMENTS IN ASME CODES AND STANDARDS
Sponsored by: Codes and Standards Committee
Developed by: M. Rana, Praxair, Inc, Tonawanda, NY, USA
Chair: M. Rana, Praxair, Inc, Tonawanda, NY, USA
Co-Chair: G. Karcher

PVP2008-61814: CALCULATION OF B2’ STRESS INDICES USING FINITE ELEMENT ANALYSIS
K. Venkataramana, V. Bhasin, K.K. Vaze, H. S. Kushwaha, Bhabha Atomic Research Centre, Mumbai, India

PVP2008-61624: SUGGESTED IMPROVEMENTS TO APPENDIX G OF ASME SECTION XI CODE
H. Mehta, GE Hitachi Nuclear, Sunol, CA, USA; T. J. Griesbach, Structural Integrity Associates, Inc., San Jose, CA, USA; G. Stevens, Structural Integrity Associates, Inc., Centennial, CO, USA

PVP2008-61714: COMPENSATING FOR SHORTCOMINGS IN B31.3 APPENDICES P & S
D. Edwards, ConocoPhillips Co., Ponca City, OK, USA

SESSION 2.4K (CS-10-1)
Tuesday, July 29, 4:00 pm – 5:45 pm, Denver, 5th Floor
RECENT DEVELOPMENT OF PRESSURE EQUIPMENT STANDARD IN CHINA—I
Sponsored by: Codes and Standards Committee
Developed by: J. Zheng, Zhejiang University, Hangzhou, Zhejiang Province, China;
Chair: B. Shou, China Special Equipment Inspection Institute, Beijing, China
Co-Chair: D. H Nash, University of Strathclyde, Glasgow, United Kingdom

PVP2008-61851: RECENT DEVELOPMENT OF THE PRESSURE VESSEL CODES AND STANDARDS IN CHINA
B. Shou, China Special Equipment Inspection Institute, Beijing, China

PVP2008-61116: STRENGTH DESIGN REQUIREMENTS IN CHINESE PRESSURE PIPING CODE
S. Qin, National Technology Center of Process Equipment, Shanghai, China

PVP2008-61732: METHODS FOR DESIGN OF EXPLOSION CONTAINMENT VESSELS
Y. Chen, J. Zheng, G. Deng, Y. Ma, G. Sun, Zhejiang University, Hangzhou, Zhejiang Province, China

SESSION 2.4L (CS-19-2)
Tuesday, July 29, 4:00 pm – 5:45 pm, Dupage, 3rd Floor
ASSESSMENT OF CONSTRAINT INCORPORATING WITH RESIDUAL STRESS AND STRENGTH MISMATCH
Sponsored by: Codes and Standards Committee
Developed by: F. Minami, Osaka University, Suita, Osaka, Japan; M. Kocak, GKSS Research Center, Geesthacht, Germany
Chair: I. Hadley, TWI Ltd, Cambridge, United Kingdom
Co-Chair: E. Ostby, SINTEF Materials and Chemistry, Trondheim, Norway

PVP2008-61350: VALIDATION OF THE EUROPEAN FITNET FITNESS-FOR-SERVICE FRACTURE ASSESSMENT PROCEDURES
I. Hadley, L. Wei, TWI Ltd, Cambridge, United Kingdom

PVP2008-61475: RESIDUAL STRESS AND CONSTRAINT EFFECTS ON FRACTURE IN THE TRANSITION TEMPERATURE REGIME
G. K. S. Lee, A. Sherry, M. Goldthorpe, University of Manchester, Manchester, United Kingdom
PVP2008-61536: FRACTURE ASSESSMENT OF STRUCTURAL COMPONENT WITH RESIDUAL STRESS ON THE BASIS OF THE WEIBULL STRESS CRITERION
Y. Yamashita, IHI Corporation, Yokohama, Kanagawa, Japan; F. Minami, Osaka University, Suita, Osaka, Japan
PVP2008-61812: CONSTRAINT EFFECTS IN WELD THERMAL SIMULATED STEEL SPECIMENS
E. Ostby, B. Nyhus, SINTEF Materials and Chemistry, Trondheim, Norway; C. Thaulow, Norwegian University of Science and Technology, Trondheim, Norway

SESSION 2.4M (OAC-1-1)
Tuesday, July 29, 4:00 pm – 5:45 pm, Houston, 5th Floor
FAILURE ASSESSMENTS OF CRACKS
Sponsored by: Operations, Applications, and Components Committee
Developed by: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA; B. Cho, RiskSolver Communications, Irvine, CA, USA
Chair: D. Demoss, Sargent & Lundy LLC, Chicago, IL, USA
Co-Chair: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA
PVP2008-61462: CFD NUMERICAL SIMULATION OF THE SUBMARINE PIPELINE WITH SPOILER
J. Zhao, X. Wang, Nanjing University of Technology, Nanjing, Jiangsu, China
PVP2008-61566: ANALYTICAL SOLUTIONS AND TOOLS FOR ASSESSMENT OF SURFACE CRACKS IN CYLINDRICAL COMPONENTS
I. Varfolomeyev, Fraunhofer Institute for Mechanics of Materials, Freiburg, Germany; D. Beukelmann, TÜV SÜD Industrie Service GmbH, Munich, Germany
PVP2008-61622: CFD NUMERICAL SIMULATION OF THE SUBMARINE PIPELINE WITH SPOILER
J. Zhao, X. Wang, Nanjing University of Technology, Nanjing, Jiangsu, China
PVP2008-61566: ANALYTICAL SOLUTIONS AND TOOLS FOR ASSESSMENT OF SURFACE CRACKS IN CYLINDRICAL COMPONENTS
I. Varfolomeyev, Fraunhofer Institute for Mechanics of Materials, Freiburg, Germany; D. Beukelmann, TÜV SÜD Industrie Service GmbH, Munich, Germany
PVP2008-61678: A GLOBAL LIMIT LOAD SOLUTION FOR PLATES WITH EMBEDDED ELLIPTICAL CRACKS UNDER COMBINED TENSION AND BENDING
R. Li, Z. Fang, L. Liang, Z. Gao, Y. Lei, Zhejiang University of Technology, Hangzhou, Zhejiang, China
PVP2008-61905: EFFECTS OF NEGATIVE BIAXIAL LOADINGS AND NOTCH ON FAILURE ASSESSMENT DIAGRAMS
R. Kannusamy, Indian Institute of Technology, Bangalore, Karnataka, India; R. Krishnamurthi, Indian Institute of Technology Madras, Chennai, India; D. Hall, Honeywell Aerospace, South Bend, IN, USA

SESSION 2.4N (SE-12-1)
Tuesday, July 29, 4:00 pm – 5:45 pm, Kane, 3rd Floor
SEISMIC BEHAVIOUR OF STORAGE TANKS AND ASSOCIATED EQUIPMENT
Sponsored by: Seismic Engineering Committee
Developed by: T. Taniguchi, Tottori University, Tottori, Japan
Chair: T. Taniguchi, Tottori University, Tottori, Japan
Co-Chair: T. Matsui, Meijo University, Nagoya, Japan
PVP2008-61029: FINITE ELEMENT ANALYSIS OF SLOSHING IN AXI-SYMMETRIC VESSELS
D. Papaprockiopou, S. A. Karamanos, University of Thessaly, Volos, Greece
PVP2008-61305: THE ULTIMATE STRENGTH OF CYLINDRICAL LIQUID STORAGE TANKS UNDER EARTHQUAKES—SEISMIC CAPACITY TEST OF TANKS USED IN PWR PLANTS—PART 1: EVALUATION METHOD VERIFICATION TEST
T. Iijima, K. Suzuki, Japan Nuclear Energy Safety Organization (JNES), Tokyo, Japan; H. Morita, Mitsubishi Heavy Industries, Ltd., Takasago, Hyogo Pre., Japan; S. Murakami, Mitsubishi Heavy Industries, Ltd., Nagasaki, Nagasaki Pre., Japan; K. Tai, Mitsubishi Heavy Industries, Ltd., Kobe, Japan
PVP2008-61166: FLUID PRESSURE ON RECTANGULAR TANK CONSISTING OF RIGID SIDE WALLS AND RECTILINEARLY DEFORMING BOTTOM PLATE DUE TO UPLIFT MOTION
T. Taniguchi, Toru Segawa, Tottori University, Tottori, Japan
PVP2008-61054: RESPONSE SPECTRUM METHOD FOR SUBMERGED STRUCTURES
B.-L. Ly, Y. An, Atomic Energy of Canada Limited, Mississauga, ON, Canada
PVP2008-61953: THE ULTIMATE STRENGTH OF CYLINDRICAL LIQUID STORAGE TANKS UNDER EARTHQUAKES—SEISMIC CAPACITY TEST OF TANKS USED IN PWR PLANTS—PART 2: STATIC POSTBUCKLING STRENGTH TESTS
T. Iijima, K. Suzuki, Japan Nuclear Energy Safety Organization (JNES), Tokyo, Japan; T. Okafuji, Mitsubishi Heavy Industries, Ltd.; Nagasaki, Japan; H. Morita, Mitsubishi Heavy Industries, Ltd., Takasago, Hyogo Pre., Japan; R. Fujimoto, Mitsubishi Heavy Industries, Ltd., Kobe, Japan

SESSION 2.4O (MF-6-1)
Tuesday, July 29, 4:00 pm – 5:45 pm, Los Angeles, 5th Floor
EUROPEAN PROGRAMS IN STRUCTURAL INTEGRITY—I
Sponsored by: Materials & Fabrication Committee
Developed by: E. Keim, Areva, Erlangen, Germany; D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom
Chair: D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom
Co-Chair: E. Keim, Areva, Erlangen, Germany
PVP2008-61090: EFFECTS OF NEUTRON IRRADIATION ON THE FRACTURE TOUGHNESS OF RPV MATERIALS: PREDICTION OF MATERIAL PROPERTY CHANGES FOR IRRADIATED EUREF REFERENCE MATERIAL A AND OTHER RPV MATERIALS
D. Lidbury, D. W. Beardsmore, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom
PVP2008-61090: EFFECTS OF NEUTRON IRRADIATION ON THE FRACTURE TOUGHNESS OF RPV MATERIALS: PREDICTION OF MATERIAL PROPERTY CHANGES FOR IRRADIATED EUREF REFERENCE MATERIAL A AND OTHER RPV MATERIALS
D. Lidbury, D. W. Beardsmore, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom
PVP2008-61108: TIMES: APPLICATION OF A LOCAL APPROACH MODEL WITHIN A CASE STUDY
M. Hümmen, E. Keim, AREVA NP GmbH, Erlangen, Germany; H. Hoffmann, VGB PowerTech e.V., Essen, Germany
PVP2008-61569: GRAIN-SCALE HETEROGENEITY EFFECT ON MECHANISTIC MODELLING OF CLEAVAGE FRACTURE OF A FERRITIC RPV STEEL FORGING MATERIAL
SESSION 2.4P (HP-4-1)
Tuesday, July 29, 4:00 pm – 5:45 pm, McHenry, 3rd Floor

PANEL SESSION: PANEL SESSION ON HIGH PRESSURE SYSTEMS STANDARDS
Developed by: D. Peters, Structural Integrity Associates, Edinboro, PA, USA; J. Keltjens, SABIC Europe, Geleen, Netherlands
Chair: D. Peters, Structural Integrity Associates, Edinboro, PA, USA
Co-Chair: J. Keltjens, SABIC Europe, Geleen, Netherlands

PVP2008-61942: A HISTORICAL PERSPECTIVE ON THE CREATION OF THE ASME HIGH PRESSURE SYSTEMS CODE (Panel)
D. Fryer, High Pressure Engineering & Safety, Fairview, PA, USA

PVP2008-61943: HIGH PRESSURE SYSTEMS AND THE B31.3 PIPING CODE (Panel)
F. W. Tatar, FM Global, Norwood, MA, USA

D. Peters, Structural Integrity Associates, Edinboro, PA, USA

SESSION 2.4Q (CT-11-2)
Tuesday, July 29, 4:00 pm – 5:45 pm, Miami, 5th Floor

COMPUTATIONAL MODELS FOR ELASTIC-PLASTIC FEA 2
Sponsored by: Computer Technology Committee
Developed by: W. Reinhardt, Atomic Energy of Canada Limited, Mississauga, ON, Canada
Chair: D. Jones, Bechtel Bettis, Inc, West Mifflin, PA, USA
Co-Chair: N. Zobeiry, Atomic Energy of Canada Ltd. (AECL), Mississauga, ON, Canada

PVP2008-61092: SHAKEDOWN BOUNDS OF STRUCTURES USING LINEAR AND NONLINEAR METHODS
D. Vlaicu, Ontario Power Generation, Pickering, ON, Canada

PVP2008-61902: OPTIMIZING THE STRENGTH OF A CONDENSER TUBE
M. Huang, Behr America, Troy, MI, USA

PVP2008-61646: INTEGRAL MEAN OF YIELD CRITERION IN DESIGN AND FITNESS FOR SERVICE ASSESSMENT
R. Adibi-Asl, AECL, Mississauga, ON, Canada; R. Seshadri, Memorial University of Newfoundland, St. John’s, NF, Canada

PVP2008-61746: STRESS CLASSIFICATION LINES STRAIGHT THROUGH SINGULARITIES
A. Kalnins, Lehigh University, Bethlehem, PA, USA

SESSION 2.4R (CT-16-4)
Tuesday, July 29, 4:00 pm – 5:45 pm, Chicago Ballroom Foyer, 5th Floor

PVP SOFTWARE DEMONSTRATION FORUM—PART 4
Sponsored by: Computer Technology Committee
Developed by: J. F. Cory, Jr., Siemens PLM Software, Milford, OH, USA

WEDNESDAY, JULY, 30

SESSION 3.1E (DA-4-9)
Wednesday, July 30, 8:30 am – 10:15 am, Chicago Ballroom E, 5th Floor

FATIGUE—1
Sponsored by: Design and Analysis Committee
Developed by: J.-M. Stephan, EDF R&D, Moret-sur-Loing, France
Chair: S. Ishihara, University of Toyama, Toyama, Japan
Co-Chair: J.-P. Sermage, EDF, Clamart, France

PVP2008-61081: PROBABILISTIC MODELING OF CRACK NETWORKS IN THERMAL FATIGUE
N. Malesys, F. Hild, LMT Cachan, ENS Cachan, Cachan, France; L. Vincent, CEA Saclay, GIF-sur-Yvette, France

PVP2008-61384: EFFECTS OF A SINGLE OVERLOAD EVENT ON THE FATIGUE CRACK GROWTH RATE OF A LOW ALLOYED ROTOR STEEL
J.-C. Le Roux, Electricité de France, Moret-sur-Loing, France; F. Hasnaoui, Electricité de France, Chatou, France

PVP2008-61592: S-N CURVES IN PRESSURE VESSEL STEELS USING THEORY OF CRITICAL DISTANCES
S. Chattopadhyay, The Pennsylvania State University, DuBois, PA, USA

PVP2008-61882: STOCHASTIC DAMAGE GROWTH ANALYSIS USING EFGM
B. N. Rao, C. O. Arun, S. M. Sivakumar, Indian Institute of Technology, Madras, Chennai, India

SESSION 3.1F (FSI-4-2)
Wednesday, July 30, 8:30 am – 10:15 am, Chicago Ballroom F, 5th Floor

PANEL SESSION: FORUM ON FLUID TRANSIENTS
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: A. H. Arastu, Bechtel Power Corporation, San Francisco, CA, USA; F. Moody, Consultant, Murphys, CA, USA

PVP2008-61380: FLUID TRANSIENTS—ANALYSIS AND SIMULATION OF REAL LIFE WATERHAMMER EVENTS (Presentation Only)
A. H. Arastu, Bechtel Power Corporation, San Francisco, CA, USA

SESSION 3.1G (MF-5-7)
Wednesday, July 30, 8:30 am – 10:15 am, Chicago Ballroom G, 5th Floor

WELDING, RESIDUAL STRESS 7
Co-Chair: B. Bezensek, University of Glasgow, Glasgow, United Kingdom
PVP2008-61057: EXPERIMENTAL STUDY OF DUCTILE FRACTURE FOR NON-ALIGNED MULTIPLE SURFACE FLAWS IN PLATE (Presentation Only)
K. Miyazaki, Hitachi, Ltd., Hitachi, Ibaraki, Japan; K. Hasegawa, JNES, Tokyo, Japan; K. Saito, Hitachi GE Nuclear Energy, Ltd, Hitachi-shi, Japan; B. Bezensek, University of Glasgow, Glasgow, United Kingdom
PVP2008-61369: ALIGNMENT CRITERIA FOR THROUGH-WALL FLAWS IN PLATES AND PIPES
B. Bezensek, University of Glasgow, Glasgow, United Kingdom; K. Miyazaki, Hitachi, Ltd., Hitachi, Ibaraki, Japan
PVP2008-61260: A FLAW PROXIMITY RULE FOR CIRCUMFERENTIAL SURFACE CRACKS ON PIPE UNDER TENSILE LOADING BASED ON LIMIT LOAD ANALYSIS
M. Kamaya, Institute of Nuclear Safety System, Fukui, Japan
PVP2008-61405: GUIDANCE ON A DEFECT INTERACTION EFFECT FOR IN-PLANE SURFACE CRACKS USING ELASTIC FINITE ELEMENT ANALYSES
N.-S. Huh, S. Choi, K.-B. Park, Korea Atomic Energy Research Institute, Daejeon, Korea (Republic); J.-M. Kim, J.-B. Choi, Y.-J. Kim, Sungkyunkwan University, Suwon, Korea (Republic)
SESSION 3.1M (OAC-8-3)
Wednesday, July 30, 8:30 am – 10:15 am, Houston, 5th Floor
AGING MANAGEMENT AND LIFE EXTENSION III
Sponsored by: PVPD Operations, Applications, & Components Technical Committee
Developed by: V. Shah, Argonne National Laboratory, Argonne, IL, USA; G. Bezdikian, Georges Bezdikian Consulting, Le Vesinet, France
Chair: G. G. Young, Entergy Nuclear, Russellville, AR, USA
Co-Chair: A. Martin, Electricité De France, Chatou, France
PVP2008-61027: EQUIPMENT RELIABILITY—WHEN UTILITY MEETS MANUFACTURING
J. Eglin, Westinghouse, Preston, Lancs, United Kingdom; J. Woodcock
PVP2008-61505: “ADAPTATIVE” USER INTERFACE AS A SUPPORT FOR EVALUATION ANALYSIS IN THE CONTEXT OF ASSET MANAGEMENT
P. Haik, S. Parfouru, K. Fessart, E. Remy, Electricité de France—Research & Development Branch, Chatou, France
PVP2008-61595: LICENSE RENEWAL—STATUS OF LONG TERM OPERATION IN THE U.S.
G. G. Young, Entergy Nuclear, Russellville, AR, USA
PVP2008-61833: PLANT LIFE MANAGEMENT MODELS—A COMPARISON WITH ANALYSIS OF IMPACT ON BOTH SAFETY AND NON-SAFETY ISSUES
P. Contr, P. Vaisnys, Joint Research Center—Institute for Energy, Petten, Netherlands
SESSION 3.1N (SE-5-1)
Wednesday, July 30, 8:30 am – 10:15 am, Kane, 3rd Floor
STRUCTURAL DYNAMICS (LINEAR AND NONLINEAR)
Sponsored by: Seismic Engineering Committee
Developed by: K. Fujita, Institute of Nuclear Safety System, Inc., Fukui, Japan
Chair: K. Fujita, Institute of Nuclear Safety System, Inc., Fukui, Japan
Co-Chair: A. Maekawa, Institute of Nuclear Safety System, Inc., Fukui, Japan
PVP2008-61013: SOME TOPICS IN THE MODAL FRS METHOD
B.-L. Ly, L. Sun, Atomic Energy of Canada Ltd. (AECL), Mississauga, ON, Canada
PVP2008-61014: AN IMPROVED STRUCTURE-DEPENDENT EXPLICIT METHOD FOR STRUCTURAL DYNAMICS
S.-Y. Chang, National Taipei University of Technology, Taipei, Taiwan; C.-L. Huang, Fu Jen Catholic University, Taipei Hsien, Taiwan
PVP2008-61086: ROCKING AND SLIDING MOTIONS OF A FREELY STANDING STRUCTURE COUPLED WITH INNER STRUCTURE
T. Ito, K. Furuta, A. Shintani, Osaka Prefecture University, Sakai, Osaka Prefecture, Japan
PVP2008-61797: PBMR REACTOR UNIT SEISMIC RESPONSE INCLUDING IMPACT DAMPING
F. Du Plooy, PBMR, Centurion, South Africa
PVP2008-61112: EXPLICIT NONLINEAR DYNAMIC ANALYSIS OF CYLINDRICAL WATER STORAGE TANKS CONCERNING COUPLED VIBRATION BETWEEN FLUID AND STRUCTURE
Akira Maekawa, K. Fujita, Institute of Nuclear Safety System, Inc., Fukui, Japan
SESSION 3.1O (MF-6-2)
Wednesday, July 30, 8:30 am – 10:15 am, Los Angeles, 5th Floor
EUROPEAN PROGRAMS IN STRUCTURAL INTEGRITY—II
Sponsored by: Materials & Fabrication Committee
Developed by: D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom; E. Keim, Areva, Erlangen, Germany
Chair: E. Keim, Areva, Erlangen, Germany
Co-Chair: D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom
PVP2008-61063: UK RESEARCH PROGRAMME ON FRACTURE MECHANICS—LATEST REVIEW OF PROGRESS
J. Sharples, Serco, Warrington, Cheshire, United Kingdom; C. T. Watson, Rolls Royce Plc, Derby, United Kingdom
PVP2008-61188: BRITTLE FRACTURE SAFETY ANALYSIS OF GERMAN PWR RPVS BASED ON ADVANCED THERMAL HYDRAULIC ANALYSIS
E. Keim, R. Hertlein, Areva, Erlangen, Germany; M. Widera, RWE, Essen, Germany; Ulf Ilg, EnBW, Ksruehe, Germany; G. Koenig, EnBW, Stuttgart, Germany; N. Schlueter, KKE, EMALAND, Germany
PVP2008-61211: DISPLACEMENT CONTROLLED STRESS INTENSITY FACTOR SOLUTIONS FOR STRUCTURAL INTEGRITY ASSESSMENTS OF WELDING RESIDUAL STRESS DISTRIBUTIONS
A. Toft, D. W. Beardsmore, C. Madew, H. Teng, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom; M. Jackson,
SESSION 3.1P (HP-5-1)
Wednesday, July 30, 8:30 am – 10:15 am, McHenry, 3rd Floor

PANEL SESSION: PAPER/PANEL SESSION ON DESIGN AND ANALYSIS OF IMPULSIVELY LOADED VESSELS

Developed by: R. Nickell, Applied Science and Technology, San Diego, CA, USA
Chair: R. Nickell, Applied Science and Technology, San Diego, CA, USA
Co-Chair: T. Duffey, T.A. Duffey, Consulting Engineer, Tijeras, NM, USA

PVP2008-61077: FAILURE CRITERION FOR STEEL EXPLOSIVE CONTAINMENT VESSEL DESIGN
C. Vaught, K. King, NABCO, Inc., Canonsburg, PA, USA

PVP2008-61381: CODE CASE VALIDATION OF IMPULSIVELY LOADED EDS SUBSCALE VESSEL
M. Yip, B. Haroldsen, Sandia National Laboratories, Livermore, CA, USA; J. Puskar, Sandia National Laboratories, Albuquerque, NM, USA

SESSION 3.1Q (CT-5-1)
Wednesday, July 30, 8:30 am – 10:15 am, Miami, 5th Floor

THREAD FASTENERS
Sponsored by: Computer Technology Committee

Developed by: S. Nassar, Oakland University, Rochester, MI, USA; X. Yang, Oakland University, Auburn Hills, MI, USA
Chair: T. Sawa, Hiroshima University, Higashihiroshima, Hiroshima, Japan
Co-Chair: X. Yang, Oakland University, Auburn Hills, MI, USA

PVP2008-61114: THERMO-MECHANICAL BEHAVIOR OF A STAINLESS STEEL THREADED FITTING WITH A PRE-COMPRESSED GASKET
X. Yang, Oakland University, Auburn Hills, MI, USA; S. Nassar, Z. Wu, Oakland University, Rochester, MI, USA

PVP2008-61424: FINITE ELEMENT ANALYSIS OF LOAD DISTRIBUTION OF THREADED CONNECTIONS MADE OF DISSIMILAR MATERIALS IN HIGH PRESSURE FACILITIES
T. Sato, R. Li, JGC Corporation, Yokohama, Japan; K. Yamamoto, H. Ando, The High Pressure Gas Safety Institute of Japan, Tokyo, Japan

SESSION 3.2E (DA-19-1)
Wednesday, July 30, 10:30 am – 12:15 pm, Chicago Ballroom A, 5th Floor

PANEL SESSION: STATUS OF NEW NUCLEAR PLANT CONSTRUCTION PROJECTS IN USA
Sponsored by: Design and Analysis Technical Committee
Developed by: A. A. Dermenjian, Sargent & Lundy LLC, Chicago, IL, USA
Chair: D. Demoss, Sargent & Lundy LLC, Chicago, IL, USA
Co-Chair: G. E. O. Widera, MU, Milwaukee, WI, USA
Panelists:
J. Crenshaw, South Texas Projects, Wadsworth, USA
T. Mundy, EXELON Generation, Kennett Square, USA
G. Miller, Progress Energy, Raleigh, USA

SESSION 3.2F (MF-16-2)
Wednesday, July 30, 10:30 am – 12:15 pm, Chicago Ballroom F, 5th Floor

STRUCTURAL INTEGRITY OF PIPELINES AND PRESSURE VESSELS—2
Sponsored by: Materials and Fabrication Committee
Developed by: S. Cravero, Tenaris, Campana, Buenos Aires, Argentina; X. Zhu, Battelle Memorial Institute, Columbus, OH, USA
Chair: C. Ruggieri, University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil
Co-Chair: S. Cravero, Tenaris, Campana, Buenos Aires, Argentina

PVP2008-61077: J-R CURVE TESTING OF SE(T) FRACTURE SPECIMENS USING UNLOADING COMPLIANCE AND CMOD DATA
S. Cravero, Tenaris, Campana, Buenos Aires, Argentina; C. Ruggieri, University of Sao Paulo, Sao Paulo, Sao Paulo, Brazil

PVP2008-61100: FRACTURE TOUGHNESS EVALUATION OF HIGH STRENGTH STEEL PIPE
G. Shen, R. Bouchard, J. Gianetto, W. R. Tyson, MTL/CANMET, Ottawa, ON, Canada

PVP2008-61246: CORRELATION OF FRACTURE BEHAVIOR IN CIRCUMFERENTIALLY CRACKED PIPES UNDER COMBINED LOAD CONDITIONS USING SENT SPECIMENS: EFFECTS ON J-R RESISTANCE CURVES
S. Cravero, H. Ernst, R. Bravo, A. A. Buschiazzo, Tenaris, Campana, Buenos Aires, Argentina

SESSION 3.2G (MF-5-8)
Wednesday, July 30, 10:30 am – 12:15 pm, Chicago Ballroom G, 5th Floor

WELDING, RESIDUAL STRESS 8

Developed by: P. Dong, Battelle Memorial Institute, Columbus, OH, USA; C. Truman, Bristol University, Bristol, United Kingdom
Chair: N. Leggatt, Frazer-Nash Consultancy, Bristol, United Kingdom
SESSION 3.2H (MF-12-3)
Wednesday, July 30, 10:30 am – 12:15 pm, Chicago Ballroom H, 5th Floor
MECHANISTIC MATERIALS MODELING INCLUDING LOCAL APPROACHES 3
Developed by: A. Sherry, University of Manchester, Manchester, United Kingdom; E. Keim, Areva, Erlangen, Germany; D. Lidbury, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom; A. Sisan, DNV, London, United Kingdom; S. Ortner, Nexia Solutions Ltd., Didcot, Oxfordshire, United Kingdom
Chair: S. Ortner, Nexia Solutions Ltd., Didcot, Oxfordshire, United Kingdom
Co-Chair: A. Sherry, The University of Manchester, Manchester, United Kingdom
PVP2008-61261: A NUMERICAL AND EXPERIMENTAL STUDY OF THE CLEAVAGE FRACTURE BEHAVIOUR OF NON-NARROW DEFECTS
A. J. Horn, Corus Research, Development and Technology, Rotherham, South Yorkshire, United Kingdom; A. Sherry, The University of Manchester, Manchester, United Kingdom
PVP2008-61334: MICROMECHANICAL MODELING OF BRITTLE FRACTURE OF FRENCH RPV STEEL: A COMPREHENSIVE STUDY OF TRIAXIALITY EFFECT
J.-P. Mathieu, EDF R&D, Moret-sur-Loing, France; K. Inal, Ecole Nationale Supérieure des Mines de Saint-Etienne—ENSAM, Gardanne, France; S. Berveiller, LPMM UMR CNRS 7554—ENSAM de Metz, Metz, France; O. Diard, EDF—CNPE de Penly, Neuville-lès-Dieppe, France
PVP2008-61376: LOAD HISTORY EFFECTS ON CRACK DRIVING FORCE FOR CRACKS IN RESIDUAL STRESS FIELDS
R. Charles, D. W. Beardsmore, H. Teng, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom; M. R. Goldthorpe, University of Manchester, Manchester, Greater Manchester, United Kingdom; C. T. Watson, Rolls Royce Plc, Derby, United Kingdom
SESSION 3.2J (CS-15-1)
Wednesday, July 30, 10:30 am – 12:15 pm, Cook, 3rd Floor
API 579/ASME CODE FITNESS-FOR-SERVICE ACTIVITIES
Sponsored by: Codes and Standards Committee
Developed by: J. Janelle, The Equity Engineering Group, Inc., Shaker Heights, OH, USA
Chair: J. Janelle, The Equity Engineering Group, Inc., Shaker Heights, OH, USA
Co-Chair: D. Thornton, The Equity Engineering Group, Inc., Towaco, NJ, USA
PVP2008-61796: API 579-1/ASME FFS-1 2007—A JOINT API/ASME FITNESS-FOR-SERVICE STANDARD FOR PRESSURIZED EQUIPMENT
D. Osage, J. Janelle, The Equity Engineering Group, Inc., Shaker Heights, OH, USA
PVP2008-61236: A SURVEY OF FITNESS-FOR-SERVICE TRENDS IN INDUSTRY
C. M. Holtam, D. P. Baxter, TWI Ltd, Cambridge, United Kingdom; I. A. Ashcroft, R. C. Thomson, Loughborough University, Loughborough, Leicestershire, United Kingdom
PVP2008-61407: ASSESSING BRITTLE FRACTURE IN PRESSURIZED EQUIPMENT USING A FAD
D. Thornton, The Equity Engineering Group, Inc., Towaco, NJ, USA
PVP2008-61753: DEVELOPMENT OF FITNESS-FOR-SERVICE RULES FOR THE ASSESSMENT OF HIC AND SOHIC DAMAGE IN API 579-1/ASME FFS-1
G. Buchheim, D. Osage, The Equity Engineering Group, Inc, Shaker Heights, OH, USA; J. Staats, University of Missouri—Rolla, Rolla, MO, USA
SESSION 3.2K (CS-10-2)
Wednesday, July 30, 10:30 am – 12:15 pm, Denver, 5th Floor
RECENT DEVELOPMENT IN NEW ENERGY PRESSURE EQUIPMENT IN CHINA—I
Sponsored by: Codes and Standards Committee
Developed by: J. Zheng, Zhejiang University, Hangzhou, Zhejiang Province, China; W. Li, Zhejiang University, China; Hangzhou, Zhejiang Province, China
Chair: X. Chen, Hefei General Machinery Research Institute, Hefei, Anhui, China
Co-Chair: Z. Gao, Zhejiang University of Technology, Hangzhou, Zhejiang, China
PVP2008-61810: ANALYSIS OF STRENGTH MARGINS FOR AUSTENITIC STAINLESS STEEL PRESSURE VESSELS
L. Ma, J. Zheng, C. Miao, Y. Qin, Zhejiang University, Hangzhou, Zhejiang, China; S. Han, S. Sheng, Hangzhou Special Equipment Inspection Institute, Hangzhou, China; C. Shi, Zhejiangagang CIMC Sanctum Cryogenic Equipment Co., Ltd, Zhejiangagang, China

PVP2008-61712: EXPERIMENTAL INVESTIGATION ON RUBBER-EXPANDED TUBE-TO-TUBESHEET JOINTS OF Zr HEAT EXCHANGERS
B. Yuan, Nanjing University of Technology, Nanjing, Jiangsu, China; Y. Wang, X. Ma, T. Qiang, Jiangsu Province Special Equipment Safety Supervision Inspection Institute, NanJing, Jiangsu, China; S. Tu, East China University of Science and Technology, Shanghai, China; Y. Xi, Z. Tang, Nanjing Baose Titanium Industry Co. Ltd, Nanjing, Jiangsu, China

PVP2008-61656: NUMERICAL SIMULATION ON FAST FILLING OF HYDROGEN FOR COMPOSITE STORAGE CYLINDERS
Y. Liu, J. Zheng, P. Xu, Y. Zhao, L. Li, P. Liu, H. Bie, H. Chen, X. Sun, Zhejiang University, Hangzhou, China; D. Huston, School of Engineering, University of Vermont, Burlington, VT, USA

SESSION 3.2L (CS-5-2)
Wednesday, July 30, 10:30 am – 12:15 pm, Dupage, 3rd Floor
INTERACTION AND MODELING FOR MULTIPLE FLAWS (2)
Sponsored by: Codes and Standards and Materials and Fabrication Committees
Developed by: K. Miyazaki, Hitachi, Ltd., Hitachi, Ibaraki, Japan; B. Bezensek, University of Glasgow, Glasgow, United Kingdom; J. Sharples, Serco, Warrington, Cheshire, United Kingdom
Chair: J. Sharples, Serco, Warrington, Cheshire, United Kingdom
Co-Chair: K. Miyazaki, Hitachi, Ltd., Hitachi, Ibaraki, Japan
PVP2008-61012: PREDICTION OF FULLY PLASTIC COLLAPSE STRESSES FOR PIPES WITH CIRCUMFERENTIAL THREE FLAWS
(Presentation Only)
K. Hasegawa, JNES, Tokyo, Japan; K. Saito, Hitachi GE Nuclear Energy, Ltd, Hitachi-shi, Japan; F. Iwamatsu, Hitachi, Ltd, Hitachi-shi, Japan; K. Miyazaki, Hitachi, Ltd., Hitachi, Ibaraki, Japan
PVP2008-61420: PLASTIC COLLAPSE EVALUATION METHOD FOR CIRCUMFERENTIAL MULTIPLE CRACKS IN A PIPE
H. Machida, Tepec Systems Corporation, Tokyo, Japan; Y. Takahashi, Y. Nakagawa, Tokyo Electric Power Company, Tokyo, Japan
PVP2008-61900: FATIGUE CRACK GROWTH SIMULATION USING S-FEM
M. Kikuchi, Tokyo University of Science, Noda, Chiba, Japan

SESSION 3.2M (OAC-1-5)
Wednesday, July 30, 10:30 am – 12:15 pm, Houston, 5th Floor
PANEL SESSION: COUNTERFEIT/SUBSTANDARD INDUSTRIAL PARTS AND MATERIALS, AND THEIR IMPACT ON SAFETY AND RELIABILITY
Sponsored by: Operations, Applications, and Components Committee
Developed by: A. Cheta, Shell Global Solutions (USA), Inc., Houston, TX, USA; M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA

SESSION 3.2N (SE-6-1)
Wednesday, July 30, 10:30 am – 12:15 pm, Houston, 5th Floor
SEISMIC ASSESSMENT OF LIFELINE SYSTEMS
Sponsored by: Seismic Engineering Committee
Developed by: J.-W. Lin, Feng Chia University, Taichung, Taiwan
Chair: J.-W. Lin, Feng Chia University, Taichung, Taiwan
Co-Chair: C.-S. Tsai, Department of Civil Engineering, Feng Chia University, Taichung, Taiwan
PVP2008-61257: ASSESSMENT OF SOCIAL AND ENVIRONMENTAL IMPACT ON POST-EARTHQUAKE RECOVERY OF MOUNTAIN HIGHWAY—LESSONS IN TAIWAN
S. Chen, FengChia University, Taichung, Taiwan
PVP2008-61366: SEISMIC MITIGATION ASSESSMENT OF BUILDING USING MULTIPLE DIRECTION-OPTIMIZED FRICITION PENDULUM SYSTEM
C.-S. Tsai, W.-S. Chen, Y.-C. Lin, C.-L. Lin, Feng Chia University, Taichung, Taiwan
PVP2008-61104: HILBERT-HUANG TRANSFORM BASED MODAL ANALYSIS OF STRUCTURES
J.-W. Lin, H.-J. Chen, J.-Y. Lin, Feng Chia University, Taichung, Taiwan
PVP2008-61446: EXPERIMENTAL EVALUATION OF PIECEWISE EXACT SOLUTION FOR STRUCTURE ISOLATED WITH SLIDING TYPE ISOLATORS UNDER BIDIRECTIONAL EARTHQUAKES
C.-S. Tsai, Y.-C. Lin, Feng Chia University, Taichung, Taiwan; T.-C. Chiang, Earthquake Proof Systems, Inc., Taichung, Taiwan
PVP2008-61105: REPETITIVE CONTROL BASED DISTURBANCE CANCELLATION USING ITERATIVE BASIS FUNCTION FEEDBACK WITH WAVELET FILTERING
J.-W. Lin, C.-W. Huang, Feng Chia University, Taichung, Taiwan; H.-P. Wen, Samsung Corporation, San Francisco, CA, USA

SESSION 3.2O (MF-14-2)
Wednesday, July 30, 10:30 am – 12:15 pm, Los Angeles, 5th Floor
SCC INTEGRITY 2
Sponsored by: Materials and Fabrication
Developed by: D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Chair: D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Co-Chair: A. Csontos, U.S. Nuclear Regulatory Commission, Washington, DC, USA
PVP2008-61417: DETERMINISTIC PREDICTION OF STRESS CORROSION CRACK GROWTH RATES IN HIGH TEMPERATURE WATER BY COMBINATION OF INTERFACE OXIDATION KINETICS AND CRACK TIP ASYMPTOTIC FIELD
T. Shoji, Z. Lu, Y. Takeda, C. Fu, Tohoku University, Fracture and Reliability Research Institute, Sendai, Miyagi Ken, Japan; H. Murakami, Atomic Energy Society of Japan, Tokyo, Tokyo, Japan

PVP2008-61299: NICKEL ALLOY CRACK GROWTH CORRELATIONS IN BWR ENVIRONMENT AND APPLICATION TO CORE SUPPORT STRUCTURE WELDS EVALUATION
R. Carter, Electric Power Research Institute, Charlotte, NC, USA; R. Pathania, Electric Power Research Institute, Palo Alto, CA, USA

PVP2008-61421: A PROBABILISTIC EVALUATION MODEL FOR WELDING RESIDUAL STRESS DISTRIBUTION AT PIPING JOINT IN PROBABILISTIC FRACTURE MECHANICS ANALYSIS
H. Itoh, K. Onizawa, Japan Atomic Energy Agency, Tokai-mura, Japan; J. Katsuyama, Japan Atomic Energy Agency, Ibaraki, Japan

PVP2008-61456: EVALUATION OF STRESS INTENSITY FACTOR FOR TRANSVERSE CRACKS IN WELD JOINT OF BWR SHROUD SUPPORT AND ITS APPLICATION TO THE EVALUATION OF TRAPEZOIDAL CRACK
M. Itatani, T. Saito, T. Hayashi, C. Narazaki, Toshiba Corporation, Yokohama, Japan; Kazuo Ogawa, Japan Nuclear Energy Safety Organization, Tokyo, Japan

SESSION 3.2P (HP-5-2)
Wednesday, July 30, 10:30 am – 12:15 pm, McHenry, 3rd Floor
PANEL SESSION: PANEL SESSION ON IMPULSIVELY LOADED VESSELS
Developed by: R. Nickell, Applied Science and Technology, San Diego, CA, USA; E. A. Rodriguez, Global Nuclear Network Analysis, LLC, Los Alamos, NM, USA
Chair: R. Nickell, Applied Science and Technology, San Diego, CA, USA
Co-Chair: C. Romero, Los Alamos National Laboratory, Los Alamos, NM, USA

PVP2008-61931: DESIGN PARAMETERS EFFECT ON LOAD DISTRIBUTION AROUND THE HOLE IN MECHANICALLY FASTENED PINNED CONNECTIONS
V. Yavari, F. Daneshvar, M. Kadivar, Shiraz University, Shiraz, Fars, Iran; I. Rajabi, Air-Naval Research Center, Shiraz, Iran

PVP2008-61932: SELF-LOOSENING MECHANISM OF NUTS DUE TO IMPACTS
Y. Shoji, Chiyoda Advanced Solutions Corporation, Yokohama, Kanagawa, Japan; T. Sawa, Hiroshima University, Higashihiroshima, Hiroshima, Japan

PVP2008-61933: LOOSENING RESISTANCE EVALUATION OF DOUBLE-NUT TIGHTENING METHOD, SPRING WASHERS, AND CONICAL SPRING WASHERS; FINITE ELEMENT STUDY
T. Yokoyama, S. Izumi, S. Sakai, The University of Tokyo, Tokyo, Japan

THURSDAY, JULY 31

Block 4.1: Thursday, July 31 (8:30 am – 10:15 am)

SESSION 4.1E (TW-1-6)
Thursday, July 31, 8:30 am – 10:15 am, Chicago Ballroom E, 5th Floor
TECHNICAL TUTORIAL: TUTORIAL ON AUTOMATED ULTRASONIC TESTING (AUT) VERSUS RADIOGRAPHY (RT)—I
Sponsored by: The PVP Division Conference Committee
Presented by: M. Moles, Olympus NDT, Toronto, ON, Canada

SESSION 4.1F (MF-11-2)
Thursday, July 31, 8:30 am – 10:15 am, Chicago Ballroom F, 5th Floor
STRUCTURAL INTEGRITY FOR PIPES WITH WALL THINNING CAUSED BY FAC
Sponsored by: Material and Fabrication
Developed by:  Y.-J. Kim, Korea University, Seoul, Korea (Republic); K. Hasegawa, JNES, Tokyo, Japan
Chair:  N. Cofie, Structural Integrity Associates, San Jose, CA, USA
Co-Chair: X. Duan, Atomic Energy of Canada Limited, Mississauga, ON, Canada
PVP2008-61532: STRUCTURAL INTEGRITY TESTS OF CANDU FEEDER PIPING WITH LOCAL WALL THINNING (Presentation Only)
X. Duan, M. J. Kozluk, Atomic Energy of Canada Limited, Mississauga, ON, Canada
PVP2008-61908: FRACTURE MODE PREDICTION METHOD FOR PIPE WITH WALL-THINNING BY USING THE HISTORY DATA OF STRAIN RATIO
I. Herman, Toshiyuki Meshii, University of Fukui, Fukui shi, Fukui ken, Japan
PVP2008-61807: EXPERIMENTAL EVALUATION OF BENDING LOAD EFFECT ON THE FAILURE PRESSURE OF WALL THINNEO ELBOW J.-W. Kim, Chosun University, Gwangju, Korea (Republic); S. Lee, C.-Y. Park, Korea Electric Power Research Institute, Daejeon, Korea (Republic); Y.-S. Na, KHNP Nuclear Engineering and Technology Institute, Daejeon, Korea (Republic)
SESSION 4.1G (MF-5-9)
Thursday, July 31, 8:30 am – 10:15 am, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 9
Sponsored by: Materials and Fabrication
Developed by:  F. W. Brust, Jr., Engineering Mechanics Corp. of Columbus, Columbus, OH, USA; E. Keim, Areva, Erlangen, Germany
Chair: J. Katsuyama, Japan Atomic Energy Agency, Ibaraki, Japan
Co-Chair: J. Katsuyama, Japan Atomic Energy Agency, Ibaraki, Japan; S. Leen, Univ of Nottingham, Nottingham, United Kingdom
PVP2008-61321: RESIDUAL STRESS PREDICTION OF NON-AXISYMMETRIC VESEL PENETRATION WELDS K. Ogawa, Japan Nuclear Energy Safety Organization, Tokyo, Japan; N. Yanagida, Hitachi, Ltd., Hitachi, Ibaraki, Japan; K. Saito, Hitachi GE Nuclear Energy, Ltd. Hitachi-shi, Japan
PVP2008-61347: RESIDUAL STRESS MEASUREMENT SIMULATION IN A TYPE 316H STAINLESS STEEL GIRTH-BUTT WELD JOINT K. Ogawa, Japan Nuclear Energy Safety Organization, Tokyo, Japan; S. Hossain, C. Truman, D. Smith, University of Bristol, Bristol, United Kingdom
PVP2008-61795: COMPARISON OF NEUTRON DIFFRACTION RESIDUAL STRESS MEASUREMENTS OF STEEL WELDED REPAIRS WITH CURRENT FITNESS-FOR-PURPOSE ASSESSMENTS A. M. Paradowska, ISIS Facility, Harwell, Didcot, United Kingdom; J. Price, R. Ibrahim, Monash University, Clayton, Victoria, Australia; T. Finlayson, Melbourne University, Melbourne, Victoria, Australia; R. Rogge, National Research Council, Chalk River, ON, Canada; R. L. Donaberger, Chalk River Laboratories, Chalk River, ON, Canada; R. Blevins, ANSTO, Lucas Heights, NSW, Australia
SESSION 4.1H (MF-13-1)
Thursday, July 31, 8:30 am – 10:15 am, Chicago Ballroom H, 5th Floor
ASSESSMENT OF MULTIPLE AND COMPLEX FLAWS
Developed by:  B. Bezensek, University of Glasgow, Glasgow, United Kingdom; J. Sharples, Serco, Warrington, Cheshire, United Kingdom
Chair: J. Sharples, Serco, Warrington, Cheshire, United Kingdom
Co-Chair: K. Miyazaki, Hitachi, Ltd., Hitachi, Ibaraki, Japan
PVP2008-61071: FURTHER STUDIES OF MULTIPLE CO-PLANAR SURFACE BREAKING FLAWS FOR CLEAVAGE FRACTURE J. Sharples, M. A. Wilkes, G. T. Melvin, Serco, Warrington, Cheshire, United Kingdom; M. Jackson, Rolls-Royce, Derby, Derbyshire, United Kingdom
PVP2008-61293: COMBINATION RULES FOR EXTERNAL VOLUMETRIC FLAWS IN A PRESSURISED CYLINDER SUBJECT TO EXTERNAL BENDING B. Bezensek, Lynsey Duguid, University of Glasgow, Glasgow, United Kingdom
PVP2008-61515: ASSESSMENT PROCEDURE FOR MULTIPLE CRACK-LIKE FLAWS IN FRACTURE ASSESSMENT DIAGRAM (FAD) S. Konosu, Ibaraki University, Hitachi, Ibaraki, Japan
PVP2008-61516: ASSESSMENT PROCEDURE FOR MULTIPLE VOLUMETRIC FLAWS (LTAS) IN P-M DIAGRAM S. Konosu, Ibaraki University, Hitachi, Ibaraki, Japan
PVP2008-61550: APPLICATION OF EXTENDED ELEMENT-FREE GALERKIN METHOD TO MULTIPLE FLAWS UNDER BRITTLE FRACTURE CONDITIONS T. Rabczuk, University of Canterbury, Christchurch, New Zealand; B. Bezensek, S. Bordas, University of Glasgow, Glasgow, United Kingdom
SESSION 4.1J (CS-16-1)
Thursday, July 31, 8:30 am – 10:15 am, Cook, 3rd Floor
RATCHETING ISSUES IN PRESSURE VESSEL DESIGN
Sponsored by: Codes and Standards Committee
Developed by:  W. Reinhardt, Atomic Energy of Canada Limited, Mississauga, ON, Canada; D. Jones, Bechtel Bettis, Inc, West Mifflin, PA, USA
Chair: N. Zobeiry, Atomic Energy of Canada Ltd. (AECL), Mississauga, ON, Canada
Co-Chair: R. Adibi-Asl, AECL, Mississauga, ON, Canada
PVP2008-61091: NONLINEAR CYCLING ANALYSIS OF PIPE BENDS WITH INITIAL OVALITY
D. Vlaicu, Ontario Power Generation, Pickering, ON, Canada

PVP2008-61323: RATCHETING OF INCONEL 718 AT 649C UNDER AXIAL/TORSIONAL LOADING
K. S. Kim, H. S. Kim, Pohang University of Science and Technology, Pohang, Korea (Republic)

PVP2008-61628: ON THE INTERACTION OF THERMAL MEMBRANE AND THERMAL BENDING STRESS IN SHAKEDOWN ANALYSIS
W. Reinhardt, Atomic Energy of Canada Limited, Mississauga, ON, Canada

PVP2008-61641: THE ELASTIC MODULUS ADJUSTMENT PROCEDURE (EMAP) FOR SHAKEDOWN ANALYSIS
R. Adibi-Asl, W. Reinhardt, Atomic Energy of Canada Limited, Mississauga, ON, Canada

PVP2008-61921: ELASTIC CORE CONCEPT IN SHAKEDOWN ANALYSIS
J. Porowski, T. O'Donnell, O'Donnell Consulting Engineers, Inc., Bethel Park, PA, USA

SESSION 4.1K (FSI-3-5)
Thursday, July 31, 8:30 am – 10:15 am, Denver, 5th Floor

TURBOMACHINERY
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: J.-F. Sigrist, DCNS Propulsion, Nantes, France; M. Fischer, Technical Consultant, München, Germany
Chair: J.-F. Sigrist, DCNS Propulsion, Nantes, France
Co-Chair: M. Fischer, Technical Consultant, München, Germany

PVP2008-61276: COMPUTATIONAL INVESTIGATION OF DIFFERENT TURBULENT MODELS WHEN PREDICTING AIRFLOW IN AN ENCLOSURE
X. Wang, Polytech’Lille, Villeneuve d’ascq, France; H. Naji, Université des Sciences et Technologies de Lille, Villeneuve d’ascq, France; A. Mezghab, Laboratoire de Mécanique & Énergétique, Oujda, Morocco

PVP2008-61274: APPLICATION OF AEROELASTIC METHODS IN COMPRESSOR CASCADE CONFIGURATIONS USING COMMERCIAL CODE COUPLING
S. Schrape, A. Kühnorn, J. Nipkau, B. Beirow, Brandenburg University of Technology, Cottbus, Brandenburg, Germany

PVP2008-6126: COUPLED THERMAL-MULTIPHASE FLOW ANALYSIS IN QUENCHING PROCESSES FOR RESIDUAL STRESS OPTIMIZATION IN COMPRESSOR AND TURBINE DISKS
M. Springmann, A. Kühnorn, BTU Cottbus, Cottbus, Germany

SESSION 4.1L (CS-9-1)
Thursday, July 31, 8:30 am – 10:15 am, Dupage, 3rd Floor

PIPING DESIGN, STRENGTH AND WALL THINNING IN KOREAN AND JAPANESE CODES
Sponsored by: Codes and Standards Committee
Developed by: Y.-W. Park, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic); K. Hasegawa, JNES, Tokyo, Japan
Chair: Y.-J. Kim, Korea University, Seoul, Korea (Republic)
Co-Chair: R. O. McGill, Structural Integrity Associates, San Jose, CA, USA

PVP2008-61581: EVALUATION OF REPRESENTATIVE PIPING SYSTEMS DESIGNED BY IMPLICIT FATIGUE CONCEPT
S.-B. Choi, S.-H. Kim, Y.-S. Chang, J.-B. Choi, Y.-J. Kim, Sungkyunkwan University, Suwon, Gyeonggi-do, Korea (Republic); J. H. Lee, J.-S. Kim, H.-D. Chung, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic)

PVP2008-61426: FRACTURE ASSESSMENT FOR WELDMENT OF PIPING FOR BWR REACTOR INTERNAL WITH CIRCUMFERENTIAL THROUGH WALL CRACK
M. Itatani, N. Tanaka, Toshiba Corporation, Yokohama, Japan; Y. Kanazawa, Toshiba Corporation, Tokyo, Japan; C. Shitara, Y. Nakagawa, Tokyo Electric Power Company, Tokyo, Japan

PVP2008-61774: RECENT WORKS WITHIN KOREA ON DEVELOPING STRUCTURAL ACCEPTANCE CRITERIA FOR LOCAL WALL THINNING OF NUCLEAR PIPINGS (Presentation Only)
S. Lee, C.-Y. Park, Korea Electric Power Research Institute, Daejeon, Korea (Republic); Y.-J. Kim, Korea University, Seoul, Korea (Republic); J.-W. Kim, Chosun University, Gwangju, Korea (Republic); J. H. Park, Chungbuk National University, Cheongju, Chungbuk, Korea (Republic)

PVP2008-61791: ANALYSIS OF DATA ON PIPE WALL THINNING PHENOMENA BY FLUID FLOW IN PWK POWER PLANTS

SESSION 4.1M (OAC-9-1)
Thursday, July 31, 8:30 am – 10:15 am, Houston, 5th Floor

REGULATORY AND CODE CONSIDERATIONS FOR TRANSPORTATION AND STORAGE OF RADIOACTIVE MATERIALS
Sponsored by: Operations, Applications, and Components Committee
Developed by: C. Bajwa, US Nuclear Regulatory Commission, Rockville, MD, USA
Chair: C. Bajwa, US Nuclear Regulatory Commission, Rockville, MD, USA
Co-Chair: M. Greiner, University of Nevada, Reno, Reno, NV, USA

PVP2008-61572: A PROPOSED METHODOLOGY FOR STRAIN-BASED FAILURE CRITERIA
A. Wu, Savannah River National Laboratory, Aiken, SC, USA

PVP2008-61241: CERTIFICATION OF THE NAC-LWT CASK FOR SHIPMENT OF SODIUM DEBRIS BED EXPERIMENTS
Y. Liu, V. Shah, R. R. Fabian, Argonne National Laboratory, Argonne, IL, USA; J. Shuler, Department of Energy, Washington, DC, DC, USA

PVP2008-61728: STRAIN-BASED ACCEPTANCE CRITERIA FOR INELASTIC ANALYSIS
D. J. Ammerman, Sandia National Laboratories, Albuquerque, NM, USA; G. S. Bjorkman, Jr., Nuclear Regulatory Commission, Rockville, MD, USA

PVP2008-61593: A COMPARISON OF 10 CFR 71 AND THE IAEA TS-R-1 RADIOACTIVE MATERIAL TRANSPORTATION REGULATIONS
SESSION 4.1I (SE-9-1)

Thursday, July 31, 8:30 am – 10:15 am, Kane, 3rd Floor

EXPERIMENTAL AND ANALYTICAL STUDIES IN SYSTEMS INTERACTION I

Sponsored by: Seismic Engineering Committee

Developed by: J. C. Chen, Lawrence Livermore National Laboratory, Livermore, CA, USA

Chair: J. Xu, US NRC, Rockville, MD, USA

Co-Chair: V. Matzen, North Carolina State University, Raleigh, NC, USA

PVP2008-61342: INELASTIC SEISMIC TEST OF THE SMALL BORE PIPING AND SUPPORT SYSTEM (PART 1: SEISMIC PROVING TEST OF THE SMALL BORE PIPING SYSTEM)
K. Tai, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; M. Monde, Mitsubishi Heavy Industries, Ltd., Takasago City, Hyogo, Japan; E. Shirai, The Kansai Electric Power Co., Inc., Fukui, Japan

PVP2008-61351: INELASTIC SEISMIC TEST OF THE SMALL BORE PIPING AND SUPPORT SYSTEM (PART 2: SUPPORT ELEMENT TEST UNDER STATIC LOADING)
K. Tai, Mitsubishi Heavy Industries, Ltd., Kobe, Japan; H. Shimizu, Mitsubishi Heavy Industries, Ltd., Takasago City, Hyogo, Japan; E. Shirai, The Kansai Electric Power Co., Inc., Fukui, Japan

PVP2008-61841: EVALUATION OF SIMPLIFIED METHODS FOR ESTIMATING SHEAR CAPACITY USING JNES/NUPEC LOW-RISE CONCRETE SHEAR WALL CYCLIC TEST DATA
J. Nie, J. Braverman, C. Hofmayer, Brookhaven National Lab, Upton, NY, USA; S. A. Ali, USA Nuclear Regulatory Commission, Washington, DC, USA

SESSION 4.1O (CT-3-1)

Thursday, July 31, 8:30 am – 10:15 am, McHenry, 3rd Floor

LEAK TIGHTNESS OF BOLTED JOINTS

Sponsored by: Computer Technology Committee

Developed by: T. Kobayashi, Numazu College of Technology, Numazu, Shizuoka, Japan; J. Payne, Jpac Inc, Long Valley, NJ, USA

Chair: W. Koves, UOP LLC., Des Plaines, IL, USA

Co-Chair: H. Kockelmann, University of Stuttgart, Stuttgart, BW, Germany

PVP2008-61213: NUMERICAL DETERMINATION OF THE SEALING PERFORMANCE OF A ROUGH CONTACT: REAL VERSUS SYNTHETIC FRACTAL SURFACES
C. Vallet, D. Lasseux, Laboratoire TREFLE-ENSAM, Talence, France; P. Sainsot, LaMCoS, Villeurbanne, France; H. Zahouani, ENISE, Saint Etienne, France

PVP2008-61465: CHARACTERIZATION OF SEALING BEHAVIOR OF GASKETS FOR THE LEAK RATE BASED DESIGN OF GASKETED BOLTED FLANGED CONNECTIONS
T. Kobayashi, Numazu College of Technology, Numazu, Shizuoka, Japan

PVP2008-61561: ON THE OPERATING TIGHTNESS OF B16.5 FLANGED JOINTS
J. Payne, Jpac Inc, Long Valley, NJ, USA

SESSION 4.1Q (CT-12-1)

Thursday, July 31, 8:30 am – 10:15 am, Miami, 5th Floor

NEW AND EMERGING METHODS OF ANALYSIS AND APPLICATIONS

Developed by: Y. H. Park, NMSU, Las Cruces, NM, USA

Chair: D. Metzger, AECL, Mississauga, ON, Canada

PVP2008-61596: THE NDE ENGINEERING DIVISION OF ASME—25 YEARS OF SUCCESS
W. Springer, University of Arkansas, Fayetteville, AR, USA; O. Heden, Codes and Standards Consulting, Fort Worth, TX, USA

PVP2008-61180: RELIABILITY ANALYSIS OF PRESSURE VESSELS IN LUBRICANT PROCESS UNIT FOR RISK BASED INSPECTION
C.-H. Chien, C.-H. Chen, National Sun Yat-Sen University, Kaohsiung, Taiwan

PVP2008-61602: ROBUST ENGINEERING DESIGN FOR FAILURE PREVENTION
J. T. Fong, J. J. Filliben, N. A. Heckert, R. deWit, National Institute of Standards & Technology, Gaithersburg, MD, USA; B. Bernstein, Illinois Institute of Technology, Chicago, IL, USA

PVP2008-61945: ROBUST DESIGN OF THE ARES I-X UPPER STAGE SIMULATOR FOR THE SPACE SHUTTLE REPLACEMENT
F. W. Brust, Jr., Engineering Mechanics Corp. of Columbus, Columbus, OH, USA
PVP2008-61787: EFFICIENT ANALYTIC INTERATOMIC POTENTIAL FOR METAL
Y. H. Park, I. Hijazi, NMSU, Las Cruces, NM, USA

PVP2008-61788: APPLICATION OF A RELIABILITY METHOD TO A MAINTENANCE STRATEGY FOR MACHINE COMPONENTS
Y. H. Park, I. Hijazi, NMSU, Las Cruces, NM, USA; J. Tang, CCAD, Iowa City, IA, USA

PVP2008-61786: STRUCTURAL RELIABILITY EVALUATION USING ENHANCED HDMR
B. N. Rao, R. Chowdhury, Indian Institute of Technology Madras, Chennai, India

PVP2008-61901: VIBRATION OF TIMOSHENKO BEAM STRUCTURES RESTING ON A TWO-PARAMETER ELASTIC FOUNDATION SOLVED BY DQEM USING CHEBYSHEV DQ MODEL
C.-N. Chen, National Cheng Kung University, Tainan, Taiwan

PVP2008-61618: SECOND ORDER ERRORS RELATED TO GEOMETRIC NONLINEARITY IN EXPLICIT CENTRAL DIFFERENCE OPERATOR
D. Metzger, Y.-S. Kim, Atomic Energy of Canada Limited, Mississauga, ON, Canada

Block 4.2: Thursday, July 31 (10:30 am – 12:15 pm)

SESSION 4.2A (DA-6-1)
Thursday, July 31, 10:30 am – 12:15 pm, Chicago Ballroom A, 5th Floor
STRESS CLASSIFICATION AND DESIGN-BY-ANALYSIS METHODOLOGIES
Sponsored by: Design and Analysis Committee
Developed by: I. Fanous, Atomic Energy of Canada Limited, Mississauga, ON, Canada; S. Massey, Black & Veatch, Overland Park, KS, USA
Chair: I. Fanous, Atomic Energy of Canada Limited, Mississauga, ON, Canada
Co-Chair: S. Massey, Black & Veatch, Overland Park, KS, USA
PVP2008-61106: APPLICATION OF DESIGN BY ANALYSIS TO CASING OF CENTRIFUGAL PUMP
T. Naruse, Hitachi, Ltd. Mechanical Engineering Research Laboratory, Hitachi, Ibaraki, Japan; S. Nabeasa, S. Sakurai, Hitachi Plant Technologies, Ltd., Tsuchiura, Ibaraki, Japan; K. Takahara, Hitachi, Ltd, Tokyo, Japan
PVP2008-61754: USE OF “ELASTIC FOLLOW-UP” IN INTEGRITY ASSESSMENT OF STRUCTURES
S. Hadidi-Moud, D. J Smith, University of Bristol, Bristol, Avon, United Kingdom
PVP2008-61886: IMPACT FORCES OF VANES ON ROTOR SLOTS IN A ROTARY COMPRESSOR
Y. M. Huang, Z. C. Yu, National Taiwan University, Taipei, Taiwan
PVP2008-61432: INTENSITY ANALYSIS AND DAMAGE EXPERIMENT OF A UNIVERSAL JOINT
K. Nara, Fukui University, Fukui City, Japan

SESSION 4.2B (FSI-6-1)
Thursday, July 31, 10:30 am – 12:15 pm, Chicago Ballroom B, 5th Floor
IMPACT AND PENETRATION
Chair: S. Jones, University of Alabama, Tuscaloosa, Alabama, AL, USA
Co-Chair: H. Levine, Weidlinger Associates, Inc., Mountain View, CA, USA
PVP2008-61045: VIBRO-IMPACT INTERACTION OF SHIPS WITH ICE
R. A. Ibrahim, I. M. F. Grace, Wayne State University, Detroit, MI, USA
PVP2008-61155: AN ANALYTICAL ONE-DIMENSIONAL PENETRATION MODEL
S. Reichwein, S. E. Jones, The University of Alabama, Tuscaloosa, AL, USA
PVP2008-61640: A FAST-RUNNING FINITE ELEMENT BASED METHOD FOR EVALUATING THE BLAST PERFORMANCE OF LAMINATED INSULATED GLAZING
C. McArthur, J. Weeks, D. Tennant, Weidlinger Associates, Inc., Albuquerque, NM, USA

SESSION 4.2C (OAC-6-4)
Thursday, July 31, 10:30 am – 12:15 pm, Chicago Ballroom C, 5th Floor
REPAIR STRATEGY-2
Sponsored by: Operations, Applications, and Components Committee
Developed by: T. Tahara, Petroleum Association of Japan, Tokyo, Japan; A. Cheta, Shell Global Solutions (USA), Inc., Houston, TX, USA
Chair: E. Yamamoto, Eishintechno, Fujisawa, Japan
Co-Chair: Y. Ogayu, Idemitsu Kosan Co., Ltd., Ichihara, Chiba, Japan
PVP2008-61891: DEVELOPMENT OF REPAIR WELDING GUIDELINE ON PRESSURE EQUIPMENT IN JAPAN
E. Yamamoto, Eishintechno, Fujisawa, Japan
PVP2008-61909: REPAIR WELDABILITY AT OVERLAY/BASE METAL INTERFACE OF PETROLEUM PRESSURE VESSEL
R. Kayano, The Japan Steel Works, Ltd., Hokkaido, Japan
PVP2008-61308: ACCEPTANCE CRITERIA FOR REPAIR METHOD USING “FILLET WELDED PATCHES” APPLIED TO PRESSURE VESSELS
Y. Ogayu, Idemitsu Kosan Co., Ltd., Ichihara, Chiba, Japan
PVP2008-61633: EULERIAN FINITE ELEMENT FORMULATION FOR SLOSHING RESPONSE OF FLOATING ROOFS IN ABOVEGROUND STORAGE TANKS
S. Yoshida, K. Sekine, Yokohama National University, Yokohama, Japan; T. Mitsuta, Japan Oil, Gas and Metals National Corporation, Kawasaki, Japan

SESSION 4.2D (DA-14-1)
Thursday, July 31, 10:30 am – 12:15 pm, Chicago Ballroom D, 5th Floor
DESIGN & STRESS ANALYSIS OF PVP FLANGES
Sponsored by: Design and Analysis Committee
Developed by: W. Brown, The Equity Engineering Group, Inc., Shaker Heights, OH, USA
Chair: W. Koves, UOP LLC., Des Plaines, IL, USA
Co-Chair: S. Nassar, Oakland University, Rochester, MI, USA
PVP2008-61168: FEM STRESS ANALYSIS AND SEALING PERFORMANCE EVALUATION IN PIPE FLANGE CONNECTIONS WITH SPIRAL WOUND GASKETS SUBJECTED TO EXTERNAL BENDING MOMENTS (CASE WHERE INTERNAL FLUID IS LIQUID)
T. Sawa, T. Iwamoto, K. Funada, Y. Omiya, Hiroshima University, Higashihiroshima, Hiroshima, Japan
PVP2008-61708: SELECTING THE OPTIMUM BOLT ASSEMBLY STRESS: INFLUENCE OF FLANGE TYPE ON FLANGE LOAD LIMIT
W. Brown, The Equity Engineering Group, Inc., Shaker Heights, OH, USA
PVP2008-61709: SELECTING THE OPTIMUM BOLT ASSEMBLY STRESS: INFLUENCE OF FLANGE MATERIAL ON FLANGE LOAD LIMIT
W. Brown, The Equity Engineering Group, Inc., Shaker Heights, OH, USA
SESSION 4.2E (TW-1-7)
10:30 am – 12:15 pm, Chicago Ballroom E, 5th Floor
TECHNICAL TUTORIAL: TUTORIAL ON AUTOMATED ULTRASONIC TESTING (AUT) VERSUS RADIOGRAPHY (RT)—II
Sponsored by: The PVP Division Conference Committee
Presented by: M. Moles, Olympus NDT, Toronto, ON, Canada
SESSION 4.2F (MF-16-3)
Thursday, July 31, 10:30 am – 12:15 pm, Chicago Ballroom F, 5th Floor
STRUCTURAL INTEGRITY OF PIPELINES AND PRESSURE VESSELS—3
Sponsored by: Materials and Fabrication Committee
Developed by: X. Zhu, Battelle Memorial Institute, Columbus, OH, USA; X. Chen, Hefei General Machinery Research Institute, Hefei, Anhui, China
Chair: G. Shen, MTL/CANMET, Ottawa, ON, Canada
Co-Chair: X.-K. Zhu, Battelle, Columbus, OH, USA
PVP2008-61312: INVESTIGATION OF CYCLIC CREEP BEHAVIOR AND LIFE PREDICTION METHOD OF NOTCH SPECIMEN DURING HIGH TEMPERATURE FATIGUE
Z. Fan, H. Jiang, J. Dong, X. Chen, Hefei General Machinery Research Institute, Hefei, Anhui, China
PVP2008-61220: ELASTIC-PLASTICFINITE ELEMENT SIMULATION AND FATIGUE DAMAGE ANALYSIS OF WRINKLEBENDS
X. Zhu, B. Leis, Battelle Memorial Institute, Columbus, OH, USA
PVP2008-61310: ADVANCES IN RESEARCH OF ELEVATED AND HIGH-TEMPERATURE STRUCTURE INTEGRITY OF PROCESS PRESSURE-BEARING EQUIPMENT IN CHINESE PETROCHEMICAL INDUSTRY
X. Chen, Z. Fan, T. Yang, W. Guan, Hefei General Machinery Research Institute, Hefei, Anhui, China; S. Tu, East China University of Science and Technology, Shanghai, China; J. Jiang, Z. Gao, Zhejiang University of Technology, Hangzhou, China
PVP2008-61313: A NEW EMPIRICAL LIFE PREDICTION EQUATION FOR STRESS-CONTROLLED FATIGUE-CREEP INTERACTION
H. Jiang, X. Chen, Z. Fan, J. Dong, Hefei General Machinery Research Institute, Hefei, Anhui, China
SESSION 4.2G (MF-5-10)
Thursday, July 31, 10:30 am – 12:15 pm, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 10
Sponsored by: Materials and Fabrication
Developed by: D. Rudland, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA; M. Mochizuki, Osaka University, Suita, Osaka, Japan
Co-Chair: P. Dong, Battelle Memorial Institute, Columbus, OH, USA
PVP2008-61484: AN ANALYTICAL EVALUATION OF THE EFFICACY OF THE MECHANICAL STRESS IMPROVEMENT PROCESS IN PRESSURIZED WATER REACTOR PRIMARY COOLING PIPING
L. Fredette, P. M. Scott, Battelle Memorial Institute, Columbus, OH, USA; F. W. Brust, Jr., Engineering Mechanics Corp. of Columbus, Columbus, OH, USA
PVP2008-61210: RESIDUAL STRESS RELIEF IN POST-WELD HEAT TREATMENT
P. Dong, Battelle Memorial Institute, Columbus, OH, USA; J. K. Hong, Battelle, Columbus, OH, USA
PVP2008-61353: FRACTURE INITIATION IN THE PRESENCE OF A RESIDUAL STRESS FIELD
S. Ortner, Nexia Solutions Ltd., Didcot, Oxfordshire, United Kingdom; A. Sherry, G. K. S. Lee, University of Manchester, Manchester, United Kingdom
PVP2008-61065: REGULATORY ASPECTS ON THE APPLICATION OF THE LEAK BEFORE BREAK CONCEPT FOR SWEDISH NUCLEAR POWER PLANTS
B. Brickstad, Swedish Nuclear Power Inspectorate (SKI), Stockholm, Sweden
SESSION 4.2H (MF-9-1)
Thursday, July 31, 10:30 am – 12:15 pm, Chicago Ballroom H, 5th Floor
GRAPHITE TECHNOLOGY FOR NUCLEAR POWER APPLICATIONS
Developed by: R. Dennis, Frazer-Nash Consultancy, Bristol, United Kingdom; T. J Marrow, A. Sherry, University of Manchester, Manchester, Lancashire, United Kingdom
Chair: T. J Marrow, University of Manchester, Manchester, Lancashire, United Kingdom
Co-Chair: R. Dennis, Frazer-Nash Consultancy, Bristol, United Kingdom
PVP2008-61136: IN-SITU OBSERVATION OF CRACK NUCLEATION IN NUCLEAR GRAPHITE BY DIGITAL IMAGE CORRELATION
H. Li, J. Duff, T. J Marrow, University of Manchester, Manchester,
Lancashire, United Kingdom
PVP2008-61349: MEASUREMENT OF INTERNAL STRAINS IN GRAPHITE USING THE DEEP HOLE DRILLING TECHNIQUE
S. Nakhodchi, P. Flewitt, D. Smith, C. Truman, University of Bristol, Bristol, United Kingdom

PVP2008-61283: IMPLEMENTATION AND TUNING OF A PHYSICALLY BASED GRAPHITE MATERIAL MODEL
M. Joyce, Frazer-Nash, Warrington, United Kingdom; M. Bradford, British Energy Generation Ltd, Gloucester, United Kingdom

PVP2008-61423: OXIDATIVE STABILITY OF CARBON BY THERMAL GRAVIMETRIC ANALYSIS
W. Focke, C. Melane, H. Badenhorst, L. Holo, University of Pretoria, Pretoria, South Africa; E. Vuroninen, CSIR, Pretoria, South Africa; B. Rand, University of Pretoria, Pretoria, South Africa

PVP2008-61521: A HOLISTIC APPROACH TO STRUCTURAL INTEGRITY METHODS SUPPORTING GRAPHITE Core COMPONENT ASSESSMENTS
C. D. Elcoate, G. M. Davis, L. E. Easterbrook, Frazer-Nash Consultancy Ltd, Bristol, United Kingdom

SESSION 4.2J (CS-12-3)
Thursday, July 31, 10:30 am – 12:15 pm, Cook, 3rd Floor
RECENT DEVELOPMENTS IN EUROPEAN CODES AND STANDARDS—3
Sponsored by: Codes and Standards Committee
Developed by: B. Dogan, EPRI, Charlotte, NC, USA
Chair: J.-M. Grandemange, AREVA-NP, Paris La Défense, France
Co-Chair: I. Varfolomeyev, Fraunhofer Institute for Mechanics of Materials, Freiburg, Germany

J.-M. Grandemange, AREVA-NP, Paris La Défense, France

PVP2008-61554: FKM GUIDELINE “FRACTURE MECHANICS PROOF OF STRENGTH FOR ENGINEERING COMPONENTS”—PROCEDURES, COMPENDIUMS, EXAMPLES
I. Varfolomeyev, Fraunhofer Institute for Mechanics of Materials, Freiburg, Germany; B. Pyttel, MPA IfW Darmstadt, Darmstadt, Germany

PVP2008-61681: PRE-NORMATIVE ACTIVITY FOR GEN IV NUCLEAR REACTOR
A. Tonti, C. Delle Site, O. Grisola, ISPESL, Rome, Italy; C. Renault, F. Carrê, CEA, Saclay, France; M. Sperandio, Secretary of AFCEN RCC-MR Committee, Lyon, France; G. Baylac, Advisor, Paris, France

SESSION 4.2K (FSI-3-6)
Thursday, July 31, 10:30 am – 12:15 pm, Denver, 5th Floor
SHOCK WAVE APPLICATIONS
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: S. Itoh, Kumamoto University, Kumamoto, Japan; C. Giannopapa, European Space Agency, Noordwijk, Netherlands
Chair: S. Itoh, Kumamoto University, Kumamoto, Japan
Co-Chair: C. Giannopapa, European Space Agency, Noordwijk, Netherlands

PVP2008-61867: STUDY ON LOW VELOCITY DETONATION PHENOMENA OF NITROMETHANE
A. Osada, Japan/Kumamoto University, Kumamoto, Japan; H. Hamashima, Kumamoto Industrial Research Institute, Kumamoto, Japan; Y. Kato, Nippon Koki Co., Ltd., Fukushima, Japan; S. Itoh, Kumamoto University, Kumamoto, Japan

PVP2008-61658: BASIC STUDY ON PRE-PROCESSING BY THE SHOCK WAVE FOR FREEZE-DRYING
T. Watanabe, National Fisheries University, Shimonoseki, Yamaguchi, Japan; H. Maehara, A. Takemoto, S. Itoh, Kumamoto University, Kumamoto, Japan

PVP2008-61741: ANALYTICAL AND NUMERICAL STUDY OF THE INTERACTION OF AN ACOUSTIC SHOCK WAVE AND AN IMMERSED ELASTIC STRUCTURE
J.-F. Sigrist, DCNS Propulsion, La Montagne, France

PVP2008-61383: DEFORMATION PROCESS OF METAL PIPE BY UNDERWATER SHOCK LOADING
H. Iyama, Yatsushiro National College of Technology, Yatsushiro, Kumamoto, Japan; T. Watanabe, National Fisheries University, Shimonoseki, Yamaguchi, Japan; S. Itoh, Kumamoto University, Kumamoto, Japan

SESSION 4.2L (CS-9-2)
Thursday, July 31, 10:30 am – 12:15 pm, Dupage, 3rd Floor
PROBABILISTIC ASSESSMENT FOR DEGRADED PIPING FOR KOREAN AND JAPANESE CODES
Sponsored by: Codes and Standards Committee
Developed by: Y. W. Park, Korea Institute of Nuclear Safety, Daejeon, Korea (Republic); H. Machida, TEPCO Systems Corporation, TOKYO, Japan
Chair: D.-J. Shim, Engineering Mechanics Corporation of Columbus, Columbus, OH, USA
Co-Chair: H. Machida, TEPCO Systems Corporation, TOKYO, Japan

PVP2008-61831: DEVELOPMENT OF PROBABILISTIC FRACTURE MECHANICS CODE FOR PRIMARY SYSTEM PIPES AND APPLICATION FOR RI-ISI
C. Jang, D. Datta, KAIST, Yuseong, Daejeon, Korea (Republic); J.-S. Yang, Korea Electric Power Research Institute, Daejeon, Korea (Republic)

PVP2008-61017: EFFECT OF CRACK DETECTION PERFORMANCE AND SIZING ACCURACY ON RELIABILITY OF PIPING WITH STRESS CORROSION CRACKS
H. Machida, TEPCO Systems Corporation, Tokyo, Japan; N. Yamashita, Tokyo Electric Power Company, Tokyo, Japan

PVP2008-61457: BAYESIAN INFERENCE METHOD FOR FAILURE PROBABILITY OF WALL THINNING PIPE IN CORROSION RATE FLUCTUATION MODEL
S. Okajima, Japan Atomic Energy Agency, Ibaraki, Japan; S. Izumi, Shinsuke Sakai, The University of Tokyo, Tokyo, Japan
SESSION 4.2M (OAC-4-5)  

Thursday, July 31, 10:30 am – 12:15 pm, Houston, 5th Floor

THERMAL—2  
Sponsored by: Operations, Applications, and Components Committee

Developed by: M. R. Feldman, Oak Ridge National Laboratory, Knoxville, TN, USA

Chair: J. G. Arbital, Y-12 National Security Complex, Oak Ridge, TN, USA

Co-Chair: C. G. May, Savannah River National Laboratory, Aiken, SC, USA

PVP2008-61591: EVALUATION OF THERMAL CONDUCTIVITY OF INSTALLED-IN-PLACE POLYURETHANE FOAM INSULATION BY EXPERIMENT AND ANALYSIS
A. C. Smith, N. Gupta, K. R. Eberl, B. Hardy, Savannah River National Laboratory, Aiken, SC, USA

PVP2008-61600: MEASUREMENT AND UNCERTAINTY OF HEAT FLUX TO A RAIL-CASK SIZE PIPE CALORIMETER IN A POOL FIRE
M. A. Kramer, M. A. del Valle, M. Greiner, University of Nevada, Reno, NV, USA

SESSION 4.2N (SE-9-2)  

Thursday, July 31, 10:30 am – 12:15 pm, Kane, 3rd Floor

EXPERIMENTAL AND ANALYTICAL STUDIES IN SYSTEMS INTERACTION II  
Sponsored by: Seismic Engineering Committee

Developed by: J. C. Chen, Lawrence Livermore National Laboratory, Livermore, CA, USA

Chair: J. C. Chen, Lawrence Livermore National Laboratory, Livermore, CA, USA

Co-Chair: K. Tai, Mitsubishi Heavy Industries, Ltd., Kobe, Japan

PVP2008-61556: TIME-DOMAIN NONLINEAR SSI ANALYSIS OF FOUNDATION SLIDING USING FREQUENCY-DEPENDENT FOUNDATION IMPEDANCE DERIVED FROM SASSI
M. Tabatabaei, SC Solutions, Oakland, CA, USA; T. Ballard, SC Solutions, Sunnyvale, CA, USA

SESSION 4.2O (MF-20-2)  

Thursday, July 31, 10:30 am – 12:15 pm, Los Angeles, 5th Floor

INTEGRATION OF FRACTURE MECHANICS, FATIGUE MECHANICS, AND NDE  
Sponsored by: PVP Materials and Fabrication Committee

Developed by: J. T. Fong, National Institute of Standards & Technology, Gaithersburg, MD, USA; O. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA

Chair: J. T. Fong, Drexel University, Philadelphia, PA, USA

Co-Chair: O. F. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA

PVP2008-61249: FRACTURE MECHANICS AND NDE: THE KEY TO FAILURE PREVENTION
G. Egan, APTECH Engineering Services Inc, Sunnyvale, CA, USA

PVP2008-61565: UNCERTAINTY ESTIMATE OF CHARPY USING A 7-FACTOR 8-RUN DESIGN OF EXPERIMENT
C. Interrante, Consultant, Bethesda, MD, USA; J. T. Fong, J. J. Filliben, N. A. Heckert, National Institute of Standards & Technology, Gaithersburg, MD, USA

SESSION 4.2P (DA-4-10)  

Thursday, July 31, 10:30 am – 12:15 pm, McHenry, 3rd Floor

FATIGUE—2  
Sponsored by: Design and Analysis Committee

Developed by: J.-M. Stephan, EDF R&D, Moret-sur-Loing, France

Chair: J. A. Le Duff, AREVA NP, Paris La Defense, Ile de France, France

Co-Chair: S. Chattopadhyay, The Pennsylvania State University, DuBois, PA, USA

PVP2008-61278: AN APPROACH FOR ASSESSING STRUCTURAL UPLIFTING USING BLAST MOTIONS
J. Nie, C. Hofmayer, Brookhaven National Lab, Upton, NY, USA; J. Xu, US NRC, Rockville, MD, USA; S. A. Ali, USA Nuclear Regulatory Commission, Washington, DC, USA

PVP2008-61881: NONLINEAR SEISMIC CORRELATION ANALYSIS OF THE JNES/NUPEC LARGE-SCALE PIPING SYSTEM TESTS
J. Nie, G. DeGrassi, C. Hofmayer, Brookhaven National Laboratory, Upton, NY, USA; S. A. Ali, USA Nuclear Regulatory Commission, Washington, DC, USA

SESSION 4.2Q (SE-9-2)  

Thursday, July 31, 10:30 am – 12:15 pm, Kane, 3rd Floor

INTEGRATION OF FRACTURE MECHANICS, FATIGUE MECHANICS, AND NDE  
Sponsored by: PVP Materials and Fabrication Committee

Developed by: J. T. Fong, National Institute of Standards & Technology, Gaithersburg, MD, USA; O. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA

Chair: J. T. Fong, Drexel University, Philadelphia, PA, USA

Co-Chair: O. F. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA

PVP2008-61249: FRACTURE MECHANICS AND NDE: THE KEY TO FAILURE PREVENTION
G. Egan, APTECH Engineering Services Inc, Sunnyvale, CA, USA

PVP2008-61565: UNCERTAINTY ESTIMATE OF CHARPY USING A 7-FACTOR 8-RUN DESIGN OF EXPERIMENT
C. Interrante, Consultant, Bethesda, MD, USA; J. T. Fong, J. J. Filliben, N. A. Heckert, National Institute of Standards & Technology, Gaithersburg, MD, USA

PVP2008-61584: A NEW APPROACH TO ASSESSING THE RELIABILITY OF APPLYING LABORATORY FRACTURE TOUGHNESS TEST DATA TO FULL-SCALE STRUCTURES
Y. Chao, University of South Carolina, Columbia, SC, USA; J. T. Fong, Drexel University, Philadelphia, PA, USA; P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA

SESSION 4.2Q (DA-4-10)  

Thursday, July 31, 10:30 am – 12:15 pm, McHenry, 3rd Floor

FATIGUE—2  
Sponsored by: Design and Analysis Committee

Developed by: J.-M. Stephan, EDF R&D, Moret-sur-Loing, France

Chair: J. A. Le Duff, AREVA NP, Paris La Defense, Ile de France, France

Co-Chair: S. Chattopadhyay, The Pennsylvania State University, DuBois, PA, USA

PVP2008-61278: AN APPROACH FOR ASSESSING STRUCTURAL UPLIFTING USING BLAST MOTIONS
J. Nie, C. Hofmayer, Brookhaven National Lab, Upton, NY, USA; J. Xu, US NRC, Rockville, MD, USA; S. A. Ali, USA Nuclear Regulatory Commission, Washington, DC, USA

PVP2008-61881: NONLINEAR SEISMIC CORRELATION ANALYSIS OF THE JNES/NUPEC LARGE-SCALE PIPING SYSTEM TESTS
J. Nie, G. DeGrassi, C. Hofmayer, Brookhaven National Laboratory, Upton, NY, USA; S. A. Ali, USA Nuclear Regulatory Commission, Washington, DC, USA

SESSION 4.2Q (SE-9-2)  

Thursday, July 31, 10:30 am – 12:15 pm, Kane, 3rd Floor

INTEGRATION OF FRACTURE MECHANICS, FATIGUE MECHANICS, AND NDE  
Sponsored by: PVP Materials and Fabrication Committee

Developed by: J. T. Fong, National Institute of Standards & Technology, Gaithersburg, MD, USA; O. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA

Chair: J. T. Fong, Drexel University, Philadelphia, PA, USA

Co-Chair: O. F. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA

PVP2008-61249: FRACTURE MECHANICS AND NDE: THE KEY TO FAILURE PREVENTION
G. Egan, APTECH Engineering Services Inc, Sunnyvale, CA, USA

PVP2008-61565: UNCERTAINTY ESTIMATE OF CHARPY USING A 7-FACTOR 8-RUN DESIGN OF EXPERIMENT
C. Interrante, Consultant, Bethesda, MD, USA; J. T. Fong, J. J. Filliben, N. A. Heckert, National Institute of Standards & Technology, Gaithersburg, MD, USA

PVP2008-61584: A NEW APPROACH TO ASSESSING THE RELIABILITY OF APPLYING LABORATORY FRACTURE TOUGHNESS TEST DATA TO FULL-SCALE STRUCTURES
Y. Chao, University of South Carolina, Columbia, SC, USA; J. T. Fong, Drexel University, Philadelphia, PA, USA; P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA

SESSION 4.2Q (DA-4-10)  

Thursday, July 31, 10:30 am – 12:15 pm, McHenry, 3rd Floor

FATIGUE—2  
Sponsored by: Design and Analysis Committee

Developed by: J.-M. Stephan, EDF R&D, Moret-sur-Loing, France

Chair: J. A. Le Duff, AREVA NP, Paris La Defense, Ile de France, France

Co-Chair: S. Chattopadhyay, The Pennsylvania State University, DuBois, PA, USA

PVP2008-61278: AN APPROACH FOR ASSESSING STRUCTURAL UPLIFTING USING BLAST MOTIONS
J. Nie, C. Hofmayer, Brookhaven National Lab, Upton, NY, USA; J. Xu, US NRC, Rockville, MD, USA; S. A. Ali, USA Nuclear Regulatory Commission, Washington, DC, USA

PVP2008-61881: NONLINEAR SEISMIC CORRELATION ANALYSIS OF THE JNES/NUPEC LARGE-SCALE PIPING SYSTEM TESTS
J. Nie, G. DeGrassi, C. Hofmayer, Brookhaven National Laboratory, Upton, NY, USA; S. A. Ali, USA Nuclear Regulatory Commission, Washington, DC, USA
PVP2008-61145: FATIGUE EVALUATION IN MIXING ZONES: COMPARISON OF DIFFERENT CRITERIA OF FATIGUE
J.-M. Stephan, EDF R&D, Moret-sur-Loing, France; C. Gourdin, CEA, Gif-sur-Yvette, France; J. Angles, EDF R&D, Clamart, France; S. Quilici, L. Jeanfaivre, Ecole Nationale Superieure des Mines de Paris, Evry, France

PVP2008-61735: COMPARISON OF FATIGUE DAMAGE CRITERIA APPLIED TO MULTIAXIAL FATIGUE
F. Curtit, Electricite de France, Ecuisses, France; J.-M. Stephan, EDF R&D, Moret-sur-Loing, France; A. Le Pecher, Ecole Centrale Paris, Chateaufay-Malabry, France

PVP2008-61789: CYCLIC DEFORMATION AND FATIGUE BEHAVIORS OF STAINLESS STEEL 304L INCLUDING MEAN STRESS AND PRE-STRAINING EFFECTS
J. Colin, University of Toledo, Toledo, OH, USA; J.-C. Le Roux, Electricite de France, Moret-sur-Loing, France; S. Taheri, LAMSID, UMR EDF/CNRS 2832, Clamart, France; A. Fatemi, University of Toledo, TOLEDO, OH, USA; J.-P. Sermage, EDF, Clamart, France

PVP2008-61894: EFFECTS OF SURFACE FINISH AND LOADING CONDITIONS ON THE LCF BEHAVIOR OF austENITIC STAINLESS STEEL IN PWR ENVIRONMENT—COMPARISON OF LCF TEST RESULTS WITH NRC RG 1.207 LIFE ESTIMATIONS
J. A. Le Duff, A. Lefrancois, AREVA NP, Paris La Defense, Ile de France, France; J. P. Vernot, AREVA NP, Le Creusot, Burgundy, France

SESSION 4.2Q (CT-11-1)
Thursday, July 31, 10:30 am – 12:15 pm, Miami, 5th Floor
COMPUTATIONAL MODELS FOR ELASTIC-PLASTIC FEA 1
Sponsored by: Computer Technology Committee
Developed by: W. Reinhardt, Atomic Energy of Canada Limited, Mississauga, ON, Canada
Chair: T. Damiani, Bechtel Bettis, Inc., West Mifflin, PA, USA
Co-Chair: R. Adibi-Asl, AECL, Mississauga, ON, Canada
PVP2008-61067: APPLICATION OF DIRECT CYCLIC ANALYSIS TO THE PREDICTION OF PLASTIC SHAKEDOWN OF NUCLEAR POWER PLANT COMPONENTS
M. Martin, Rolls-Royce, Derby, Derbyshire, United Kingdom
PVP2008-61171: SIMPLIFIED LIMIT LOAD DETERMINATION USING THE M-ALPHA TANGENT METHOD
R. Seshadri, M. Hossain, Memorial University of Newfoundland, St. John’s, NL, Canada
PVP2008-61458: EFFECTIVE STRESS RATIO OF TRIANGULAR PATTERN PERFORATED PLATES
N. Kasahara, N. Kawasaki, M. Ando, Japan Atomic Energy Agency, Ibaraki, Japan; H. Takasho, Joyo Industries Ltd, Ibaraki, Japan

Block 4.3: Thursday, July 31 (2:00 pm – 3:45 pm)
SESSION 4.3A (DA-11-1)
Thursday, July 31, 2:00 pm – 3:45 pm, Chicago Ballroom A, 5th Floor
VIBRATION, EXPERIMENTAL TECHNIQUES AND COMPUTATIONAL FLUID DYNAMICS IN PRESSURE VESSEL DESIGN
Sponsored by: Design and Analysis Committee
Developed by: H. Levine, Weidlinger Associates, Inc., Mountain View, CA, USA; S. Jones, Aerospace Engineering and Mechanics, Tuscaloosa, Alabama, AL, USA; R. Smith, Black & Veatch, Overland Park, KS, USA
Chair: H. Levine, Weidlinger Associates, Inc., Mountain View, CA, USA
Co-Chair: S. Jones, University of Alabama, Tuscaloosa, Alabama, AL, USA
PVP2008-61535: TAYLOR CYLINDER TEST REDUCTION USING A ONE-DIMENSIONAL THEORY
R. Seshadri, M. Hossain, Memorial University of Newfoundland, St. John’s, NL, Canada
PVP2008-61621: CFD ANALYSIS AND OPTIMIZATION OF AN INLET MANIFOLD FOR A LARGE TGU REACTOR
S. McGuffie, Porter McGuffie, Inc., Lawrence, KS, USA; M. Porter, Dynamic Analysis, Lawrence, KS, USA

SESSION 4.3B (FSI-6-2)
Thursday, July 31, 2:00 pm – 3:45 pm, Chicago Ballroom B, 5th Floor
BLAST AND MEASUREMENTS
Sponsored by: Fluid-Structure Interaction Committee
Chair: H. Levine, Weidlinger Associates, Inc., Mountain View, CA, USA
Co-Chair: S. Jones, University of Alabama, Tuscaloosa, Alabama, AL, USA
PVP2008-61153: TAYLOR CYLINDER TEST REDUCTION USING A ONE-DIMENSIONAL THEORY
R. Smith, B. Baker, K. Torres, N. Dutton, University of Alabama, Tuscaloosa, AL, USA; S. Jones, Aerospace Engineering and Mechanics, Tuscaloosa, Alabama, AL, USA
PVP2008-61284: FAST EVALUATION OF PEAK PRESSURE/IMPULSES USING NEURAL NETWORKS FOR DETONATION ABOVE GROUND LEVEL
E. Mestreau, J. Baum, SAIC, McLean, VA, USA
PVP2008-61396: EXPLOSIVE TECHNIQUE FOR CONDUCTING SHOCK LOADING AND RELEASE EXPERIMENTS (Presentation Only)
G. Cleaer, B. Plunkett, L. Chhabildas, Air Force Research Lab, Eglin AFB, USA
SESSION 4.3C (OAC-5-1)
Thursday, July 31, 2:00 pm – 3:45 pm, Chicago Ballroom C, 5th Floor

PUMPS AND VALVES
Sponsored by: Operations, Applications, and Components
Developed by: I. Ezekoye, Westinghouse Electric Company, Pittsburgh, PA, USA
Chair: I. Ezekoye, Westinghouse Electric Company, Pittsburgh, PA, USA
Co-Chair: M. Brumovsky, Nuclear Research Institute Rez plc, Rez, Czech Republic
PVP2008-61147: A NON-DESTRUCTIVE TESTING METHOD AND ANALYSIS FOR AIR PRESSURE DISTRIBUTION IN THE STACKS OF BUILDING DRAINAGE SYSTEMS
C.-L. Cheng, W.-J. Liao, H. Kuen-Chi, C. Yen, National Taiwan University of Science and Technology, Taipei, Taiwan
PVP2008-61151: IMPLEMENTATION OF LOAD REDUCING BUSHINGS FOR VALVES IN A HIGH VIBRATION ENVIRONMENT
A. Reich, S. Doherty, Streamline Automation, LLC, Huntsville, AL, USA; K. Williams, University of Alabama, Tuscaloosa, AL, USA
PVP2008-61166: AN EVALUATION OF POST-LOCA DEBRIS ON MULTI-STAGE SAFETY-RELATED PUMPS IN PWR ECCS IN SUPPORT OF GENERIC SAFETY ISSUE 191 CLOSURE
I. Ezekoye, R. Hundal, P. V. Pyle, Westinghouse Electric Company, Pittsburgh, PA, USA

SESSION 4.3D (DA-14-2)
Thursday, July 31, 2:00 pm – 3:45 pm, Chicago Ballroom D, 5th Floor

DESIGN & ANALYSIS OF BOLTED CONNECTIONS
Sponsored by: Design and Analysis Committee
Developed by: W. Brown, The Equity Engineering Group, Inc., Shaker Heights, OH, USA
Co-Chair: W. Koves, UOP LLC., Des Plaines, IL, USA
Chair: W. Brown, The Equity Engineering Group, Inc., Shaker Heights, OH, USA
PVP2008-61512: LIQUID SEALING MATERIALS—SEALING GAP OF LIQUID GASKETS
S. Reinhardt, J.-P. Reibert, W. Haas, Universität Stuttgart, Stuttgart, Germany
PVP2008-61725: MODIFIED FORMULATION OF JOINT STIFFNESS IN BOLTED JOINTS
S. Nassar, A. Abboud, Oakland University, Rochester, MI, USA
PVP2008-61726: EFFECT OF NON-CONFORMING THREAD ROOT RADIUS ON THE FATIGUE PERFORMANCE OF PRELOADED THREADED FASTENERS
B. Munn, S. Nassar, Oakland University, Rochester, MI, USA; X. Yang, Oakland University, Auburn Hills, MI, USA

SESSION 4.3E (DA-5-1)
Thursday, July 31, 2:00 pm – 3:45 pm, Chicago Ballroom E, 5th Floor

INELASTIC AND NONLINEAR ANALYSIS
Sponsored by: Design and Analysis Committee
Developed by: M. Y. A. Younan, The American University in Cairo, Cairo, Egypt
Chair: D. Mackenzie, University of Strathclyde, Glasgow, United Kingdom
Co-Chair: I. Fanous, Atomic Energy of Canada Limited, Mississauga, ON, Canada
PVP2008-61686: METHODOLOGY FOR REACTOR VESSEL HEAD DROP ACCIDENT ANALYSIS
J. Remic, III, N. Johnston, G. Demetri, Westinghouse Electric Company, Monroeville, PA, USA; D. Roarty, Westinghouse Electric Co., Murrysville, PA, USA
PVP2008-61692: SHAKEDOWN LIMIT LOADS FOR 90-DEGREE SCHEDULED PIPE BENDS SUBJECTED TO CONSTANT INTERNAL PRESSURE AND CYCLIC BENDING MOMENTS
H. F. Abdalla, M. Y. A. Younan, The American University in Cairo, Cairo, Egypt; M. M. Megahed, Cairo University, Cairo, Egypt
PVP2008-61329: FINITE ELEMENT ANALYSIS OF LOCAL INELASTIC STRAIN BASED ON STRESS REDISTRIBUTION LOCUS
S. Kataoka, Takuya Sato, JGC Corporation, Yokohama, Japan
PVP2008-61769: NONLINEAR ANALYSIS OF PRESSURE STRENGTHENING FOR AUSTENITIC STAINLESS STEEL PRESSURE VESSEL
L. Ma, J. Zheng, C. Miao, Y. Qin, Zhejiang University, Hangzhou, Zhejiang, China; C. Shi, Zhangjiagang CIMC Sanctum Cryogenic Equipment Co., Ltd, Zhangjiagang, China
PVP2008-61916: NONLINEAR PLASTIC MODELING OF MATERIALS BASED ON THE GENERALIZED STRAIN RATE TENSOR
K. Ghavam, R. Nathdabadi, Sharif University of Technology, Tehran, Iran

SESSION 4.3F (MF-19-1)
Thursday, July 31, 2:00 pm – 3:45 pm, Chicago Ballroom F, 5th Floor

LEAK BEFORE BREAK ASSESSMENTS
Sponsored by: Materials and Fabrication Committee
Developed by: J. Sharples, Serco, Warrington, Cheshire, United Kingdom; P. J. Bouchard, British Energy, Gloucester, Gloucestershire, United Kingdom
Co-Chair: J. Sharples Serco, Warrington, Cheshire, United Kingdom
Chair: J. Sharples Serco, Warrington, Cheshire, United Kingdom
Co-Chair: J. Bouchard, The Open University, Milton Keynes, United Kingdom
PVP2008-61207: A PROBABILISTIC APPROACH TO LEAK BEFORE BREAK DEMONSTRATION
P. Dillström, Inspecta Technology AB, Stockholm, Sweden
PVP2008-61562: REVISED LOCA FREQUENCY ESTIMATES FROM AN EXPERT ELICITATION PROCESS
P. M. Scott, Battelle Memorial Institute, Columbus, OH, USA
PVP2008-61064: RECENT DEVELOPMENTS TO IMPROVE CRACK OPENING AREA SOLUTIONS FOR R6 LEAK-BEFORE-BREAK PROCEDURES
J. Sharples, R Charles, H. Dodia, D. G. Hooton, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom; P. Budden, British Energy Generation Ltd, Gloucester, United Kingdom

PVP2008-61375: CRACK OPENING AREA SOLUTIONS FOR THROUGH-WALL CRACKS IN A COMPLEX GEOMETRY
R. Charles, J. Sharples, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom; P. Budden, British Energy Generation Ltd, Gloucester, United Kingdom

SESSION 4.3G (MF-5-11)
Thursday, July 31, 2:00 pm – 3:45 pm, Chicago Ballroom G, 5th Floor
WELDING, RESIDUAL STRESS 11
Developed by: C. Truman, Bristol University, Bristol, United Kingdom
Chair: N. O’Dowd, University of Limerick, Limerick, Ireland
Co-Chair: N. Yanagida, Hitachi, Ltd., Hitachi, Ibaraki, Japan

PVP2008-61101: INFLUENCE OF COOLING RATE ON PREDICTED WELD RESIDUAL STRESS BUILD-UP IN A THICK WALLED PIPING INTERSECTION
W. Jiang, Dalian University of Technology, Dalian, China; K. Yahiaoui, University of Wolverhampton, Wolverhampton, United Kingdom

PVP2008-61684: AN ANALYSIS OF RESIDUAL STRESS IMPROVEMENT FOR A DISSIMILAR METAL NOZZLE-TO-PIPE WELD BY USING THE HEAT SINK METHOD
J. Park, J. Kim, G. Sohn, Korea Power Engineering Company Inc., Daejeon, Korea (Republic); Y.-H. Kim, Chungnam National University, Daejeon, Korea (Republic)

SESSION 4.3J (CS-13-1)
Thursday, July 31, 2:00 pm – 3:45 pm, Cook, 3rd Floor
HIGH TEMPERATURE CODES AND STANDARDS
Sponsored by: Codes and Standards Committee
Developed by: B. Dogan, EPRI, Charlotte, NC, USA
Chair: G. Hollinger, Becht Engineering Company Inc., Bluffton, SC, USA
Co-Chair: K. Nikbin, Imperial College London, London, United Kingdom

PVP2008-61182: DEVELOPING METHODOLOGY FOR ELEVATED TEMPERATURE DESIGN

PVP2008-61676: STANDARD FOR CREEP-FATIGUE CRACK GROWTH OF METALLIC MATERIALS (Presentation Only)
B. Dogan, D. Gandy, EPRI, Charlotte, NC, USA

PVP2008-61377: STRUCTURAL INTEGRITY ASSESSMENT OF WELDMENTS AT HIGH TEMPERATURE: A PROPOSED NEW APPROACH FOR R5
G. Smith, Serco Technical and Assurance Services, Warrington, Cheshire, United Kingdom; D. Dean, M. O’Donnell, British Energy Generation Ltd., Gloucester, United Kingdom

SESSION 4.3K (FSI-3-7)
Thursday, July 31, 2:00 pm – 3:45 pm, Denver, 5th Floor
APPLICATIONS IN PRESSURE VESSEL AND PIPING
Sponsored by: Fluid-Structure Interaction Technical Committee
Developed by: D. Broc, CEA Saclay, Gif-sur-Yvette, France; J.-F. Sigrist, DCNS Propulsion, Nantes, France
Chair: D. Broc, CEA Saclay, Gif-sur-Yvette, France
Co-Chair: J.-F. Sigrist, DCNS Propulsion, Nantes, France

PVP2008-61238: FLUID FLOW FORCE MEASUREMENT UNDER VARIOUS CAVITATION STATE ON A GLOBE VALVE MODEL
J. Ferrari, EDF R&D, Moret-sur-Loing, France; Z. Leutwyler, Kalsi Engineering, Inc., Sugar Land, TX, USA

PVP2008-61336: DEVELOPMENT OF A NUMERICAL OPTIMIZATION METHOD FOR BLOWING GLASS PARISON SHAPES

PVP2008-61331: MODELLING THE MIXING PROCESS OF LIQUIDS WITH CONCENTRATES IN CAPSULES
C. Giannopapa, European Space Agency, Noordwijk, Netherlands; B. J. van der Linden, Eindhoven University of Technology, Eindhoven, Netherlands; W. van Druten, Marco Bongers, Friesland Foods Western Europe, Veerendaal, Netherlands

PVP2008-61804: MATERIALS AGING DEGRADATION OF REACTOR VESSEL INTERNALS PART I: THERMAL HYDRAULICS EVALUATION
T. Liszkai, N. Yee, J. Smotrel, AREVA NP Inc., Lynchburg, VA, USA; A. Demma, EPRI, Palo Alto, CA, USA

SESSION 4.3L (CS-10-3)
Thursday, July 31, 2:00 pm – 3:45 pm, Dupage, 3rd Floor
RECENT DEVELOPMENT OF PRESSURE EQUIPMENT STANDARD IN CHINA—II
Sponsored by: Codes and Standards Committee
Developed by: J. Zheng, Zhejiang University, Hangzhou, Zhejiang Province, China; W. Wl, Zhejiang University. China; Hangzhou, Zhejiang Province, China
Chair: P. Gu
Co-Chair: Z. Gao, Zhejiang University of Technology, Hangzhou, Zhejiang, China

PVP2008-61322: DESIGN AND MANUFACTURE OF PRESSURE-BEARING EQUIPMENT BASED ON RISK AND LIFE ANALYSIS
X. Chen, B. Wang, Z. Ai, T. Yang, W. Gu, C. Cheng, Hefei General
Machinery Research Institute, Hefei, Anhui, China

**PVP2008-61448: NONDESTRUCTIVE INSPECTION OF PRESSURE-BEARING EQUIPMENT IN CHINA**
R. Yuan, X. Chen, W. Guan, Hefei General Machinery Research Institute, Hefei, Anhui, China

**PVP2008-61743: NONDESTRUCTIVE TESTING TECHNIQUE FOR ATMOSPHERIC STORAGE TANKS**
S. Ding, F. Liu, Y. Xu, X. Guo, Zhejiang Provincial Special Equipment Inspection and Research Institute, Hangzhou, Hangzhou, China

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SESSION 4.3M (OAC-4-8)
Thursday, July 31, 2:00 pm – 3:45 pm, Houston, 5th Floor

**DESIGN AND FABRICATION ISSUES**
Sponsored by: Operations, Applications, and Components Committee

Developed by: M. R. Feldman, Oak Ridge National Laboratory, Knoxville, TN, USA

Chair: C. G. May, Savannah River National Laboratory, Aiken, SC, USA
Co-Chair: M. Feldman, Oak Ridge National Laboratory, Knoxville, TN, USA

**PVP2008-61125: MODEL 9975 SHIPPING PACKAGE FABRICATION PROBLEMS AND SOLUTIONS**
C. G. May, A. C. Smith, Savannah River National Laboratory, Aiken, SC, USA

**PVP2008-61216: THE DEPARTMENT OF ENERGY REPLACEMENT FOR THE 110-GALLON SPECIFICATION 6M SHIPPING CONTAINER FOR RADIOACTIVE CONTENTS**
J. G. Arbital, Y-12 National Security Complex, Oak Ridge, TN, USA; P. T. Mann, U.S. Department of Energy, Albuquerque, NM, USA

**PVP2008-61425: RECENT DEVELOPMENT OF CODE CASE ON USE OF DUCTILE CAST IRON FOR TRANSPORT AND STORAGE CASK FOR SPENT NUCLEAR FUEL**
T. Arai, Central Research Institute of Electric Power Industry, Yokosuka-shi, Kanagawa-ken, Japan; T. Saegeusa, Central Research Institute of Electric Power Industry, Abiko, Chiba-ken, Japan; R. Hueggenberg, GNS Gesellschaft, Essen, Germany

**PVP2008-61543: FOAM DENSITY SENSITIVITY STUDY FOR THE 9977 PACKAGE USING FINITE ELEMENT ANALYSIS**
J. Gorczyca, A. Wu, Savannah River National Laboratory, Aiken, SC, USA

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SESSION 4.3N (SE-7-1)
Thursday, July 31, 2:00 pm – 3:45 pm, Kane, 3rd Floor

**SEISMIC ISOLATION**
Sponsored by: Seismic Engineering Committee

Developed by: C.-S. Tsai, Department of Civil Engineering, Feng Chia University, Taichung, Taiwan

Chair: C.-S. Tsai, Department of Civil Engineering, Feng Chia University, Taichung, Taiwan
Co-Chair: M. E. Nitzel, M. E. Nitzel Engineering Services, Nampa, ID, USA

**PVP2008-61043: DEVELOPMENT OF PASSIVE CONTROLLED STRUCTURE ASSEMBLED WITH L-TYPE DIAPHRAGM**
T. Chiba, NAPRA, Yokohama-shi, Japan; T. Mikoshiba, C. Minowa, NIED, Tokubu-shi, Japan; T. Sato, Ideal Brain Inc., Tokyo, Japan; M. Terai, Fukuyama University, Fukuyama-shi, Japan; Y. Hiyama, Sumitei-Nikkei Engineering Co. Ltd., Tokyo, Japan

**PVP2008-61099: INSTITUTIONAL EFFICIENCY OF COMMONHOLD INDUSTRIAL PARKS**
J.-W. Lin, S. Chen, L.-S. Yang, M.-J. Lai, Feng Chia University, Taichung, Taiwan

**PVP2008-61431: STUDY ON REDUCING RELATIVE DISPLACEMENT OF SEISMIC ISOLATOR**
H. Tanaka, Fukui University Graduate School, Fukui City, Japan

**PVP2008-61072: SHAKING TABLE TESTS OF STATIC DYNAMICS INTERCHANGEABLE—BALL PENDULUM SYSTEM FOR MOTION SENSITIVE EQUIPMENT**
C.-S. Tsai, W.-S. Lin, C.-P. Tsou, C.-T. Yang, Feng Chia University, Taichung, Taiwan

**PVP2008-61344: APPLICATIONS OF MULTIPLE TRENCH FRICITION PENDULUM SYSTEM TO SEISMIC MITIGATION OF STRUCTURES**
C.-S. Tsai, W.-S. Chen, Y.-C. Lin, C.-C. Chen, Feng Chia University, Taichung, Taiwan

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SESSION 4.3O (MF-20-3)
Thursday, July 31, 2:00 pm – 3:45 pm, Los Angeles, 5th Floor

CONTINUOUS WEB-BASED NDE MONITORING AND PVP FAILURE EVENT DATABASES
Sponsored by: PVP Materials & Fabrication Committee

Developed by: J. T. Fong, National Institute of Standards & Technology, Gaithersburg, MD, USA; O. F. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA; P.-S. Lam, Savannah River National Laboratory, Aiken, SC, USA

Co-Chair: O. F. Hedden, Codes and Standards Consulting, Fort Worth, TX, USA

**PVP2008-61574: CONTINUOUS NDE MONITORING VIA WEB TECHNOLOGY**
P. Marcal, MPAVE Corp, Julian, CA, USA; J. T. Fong, Drexel University, Philadelphia, PA, USA

**PVP2008-61914: CHARACTERISTICS OF DAMAGE & DEGRADATION MECHANISMS IN NUCLEAR POWER PLANT PIPING SYSTEMS**
B. Lydell, Scandpower Risk Management, Inc., Houston, TX, USA

**PVP2008-61242: A QUANTITATIVE APPROACH TO RISK-BASED INSPECTION METHODOLOGY OF MAIN STEAM AND HOT REHEAT PIPING SYSTEMS**
M. Cohn, Aptech Engineering Services, Sunnyvale, CA, USA; J. T. Fong, National Institute of Standards & Technology, Gaithersburg, MD, USA; P. Besuner, Aptech Engineering Services, Sunnyvale, CA, USA

**CONTINUOUS WEB-BASED NONDESTRUCTIVE EVALUATION TECHNOLOGY**
Chockie Group International, Inc., Seattle, WA, USA; A. Chockie, Gregor, LCM Technology, LC, Tarpon Springs, FL, USA

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J. T. Fong, Drexel University, Philadelphia, PA, USA; W. F. Ranson III, University of South Carolina, Columbia, SC, USA; R. I. Vachon, Direct Measurement, Inc, Atlanta, GA, USA; P. Marcal, MPAVE Corp, Julian, CA, USA

SESSION 4.3P (NDE-2-3)
Thursday, July 31, 2:00 pm – 3:45 pm, McHenry, 3rd Floor
NEW NDE APPLICATIONS II
Sponsored by: NDE Engineering, Materials & Fabrication, and Operations, Applications & Components
Developed by: W. Springer, University of Arkansas, Fayetteville, AR, USA
PVP2008-61655: THEORETICAL AND EXPERIMENTAL INVESTIGATION OF PIPE WALL THINNING DETECTION USING GUIDED WAVES
I. Nishiguchi, Kanagawa Institute of Technology, Atsugi-shi, Kanagawa, Japan; F. Sakata, Mitsubishi Heavy Industries, Ltd., Yokohama, Japan; S. Hamada, Tokyo Electric Power Company, Tokyo, Japan
PVP2008-61737: ADVANCES IN THE INSPECTION OF DISSIMILAR METAL WELDS
J. Halley, AIT Advanced Inspection Services, Spring, TX, USA; M. Moles, Olympus NDT, Toronto, ON, Canada
PVP2008-61292: A REAL-TIME DSPI SYSTEM FOR MEASURING SURFACE DEFORMATION IN CLAMPED BOLTED JOINTS
A. Meng, S. Nassar, Oakland University, Rochester, MI, USA

Block 4.3: Thursday, July 31 (4:00 pm – 5:45 pm)

SESSION 4.4B (FSI-5-2)
Thursday, July 31, 4:00 pm – 5:45 pm, Chicago Ballroom B, 5th Floor
FLUID STRUCTURE INTERACTION AND SLOSHING: SLOSHING AND STRUCTURAL BEHAVIOR
Sponsored by: Fluid Structure Interaction Committee
Developed by: D. Brochard, Commissariat a l’Energie Atomique (CEA), GIF sur Yvette, France; T. Taniguchi, Tottori University, Tottori, Japan; D. C. Ma, Argonne National Lab, Argonne, IL, USA
Chair: T. Taniguchi, Tottori University, Tottori, Japan
PVP2008-61675: MODEL TESTS ON SLOSHING IN A CYLINDRICAL LIQUID STORAGE TANK WITH A FLOATING ROOF UNDER SEISMIC EXCITATION
T. Nagaya, T. Matsui, T. Wakasa, Meijo University, Nagoya, Japan
PVP2008-61688: WIND EFFECTS ON SLOSHING OF A FLOATING ROOF IN A CYLINDRICAL LIQUID STORAGE TANK
T. Matsui, T. Wakasa, T. Nagaya, Meijo University, Nagoya, Japan; Y. Uematsu, Tohoku University, Sendai, Tokyo, Japan; K. Kondo, Kajima Technical Research Institute, Chofu, Tokyo, Japan
PVP2008-61615: TRANSIENT DYNAMIC RESPONSES OF AN INTEGRATED AIR-LIQUID-ELASTIC TANK INTERACTION SYSTEM SUBJECT TO EARTHQUAKE EXCITATIONS
Y. P. Xiong, J. T. Xing, University of Southampton, Southampton, United Kingdom

SESSION 4.4C (OAC-8-4)
Thursday, July 31, 4:00 pm – 5:45 pm, Chicago Ballroom C, 5th Floor
AGING MANAGEMENT AND LIFE EXTENSION IV
Sponsored by: PVPD Operations, Applications, & Components Technical Committee
Developed by: V. Shah, Argonne National Laboratory, Argonne, IL, USA
Chair: G. Bezdikian, Georges Bezdikian Consulting, Le Vesinet, France
Co-Chair: K. Suzuki, Japan Nuclear Energy Safety Organization, Tokyo, Japan
PVP2008-61028: MODELING AND VERIFICATION OF CREEP STRAIN AND EXHAUSTION IN A WELDED STEAM MIXER
S. Holmström, A. Laukkanen, J. Rantala, K. Kolari, H. Keinänen, VTT, Espoo, Finland; O. Lehtinen, Fortum Power and Heat, Espoo, Finland
PVP2008-61118: DEVELOPMENTS IN COMBINED ARCAMAC AND STRAIN MAPPING SYSTEMS FOR CREEP MEASUREMENT
A. Morris, E.ON UK, Power Technology, Nottingham, United Kingdom; C. Maharaj, I. Palmer, A. Puri, J. Dear, Imperial College London, London, United Kingdom
PVP2008-61119: RECENT DEVELOPMENTS IN METHODS TO STUDY CREEP STRAIN VARIATIONS IN POWER STATION STEAM PLANT
A. Morris, E.ON UK, Power Technology, Nottingham, United Kingdom; C. Maharaj, A. Puri, M. Kourmpetis, J. Dear, Imperial College London, London, United Kingdom
PVP2008-61493: A NEW HEAT TREATMENT TECHNOLOGY FOR ON-SITE LIFE EXTENSION OF HIGH ENERGY PIPE WELDMENTS DEGRADED BY CREEP DAMAGE
F. Sakata, A. Shiibashi, Mitsubishi Heavy Industries, Ltd., Yokohama, Japan; M. Ozaki, N. Nishimura, M. Kobayashi, Mitsubishi Heavy Industries Ltd., Nagasaki, Japan; K. Takeuchi, H. Tezuka, The Tokyo Electric Power Company Inc., Yokohama, Japan

SESSION 4.4J (CS-14-1)
Thursday, July 31, 4:00 pm – 5:45 pm, Cook, 3rd Floor
DEVELOPMENT,MODELING AND APPLICATION OF ELEVATED TEMPERATURE MATERIALS
Sponsored by: Codes and Standards Committee
Developed by: T. Asayama, Japan Atomic Energy Agency, Ibaraki, Japan
Chair: T.-L. Sham, Oak Ridge National Laboratory, Oak Ridge, TN, USA
Co-Chair: K. Dozaki, The Japan Atomic Power Company, Tokyo, Japan
PVP2008-61320: STRESS MITIGATION DESIGN OF TUBESHEETS WITH CONSIDERATION OF THERMAL STRESS INDUCEMENT MECHANISM
T. Nagaya, T. Matsui, T. Wakasa, Meijo University, Nagoya, Japan
PVP2008-61359: DEVELOPMENT OF HIGH CHROMIUM STEEL FOR SFR IN JAPAN AND CREEP-FATIGUE ASSESSMENT OF THE WELDED JOINT
M. Ando, N. Kawasaki, Japan Atomic Energy Agency, Ibaraki, Japan; H. Takasho, Joyo Industries Ltd, Ibaraki, Ibaraki, Japan; N. Kasahara, University of Tokyo, Tokyo, Japan
PVP2008-61359: DEVELOPMENT OF HIGH CHROMIUM STEEL FOR SFR IN JAPAN AND CREEP-FATIGUE ASSESSMENT OF THE WELDED JOINT
M. Ando, N. Kawasaki, Japan Atomic Energy Agency, Ibaraki, Japan; H. Takasho, Joyo Industries Ltd, Ibaraki, Ibaraki, Japan; N. Kasahara, University of Tokyo, Tokyo, Japan
T. Wakai, T. Asayama, Japan Atomic Energy Agency, Ibaraki, Japan; N. Isobe, Hitachi, Ltd., Hitachi, Ibaraki, Japan; S. Date, Mitsubishi Heavy Industry, Takasago, Hyogo, Japan; S. Kubo, The Japan Atomic Power Company, Chiyoda-ku, Tokyo, Japan

PVP2008-61820: AN OVERVIEW OF CREEP-FATIGUE DAMAGE EVALUATION METHODS AND ALTERNATIVE APPROACHES
T. Asayama, Japan Atomic Energy Agency, Ibaraki, Japan; R. Jetter, Consultant, Pebble Beach, CA, USA

PVP2008-61870: HISTORICAL CONTEXT OF ELEVATED TEMPERATURE STRUCTURAL INTEGRITY FOR NEXT GENERATION PLANTS: REGULATORY SAFETY ISSUES IN STRUCTURAL DESIGN CRITERIA OF ASME SECTION III SUBSECTION NH
W. O'Donnell, O'Donnell Consulting Engineers, Inc., Bethel Park, PA, USA; A. B. Hull, S. Malik, U.S. Nuclear Regulatory Commission, Rockville, MD, USA

SESSION 4.4K (FSI-3-8)
Thursday, July 31, 4:00 pm – 5:45 pm, Denver, 5th Floor
MULTIPHYSICS
Sponsored by: Fluid-Structure Interaction Technical Committee

Developed by: M. Moatamedi, Institute for Materials Research, University of Salford, Manchester, United Kingdom; S. Itoh, Kumamoto University, Kumamoto, Japan
Chair: M. Moatamedi, Institute for Materials Research, University of Salford, Manchester, United Kingdom
Co-Chair: S. Itoh, Kumamoto University, Kumamoto, Japan

PVP2008-61832: MODELLING TOW IMPREGNATION OF WOVEN FABRIC REINFORCEMENTS AND ITS APPLICATION IN LIQUID COMPOSITE MOULDING PROCESS MODELLING
Y. Wang, University of Salford, Manchester, United Kingdom; S. Grove, University of Plymouth, Plymouth, United Kingdom; M. Moatamedi, Institute for Materials Research, University of Salford, Manchester, United Kingdom

PVP2008-61093: INTERACTION BETWEEN WIND LOADING AND JAPANESE SLATES: EFFECT ON VIBRATION AND SCATTERING
S. Okamoto, Shimane University, Matsue, Shimane, Japan

Sponsored by: Codes and Standards Committee

Developed by: J. Zheng, Zhejiang University, Hangzhou, Zhejiang Province, China; W. Wu, Zhejiang University. China; Hangzhou, Zhejiang Province, China
Chair: S. Qin, National Technology Center of Process Equipment, Shanghai, China
Co-Chair: Y. J. Chao

SESSION 4.4N (SE-3-1)
Thursday, July 31, 4:00 pm – 5:45 pm, Kane, 3rd Floor
RISK ASSESSMENT OF PIPELINE SYSTEMS
Sponsored by: Operations, Applications, and Components Committee

Developed by: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA; B. Cho, Risk Solver Communications, Irvine, CA, USA
Chair: I. Kisisel, Sargent & Lundy LLC, Chicago, IL, USA
Co-Chair: A. Cheta, Shell Global Solutions (USA), Inc., Houston, TX, USA

PVP2008-61733: INFLUENCE OF STRESS RATIO ON THE RELIABILITY OF Al/CARBON-FIBER COMPOSITE HYDROGEN TANKS
H. Bie, P. Xu, J. Zheng, F. Kai, P. Liu, Y. Liu, H. Chen, Zhejiang University, Hangzhou, Zhejiang, China

PVP2008-61736: VALIDATION TEST CASES FOR MULTIPHYSIC PROBLEMS: APPLICATION TO MAGNETO-HYDRODYNAMIC NUMERICAL SIMULATIONS
D. Cebron, Ecole Centrale de Nantes, Nantes, France; J.-F. Sigrist, V. Soyer, DCNS Propulsion, La Montagne, France; P. Ferrant, Ecole Centrale de Nantes, Nantes, France

PVP2008-61998: MODELING OF RIGID BODIES PATHWAYS TO SIMULATE JAM FORMATION IN URBAN FLOWS
A. Ouahsine, H. Nazeur, S. Hadji, Universite de Technologie de Compiègne, Compiègne, France; P. Sergent, Centre d'Etudes Techniques, Maritimes et Fluviales (CETMF), Compiègne, France

SESSION 4.4L (CS-10-4)
Thursday, July 31, 4:00 pm – 5:45 pm, Dupage, 3rd Floor
RECENT DEVELOPMENT IN NEW ENERGY PRESSURE EQUIPMENT IN CHINA—I

Sponsored by: Operations, Applications, and Components Committee

Developed by: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA; B. Cho, Risk Solver Communications, Irvine, CA, USA
Chair: I. Kisisel, Sargent & Lundy LLC, Chicago, IL, USA
Co-Chair: A. Cheta, Shell Global Solutions (USA), Inc., Houston, TX, USA

PVP2008-61778: SERVICE WATER LIFE CYCLE MANAGEMENT
E. Houston, G. Licina, Structural Integrity Associates, Inc., San Jose, CA, USA; A. Rahn, Dominion Energy Kewaunee, Inc., Kewaunee, WI, USA

PVP2008-61140: NUMERICAL SIMULATION ANALYSIS ON BUCKLING LOAD OF LARGE COMBINED CYLINDRICAL SHELLS
Z. Chen, Zhejiang University, Hangzhou, Zhejiang Province, China

PVP2008-61767: OPTIMIZATION OF HYDROGEN UTILIZATION RATIO IN HYDROGEN FILLING STATIONS
H. Chen, J. Zheng, Y. Liu, P. Xu, L. Li, P. Liu, H. Bie, Zhejiang University, Hangzhou, Zhejiang, China

SESSION 4.4M (OAC-1-2)
Thursday, July 31, 4:00 pm – 5:45 pm, Houston, 5th Floor
RISK ASSESSMENT OF PIPELINE SYSTEMS
Sponsored by: Operations, Applications, and Components Committee

Developed by: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA; B. Cho, Risk Solver Communications, Irvine, CA, USA
Chair: I. Kisisel, Sargent & Lundy LLC, Chicago, IL, USA
Co-Chair: A. Cheta, Shell Global Solutions (USA), Inc., Houston, TX, USA

PVP2008-61265: EVALUATION OF DAMAGE OF STEAM PIPELINE STEEL USING LOCAL APPROACH TO FRACTURE
M. Znilc, M. Rakin, B. Medjo, Z. Cvijovic, Faculty of Technology and Metallurgy, Belgrade, Serbia; A. Sedmak, Faculty of Mechanical Engineering, Belgrade, Serbia

PVP2008-61549: FUZZY RISK ANALYSIS FOR THE URBAN BURIED GAS PIPELINE
C. Miao, Nanjing University of Technology/Jiangsu Province Special Equipment Supervisor Institute, Nanjing, Jiangsu, China; J. Zhao, Nanjing University of Technology, Nanjing, Jiangsu, China

PVP2008-61778: SERVICE WATER LIFE CYCLE MANAGEMENT
E. Houston, G. Licina, Structural Integrity Associates, Inc., San Jose, CA, USA; A. Rahn, Dominion Energy Kewaunee, Inc., Kewaunee, WI, USA

PVP2008-61197: COUNTERFEIT INDUSTRIAL PARTS AND MATERIALS, AND THEIR IMPACT ON SAFETY AND RELIABILITY
A. Cheta, Shell Global Solutions, Houston, TX, USA

PVP2008-61467: RELIABILITY-BASED MATERIAL SELECTION FOR GLYCOL EVAPORATOR OF PTA INSTALLATION
H. Wang, J. Zhao, Nanjing University of technology, Nanjing, Jiangsu, China
SEISMIC ISOLATION AND PASSIVE VIBRATION CONTROL
Sponsored by: Seismic Engineering Committee
Developed by: S. Fujita, Tokyo Denki University, Tokyo, Japan; K. Minagawa, Tokyo Denki University, Tokyo, Japan
Chair: S. Fujita, Tokyo Denki University, Tokyo, Japan
Co-Chair: K. Minagawa, Tokyo Denki University, Tokyo, Japan
PVP2008-61060: ROBUST DESIGN OF PASSIVE SUSPENSION SYSTEM OF HALF RAILWAY VEHICLES VIA CONTROL THEORY
H. N. Chi, A. Sone, D. Iba, Ar. Masuda, Kyoto Institute of Technology, Kyoto, Japan
PVP2008-61450: RESEARCH AND DEVELOPMENT OF INTELLIGENT SEISMIC ISOLATION SYSTEM USING AIR BEARING
S. Fujita, K. Minagawa, Tokyo Denki University, Tokyo, Japan; M. Miyazaki, G. Tanaka, Oiles Corporation, Tochigi, Japan; O. Takahashi, Kozo Keikaku Engineering Inc., Tokyo, Japan
PVP2008-61477: RESEARCH AND DEVELOPMENT OF VIBRATION CONTROL DEVICE BY USING DISPLACEMENT AMPLIFYING MECHANISM
T. Watakabe, S. Fujita, T. Omi, Tokyo Denki University, Tokyo, Japan; H. Kurabayashi, Vibro-system, Tokyo, Japan; K. Ogata, Yacmo, Tokyo, Japan
PVP2008-61229: SHAKING TABLE TESTS ON INNOVATIVE ANTI-SEISMIC SYSTEMS DEVELOPED IN THE FRAMEWORK OF THE LESS-LOSS EUROPEAN INTEGRATED PROJECT
M. Forni, A. Poggianti, ENEA, Bologna, Italy; N. Ranieri, ENEA, Italian National Agency for New Technologies, Energy and the Environment, S. Maria di Galeria (RM), Italy; G. De Canio, ENEA, Roma, Italy
PVP2008-61141: APPLICATION OF ELECTROMAGNET USING MAGNETIZATION OR DEMAGNETIZATION FOR MAGNETIC DAMPER
T. Matsuoka, K. Sunakoda, Akita University, Akita-City, Akita, Japan

SESSION 4.4P (NDE-5-1)
Thursday, July 31, 4:00 pm – 5:45 pm, McHenry, 3rd Floor
PANEL SESSION: COKE DRUM INSPECTION
Sponsored by: NDE Engineering Division
Developed by: B. Wright, P.E., Stress Engineering Services, Inc., Houston, TX, USA
Co-Chair: W. Springer, University of Arkansas, Fayetteville, AR, USA
PVP2008-61938: COKE DRUM INSPECTION ISSUES (Presentation Only)
R. Clark, CIA Inspection, Houston, USA
PVP2008-61939: COKE DRUM INSPECTION USING ACOUSTIC EMISSION (Presentation Only)
C. Allevato, Stress Engineering Services, Houston, USA
PVP2008-61940: COKE DRUM REPAIR (Presentation Only)
D. Rogers, Welding Services Inc., Norcross, USA
PVP2008-61941: AUTOMATED ULTRASONIC COKE DRUM INSPECTION (Presentation Only)
J. Lecourias, Mechanical Integrity Inc, Houston, USA
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