



FINAL PROGRAM

PVP-2002

2002 ASME Pressure Vessels and Piping Conference



**Hyatt Regency Vancouver
Vancouver, BC, CANADA
August 4 - 8, 2002**



ASME International

The American Society of Mechanical Engineers Pressure Vessels and Piping Division

2002 PVP Conference Committee



Howard H. Chung
Conference General Chair



William J. Bees
Technical Program Chair

Co-sponsor Representatives

European Engineering Organizations	Francis Osweiler
Japanese Society of Mechanical Engineers (JSME)	Toshiyuki Sawa
Korean Society of Mechanical Engineers (KSME)	Jae Hak Kim

Co-sponsor Technical Program Coordinators

European Engineering Org.	Stuart Cameron	Alessandro Martelli
JSME	Satoshi Fujita	Shigeru Itoh
KSME	Young Jin Kim	Jong Chull Jo

Technical Program Representatives

Codes and Standards	Mahendra D. Rana
Computer Technology	Navid Badie
Design & Analysis	James F. McCabe
Fluid-Structure Interaction	Shigeru Itoh
High-Pressure Technology	Ricky D. Dixon
Materials & Fabrication	Frederick W. (Bud) Brust
Operations, Applications, and Components	Karen McElhaney
Seismic Engineering	Stephan Lu
Student Paper Competition	Thou-Han Liu
ASME NDE Division	Guillermo Rameriz
ASME Pipeline Systems Division	Mike Yoon
NDE Demonstration Forum	Carl E. Jaske
Software Demonstration Forum	James F. Cory, Jr.

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M. K. Au-Yang	Honors and Awards Chair
Judith Todd	Publication Chair

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Thou-Han Liu, President (2000-2002)	1999-00
Robert F. Sammataro*	1998-99
William E. Short, II	1997-98

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
Alexander H. C. Marr	1987-88
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 Hulbert	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. Cepluch	1970-71
Charles F. Larson	1969-70
Gunther P. Eschenbrenner	1968-69
Vito Salerno*	1967-68
Dana Young*	1966-67

* Deceased

PVP Division Technical Committee Chairs

Barry T. Lubin	Codes and Standards
Don R. Metzger	Computer Technology
Dennis Williams	Design & Analysis
Young W. Kwon	Field Structure Interaction
Leslie Antalffy	High Pressure Technology
Sharif Rahman	Material and Fabrication
Ike Ezekoye	Operation, Applications and Components
Kohel Suzuki	Seismic Engineering

PVP Division Administration Committee Chairs

James Staffiera	Publicity
Artin A. Dermenjian	Membership
Luc H. Geraets	International Coordination

ASME Journal of Pressure Vessels Technology

Sam Y. Zamrik	Editor
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ASME Headquarter

Susan H. Skemp	President
Frank C. Adamek	Sr. Vice President, Council of Engineering
Donald E. Bray	Vice President, Material and Structural Group

ASME Staff

Virgil R. Carter	Executive Director
Lois A. Blankstein	Director, Meetings & Exhibits
Marisa Scalise	Meetings Manager
Annette Missouri	Manager, Publication Sales
Barbara Signorelli	Technical Paper Publications

Welcome to ASME PVP-2002

Welcome to the magnificently beautiful Vancouver, Canada for the 2002 ASME Pressure Vessels and Piping Conference (PVP-2002). The ASME Pressure Vessels and Piping Division is sponsoring this Conference with co-sponsorships of Japanese Society of Mechanical Engineers (JSME), the Korean Society of Mechanical Engineers (KSME), and European Engineering organizations, with participations by the ASME NDE Division and the ASME Pipeline Systems Subdivision. More than 700 people from over 20 countries are expected to attend the Conference.

This year's Conference technical program contains over 150 technical sessions, four major symposia, four tutorials, a student paper competition, as well as NDE and software demo forums. The Conference proceedings will be published in 22 volumes. By the virtue of its greater international participation, this Conference will cover the various technical aspects of pressure vessels and piping technology that are being developed all over the world.

To complement the technical program, we have developed a series of social events, including the Conference Celebration Music Concert featuring renowned violinist Eugenia Alikhanova and pianist Myung-Hee Chung, the Conference-Wide Reception, the Vancouver City Tour, the Vancouver North Shore Tour, and the International Fireworks Cruise in the splendid Vancouver Harbor.

The Conference is a great place to present ideas and to meet colleagues, as we discuss "Leading the Pressure Vessel Technology for Global Prosperity". The Conference Program Committee is looking forward to a very exciting conference.

The Conference Program Committee

Howard H. Chung
Conference General Chair

William J. Bees
Technical Program Chair

PVP-2002 Program Layout

PVP-2002 Vancouver	Sunday August 4, 2002	Monday August 5, 2002	Tuesday August 6, 2002	Wednesday August 7, 2002	Thursday August 8, 2002
7:30a-8:15a	Arrival	Authors' Breakfast/Briefing Registration Opens (7:30a-4:00p)	Authors' Breakfast/Briefing Registration Opens (7:30a-4:00p)	Authors' Breakfast/Briefing Registration Opens (7:30a-Noon)	Authors' Breakfast/Briefing Registration Opens (7:30a-Noon)
8:30a-10:15a	Arrival	Block 1.1 Technical Sessions NDE Demo	Block 2.1 Technical Sessions Software Demo	Block 3.1 Technical Sessions	Block 4.1 Technical Sessions
10:30a-12:15a	Arrival	Block 1.2 Plenary Session NDE Demo	Block 2.2 Technical Sessions Software Demo	Block 3.2 Technical Sessions	Block 4.2 Technical Sessions
12:15a-1:45p	Lunch	Lunch Technical Committee Meetings	Lunch Technical Committee Meetings	Honors & Awards Luncheon (12:30p-2:30p)	Lunch
2:00p-3:45p	Registration Opens (3:00p-6:00p)	Block 1.3 Technical Sessions NDE Demo	Block 2.3 Technical Sessions Software Demo	Block 3.3 Technical Sessions (2:45p-4:30p)	Block 4.3 Technical Sessions
4:00p-5:45p	Tutorial on Proposal Writing (4:00p-6:00p)	Block 1.4 Technical Sessions NDE Demo	Block 2.4 Technical Sessions Software Demo	Open	Block 4.4 Technical Sessions Conference Evaluation
Evening	Conference Celebration Music Concert (6:30p-8:00p)	Conference-Wide Reception (5:30p-7:00p)	Open	Conference Social Event Vancouver Harbor Dinner Cruise with Fireworks Festival (6:30p-11:30p)	

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OPENING CEREMONY and PLENARY SESSION

“Leading the Pressure Vessel Technology for Global Prosperity”

The Conference opening ceremony and plenary session will be held on Monday, August 5, at 10:30 am in Regency Ballroom. The President of the ASME, Ms. Susan H. Skemp and the Conference General Chair, Dr. Howard H. Chung will welcome the attendees. The plenary addresses will be delivered by Dr. Maeng-Hyun Yoon, the President of the Korea Electric Power Research Institute in Korea, and Dr. Philip H. Francis, President of Group Francis, LLC in Georgetown, Texas. Dr. Yoon's topic will be on “Status and Prospects of the LWR Project in Korea” and Dr. Francis will speak on “Creating Killer Products - A Process for Outperforming your Competitors”.

Plenary Speaker



Dr. Maeng-Hyun Yoon
President
Korea Electric Power Research Institute

“Status and Prospects of LWR Project in Korea”

Dr. Yoon received his undergraduate degree in Nuclear Engineering from Seoul National University and his Master's and Ph.D. degrees in Nuclear Engineering from University of California at Los Angeles, California.

He joined the Korea Electric Power Company (KEPCO) in his early professional career in 1970. After serving as General Manager of the Planning Department of KEPCO, Dr. Yoon was promoted to become the Vice President of the KEPCO's R&D institute, the Korea Electric Power Research Institute (KEPRI) in 1996 where he is now serving as the President.

Dr. Yoon has an extensive experience and accomplishment on promoting advancement of nuclear power technologies in Korea. In addition to his role as the KEPRI President, he has been serving the Advisory Committee of National G-7 Programs, the Board of International Electric Research Exchange, the Board of Electric Power Policy Committee, and the Korea Energy Society as Vice President.

Dr. Yoon's speech will focus on the LWR development program for the Korean Peninsula Energy Development Organization (KEDO), which is to build two pressurized light water reactor units in the DPRK (a.k.a. North Korea). Under the Agreed Framework signed by the U.S. and North Korea in Geneva on October 21, 1994, KEDO was founded on March 9, 1995 to finance and supply nuclear reactors. Contrary to domestic LWR projects, special political and geographical characteristics present many future difficulties and challenges. In the long run, the future of the KEDO project depends upon how effectively we can all cooperate to cope with these challenges and difficulties.

Plenary Speaker



Dr. Philip H. Francis
President
Group Francis, LLC, Georgetown, Texas

“Creating Killer Products - A Process for Outperforming your Competitors”

Dr. Phil Francis, an ASME Fellow, has fifteen years of senior management experience with Motorola, Square D, and AT&T. Prior to that he was engaged in engineering research for 15 years at the Southwest Research Institute, followed by five years as Professor and Chair of Mechanical Engineering at the Illinois Institute of Technology. He has published more than 70 articles in engineering research journals. In 1978 he published his first book, *Principles of R&D Management* (AMACOM Press). In more recent years he's concentrated on new product development processes - and his latest book, *Product Creation* (Simon & Schuster), was selected as one of the 30 most important management books published in 2001.

Phil has a BSME (California Polytechnic State University), MS and PhD (University of Iowa) in Engineering Mechanics, and MBA in General Management (St. Mary's University). He received ASME Gustas Larson Award for excellence in engineering, and was instrumental for Motorola's being the first recipient of the Malcolm Baldrige National Quality Award (1988). Phil resides in Georgetown, TX and heads the consulting company, Group Francis, LLC (www.groupfrancis.com), which specializes in helping companies to win by improving their New Product Development processes. He also is an Adjunct Professor at Northwestern University, where he teaches a graduate course in New Product Development (NPD).

Now that we've mastered TQM, manufacturing processes and organizational development, we must turn to the "next big thing" - creating dynamic new products. This talk will make a case for companies to develop a fully-integrated and measurable process that comprises all the elements of the enterprise - not just R&D, but also product engineering and production operations. There are huge gains in opportunity costs to be enjoyed by taking this approach to New Product Development. This talk will describe general approach, and identify some of the current industry leaders.

HONORS AND AWARDS LUNCHEON

The ASME PVP Division Honors and Awards Luncheon, honoring all ASME and the Division Award recipients will be held on Wednesday, August 7, at 12:30 pm in Regency Ballroom where Mr. Alexander H. C. Marr will receive the 2002 ASME Pressure Vessels and Piping (PVP) Medal.

PVP Medal Recipient



Alexander H. C. Marr

Mr. Marr is highly respected in the mechanical engineering field and a well-known expert in particularly on the design of special apparatus for valves, piping and tanks applications. As a Senior Vessel Designer in 1966-69 at Fluor Corporation, he was responsible for projects such as the Mobil Joliet and Texaco San Pedro Refineries and GE Morris Nuclear Fuel Reprocessing Plant. In 1972, Mr. Marr joined Southern California Edison Co. (SCE), in Rosemead, California. During his career at SCE, he was responsible for the assessment of metal melting, membrane filtration, food processing, and non-thermal air and wastewater treatment. He interfaced with federal and state regulatory agencies and research organizations such as EPRI. As a Project Leader, he was responsible for monitoring and maintaining expertise on emerging electro-

technologies. Also, he supervised the work of 40 engineers both at home office and jobsites as well as 200 engineers working for system and equipment vendors. Mr. Marr was the principal engineer in the design and construction of two units for the San Onofre Nuclear Generation Station. In addition, he was responsible for preparing manpower and budget estimates and provide technical and functional direction to apparatus specialists. Some examples of his portfolio of projects include the Brayton cycle heat Pump VOC recovery, regenerative thermal oxidizer demonstration and methyl bromide recycling. Mr. Marr has extensive experience in vessel design and piping components in addition to his managerial expertise.

As an ASME member since 1969, Mr. Marr has contributed significantly to ASME regions and sections and in particular to the Pressure Vessels & Piping Division (PVP), first serving as Chairman of the Operation, Applications and Components Committee (OAC) from 1979 to 1983. The Special Technical Committee on Fluid-Structure Interaction, which has subsequently grown to an active full technical committee, was formed when Mr. Marr was Chair of the OAC Committee.

Mr. Marr was selected to become a member of the PVP Executive Committee in 1982 and served as the Division Chair in 1987 through 1988. In 1989, he served as Chair of the joint PVP-JSME International Conference held in Honolulu and he organized the first PVPD Exhibit in 1982.

In addition to PVP Division activities, Mr. Marr has an outstanding ASME service record. He was elected ASME Regional Vice-president for region IX serving from 1997-2000 and has served on ASME Region IX Operating Board in 1988-1990 and in 1992-1996. He was Chairman of ASME Los Angeles Section from 1982-83 and named to the ASME Los Angeles Section Executive Committee serving from 1975 to 1982. He also served on the ASME National Nominating Committee from 1992-94. Mr. Marr was also a member of Council on Engineering (COE) Materials & Structures Group Board serving from 1988-1994.

Mr. Marr is an ASME Fellow and a registered professional engineer in the states of California and Texas.

TUTORIALS

The objectives of the tutorial program are to update experienced engineers and to introduce young engineers into specific areas of technology in an overview course. Admission to the tutorials is free for Conference Registrants. The tutorial notes for the Technical Tutorials may be purchased for U.S.\$25.00 each at the tutorial sessions. The coupon given in the Registration package cannot be used for tutorial notes.

SPECIAL TUTORIAL

Sunday, August 4 (4:00 - 6:00 pm)

Regency F Room

Proposal Writing

by Vivian G. Schultz

An important principle for writers of proposals to remember is that a proposal is a "sales pitch." Proposal writers must know what is important to the customer and clearly show how the proposed project connects with the customer's desires, goals and necessities.

This tutorial will focus on creating a winning sales pitch in a proposal by researching and understanding your customer through (i) the customer organization itself, (ii) the background documents that publish its

goals, aims, missions, and (iii) the solicitation. Discussions will be included on how to use the above information to create the pitch: to make your project, your facility, and you--the engineer or the researcher--a necessity to the customer. Examples will be discussed on how to build the sales pitch using:

- Words and Phrases
- Graphics
- "You" Focus (reader orientation)
- Description of Personnel and Facilities.

TECHNICAL TUTORIALS

Tuesday, August 6 (8:30 am - 12:15 pm)

Regency F Room

The Practice and Pit Falls of Linear Finite Element Analysis

by Dennis Williams, Mike Porter, and Dennis Martens

This tutorial will utilize a sample problem composed of a vessel, heat exchanger and associated piping, and will address the Pipe/Equipment interface definition using multiple investigation software and areas of evaluation and methodologies such as:

- Pipe and Components
- Flanges
- Nozzles

Modeling techniques will be discussed for:

- Line Elements, Shell Elements, Plate Elements, Brick (solid) Elements
- Element Conformation, Patch Test
- Axisymmetric Options
- Expected Inputs
- Constraints
- Expected Outputs
- Convergence

Aspects of verification, failure criteria and code compliance will be also presented.

Tuesday, August 6 (2:00 pm - 5:45 pm)

Regency F Room

Behavior of Structures at High Temperatures

by Alan R. S. Ponter

This tutorial will discuss (i) Material Creep Behavior; (ii) Typical Creep Design Problems associated with a tube plate and a gas turbine; (iii) Creep Analysis Methods, and (iv) Recent Developments in Direct Methods.

Discussion topics will include: types of creep, temperature and load dependence, failure modes, excessive deformation, creep rupture, creep/fatigue interaction, creep crack propagation, histories of load and temperature, and critical design life assessment issues.

Creep analysis methods of using Material Models will discuss steady state creep deformation, creep rupture and creep under variable load and temperature (including creep constitutive relationships). The Bounding and Related Simplified Creep Analysis Methods will cover reference and skeletal stress methods for deformation and creep rupture under constant load. Rapid and slow cycle solutions, reference stress methods and experimental correlations, as well as the design code, life assessment rules and rules for severe thermal loading will be addressed.

Discussions will also include recent developments on creep analysis; e.g., Direct Methods (Design by Analysis) - GLOSS, Elastic Compensation, and Linear Matching Method with example problems analyzed according to the R5 general procedure.

Wednesday, August 7 (8:30 am - 12:15 pm)

Regency F Room

Shock Spectrum - Application to Shock and Seismic Analysis

by Rudy Scavuzzo

Topics of this tutorial will include differences between static G approaches and dynamic analyses, definitions of a shock spectrum, units and their physical significance. Tripartite spectrum plots of shock spectra and the significance of limiting displacement and acceleration values will be discussed. Spectrum responses from some classical impulse shapes and their significance to real motions will be presented. Also presented are the difference between design spectra and calculated spectra from typical earthquake and shock and experimental and analytical studies of the "spectrum dip" phenomena.

Applications of the shock spectra to multi-mass systems using normal mode theory as well as the concept of a modal mass will be presented and applications to design spectra inputs will be explained.

NDE AND SOFTWARE FORUMS

NDE Demonstration Forum

Monday, August 5 (9:00 am-5:00 pm)

Regency South Foyer

Ten NDE vendors will have the opportunity to present and discuss their capabilities, equipment, and services in the Regency South Ballroom corridor adjacent to the Conference Registration area. Coffee and refreshments will be available in the exhibit area.

Developed by Carl E. Jaske.

Software Demonstration Forum

Tuesday, August 6 (9:00 am-5:00 pm)

Regency South Foyer

More than 16 software vendors will have the opportunity to present and discuss their capabilities, equipment, and services in Regency South Ballroom corridor adjacent to the Conference Registration area. Coffee and refreshments will be available in the exhibit area. *Developed by James F. Cory, Jr.*

Coffee Breaks and Refreshments

Coffee and refreshments during the NDE Demonstration Forum on *Monday* are sponsored by vendors participating in the Forum. Coffee and refreshments during the Software Demonstration Forum on *Tuesday* are sponsored by vendors participating in the Forum. The coffee breaks on *Wednesday* and *Thursday* mornings are sponsored by the PVP Division.

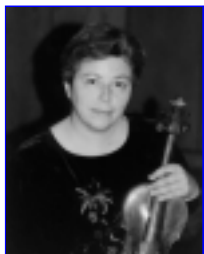
SOCIAL PROGRAMS AND TOURS

Conference Celebration Music Concert

Sunday, August 4 (6:30 - 8:00 pm)

Regency Ballroom, Convention Level

On Sunday, August 4, 6:30 pm to 8:00 pm in the Regency Ballroom at the Convention Level (3rd Floor) of the Hyatt Regency Vancouver Hotel, internationally famous violinist Eugenia Alikhanova and pianist Myung-Hee Chung will perform some of the most beautiful melodies in classical music repertoire, including Mozart, Beethoven, and Brahms.



Eugenia Alikhanova, violinist



Myung-Hee Chung, pianist

Concert Program

Sonata for Piano and Violin in F, K.377 W. A. Mozart

1. *Allegro*
2. *Andante (Thema con variazioni)*
3. *Tempo di Minuetto*

Sonata No. 5 for Piano and Violin in F, Op. 24 "Spring" L. v. Beethoven

1. *Allegro*
2. *Adagio molto espressivo*
3. *Scherzo: Allegro molto*
4. *Rondo, Allegro ma non troppo*

Sonata No. 3 for Piano and Violin in D minor, Op. 108 J. Brahms

1. *Allegro*
2. *Adagio*
3. *Un poco presto e con sentimento*
4. *Presto agitato*

Violinist Eugenia Alikhanova graduated from the Moscow Conservatory of Music, in the class of Yuri Yankelovich who is recognized as one of the greatest masters of the Russian violin school. Since she joined as first violinist, the *Moscow String Quartet* gained international acclaim after its victory in 1978 at the Leo Weiner International Quartet Competition in Budapest, Hungary. The *Quartet* appears in many famous music festivals and major concert series throughout the world. In addition to her busy concert schedule with the Quartet, Eugenia often plays violin-piano duo recitals on her multimillion-dollar violin *Guarneri del Gesu*, circa 1736, a masterpiece from Cremona, Italy.

Born in Korea, Myung-Hee Chung was a child prodigy who won the prestigious National Competition in Korea at the age of nine. Subsequently, she studied at The Juilliard School and Manhattan School of Music where she earned her BA, MA, and DMA degrees. She has received numerous awards, including the first-prize at the prestigious William Kapell International Piano Competition and has been performing widely as a soloist and a chamber musician throughout the United States, Mexico, Europe, and the Far East. Dr. Chung is the Chair of the Keyboard Program at University of Wisconsin-Whitewater.

The Korea Electric Power Research Institute (KEPRI) sponsors this special celebration concert. **Cost (USD): \$10/Adult and Child**

Conference-Wide Reception

Monday, August 5 (5:30 - 7:00 pm)

Perspective Level Salons, 34th Floor

All who registered are invited to attend the Reception. It is encouraged to wear ethnic clothes or cultural garment signifying their respective cultural heritages or their interest so that the event shows the multi-cultural aspect of the Conference and countries or regions they are representing. A cash bar will be available along with complimentary *Hors D'oeuvres*. **Admission Free**

Vancouver City Tour with Lunch

Monday, August 5 (9:00 am-2:00 pm)

This Deluxe Vancouver City Tour offers the very best of Vancouver's sights, sound and spectacular scenery. The tour will begin with a venture through North America's second largest Chinatown and Gastown. From there the tour enters the world famous 1,000 acre Stanley Park and stops at the Totem Poles and Prospect Point. The tour will continue to take you to Vancouver's famous public market on Granville Island. After a leisurely drive along tranquil English Bay Beach and up to Little Mountain, Vancouver's highest viewpoint, you'll arrive at Queen Elizabeth Park. You will enjoy time to stroll through the Sunken Gardens and marvel at the panoramic view of the city and coastal mountains. Lunch will be served at Seasons Restaurant, one of the finest restaurants in Vancouver, so good that both U.S. President Bill Clinton and Russian President Yeltsin had dinner there a few years ago during their summit meeting.

Cost (USD): \$50/Adult and \$25/Child

Majestic Vancouver North Shore Tour with Snack

Tuesday, August 6 (9:00 am-1:30 pm)

The tour will cover from sea level to 4,000 feet above Vancouver. The tour begins with a scenic drive across the spectacular Lions Gate Bridge. The first stop will be the world-renowned Capilano Suspension Bridge. Take a heart-quickenning walk on the bridge and visit First Nations Totem Poles and carvers, and look down the salmon hatchery below the bridge. The next stop will be at the Cable Car station that will take you to Grouse Mountain, where you will experience the famous Sky Ride to a mountaintop playground with panoramic sea and city views. Enjoy the Magic of Theatre in the Sky, thrilling world-famous lumberjack shows and walking trails through the alpine forest. You will be served snack and have time to eat lunch at the cafeteria in the mountain lodge. Upon descending the mountain, you will be back on board the tour bus that will take you back to the hotel.

Cost (USD): \$43/Adult and \$23/Child

Feng Shui and You

Wednesday, August 7 (8:30 -9:30 am)

Guest Hospitality Room, 34th Floor

Rita M. Liu will present "Feng Shui and You". Feng Shui, literally translating into "Wind Water", is a part of an ancient Chinese philosophy in interpreting nature. Feng Shui is often acknowledged as a way in searching for harmony through the nature's geomancy and astronomy features. Yin-Yang and Five elements theories will be discussed.

Admission Free

Grand Conference Social Event

Vancouver Harbor Dinner Cruise with Fireworks Festival

Wednesday, August 7 (6:30 pm – 11:30 pm)

Vancouver Harbor

A chartered cruise ship *M. V. Burrard Queen*, will be waiting at the dock next to the Vancouver Cruise Ship Terminal, a few blocks away from the Hyatt Regency Hotel. The boarding will begin at 6:30 pm and the ship will depart at 7:00 pm.

As the sun sets, enjoy your dinner with a fantastic view of the Vancouver Harbor and skyline. After dinner, relax and enjoy cocktail or coffee under the stars - or dance the evening away while cruising Canada's most scenic waterfront. Our D.J. will play your favorite tunes from the past and present. At 10:15 pm, Vancouver's annual *Celebration of Light*, an International Fireworks Festival, will begin on English Bay. You will enjoy this 30-minute long spectacular fireworks and symphonic music while the ship is moored in the Vancouver Harbor. As space is very limited early purchase of tickets is strongly recommended. This cruise will be an event you will remember for a lifetime along with PVP-2002.

Cost (USD): \$65/Adult and \$35/Child

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.

CONFERENCE INFORMATION

Technical Sessions and Programs

All technical sessions will be held at the Hyatt Regency Vancouver at four different levels: Plaza level, Convention level, Fourth Floor, and Perspective Level at the 34th floor. Each room will be equipped with an Overhead Projector and a LCD Projector that can be connected to a personal computer for electronic presentation (e.g., Microsoft Power Point). However, neither personal computer, 35mm slide projector, or VCR will be provided by ASME. A personal computer is the responsibility of the presenter. The location of the session rooms is shown in the Hotel Floor Plan in the back of this program.

Student Paper Competition

Tuesday, August 6 (10:30 am - 12:15 pm & 2:00 pm - 3:45 pm)

Plaza C, Plaza Level

The PVPD Senate under the leadership of T. H. Liu, the Senate President and A. G. (Jack) Ware, the Senate Historian will conduct the Student Paper Competition in two sessions. Undergraduate upper class and graduate students have the opportunity to participate in the competition where outstanding student papers will be selected by the Competition Judge Panel. Student papers will be judged on the basis of paper content and presentation. The winners will be announced at the Honors and Awards Luncheon on Wednesday, August 7.

Technical Committee Meetings

Monday - Tuesday, August 5 - 6 (12:15 - 1:45 pm)

The Pressure Vessels and Piping Division Technical Committees will meet during the noon hour on Monday, August 5, and Tuesday, August 6. Visitors are encouraged to attend and be active in PVP committee activities. All committee meetings and their locations are listed in page 10.

Honors and Awards Luncheon

Wednesday, August 7 (12:30 - 2:15 pm)

Regency Ballroom, Convention Level

The Division Honors and Awards Luncheon, honoring all ASME and PVP Division Award recipients will be held on Wednesday, August 7, from 12:30 pm until approximately 2:15 pm in the Regency Ballroom on the Convention Level. One ticket is included in the full Conference registration fee. Additional tickets may be purchased at the Conference Registration desk.

Authors Briefing

Monday - Thursday, August 5 - 8 (7:30 - 8:15 am)

Regency Ballroom, Convention Level

Authors, Panelists, Developers, Sessions Chairs, and Session Vice-Chairs are requested to attend a breakfast briefing in Regency Ballroom on Monday through Thursday, at 7:30am in the morning of their sessions. Session protocol will be discussed and the participants will have the opportunity to become better acquainted before their scheduled sessions.

Audio-Visual Practice Room

Monday - Thursday, August 5 - 8 (7:30 am - 5:00 pm)

xxx Room, xxx Level

An overhead projector and a LCD projector, a screen will be set up from 7:30 am-5:00 pm, Monday through Thursday for author's practice.

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 information on the Conference.

Sunday	August 4	3:00pm-6:00pm
Monday	August 5	7:30am-4:00pm
Tuesday	August 6	7:30am-4:00pm
Wednesday	August 7	7:30am-4:00pm
Thursday	August 8	7:30am-Noon

On-Site Registration Fees

For those not registered in advance, the on-site registration fees in U.S. dollars are:

	*Full	**One Day
Member	MBR1 \$420	MBR2 \$310
Coop. Soc. Mem.***	CSC1 \$420	CSC2 \$310
Session Chair	CHM1 \$420	CHM2 \$310
Session Vice Chair	CHV1 \$420	CHV2 \$310
Author/Panelist	AUP1 \$420	AUP2 \$310
Non-Member	NMB1 \$525	NMB2 \$415
ASME Life Member Retired**	LMRD \$50	
ASME Student Member**	STNT N/C	
Student Non-Member-	STNM \$50	
Guest/Spouse	SPOS N/C	

- * Full registration fee includes a coupon for one PVP volume of your choice and one ticket for the Honors Luncheon.
- ** These registration categories do not include the coupon toward a PVP volume 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 in this advance program. Fill in your society affiliation and membership number on the registration form.

Cooperating Societies

If you are a member of one of the following societies, you may register at the ASME member rate: ASME-Albania, CAI-Argentina, IEAust-Australia, BSE-Bahrain, IE-Bangladesh, BAN-Belarus, BSMEE-Belgium, ABCM-Brazil, CSME-Canada, CMES-P.R. China, CSME-Taipei, ACIEM-Colombia, CMEA-Cyprus, CMES-Czech Republic, IDA-Denmark, CIME-Ecuador, ESME-Egypt, AFM-France, ISF-France, Republic of Georgia, VDI-Germany, GhIE-Ghana, HAMEE-Greece, HKIE-Hong Kong, GTE-Hungary, IE-India, IME-India, IE-Indonesia, IE-Ireland, SMEI-Israel, ASMECCANICA-Italy, UIT-Italy, JSME-Japan, KSME-South Korea, AMIME-Mexico, KIVI-The Netherlands, IPENZ-New Zealand, NSF-Norway, PSME-Philippines, SIMP-Poland, OE-Portugal, RSME-Romania, RAN-Russia, IE-Singapore, SMES-Slovakia, ZSITS-Slovenia, SAIMechE-South Africa, FAIIE-Spain, SMR-Sweden, TMMOB-Turkey USME/NAS-Ukraine, IE-United Kingdom, ImechE-United Kingdom, AlChE, AIME, ASCE, IEEE-United States, CIV-Venezuela, SMEITJ-Yugoslavia.

Conference Publications

Papers presented at the 2002 ASME PVP Conference will be published in bound volumes available at the Conference. Information on paper titles and authors will be included in the final program. All registering for the entire conference (i.e., Full Registration) will receive a coupon redeemable for any one of the PVP publication volumes. A complete set of the volumes of the 2002 ASME PVP Conference publications may be purchased as a package at a 10% discount. You also may ship your conference volumes home to your office directly from the Publication Sales. A shipping booth will be set up for your convenience so you do not have to carry your books home.

Ship Your Conference Proceedings

You can ship your conference proceedings home or to your office right from the Conference. A shipping booth will be set up for your convenience so you do not have to carry your books home. Just bring your books and we will box, pack, tape, and ship everything for you. Inquire in the Publication Sales room for location and fees.

Tax Deductibility

The expenses of attending professional meetings have been held to be tax deductible as ordinary business expenses for U.S. citizens, because of changes in the tax code. The current level of deduction is subject to change.

Canadian Tax Refund

Some Canadian tax, such as Goods and Service Tax (GST), can be refunded, if you are not Canadian resident and your purchases are qualified. Tax refund may be claimed at a tax refund agency while you are in Canada or by sending the Tax Refund form (along with original

sales receipts) to a Canadian agency after your return home. Detailed information and the Tax Refund request form will be available in the Conference Registration desks.

Disabled Registrants

Whenever possible, arrangements will be made for Disabled registrants, if advance notice is given. Indicate any needs on the registration form or contact Marisa Scalice, ASME International, Three Park Avenue, New York, NY 10016-5990. Phone/Fax. 212-591-7057/7856.

Guest/Family Program

Guest and family members of registrants may participate in a series of Conference Guest Programs that include Conference Celebration Music Concert (Sunday), Conference-Wide Reception (Monday), Deluxe Vancouver City Tour (Monday), Majestic Vancouver North Shore Tour (Tuesday), Vancouver Harbor Dinner Cruise with Fireworks Festival (Wednesday), and a daily (Monday-Thursday) Continental Breakfast in the Guest Hospitality Room on the 34th Floor.

Please note that some of these social programs have an associated fee to participate as shown below. Early registration is strongly recommended for the events that require the fees as they are on a first-come first-serve basis.

Publishing Conference Papers in The ASME Journal of Pressure Vessel Technology

Technical papers presented at the 2002 PVP Conference are published in the ASME special publications (as shown in page 11) in a form of the ASME Conference Proceedings. Publication of papers in the special publications does not preclude authors from publishing their papers in ASME archival journals, such as the ASME Journal of Pressure Vessels Technology (JPVT) which is the technical voice of the Pressure Vessels and Piping Division.

Authors are encouraged to submit their papers to the Journal of Pressure Vessel Technology. Manuscripts should be prepared according to the JPVT guidelines, which can be found at the ASME web site (<http://ojps.aip.org/ASMEJournals/PressureVesselTech>).

Sam Y. Zamrik, Editor
Journal of Pressure Vessel Technology
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PVP-2002 COMMITTEE MEETINGS

Date/Time Person	Meeting	Meeting Room	Responsible
Sunday, August 4, 2002			
8:30 AM - 1:30 PM	PVPD Executive Committee	Windsor	J. Sinnappan
Monday, August 5, 2002			
8:30 AM – 12:00 PM	TG Design (SWG-HPV/SC VIII)	Brighton	P. Reddington
8:30 AM – 12:00 PM	TG Edit/GR (SWG-HPV/SC VIII)	Kensington	P. Reddington
12:15 PM - 1:45 PM	PVPD Codes & Standards Technical Committee	Windsor	B. T. Lubin
12:15 PM - 1:45 PM	PVPD Design & Analysis Technical Committee	Brighton	D. Williams
12:15 PM - 1:45 PM	PVPD Fluid-Structure Interaction Technical Committee	Kensington	Y. W. Kwon
12:15 PM - 1:45 PM	PVPD Operations, Applications, & Components Technical Committee	Constable	I. Ezekoye
2:00 PM – 5:30 PM	TG Edit/GR (SWG-HPV/SC VIII)	Kensington	P. Reddington
2:00 PM – 5:30 PM	TG Design (SWG-HPV/SC VIII)	Constable	P. Reddington
2:00 PM - 5:45 PM	Materials & Structures Group	Windsor	S. Y. Zamrik/D. Bray
2:00 PM – 6:00 PM	TG Materials & FE (SWG-HPV/SC VIII)	Brighton	P. Reddington
Tuesday, August 6, 2002			
8:30 AM - 10:15 AM	PVPD Senate	Constable	T. H. Liu/J. Ware
8:30 AM – 12:00 PM	SWG-HPV (SC VIII)	Brighton	P. Reddington
10:30 AM - 12:15 PM	JPVT Editors	Windsor	S. Y. Zamrik
12:15 PM - 1:45 PM	PVPD Computer Technology Technical Committee	Brighton	D. R. Metzger
12:15 PM - 1:45 PM	PVPD High Pressure Technology Technical Committee	Constable	L. Antalfy
12:15 PM - 1:45 PM	PVPD Materials & Fabrication Technical Committee	Windsor	S. Rahman
12:15 PM - 1:45 PM	PVPD Seismic Engineering Technical Committee	Kensington	K. Suzuki
12:15 PM - 1:45 PM	NDE Executive Committee	TBD	R. Lewis
2:00 PM – 5:30 PM	SWG-HPV (SC VIII)	Brighton	P. Reddington
2:00 PM - 3:45 PM	PVPD Publications Committee	Windsor	J. Todd
2:00 PM - 3:45 PM	PVPD International Coordinators Committee	Kensington	L. H. Geraets
4:00 PM - 5:45 PM	ICPVT	Windsor	G.E.O. Widera/G. L. Hollinger
Wednesday, August 7, 2002			
8:30 AM - 10:00 AM	PVPD Honors and Awards Committee	Brighton	M. K. Au-Yang
8:30 AM - 10:15 AM	PVP-2003 Program Committee	Windsor	W. J. Bees
11:00 AM - 12:15 PM	PVP-2004 Program Committee	Windsor	I. T. Kisisel
Thursday, August 8, 2002			
8:30 AM – 10:15 AM	PVPD Professional Development Committee	Windsor	I. T. Kisisel
8:30 AM - 10: 15 AM	PVPD IMECE02 Program Committee	Brighton	T. Todd
10:30 AM - 12:15 PM	PVPD IMECE03 Program Committee	Brighton	J. Cory
12:15 PM - 1:45 PM	PVPD General Committee	Plaza C	H. H. Chung
2:00 PM - 3:45 PM	PVPD Executive Committee	Plaza C	H. H. Chung
4:00 PM - 5:45 PM	PVPD Conference Evaluation	Plaza C	W. J. Bees/J. Cory

Publications Volumes

Papers presented at the 2002 PVP Conference are published in bound volumes as listed below. These publications, other books of interest, Codes and Standards, Transactions, Journals and free literature regarding all ASME publications will be available in Balmoral Room, located on the third floor. 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 Conference registrants will receive a coupon for any one of the volumes. A complete set of the volumes covering the 2002 PVP Conference publications may be purchased as a package at a 10% discount. ASME accepts payment in cash (\$US), checks (\$US), traveler's 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 must accompany your order. California, Georgia, Illinois, and Texas purchasers must add the appropriate sales tax or furnish a tax exemption certificate. Foreign and Canadian checks are not accepted. You may also ship your Conference volumes home or to your office directly 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:

Sunday, August 4	3:00 p.m. - 6:00 p.m.
Monday, August 5	8:00 a.m. - 4:00 p.m.
Tuesday, August 6	8:00 a.m. - 4:00 p.m.
Wednesday, August 7	8:00 a.m. - 4:00 p.m.
Thursday, August 8	8:00 a.m. - 12:00 p.m.

PVP Vol. No. **Volume Title and Volume Editor(s)**

PVP 433	Analysis of Bolted Joints - 2002, edited by K. H. Hsu
PVP 434	Computational Weld Mechanics, Constraint, and Weld Fracture, edited by F. W. Brust
PVP 435	Thermal-Hydraulic Problems, Sloshing Phenomena and Extreme Loads on Structures, edited by F. Moody
PVP 436	High Pressure Technology – 2002; Design, Analysis, Applications, and History, edited by R. D. Dixon
PVP 437	Service Experience and Failure Assessment Applications, edited by P. S. Lam
PVP 438	New and Emerging Computational Methods: Applications to Fracture, Damage, and Reliability, edited by F. W. Brust
PVP 439	Pressure Vessel and Piping Codes and Standards - 2002, edited by M. Rana
PVP 440	Design and Analysis of Piping, Vessels, and Components – 2002, edited by A. Dermenjian
PVP 441	Computational Mechanics: Developments and Applications – 2002, edited by N. Badie
PVP 442	Fitness for Service Evaluations and Non-Linear Analysis – 2002, edited by J. F. McCabe
PVP 443-1	Fatigue, Fracture and Damage Analysis - 2002 Volume 1, edited by D. Moinereau
PVP 443-2	Fatigue, Fracture and Damage Analysis - 2002 Volume 2, edited by D. Moinereau
PVP 444	Selected Topics on Aging Management, Reliability, Safety and License Renewal, edited by F. L. (Bill) Cho and V. Shah
PVP 445-1	Seismic Engineering – 2002, Volume 1, edited by S. Lu
PVP 445-2	Seismic Engineering – 2002, Volume 2, edited by S. Lu
PVP 446-1	Emerging Technologies for Fluids, Structures, and Fluid-Structure Interactions – 2002, Volume 1, edited by S. Itoh and M. Souli
PVP 446-2	Emerging Technologies for Fluids, Structures, and Fluid-Structure Interactions – 2002, Volume 2, edited by S. M. Fishers
PVP 447	Piping and Component Analysis and Diagnosis, edited by I. Ezekoye
PVP 448-1	Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002, Volume 1, edited by C. R. Kleijn and S. Kawano
PVP 448-2	Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002, Volume 2, edited by S. Kawano and V. V. Kudriavstev
PVP 449	Transportation, Storage, and Disposal of Radioactive Materials - 2002, edited by R. S. Hafner
PVP 450	Nondestructive Engineering (NDE) - 2002, edited by G. Ramirez

PVP Division Committees:

PVP Vol. No. **Docu No.** **Volume and Contributing Editors**

Codes and Standards

PVP 439	H01237	M. D. Rana, W. H. Bamford, R. W. Barnes, Y. Hari, M. Higuchi, D. P. Jones, A. Kalnins, H. S. Mehta, and S. Yukawa
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Computer Technology

PVP 433	H01231	K. H. Hsu, H. Kockelmann, and T. Sawa
PVP 441	H01239	N. Badie, D. P. Jones, J. Martin, P. Muòoz, R. G. Sauv�, and W. D. Reinhardt

Design & Analysis

PVP 440	H01238	A. Dermenjian, R. Baliga, C. Basavaraju, D. H. Martens, J. F. McCabe, and D. K. Williams
PVP 442	H01240	J. F. McCabe, W. J. Koves, C. Rodery, R. Seshadri, D. K. Williams, and M. A. Younan
PVP 443-1/2	H01241/2	D. Moinereau, S. Bhandari, W. Moussa, and K. K. Yoon

Fluid-Structure Interaction

PVP 435	H01233	F. Moody, S. Jones, D. C. Ma
PVP 438-1	H01246A	C. R. Kleijn, S. Kawano, and V. V. Kudriavtsev
PVP 438-2	H01246B	S. Kawano, V. V. Kudriavtsev, and C. R. Kleijn
PVP 446-1	H01244A	S. Itoh, M. Souli, W. Cheng, M. Fischer, and A. Holdo
PVP 446-2	H01244B	M. Fischer, A. Hold, W. Cheng, S. Itoh, and M. Souli

High Pressure Technology

PVP 436	H01234	R. D. Dixon, D. T. Peters, E. D. Roll, and J. Keltjens
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Materials & Fabrication

PVP 434	H01232	F. W. Brust, P. Dong, E. Keim, P. S. Lam, and Y. Wang
PVP 437	H01235	P. S. Lam, W. Bamford, D. P. G. Lidbury, D. A. Scarth, and D. Rogers
PVP 438	H01236	F. W. Brust, R. A. Ainsworth, T. Nishioka, Y. H. Park, S. Rahman, and J. Tang

Operations, Applications, and Components

PVP 444	H01242	F. L. Cho and V. Shah
PVP 449	H01247	R. S. Hafner
PVP 447	H01245	I. Ezekoye and T. H. Liu

Seismic Engineering

PVP 445-1/2	H01243A/B	S. C. Lu, J. C. Chen, H. H. Chung, S. Fujita, K. Ishida, A. Martelli, M. E. Nitzel, G. C. Slagis, and C. S. Tsai
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NDE Division

PVP 450	H01248	G. Ramirez, C. Miyasaki, and O. Hedden
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Student Papers

Included in the PVP 447 volume.



American Society of Mechanical Engineers

PVP-2003

CALL FOR PAPERS

2003 ASME PRESSURE VESSELS AND PIPING DIVISION CONFERENCE
Renaissance Cleveland Hotel
Cleveland, Ohio, USA
July 20-24, 2003

PVP-2003 - Join us in Cleveland, Ohio for the 2003 ASME Pressure Vessels and Piping Conference! More than 150 paper and panel sessions are planned, as well as tutorials, NDE and Software demonstrations, and the Student Paper Competition. The Conference is the ideal venue to meet colleagues and present ideas that will help shape technology in the 21st Century. The ASME Pressure Vessels and Piping Division will sponsor this Conference with participation by the ASME NDE Division, the Pipeline Systems Sub-Division, the Materials Handling Division, and the bi-annual participation by the U.S. Nuclear Regulatory Commission and the ASME Boiler and Pressure Vessel Code Section XI.

This **CALL FOR PAPERS** provides guidance for submitting abstracts for proposed technical papers for the 2003 ASME PVP Conference based on the following general topics.

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

SCHEDULE: Abstracts are due by **September 30, 2002**. Authors will be notified of abstract acceptance by **October 15, 2002**. Draft papers are due by **November 30, 2002**. Paper peer review comments will be returned by **January 31, 2003**. Final papers for presentation and publication must be received by **March 1, 2003**. All accepted papers will be published in Conference Volumes.

CONFERENCE INFORMATION: Updated Conference and paper publication instructions and information are available on the internet at the ASME Home Page, <http://www.asme.org>.

ABSTRACT SUBMITTAL: Mail, fax, or e-mail a 200-word abstract and the contact author's complete affiliation, address, telephone and fax numbers, and e-mail address for each proposed paper to the Technical Program Chair (listed below) by **September 30, 2002**:

Conference General Chair

William J. Bees
BWX Technologies, Inc.
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Phone: 330-860-2436
Fax: 330-860-2087
e-mail: wjbees@mcdermott.com

Technical Program Chair

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Session Titles by Session Block

Sessions are arranged in Session Blocks in the format "X.YZ", where: "X" indicates the Day, "Y" indicates the Session Block, and "Z" indicates the Conference Session Room. Conference Session Rooms are as follows: A = Regency F; B = Grouse; C = Stanley; D = Cypress; E = Prince of Wales; F = Plaza C; G = Plaza B; H = Plaza A; J = Georgia B; K = Georgia A; L = Oxford; M = Regency E; N = Regency B; O = Regency A; P = Regency South Foyer; Q = Regency Ballroom (Regency C & D). Refer to the Hotel Floor Plan in the back of this Program for room locations. The parenthetical designations are the Technical Committee session references.

SUNDAY, August 4, 2002

Block 0.1: Sunday, August 4: 8:30 AM – 11:30 AM

0.1A Modeling Turbulent Flow in Complex Vanes, Pipes, and Plenums using CFD Software (Hand-on Software Practices)

Block 0.3: Sunday, August 4: 12:00 PM – 3:00 PM

0.3A Modeling Turbulent Flow in Complex Vanes, Pipes, and Plenums using CFD Software - (Repeat of 0.1A)

Block 0.4: Sunday, August 4: 4:00 PM – 6:00 PM

0.4A Tutorial on Proposal Writing (TUT-00)

MONDAY, August 5, 2002

Block 1.1: Monday, August 5: 8:30 AM – 10:15 AM

1.1P NDE Demonstration Forum – I

1.1A Nonlinear Finite Elements and Discrete Methods – Developments and Applications – I (CT-05A)

1.1C Recent Advances in Fracture and Damage Studies - I (MF-09A)

1.1D Seismic Design Criteria, Design Code, and Failure Analysis of Piping Systems and High Pressure Gas Facilities (SE-01)

1.1E Residual Stress, Fracture, and Fatigue of Welded Structures – I (MF-01A)

1.1F Operations & Maintenance and Piping & Restraints (OAC-02)

1.1G Advances in Tube Bundle Dynamics (FSI-03)

1.1H Environmental Fatigue Issues in the ASME B&PV Code – I (CS-02A/MF-03A)

1.1J Transportation, Storage, and Disposal of Radioactive Materials – I: Introduction (OAC-03A)

1.1K Analysis of Bolted Joints – I (CT-03A)

1.1L Constraint Effects on Fracture and Fracture of Welds – I (MF-07A)

1.1M Component Analysis and Evaluation: Pumps, Valves, Tanks, Compressors, and Heat Exchangers – I (OAC-01A)

1.1N Advances in Computational Fluid Dynamics (CFD) Codes – I (FSI-01A)

1.1O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications - I: Fundamentals, Codes and Post-Processing (1) (FSI-11A)

Block 1.2: Monday, August 5: 10:30 AM – 12:15 PM

1.2Q PVP-2002 Conference Opening and Plenary Session

Block 1.3: Monday, August 5: 2:00 PM – 3:45 PM

1.3P NDE Demonstration Forum – II

1.3A Nonlinear Finite Elements and Discrete Methods – Developments and Applications – II (CT-05B)

1.3B International Symposium on Seismic, Shock, and Vibration Isolation - I (OAC-06A/SE-04A)

1.3C Recent Advances in Fracture and Damage Studies - II (MF-09B)

1.3D Design and Analysis of Piping Components – I (DA-03A)

1.3E Residual Stress, Fracture, and Fatigue of Welded Structures – II (MF-01B)

1.3F Fracture Mechanics; Application of Local Approach to Fracture (DA-06)

1.3G Panel Discussion on Performance Goal Based Seismic Design Philosophy (SE-10)

1.3H Environmental Fatigue Issues in the ASME B&PV Code – II (CS-02B/MF-03B)

1.3J Transportation, Storage, and Disposal of Radioactive Materials – II: Structural Issues (1) (OAC-03B)

1.3K Analysis of Bolted Joints – II (CT-03B)

1.3L Constraint Effects on Fracture and Fracture of Welds – II (MF-07B)

1.3M Component Analysis and Evaluation – Pumps, Valves, Tanks, Compressors, and Heat Exchangers – II (OAC-01B)

1.3N Advances in Computational Fluid Dynamics (CFD) Codes – II (FSI-01B)

1.3O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – II: Fundamentals, Codes and Post-Processing (2) (FSI-11B)

Block 1.4: Monday, August 5: 4:00 PM – 5:45 PM

1.4P NDE Demonstration Forum – III

1.4A High Level Seismic Response of Piping (SE-08)

1.4B International Symposium on Seismic, Shock, and Vibration Isolation - II (OAC-06B/SE-04B)

1.4C Recent Advances in Fracture and Damage Studies – III (MF-09C)

1.4D Design and Analysis of Piping Components – II (DA-03B)

1.4E Residual Stress, Fracture, and Fatigue of Welded Structures - III (MF-01C)

1.4F Fracture Mechanics and Materials (DA-07/M&F-11)

1.4G Advances in Turbulence Flow (FSI-04)

1.4H Environmental Fatigue Issues in the ASME B&PV Code – III (CS-02C/MF-03C)

1.4J Transportation, Storage, and Disposal of Radioactive Materials – III: Chemistry and Corrosion Issues (1) (OAC-03C)

1.4K Analysis of Bolted Joints – III (CT-03C)

1.4L Fluid-Structure Interaction and Sloshing (FSI-09)

1.4M Component Analysis and Evaluation – Pumps, Valves, Tanks, Compressors, and Heat Exchangers – III (OAC-01C)

1.4N Probabilistic Safety Assessment Standards for Application to Nuclear Power Plants (CS-05)

1.4O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – III: Flow In Interaction with Electromagnetic Fields (FSI-11C)

TUESDAY, August 6, 2002

Block 2.1: Tuesday, August 6: 8:30 AM – 10:15 AM

2.1P Software Demonstration Forum – I

2.1A Tutorial 1: The Practice and Pit Falls of Linear Finite Element Analysis – I (TUT-01A)

- 2.1B International Symposium on Seismic, Shock, and Vibration Isolation – III (OAC-06C/SE-04C)
- 2.1C Fracture Mechanics: Evaluation of J and K – I (DA-08A)
- 2.1D Design and Analysis of Piping Components – III (DA-03C)
- 2.1E Residual Stress, Fracture, and Fatigue of Welded Structures – IV (MF-01D)
- 2.1G Advances in Flow-Induced Vibrations (FSI-05)
- 2.1H Application of Fracture Mechanics in Failure Assessment – I (MF-08A/CS-12A)
- 2.1J Transportation, Storage, and Disposal of Radioactive Materials – IV: Structural Issues (2) (OAC-03D)
- 2.1K Analysis of Bolted Joints – IV (CT-03D)
- 2.1L Large Scale Ongoing R&D Projects on The Innovative Techniques for Seismic Isolation and Vibration Control of Structures – I (SE-03A)
- 2.1M Aging Management and License Renewal – I (OAC-05A)
- 2.1N Structures Under Extreme Loading Conditions – I: Blast and Impact Loading of Structures (FSI-10A)
- 2.1O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – IV: Reacting and Combusting Flows (1) (FSI-11D)

Block 2.2: Tuesday, August 6: 10:30 AM – 12:15 PM

- 2.2P Software Demonstration Forum – II
- 2.2A Tutorial 1: The Practice and Pit Falls of Linear Finite Element Analysis – II (TUT-01B)
- 2.2B International Symposium on Seismic, Shock, and Vibration Isolation - IV (OAC-06D/SE-04D)
- 2.2C Fracture Mechanics: Evaluation of J and K – II (DA-08B)
- 2.2D Design and Analysis of Piping Components – IV (DA-03D)
- 2.2E Residual Stress, Fracture, and Fatigue of Welded Structures – V (MF-01E)
- 2.2F 10th Student Paper Competition – I (STU-01)
- 2.2G Inelastic and Non-Linear Analysis (DA-01)
- 2.2H Application of Fracture Mechanics in Failure Assessment – II (MF-08B/CS-12B)
- 2.2J Transportation, Storage, and Disposal of Radioactive Materials – V: Chemistry and Corrosion Issues (2) (OAC-03E)
- 2.2K Analysis of Bolted Joints – V (CT-03E)
- 2.2L Large Scale Ongoing R&D Projects on The Innovative Techniques for Seismic Isolation and Vibration Control of Structures – II (SE-03B)
- 2.2M Aging Management and License Renewal – II (OAC-05B)
- 2.2N Structures Under Extreme Loading Conditions – II: Munitions and Penetration Mechanics (FSI-10B)
- 2.2O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – V: Reacting and Combusting Flows (2) (FSI-11E)

Block 2.3: Tuesday, August 6: 2:00 PM – 3:45 PM

- 2.3P Software Demonstration Forum – III
- 2.3A Tutorial 2: Behavior of Structures at High Temperatures – I (TUT-02A)
- 2.3B International Symposium on Seismic, Shock, and Vibration Isolation – V (OAC-06E/SE-04E)
- 2.3C Probabilistic Damage Evaluation (DA-09)
- 2.3D Design and Analysis of Pressure Vessels, Heat Exchangers, and Components – I (DA-02A)
- 2.3E High Temperature Behavior of Structures and Materials (MF-02)
- 2.3F 10th Student Paper Competition – II (STU-02)

- 2.3G Service Experience in Operating Nuclear Plants – I (MF-10A)
- 2.3H Application of Fracture Mechanics in Failure Assessment – III (MF-08C/CS-12C)
- 2.3J Transportation, Storage, and Disposal of Radioactive Materials – VI: Thermal Issues (OAC-03F)
- 2.3K International Information Exchange Meeting on Harmonization on Gasket Testing (CT-03F)
- 2.3L Plastic Analysis in Pressure Vessel Design – I: Shakedown and Ratcheting (CS-01A)
- 2.3M Aging Management and License Renewal – III (OAC-05C)
- 2.3N Structures Under Extreme Loading Conditions – III: Material Properties and Constitutive Modeling (FSI-10C)
- 2.3O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – VI: Flow in Turbo Machinery and Engines (FSI-11F)

Block 2.4: Tuesday, August 6: 4:00 PM – 5:45 PM

- 2.4P Software Demonstration Forum – IV
- 2.4A Tutorial 2: Behavior of Structures at High Temperatures – II (TUT-02B)
- 2.4C Fracture Mechanics: Development of New Methods (DA-11)
- 2.4D Design and Analysis of Pressure Vessels, Heat Exchangers, and Components – II (DA-02B)
- 2.4F Northern Pipeline Development; (Panel Session) (PSD-01)
- 2.4G Service Experience in Operating Nuclear Plants – II (MF-10B)
- 2.4H Application of Fracture Mechanics in Failure Assessment – IV (MF-08D/CS-12D)
- 2.4J Transportation, Storage, and Disposal of Radioactive Materials – VII: Transportation and Storage Cask Issues (OAC-03G)
- 2.4K Field Applications of Finite Element Methods (CT-06)
- 2.4L Plastic Analysis in Pressure Vessel Design – II: Design by Analysis in a Global Context (CS-01B)
- 2.4M Aging Management and License Renewal – IV (OAC-05D)
- 2.4N What's New in Section X and RTP-1?(CS-07)
- 2.4O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – VII: Present and Future of Industrial Strength CFD Codes (Panel Session) (FSI-11G)

WEDNESDAY, August 7, 2002

Block 3.1: Wednesday, August 7: 8:30 AM – 10:15 AM

- 3.1A Tutorial 3: Shock Spectrum - Application to Shock and Seismic Analysis – I (TUT-03A)
- 3.1B Advances in Fluid/Structure Interaction – I (FSI-02A)
- 3.1C Fatigue: Design and Analysis – I (DA-05A)
- 3.1D Technologies for Seismic Mitigation (SE-05)
- 3.1E High Pressure Technology: Methods, Applications and History (HPT-01)
- 3.1F General NDE – I (NDE-01)
- 3.1G Fitness for Service, Life Extension, Remediation and Repair – I (DA-04A)
- 3.1H Application of Fracture Mechanics in Failure Assessment – V (MF-08E/CS-12E)
- 3.1J New Developments in Pressure Vessel Codes (CS-03)
- 3.1K Large Scale Ongoing R&D Projects on Seismic Engineering – I (SE-02A)
- 3.1L Plastic Analysis in Pressure Vessel Design – III (CS-01C)

- 3.1M Current Thermal-Hydraulic Problems in Vessels, Piping, and Components – I (FSI-22A)
- 3.1N 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – IX: Flow in Biological and Medical Systems (FSI-11I)
- 3.1O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – VIII: Reacting and Combusting Flows (3) (FSI-11H)

Block 3.2: Wednesday, August 7: 10:30 AM – 12:15 PM

- 3.2A Tutorial 3: Shock Spectrum – Application to Shock and Seismic Analysis – II (TUT-03B)
- 3.2B Advances in Fluid/Structure Interaction – II (FSI-02B)
- 3.2C Fatigue: Design and Analysis – II (DA-05B)
- 3.2D The European Pressure Equipment Directive (97/23/EC) – The Challenges of Implementation (CS-11)
- 3.2E Global Advancement in High Pressure Technology Design and Analysis (HPT-02)
- 3.2F Ultrasonic NDE in Medicine and Biology (NDE-02)
- 3.2G Fitness for Service, Life Extension, Remediation and Repair – II (DA-04B)
- 3.2H Forum on Appropriate Criteria and Methods for Seismic Design of Nuclear Piping (SE-09)
- 3.2J New and Emerging Computational Methods - I (MF-05A/CT-04A)
- 3.2K Large Scale Ongoing R&D Projects on Seismic Engineering - II (SE-02B)
- 3.2L Reliability and Safety – I (OAC-04A)
- 3.2M Current Thermal-Hydraulic Problems in Vessels, Piping, and Components – II (FSI-22B)
- 3.2N Advances in Piping System (FSI-08)
- 3.2O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – X: Flow in Energy Systems (1) (FSI-11J)

Block 3.3: Wednesday, August 7: 2:30 PM – 4:15 PM

- 3.3B Advances in Fluid/Structure Interaction – III (FSI-02C)
- 3.3C Fracture Mechanics: Application to Components – I (DA-10A)
- 3.3D Seismic Structures Response and Interaction – I (SE-07A)
- 3.3E LDPE Applications (HPT-03)
- 3.3F Ultrasonic NDE in Industries (NDE-03)
- 3.3G Fitness for Service, Life Extension, Remediation and Repair – III (DA-04C)
- 3.3H Structural Integrity of Pressure Components (CS-04)
- 3.3J New and Emerging Computational Methods – II (MF-05B/CT-04B)
- 3.3K Large Scale Ongoing R&D Projects on Seismic Engineering – III (SE-02C)
- 3.3L Reliability and Safety – II (OAC-04B)
- 3.3M Current Thermal-Hydraulic Problems in Vessels, Piping, and Components – III (FSI-22C)
- 3.3N 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – XI: Flow in Multiphase Systems (1)(FSI-11L)
- 3.3O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – XII: Flow in Energy Systems (2) (FSI-11K)

Block 3.4: Wednesday, August 7: 4:45 PM – 5:30 PM

- 3.4N 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications –

XIV: Flow and Fluid-Structure Interaction (FSI-11N)

- 3.4O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – XIII: Flow and Mixing (FSI-11M)

THURSDAY, August 8, 2002

Block 4.1: Thursday, August 8: 8:30 AM – 10:15 AM

- 4.1B Advances in Fluid/Structure Interaction – IV (FSI-02D)
- 4.1C Fracture Mechanics: Application to Components – II (DA-10B)
- 4.1D Seismic Structures Response and Interaction – II (SE-07B)
- 4.1E Efficient Computational Models for Limit Load Analysis of Pressure Vessel Components – I (CT-01A/CS-10A)
- 4.1F Residual Stress Evaluation and Other Inspection using Nondestructive Techniques (NDE-04)
- 4.1G Fitness for Service, Life Extension, Remediation and Repair – IV (DA-04D)
- 4.1L Reliability and Safety – III: Performance Risk and Consequences (OAC-04C)
- 4.1M Current Thermal-Hydraulic Problems in Vessels, Piping, and Components – IV (FSI-22D)
- 4.1N Background on Recent Changes in Section III Rules for Seismic Piping Design (CS-09/SE-11)
- 4.1O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – XV: Various Applications of Industrial CFD (1) (FSI-11O)

Block 4.2: Thursday, August 8: 10:30 AM – 12:15 PM

- 4.2C Selected Topics in Composites and Fatigue (DA-12/MF-04)
- 4.2D Seismic Evaluation of Systems, Structures, and Components – I (SE-06A)
- 4.3E Efficient Computational Models for Limit Load Analysis of Pressure Vessel Components – II (CT-01B/CS-10B)
- 4.2G Advances in Fracture Dynamics – I (FSI-06A)
- 4.2M Advances in Fluid Dynamics – I (FSI-07A)
- 4.2N 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – XVII: CFD of Flow with Heat Transfer (FSI-11Q)
- 4.2O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – XVI: Various Applications of Industrial CFD (2) (FSI-11P)

Block 4.3: Thursday, August 8: 2:00 PM – 3:45 PM

- 4.3C Re-Evaluation of Pressurized Thermal Shock Assessment (DA-13)
- 4.3D Seismic Evaluation of Systems, Structures, and Components – II (SE-06B)
- 4.3G Advances in Fracture Dynamics – II (FSI-06B)
- 4.3L New Developments in Section XI (CS-08/M&F-12)
- 4.3M Advances in Fluid Dynamics – II (FSI-07B)
- 4.3O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – XVIII: Various Industrial Applications of CFD (3) (FSI-11R)

Block 4.4: Thursday, August 8: 4:00 PM – 5:45 PM

- 4.4O 4th International Symposium on Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – XIX: Various Applications of Industrial CFD (4) (FSI-11S)

DAILY SESSION LISTING

Sessions are arranged in Session Blocks in the format "X.YZ", where: "X" indicates the Day, "Y" indicates the Session Block and "Z" indicates the Conference Room. Conference Session Rooms are as follows: A = Regency F; B = Grouse; C = Stanley; D = Cypress; E = Prince of Wales; F = Plaza C; G = Plaza B; H = Plaza A; J = Georgia B; K = Georgia A; L = Oxford; M = Regency E; N = Regency B; O = Regency A; P = Regency South Foyer; Q = Regency Ballroom (Regency C & D). Refer to the Hotel Floor Plan in the back of this Program for room locations. The parenthetical designations are the Technical Committee session references.

SUNDAY, AUGUST 4

August 4, 2002 (8:30 AM – 6:00 PM)

SESSION 0.1A

Sunday, August 8:30 AM – 11:30 AM, Regency F

MODELING TURBULENT FLOW IN COMPLEX VANES, PIPES, PLENUMS USING CFD SOFTWARE (Hand-on Software Practices)

Presented by: A. Krucker, AEA Technology (Waterloo, ON CANADA)

SESSION 0.3A

Sunday, August 12:00 PM – 3:00 PM, Regency F

MODELING TURBULENT FLOW IN COMPLEX VANES, PIPES, PLENUMS USING CFD SOFTWARE (Repeat of 0.1A)

Presented by: A. Krucker, AEA Technology (Waterloo, ON CANADA)

SESSION 0.4A (TUT-00A)

Sunday, August 4:00 PM – 6:00 PM, Regency F

PROPOSAL WRITING TUTORIAL

Sponsored by: The PVP Conference Committee

Presented by: V. G. Schultz, Idaho National Engineering and Environmental Laboratory, (Idaho Falls, ID, USA)

MONDAY, AUGUST 5

Block 1.1: Monday, August 5 (8:30 AM – 10:15 AM)

SESSION 1.1P

Monday, August 5, 8:30 AM – 10:15 AM, Regency South Foyer

NDE DEMONSTRATION FORUM – I

Developed by: C. C. Jaske, CC Technologies Services, Inc. (Columbus, OH USA)

Participants:

Advanced Technology Corporation, www.atc-ssm.com
Canspec Group Inc., www.canspec.com
CC Technologies Services, Inc., www.cctechnologies.com
Chemac Inc., www.chemacinc.com
EQE International, Inc., www.abs-jbfa.com
IESCO, Inc., www.iesconde.com
Mechanical Integrity Technologies, www.mechanicalintegrity.com
Nandiroyce International Limited, www.nandiroyce.com
R/D Tech, www.rd-tec.com
US Ultratek, Inc., www.usultrek.com

SESSION 1.1A (CT-05A)

Monday, August 5, 8:30 AM – 10:15 AM, Regency F

NONLINEAR FINITE ELEMENTS AND DISCRETE METHODS – DEVELOPMENTS AND APPLICATIONS – I

Sponsored by: The Computer Technology Committee

Published in PVP Vol. 441: Computational Mechanics: Developments and Applications – 2002

Developed by: R. G. Sauvé and N. Badie, Kinectrics, Inc. (Toronto, ON CANADA), and Y. Urthaler, Texas A&M University (College Station, TX USA)

Chair: R. G. Sauvé, Kinectrics, Inc. (Toronto, ON CANADA)

Vice Chair: Y. Urthaler, Texas A&M University (College Station, TX USA)

CONTACT SIMULATION IN FINITE DEFORMATION - ALGORITHM AND MODELLING ISSUES

R. G. Sauvé, G. D. Morandin, and S. Khajepour, Kinectrics, Inc. (Toronto, ON CANADA)

THE MESHLESS DYNAMIC RELAXATION TECHNIQUES FOR SIMULATING ATOMIC STRUCTURES OF MATERIALS

L. Pan, D. R. Metzger, and M. Niewczas, McMaster University (Hamilton, ON CANADA)

SUBCYCLED HOURGLASS CONTROL FOR EXPLICIT TIME INTEGRATION OF DYNAMIC RELAXATION EQUATIONS

D. R. Metzger and S. Gao, McMaster University (Hamilton, ON CANADA)

EXTENDED GDQ AND RELATED DISCRETE ELEMENT ANALYSIS METHODS FOR TRANSIENT ANALYSES OF CONTINUUM MECHANICS PROBLEMS

C. N. Chen, National Cheng Kung University (Tainan, TAIWAN)

SESSION 1.1C (MF-09A)

Monday, August 5, 8:30 AM – 10:15 AM, Stanley

RECENT ADVANCES IN FRACTURE AND DAMAGE STUDIES – I

Sponsored by: The Material and Fabrication Committee

Published in PVP Vol. 438: New and Emerging Computational Methods: Applications to Fracture, Damage, and Reliability

Developed by: T. Nishioka, Kobe University of Mercantile Marine (Kobe, JAPAN)

Chair: T. Nishioka, Kobe University of Mercantile Marine (Kobe, JAPAN)

Vice Chair: J. K. Lim, Chonbuk National University (Chonju, KOREA)

CRACK KINKING CRITERION FOR BIMATERIAL SYSTEM

J. L. Yao, T. Nishioka, T. Fujimoto, and T. Nozaki, Kobe University of Mercantile Marine (Kobe, JAPAN)

ASSESSMENT OF TYPICAL PIPELINE FLAWS WITH SINTAP

R. Hamann, Germanischer Lloyd (Hamburg, GERMANY); U. Zerbst, GKSS Research Center (Geesthacht, GERMANY)

EVALUATION OF COALESCENCE CRITERIA FOR PARALLEL CRACKS

M. Kamaya, Institute of Nuclear Safety System, Inc. (Mihama, Fukui, JAPAN)

PREDICTION OF FRACTURE AND FATIGUE DAMAGE IN ENGINEERING STRUCTURES

Y. Wei and C. L. Chow, University of Michigan (Dearborn, MI USA)

SESSION 1.1D (SE-01)

Monday, August 5, 8:30 AM – 10:15 AM, Cypress

SEISMIC DESIGN CRITERIA, DESIGN CODE, AND FAILURE ANALYSIS OF PIPING SYSTEMS AND HIGH PRESSURE GAS FACILITIES

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering - 2002, Volume 1

Developed by: S. Fujita, Tokyo Denki University (Tokyo, JAPAN) and K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN)

Chair: S. Fujita, Tokyo Denki University (Tokyo, JAPAN)

Vice-Chair: K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN)

FAILURE BEHAVIOR OF PIPING SYSTEMS WITH WALL THINNING UNDER SEISMIC LOADING

I. Nakamura, National Research Institute for Earth Science and Disaster Prevention (Ibaraki, JAPAN), A. Otani, Ishikawajima-Harima Heavy Industries Co., Ltd. (Yokohama, JAPAN), and M. Shiratori, Yokohama National University (Yokohama, JAPAN)

FAILURE ANALYSIS OF THINNED WALL ELBOWS UNDER EXCESSIVE SEISMIC LOADING

M. Shiratori, Y. Ochi, Yokohama National University (Yokohama, JAPAN), I. Nakamura, National Research Institute for Earth Science and Disaster Prevention (Ibaraki, JAPAN), and A. Otani, Ishikawajima-Harima Heavy Industries Co., Ltd. (Yokohama, JAPAN)

DEVELOPMENTS OF SEISMIC DESIGN CODE FOR HIGH PRESSURE GAS FACILITIES

H. Shibata, University of Tokyo (Tokyo, JAPAN), K. Suzuki, Tokyo Metropolitan University (Tokyo, JAPAN), and M. Ikeda, High Pressure Gas Safety Institute of Japan (Tokyo, JAPAN)

A NEW SEISMIC DESIGN CRITERIA OF PIPING SYSTEMS IN HIGH PRESSURE GAS FACILITIES

M. Inaba, Tokyo Engineering Corporation (Chiba, JAPAN), M. Ikeda, High Pressure Gas Safety Institute of Japan (Tokyo, JAPAN), N. Shimizu, Iwaki Meisei University (Fukushima, JAPAN), and T. Watanabe, Saitama University (Saitama, JAPAN)

SESSION 1.1E (MF-01A)

Monday, August 5, 8:30 AM – 10:15 AM, Prince of Wales

RESIDUAL STRESS, FRACTURE, AND FATIGUE OF WELDED STRUCTURES – I

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 434: Computational Weld Mechanics, Constraint, and Weld Fracture

Developed by: E. Keim, Framatome ANP GmbH, (Erlangen, GERMANY), P. Dong, Battelle (Columbus, OH USA), and F. W. Brust, Battelle (Columbus, OH USA)

Chair: E. Keim, Framatome ANP GmbH (Erlangen, GERMANY)

Vice Chair: G. Vinas, Mitsui Babcock Technology (Renfrew, SCOTLAND)

WELD RESIDUAL STRESSES AND CRACKING IN BI-METALLIC HOT LET NUCLEAR WELD

F. W. Brust and Y. P. Yang, Battelle Memorial Institute (Columbus, OH USA)

FRACTURE BEHAVIOUR OF MIS-MATCHED DISSIMILAR WELDS: EXPERIMENTAL RESULTS

G. Martin and P. Hornet, Electricite de France (Les Renardieres, FRANCE); M. Kocak and A. K. Motarjemi, Institute of Materials Research, (Geesthacht, GERMANY)

FRACTURE BEHAVIOR OF MIS-MATCHED DISSIMILAR WELDS: NUMERICAL SIMULATION USING LOCAL APPROACH

Y. Madi and J. Besson, Ecoles des Mines de Paris (Paris, FRANCE); G. Martin and P. Hornet, EDF (Sur Loing, FRANCE); and M. Kocak, Institute of Materials Research (Geesthacht, GERMANY)

FRACTURE ASSESSMENT OF A CLAD STEEL USING THE SINTAP DEFECT ASSESSMENT PROCEDURE

A. K. Motarjemi and M. Kocak, Institute of Materials Research, GKSS Research Centre (Geesthacht, GERMANY)

EVALUATION OF MICROSTRUCTURE AND RESIDUAL STRESS ON BI-MATERIAL WELDED PART

J. S. Kim, S. G. Lee, and T. E. Jin, Korea Power Engineering Co. (Seoul, KOREA)

SESSION 1.1F (OAC-02)

Monday, August 5, 8:30 AM - 10:15 AM, Plaza C

OPERATIONS & MAINTENANCE AND PIPING & RESTRAINTS

Sponsored by: The Operations, Applications, and Component Committee

Published in PVP Vol. 447: Piping and Component Analysis and Diagnosis

Developed by: O. B. Shirani, Consultant to KCI Engineering Consultants (Downers Grove, IL USA) and R. Gilada, Texas Utility (Glen Rose, TX USA)

Chair: O. B. Shirani, Consultant to KCI Engineering Consultants (Downers Grove, IL USA)

Vice Chair: R. Gilada, Texas Utility (Glen Rose, TX USA)

THE EFFECT OF RESTRAINT NON-LINEARITY ON THE INSTABILITY OF GROWTH OF A CIRCUMFERENTIAL THROUGH-WALL CRACK IN A PIPING SYSTEM

E. Smith, Manchester University (Manchester, UK)

INTEGRATED LEAK RATE TESTING OF CONTAINMENTS - A REGULATORY PERSPECTIVE

H. Ashar, E. V. Imbro, and D. Terao, U.S. Nuclear Regulatory Commission (Washington, DC USA)

IN SITU MEASUREMENT OF THERMOWELL VIBRATION DURING PRODUCTION TRAIN PRESSURIZATION

D. Constable, P. Finch, and M. Hamblin, Woodside Energy Ltd. (Perth, Western Australia, AUSTRALIA)

SESSION 1.1G (FSI-03)

Monday, August 5, 8:30 AM – 10:15 AM, Plaza B

ADVANCES IN TUBE BUNDLE DYNAMICS

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-2: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 2.

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN), M. Souli, Université de Lille LML Cité Scientifique Villeneuve d'Ascq (FRANCE), A. Holdo, University of Hertfordshire (Hertfordshire, UK), M. Fischer, Technical University of Munich (Garching, GERMANY), and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: Arne Holdo, University of Hertfordshire (Hertfordshire, UK)

Vice Chair: L. Khalij, Ecole des Mines de Douai (Douai Cedex, FRANCE)

SAFETY IN TUBE BUNDLE HEAT EXCHANGERS: SOME REMARKS ON THE LATEST GERMAN STANDARD CONCERNING FLOW-INDUCED VIBRATION

M. Fischer and K. Strohmeier, Technical University of Munich, Institute Pressure Vessel and Plant Design, (Garching, GERMANY)

ADVANCES IN APPLICATION OF NUMERICAL SIMULATION OF FLUID FLOW IN TUBE BUNDLE HEAT EXCHANGERS

M. Fischer and K. Strohmeier, Technical University of Munich, Institute Pressure Vessel and Plant Design, (Garching, GERMANY)

APPLICATION OF ARBITRARY LAGRANGE EULER FORMULATION TO FLOW-INDUCED VIBRATION PROBLEMS

Z. Bendjeddou, E. Longatte, and M. Souli, EDF, R&D Division on Fluid Mechanics and Heat Transfer (CEDEX, FRANCE); M. Souli, Université des Sciences et Technologies de Lille (Cedex, FRANCE)

CALCULATION OF LATERAL CONTACT STIFFNESS OF TUBES IN TUBE BUNDLE HEAT EXCHANGERS

J. Deininger, M. Fischer, and K. Strohmeier, Technical University of Munich, Institute Pressure Vessel and Plant Design (Garching, GERMANY)

SESSION 1.1H (CS-02A/MF-03A)

Monday, August 5, 8:30 AM – 10:30 AM, Plaza A

ENVIRONMENTAL FATIGUE ISSUES IN THE ASME B&PV CODE - I

Sponsored by: The Materials and Fabrication Committee and The Codes and Standards Committee

Published in PVP Vol. 439: Pressure Vessels & Piping Codes and Standards – 2002

Developed by: D. P. Jones, Bechtel Bettis, Inc., (Pittsburgh, PA USA), M. Higuchi, IHI (Yokohama, JAPAN), H. Mehta, GE (San Jose, CA USA), and S. Yukawa, Consultant, (Colorado Springs, CO USA)

Chair: D. P. Jones, Bechtel Bettis, (Pittsburgh, PA USA)

Vice Chair: S. Yukawa, Consultant, (Colorado Springs, CO USA)

FATIGUE CRACK PROPAGATION BEHAVIOR OF 304 STAINLESS STEEL FROM COMPACT TENSION SPECIMENS IN AN ELEVATED TEMPERATURE AQUEOUS ENVIRONMENT

W. M. Evans and G. L. Wire, Bechtel Bettis, Inc. (West Mifflin, PA USA)

THE MODIFIED RATE APPROACH METHOD TO EVALUATE FATIGUE LIFE UNDER SYNCHRONOUSLY CHANGING TEMPERATURE AND STRAIN RATE IN ELEVATED TEMPERATURE WATER
K. Tsutsumi, MHI (Takasaho, JAPAN); M. Higuchi, IHI (Yokohama, JAPAN); K. Iida, JAPEIC (Tokyo, JAPAN); and Y. Yamamoto, JAPEIC (Hitachinaka, JAPAN)

A PROPOSAL OF FATIGUE LIFE CORRECTION FACTOR Fen FOR AUSTENITIC STAINLESS STEELS IN LWR WATER
M. Higuchi, IHI (Yokohama, JAPAN); Hirano, Hitachi Ltd. (Saiwaicho, Hitachi-shi, JAPAN); K. Tsutsumi, MHI (Takasaho, JAPAN); K. Sakaguchi, JAPEIC (Hitachinaka, JAPAN) and K. Iida, JAPEIC (Tokyo, JAPAN)

ESTIMATION OF FATIGUE CRACK INITIATION IN AUSTENITIC STAINLESS STEELS IN LWR ENVIRONMENTS

O. Chopra, Aronne National Lab. (Argonne, IL USA)

SESSION 1.1J (OAC-03A)

Monday, August 5, 8:30 AM – 10:15 AM, Georgia B

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS – I: INTRODUCTION

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Volume 449: Transportation, Storage, and Disposal of Radioactive Materials – 2002

Developed by: R. S. Hafner, Lawrence Livermore National Laboratory (Livermore, CA USA) and M. E. Wangler, U.S. Department of Energy (Washington, DC USA)

Chair: R. S. Hafner, Lawrence Livermore National Laboratory (Livermore, CA USA)

Vice Chair: J. Hovingh, Lawrence Livermore National Laboratory (Livermore, CA USA)

AN ANALYSIS OF A SPENT FUEL TRANSPORTATION CASK UNDER SEVERE FIRE ACCIDENT CONDITIONS

C. S. Bajwa, U.S. Nuclear Regulatory Commission (Rockville, MD USA)

A PLUTONIUM STORAGE CONTAINER PRESSURE MEASUREMENT TECHNIQUE

T. J. Grim and S. J. Hensel, Westinghouse Savannah River Company (Aiken, SC USA)

A PRE-SHIPMENT GAS GENERATION TEST USING A BELL JAR

G. C. Rodrigues and S. J. Hensel, Westinghouse Savannah River Company (Aiken, SC USA)

EVALUATION OF POSTULATED SPENT FUEL CONTAINER HANDLING ACCIDENTS USING NUMERICAL SIMULATIONS

G. D. Morandin, Atomic Energy of Canada Ltd. (Mississauga ON CANADA) and D. J. Ribbans, Ontario Power Generation (Toronto, ON CANADA)

SESSION 1.1K CT-03A)

Monday, August 5, 8:30 AM – 10:15 AM, Georgia A

ANALYSIS OF BOLTED JOINTS – I

Sponsored by: The Computer Technology Committee

Published in PVP Vol. 433: Analysis of Bolted Joints – 2002

Developed by: K. H. Hsu, BWX Technologies, (Barberton, OH USA), T. Sawa, Yamanashi University (Yamanashi, JAPAN), and H. Kockelmann, University of Stuttgart (Stuttgart, GERMANY)

Chair: K. H. Hsu, BWX Technologies (Barberton, OH USA)

Vice Chair: T. Sawa, Yamanashi University, (Yamanashi, JAPAN)

ADVANCED GASKET TESTING METHODOLOGY – THE NEW SITUATION IN THE EUROPEAN STANDARDIZATION

R. Hahn and H. Kockelmann, MPA (Stuttgart, GERMANY); and H. Zerres and Y. Guerout, ASE (Cambridge, UK)

EVOLUTION OF A HIGH TEMPERATURE SEALING MATERIAL TECHNOLOGY

J. Hoyes, Flexitallic (West Yorkshire, UK)

DETERMINATION OF GASKET STRESS LEVELS DURING THERMAL TRANSIENTS

W. Brown and M. Derenne, Ecole Polytechnique (Montreal, QC CANADA); and H. Bouzid, ETS (Montreal, QC CANADA)

SIMPLIFIED SEALING TEST PROCEDURE OF GASKETS BASED ON COMPRESSIVE STRAIN

T. Kobayashi, Numazu College of Technology (Shizuoka, JAPAN); and T. Nishida and Y. Yamamaka, Nippon Valqua Industries (Osaka, JAPAN)

ON THE EFFECT OF TEMPERATURE ON TIGHTENING CHARACTERISTICS OF GASKETS

J. Bartonicek, GKN (Necharwestheim, Germany), M. Schaaf and F. Schoeckle, AMTEC (Lauffen, GERMANY)

SESSION 1.1L (MF-7A)

Monday, August 5, 8:30 AM – 10:15 AM, Oxford

CONSTRAINT EFFECTS ON FRACTURE AND FRACTURE OF WELDS – I

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol 434: Computational Weld Mechanics, Constraint, and Weld Fracture

Developed by: P. S. Lam, Westinghouse Savannah River Co. (Aiken, SC USA) and Y. Y. Wang, Engineering Mechanics Co. of Columbus (Columbus, OH USA)

Chair: P. S. Lam, Westinghouse Savannah River Co. (Aiken, SC USA)

Vice Chair: Y. Y. Wang, Engineering Mechanics Co. of Columbus (Columbus, OH USA)

DETERMINATION OF CONSTRAINT-MODIFIED J-R CURVES FOR CARBON STEEL STORAGE TANKS

P. S. Lam, Savannah River Technology Center (Aiken, SC USA); Y. J. Chao, X.-K. Zhu, and Y. Kim, University of South Carolina, (Columbia, SC USA); and R. L. Sindelar, Savannah River Technology Center (Aiken, SC USA)

EXPERIMENTAL INVESTIGATION OF CONSTRAINT EFFECTS ON CREEP CRACK GROWTH

A. D. Bettinson, N. P. O'Dowd, K. M. Nikbin, and G. A. Webster, Imperial College (London, UK)

INVESTIGATING THE CONSTRAINT EFFECT IN A PARTICULATE COMPOSITE MATERIAL

C. T. Liu, Edwards Air Force Base (CA USA)

FRACTURE TOUGHNESS PROPERTIES OF SAVANNAH RIVER SITE STORAGE TANK ASTM A285 LOW CARBON STEEL

K. H. Subramanian, A. J. Duncan, and R. L. Sindelar, Savannah River Technology Center (Aiken, SC USA)

FULL-FIELD ANALYSIS OF AN ANISOTROPIC FINITE CRACK SUBJECTED TO AN ANTI-PLANE POINT IMPACT LOADING

(presentation only)

Y.-S. Ing, Tamkang University (Taipei, TAIWAN) and C.-C. Ma, National Taiwan University (Taipei, TAIWAN)

SESSION 1.1M (OAC-01A)

Monday, August 5, 8:30AM – 10:15 AM, Regency E

COMPONENT ANALYSIS AND EVALUATION – PUMPS, VALVES, TANKS, COMPRESSORS, AND HEAT EXCHANGERS – I

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 447: Piping and Component Analysis and Diagnosis

Developed by: L. Ike Ezekoye, Westinghouse, (Pittsburgh, PA USA) and K. McElhane, Oak Ridge National Laboratory, (Oak Ridge, TN USA)

Chair: L. Ike Ezekoye, Westinghouse, (Pittsburgh, PA USA)

Vice Chair: K. McElhane, Oak Ridge National Laboratory (Oak Ridge, TN USA)

NONLINEAR FREE VIBRATION OF A ROTATING BEAM CARRYING A TIP MASS WITH ROTARY INERTIA

A. A. Al-Qaisia, University of Jordan (Amman, JORDAN)

CHARACTERIZATION OF THE PERFORMANCE OF COUPLED HEAT EXCHANGERS WITH AN INTERMEDIATE HEAT LOAD

L. Ike Ezekoye and S. R. Swantner, Westinghouse Electric Company, (Pittsburgh, PA USA)

HARMONIC BALANCE STABILITY ANALYSIS OF ROTATING FLEXIBLE BLADE EXCITED BY THE TORSIONALLY VIBRATING SHAFT

B. O. Al-Bedoor, King Fahd University of Petroleum & Minerals (Dhahran, SAUDI ARABIA); A. A. Al-Qaisia, University of Jordan (Amman, JORDAN)

SESSION 1.1N (FSI-01A)

Monday, August 5, 8:30 AM – 10:15 AM, Regency B

ADVANCES IN COMPUTATIONAL FLUID DYNAMICS (CFD) CODES – I

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-2: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 1

Developed by: S. Itoh, Kumamoto University (Kumamoto,

JAPAN), M. Souli, Université de Lille LML Cité Scientifique Villeneuve d'Ascq (FRANCE), A. Holdo, University of Hertfordshire (Hertfordshire, UK), M. Fischer, Technical University of Munich (Garching, GERMANY), and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: M. Souli, Université de Lille LML Cité Scientifique Villeneuve d'Ascq (FRANCE)

Vice Chair: A. Holdo, Univ. of Hertfordshire (Hertfordshire, UK)

(KEYNOTE) SIMULTANEOUS PREDICTION OF SOLID STRESS, HEAT TRANSFER AND FLUID FLOW BY A SINGLE ALGORITHM
D. B. Spalding, Concentration Heat and Momentum Ltd. (Wimbledon, London, UK)

PLUME & CROSSWIND INTERACTION, PREDICTION & VALIDATION

J. A. Green, University of Hertfordshire (Hatfield, Herts, UK)

INITIAL CFD SIMULATIONS OF HIGH ASPECT RATIO JETS

J. P. Bracht and S. J. Wakes, CAE Research Group, University of Hertfordshire (Hatfield, Herts, UK)

SESSION 1.10 (FSI-11A)

Monday, August 5, 8:30 AM – 10:15 AM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – I: FUNDAMENTALS, CODES AND POST-PROCESSING (1)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002, Volume 1 and 2

Developed by: V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA), S. Kawano, Tohoku University (Sendai, JAPAN), and C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS)

Chair: V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA)

Vice Chair: S. Kawano, Tohoku University (Sendai, JAPAN)

A TECHNIQUE FOR SPECIFYING REGION OF INTEREST IN THE VECTOR FIELD BASED ON 3D LIC

K. Sakai, Research Institute for Environmental Sciences and Public Health of Iwate Prefecture (Iwate, JAPAN); K. Koyamada, Kyoto University (Kyoto, JAPAN); and K. Kamisawa and Akio Doi, Iwate Prefectural University (Iwate, JAPAN)

CFD-CODE EVALUATION FOR COMPLEX INTERIOR FLOWS

H. Herwig, TU Hamburg-Harburg (Hamburg, GERMANY); and H. Mocikat, and T. Guertler, TU Chemnitz (Chemnitz, GERMANY)

FLOW VISUALIZATION OF THE EVOLUTION OF TAYLOR INSTABILITIES AND COMPARISON WITH NUMERICAL SIMULATIONS

M. J. Braun, University of Akron (Akron, OH USA), V. Kudriavtsev, CFD Canada (Toronto, ON CANADA), and R. K. Corder, Spectral Instruments (Tucson, AZ USA)

THE BEST PRACTICE GUIDELINE FOR CFD - AN EUROPEAN INITIATIVE ON QUALITY AND TRUST (Keynote)

T. Wintergerste, ERCOFTAC and Sulzer Innotec (Wintherthur, SWITZERLAND)

Block 1.2: Monday, August 5 (10:30 AM – 12:15 PM)

SESSION 1.2Q

Monday, August 5, 10:30 AM – 12:15 PM, Regency Ballroom

PVP-2002 CONFERENCE OPENING AND PLENARY SESSION

Sponsored by: The PVP Division Conference Committee

Chair: H. H. Chung, PVP-2002 Conference General Chair, MITEC International, Ltd. (Naperville, IL USA)

WELCOME REMARKS

S. H. Skemp, President, American Society of Mechanical Engineers (New York, NY USA)

D. E. Bray, Vice President, Material and Structural Group, ASME (New York, NY USA)

J. Sinnappan, Chair, Pressure Vessels and Piping Division, ASME (New York, NY USA)

STATUS AND PROSPECTS OF LWR PROJECT IN KOREA

Maeng-Hyun Yoon, President, Korea Electric Power Research Institute (Taejon, KOREA)

CREATING KILLER PRODUCTS - A PROCESS FOR OUTPERFORMING YOUR COMPETITORS

P. H. Francis, President, Group Francis, LLC (Georgetown, TX USA)

Block 1.3: Monday, August 5 (2:00 PM – 3:45 PM)

SESSION 1.3P

Monday, August 5, 2:00 PM – 3:45 PM, Regency South Foyer

NDE DEMONSTRATION FORUM – II

Developed by: C. C. Jaske, CC Technologies Services, Inc. (Columbus, OH USA)

Participants:

Advanced Technology Corporation, www.atc-ssm.com

Canspec Group Inc., www.canspec.com

CC Technologies Services, Inc., www.cctechnologies.com

Chemac Inc., www.chemacinc.com

EQE International, Inc., www.abs-jbfa.com

IESCO, Inc., www.iesconde.com

Mechanical Integrity Technologies, www.mechanicalintegrity.com

Nandiroyce International Limited, www.nandiroyce.com

R/D Tech, www.rd-tec.com

US Ultratek, Inc., www.usultrek.com

SESSION 1.3A (CT-05B)

Monday, August 5, 2:00 PM – 3:45 PM, Regency F

NONLINEAR FINITE ELEMENTS AND DISCRETE METHODS – DEVELOPMENTS AND APPLICATIONS – II

Sponsored by: The Computer Technology Committee

Published in PVP Vol. 441: Computational Mechanics: Developments and Applications – 2002

Developed by: R. G. Sauv , Kinectrics, Inc. (Toronto, ON CANADA) and N. Badie, Kinectrics, Inc. (Toronto, ON CANADA)

Chair: R. G. Sauv , Kinectrics, Inc. (Toronto, ON CANADA)

Vice Chair: J. Martin, Lockheed Martin Inc. (Albany, NY USA)

INCLUSION OF LOCAL SHELL BEHAVIOUR OF TUBES INTO A TWO-DIMENSIONAL BEAM APPROXIMATION OF DEFORMATION IN NUCLEAR FUEL CHANNELS

S. Khajehpour, R.G. Sauv , and N. Badie, Kinectrics, Inc. (Toronto, ON CANADA)

FINITE ELEMENT ANALYSIS OF COMPLEX CORROSION DEFECTS

D. S. Cronin, University of Waterloo (Waterloo, ON CANADA)

A FINITE ELEMENT ANALYSIS OF THE RESIDUAL STRESSES INCURRED DURING BENDING OF PIPES

C. S. Scott and M. J. Kozluk, Kinectrics, Inc. (Toronto, ON CANADA)

DYNAMIC RESPONSE OF TIMOSHENKO BEAM STRUCTURES SOLVED BY DQEM USING EDQ

C. N. Chen, National Cheng Kung University (Tainan, TAIWAN)

THRESHOLD AND VARIABLE AMPLITUDE CRACK GROWTH BEHAVIOUR OF 350WT STEEL

P. A. Rushton, Martec Limited (Halifax, NS CANADA), F. Taheri, Dalhousie University (Halifax, NS CANADA) and D. C. Stredulinsky, Defense Research Establishment Atlantic (Dartmouth, NS CANADA)

SESSION 1.3B (OAC-06A/SE-04A)

Monday, August 5, 2:00PM – 3:45 PM, Grouse

INTERNATIONAL SYMPOSIUM ON SEISMIC, SHOCK, AND VIBRATION ISOLATION – I

Sponsored by: The Operations, Applications, and Components Committee and The Seismic Engineering Committee

Published in PVP Vol. 445-2: Seismic Engineering-2002, Volume - 2

Developed by: H. H. Chung, MITEC International (Naperville, IL USA), A. Martelli, ENEA, (Bologna, ITALY), and K. Ishida, CRIEPI (Chiba, JAPAN)

Chair: H. H. Chung, MITEC International, Inc. (Naperville, IL USA)

Vice Chair: Hyun-Moo Koh, Seoul National Univ. (Seoul, KOREA)

OVERVIEW OF THE 7TH INTERNATIONAL SEMINAR ON SEISMIC ISOLATION, PASSIVE ENERGY DISSIPATION AND ACTIVE CONTROL OF VIBRATIONS OF STRUCTURES, ASSISI, ITALY, OCTOBER 2-5, 2001, AND FOUNDATION OF THE ANTI-SEISMIC SYSTEMS INTERNATIONAL SOCIETY (ASSISI)

A. Martelli, G.-B. Arato, and M. Forni, ENEA (Bologna, ITALY), B. Spadoni, ENEA and GLIS (Bologna, ITALY), and H. H. Chung, MITEC International (Naperville, IL USA)

COST-EFFECTIVENESS EVALUATION OF SEISMICALLY ISOLATED POOL STRUCTURES CONSIDERING FLUID-STRUCTURE INTERACTION

Hyun-Moo Koh and Kwan-Soon Park, Seoul National University (Seoul, KOREA) and J. Song, Univ. of California (Berkeley, CA USA)

ADVANCED TESTED TECHNOLOGY FOR EARTHQUAKES AND THE SHAPES OF MEMORY: A SHORT FILM AND A MOTION-PICTURE DEVELOPED IN THE FRAMEWORK OF THE MUSICA PROJECT

A. Martelli and G.-B. Arato, ENEA (Bologna, ITALY), and E. Bellani, Giotto Film & GLIS Trevi (Perugia, ITALY)

SESSION 1.3C (MF-09B)

Monday, August 5, 2:00 PM – 3:45 PM, Stanley

RECENT ADVANCES IN FRACTURE AND DAMAGE STUDIES - II

Sponsored by: The Material and Fabrication Committee

Published in PVP Vol. 438: New and Emerging Computational Methods: Applications to Fracture, Damage, and Reliability

Developed by: T. Nishioka, Kobe University of Mercantile Marine (Kobe, JAPAN)

Chair: R. Hamann, Germanischer Lloyd (Vorsetzen Hamburg, GERMANY)

Vice Chair: S. Kawano, Yamaguchi University (Tokiwadai, Ube, JAPAN)

FATIGUE CRACK PROPAGATION ANALYSIS OF A NOZZLE CORNER USING INFLUENCE FUNCTION METHOD

M. Ochi and K. Hojo, Takasago Research & Development Center, Mitsubishi Heavy Industries, Ltd. (Takasago, Hyogo, JAPAN); T. Nagasaki, Kobe Shipyard and Machinery Works, Mitsubishi Heavy Industries, Ltd. (Kobe, JAPAN)

FATIGUE TEST PLAN TO OBTAIN S-N CURVES

J. M. A. Pinto, T. R. Mansur, and J. R. B. Cruz, CDTN (Belo Horizonte, MG BRAZIL); E. A. Colosimo, UFMG (Belo Horizonte, MG BRAZIL); E. S. Palma, PUC Minas (Belo Horizonte, MG, BRAZIL); M. M. Neto, IPEN (Sao Paulo, SP BRAZIL)

DETERMINATION OF THE FATIGUE LIMIT - COMPARISON BETWEEN EXPERIMENTAL TESTS AND STATISTICAL SIMULATIONS

T. R. Mansur, J. M. A. Pinto, and W. A. Soares, CDTN (Belo Horizonte, MG BRAZIL); E. S. Palma, PUC Minas (Belo Horizonte, MG BRAZIL); and E. A. Colosimo, UFMG (Belo Horizonte, MG BRAZIL)

FATIGUE THRESHOLD CONSIDERATIONS DURING CRACK PROPAGATION

L. Bian and J. K. Lim, Chonbuk National University (Chonju, KOREA)

SESSION 1.3D (DA-03A)

Monday, August 5, 2:00PM – 3:45 PM, Cypress

DESIGN AND ANALYSIS OF PIPING COMPONENTS - I

Sponsored by: The Design and Analysis Committee

Published in PVP 440: Design and Analysis of Piping, Vessels, and Components

Developed by: A. A. Dermenjian, Sargent & Lundy (Chicago, IL USA)

Chair: A. A. Dermenjian, Sargent & Lundy (Chicago, IL USA)

Vice Chair: R. Baliga, Advent Engineering Services Inc. (Camino Ramon, CA USA)

ASSESSMENT OF LOCAL DECREASES IN WALL THICKNESS AT THE CONNECTION OF STRAIGHT PIPE/BEND

R. Kauer and W. Holzer, TUV Suddeutschland GmbH Bau und Betrieb (Munich, GERMANY)

AN EXPERIMENTAL STUDY ON THE EVALUATION OF FAILURE BEHAVIOR OF PIPE WITH LOCAL WALL THINNING

J. W. Kim, C. Y. Park, and S. D. Park, Korea Electric Power Research Institute (Taejon, KOREA)

THERMAL MIXING POINTS: A THERMOMECHANICAL STRESS FEAPROCEDURE

T. G. Seipp, Flour Canada Ltd. (Calgary, AB CANADA)

FINITE ELEMENT ANALYSIS FOR LOCAL CREEP OF A TUBE COOLANT PIPING SYSTEM IN LWR DUE TO LOCAL HEATING UNDER SEVERE ACCIDENT CONDITION

S. Hagihara, Saga University (Saga, JAPAN) and N. Miyazaki, Kyushu University (Fukuoka, JAPAN)

STRESS INDICES FOR CIRCUMFERENTIAL FILLET WELDED OR SOCKET WELDED JOINTS

E. A. Wais, Wais and Associates (Atlanta, GA USA), E. C. Rodabaugh, Consultant (Dublin, OH USA), and R. Carter, Electric Power Research Institute (Charlotte, NC USA)

SESSION 1.3E (MF-01B)

Monday, August 5, 2:00PM – 3:45 PM, Prince of Wales

RESIDUAL STRESS, FRACTURE, AND FATIGUE OF WELDED STRUCTURES – II

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 434: Computational Weld Mechanics, Constraint, and Weld Fracture

Developed by: E. Keim, Framatome ANP (Erlangen, GERMANY), P. Dong, Battelle (Columbus, OH USA), and F. W. Brust, Battelle (Columbus, OH USA)

Chair: P. Dong, Battelle (Columbus, OH USA)

Vice Chair: M. Mochizuki, Osaka University (Osaka, JAPAN)

ANALYSIS OF RESIDUAL STRESSES AND ASSESSMENT OF POSTULATED CRACKS IN A CORE SHROUD WELD

I. Varfolomeyev and D. Siegele, Fraunhofer-Institut für Werkstoffmechanik, (Freiburg, GERMANY); D. Beukelmann, TÜV Süddeutschland (München, GERMANY)

APPLICATION OF 3D FINITE ELEMENT MODELLING TO REPAIR WELD SIMULATION IN INDUSTRIAL APPLICATIONS

G. Vinas, T. Dauda, N. Moyes, and A. Laird, Mitsui Babcock Energy, Ltd. (Renfrew, SCOTLAND)

LUMP-PASS WELDING SIMULATION TECHNOLOGY DEVELOPMENT FOR SHIPBUILDING APPLICATIONS

Y. P. Yang, F.W. Brust, J.C. Kennedy, Jr., Battelle Memorial Institute, (Columbus, OH USA)

A SYSTEMATIC MODELLING APPROACH TO DESIGN HIGH PERFORMANCE WELD-JOINTS

Z. Yang, X. Chen, and N. Chen, Caterpillar, Inc. (Peoria, IL); Z. Cao, F.W. Brust, and P. Dong, Battelle (Columbus, OH USA)

TEMPERATURE AND RESIDUAL STRESS FIELDS IN AN AUSTENITIC CIRCUMFERENTIAL PIPE WELD

R. Bonn, Robert Bosch GmbH (Schwieberdingen, GERMANY); H. Kockelmann, E. Roos, and L. Stumpfrock, MPA Stuttgart (Stuttgart, GERMANY); and K. Metzner, EON-Kernkraft GmbH (Hannover, GERMANY)

SESSION 1.3F (DA-06)

Monday, August 5, 2:00PM – 3:45 PM, Plaza C

FRACTURE MECHANICS: APPLICATION OF LOCAL APPROACH TO FRACTURE

Sponsored by: The Design and Analysis Committee

Published in PVP Vols. 443-1: Fatigue, Fracture and Damage Analysis 2002, Volume 1

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE), S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE), K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA), and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: D. Moinereau, EDF-DER (Moret/Loing, FRANCE)

Vice Chair: M. Brumovski, Nuclear Research Institute Rez (Rez, CZECH REPUBLIC)

RPV STRUCTURAL INTEGRITY ASSESSMENT DURING A PTS EVENT: APPLICATION OF AN EXTENDED BEREMIN MODEL CONSISTENT WITH WPS TEST RESULTS

R. Masson, L. Nicolas, and D. Moinereau, EDF-DER (Moret/Loing, FRANCE)

FRACTURE ASSESSMENT PROCEDURE FOR STEEL STRUCTURES SUBJECTED TO LARGE CYCLIC AND DYNAMIC STRAIN

F. Minami, Osaka University (Osaka, JAPAN)

BIMATERIAL MODELING OF RPV STEEL CONTAINING SEGREGATION ZONES

B. Naudin, EDF-SQR (Evry, FRANCE)

SESSION 1.3G (SE-10)

Monday, August 5, 2:00PM – 3:45 PM, Plaza B

PANEL DISCUSSION ON PERFORMANCE GOAL BASED SEISMIC DESIGN PHILOSOPHY

Sponsored by: The Seismic Engineering Committee

Developed by: J. Savy and Q. Hossain, Lawrence Livermore National Laboratory (Livermore, CA USA)

Chair: J. Savy, Lawrence Livermore National Laboratory (Livermore, CA USA)

Vice-Chair: Q. Hossain, Lawrence Livermore National Laboratory (Livermore, CA USA)

Panelists:

R. E. Bachman, Consulting Structural Engineer (Sacramento, CA USA)
C. J. Costantino, City University of New York (Spring Valley, NY USA)
A. H. Hadjian, Defense Nuclear Facility Safety Board (Washington, DC USA)
Q. A. Hossain, Lawrence Livermore National Lab. (Livermore, CA USA)
P. Kadambi, U.S. Nuclear Regulatory Commission (Rockville, MD USA)
R. P. Kennedy, Structural Mechanics Consulting (Escondido, CA USA)
R. C. Murray, Lawrence Livermore National Lab. (Livermore, CA USA)
J. Savy, Lawrence Livermore National Lab. (Livermore, CA USA)

SESSION 1.3H (CS-02B/MF-03B)

Monday, August 5, 2:00PM – 3:45 PM, Plaza A

ENVIRONMENTAL FATIGUE ISSUES IN THE ASME B&PV CODE – II

Sponsored by: The Materials & Fabrication Committee and The Codes & Standards Committee

Published in PVP Vol. 439: Pressure Vessels & Piping Codes and Standards – 2002

Developed by: D. P. Jones, Bechtel Bettis, Inc. (Pittsburgh, PA USA), M. Higuchi, IHI (Yokohama, JAPAN), H.

Mehta, GE, (San Jose, CA USA), and S. Yukawa,
Consultant (Colorado Springs, CO USA)

Chair: H. Mehta, GE, (San Jose, CA USA)

Vice Chair: M. Higuchi, IHI (Yokohama, JAPAN)

MECHANISM OF FATIGUE CRACK INITIATION IN AUSTENITIC STAINLESS STEELS IN LWR ENVIRONMENTS

O. Chopra, Argonne National Lab. (Argonne, IL USA)

EFFECTS OF WATER FLOW RATE ON FATIGUE LIFE OF STAINLESS STEEL IN SIMULATED LWR ENVIRONMENT

A. Hirano and M. Yamamoto, Hitachi Ltd. (Saiwaicho, Hitachi-shi, JAPAN); K. Sakaguchi, JAPEIC (Tarasaki, Hitachi-shi, JAPAN); T. Shoji, Tohoku University (Sendai, JAPAN); K. Iida, JAPEIC (Tokyo, JAPAN)

FATIGUE CRACK PROPAGATION OF 304 STAINLESS STEEL FROM NOTCHED SPECIMENS IN AN ELEVATED TEMPERATURE AQUEOUS ENVIRONMENT

G. L. Wire and W. J. Mills, Bechtel Bettis, Inc. (West Mifflin, PA USA)

CF/SCC INTERACTION OF STRUCTURAL MATERIALS FOR LWR IN HIGH TEMPERATURE WATER

Y. Katada and S. Ohashi, National Institute for Material Science (Tsukuba, JAPAN)

SESSION 1.3J (OAC-03B)

Monday, August 5, 2:00PM – 3:45 PM, Georgia B

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS – II: STRUCTURAL ISSUES (1)

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Volume 449: Transportation, Storage, and Disposal of Radioactive Materials - 2002

Developed by: R. S. Hafner, Lawrence Livermore National Laboratory (Livermore, CA USA), S. J. Hensel and A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA), and M. E. Wangler, U.S. Department of Energy (Washington, DC USA)

Chair: C. S. Bajwa, U.S. Nuclear Regulatory Commission (Rockville, MD USA)

Vice Chair: W. H. Lake Jr., U.S. Department of Energy (Washington, DC USA)

DYNAMIC IMPACT ANALYSES OF A TYPE A FISSILE PACKAGE CONSISTING OF THIN GAGE MILD CARBON STEEL COMPONENTS ARRANGED FOR HIGH ENERGY ABSORPTION

T. T. Wu and D. R. Leduc, Westinghouse Savannah River Company (Aiken, SC USA)

A TECHNIQUE FOR DYNAMIC ANALYSES OF CONTAINERS WITH LOCKING-RING CLOSURES

T. T. Wu, Westinghouse Savannah River Company (Aiken, SC USA)

EFFECT OF TEMPERATURE AND HUMIDITY ON CRUSH STRENGTH OF CELLULOSE FIBERBOARD ASSEMBLIES

A. C. Smith, P. R. Vormelker, G. K. Chapman, and G. D. Creech, Westinghouse Savannah River Company (Aiken, SC USA), and K. W. Miller, St. Cloud State University (St. Cloud, MN USA), and J. A. Khan and M. Z. H. Khandkar, University of South Carolina (Columbia, SC USA)

RECENT PROGRESS ON THE STANDARDIZED DOE SPENT NUCLEAR FUEL CANISTER

D. K. Morton, S. D. Snow, T. E. Rahl, and T. J. Hill, Idaho National Engineering & Environmental Laboratory (Idaho Falls, ID USA) and R. P. Morissette, Beckman & Associates, Inc. (Minden, NV USA)

SESSION 1.3K (CT-03B)

August 5, 2:00 PM – 3:45 PM, Georgia A

ANALYSIS OF BOLTED JOINTS – II

Sponsored by: The Computer Technology Committee and The PVRC Bolted Flanged Connections Committee

Published in PCP Vol. 433: Analysis of Bolted Joints – 2002

Developed by: K. H. Hsu, BWX Technologies (Barberton, OH USA), T. Sawa, Yamanashi University (Yamanashi, JAPAN), H. Kockelmann, University of Stuttgart (Stuttgart, GERMANY)

Chair: T. Sawa, Yamanashi University (Yamanashi, JAPAN)

Vice Chair: H. Kockelmann, University of Stuttgart (Stuttgart, GERMANY)

THE SUITABILITY OF VARIOUS GASKET TYPES FOR HEAT EXCHANGER SERVICE

W. Brown, Ecole Polytechnique (Montreal, QC CANADA)

A SIMPLIFIED MODELING OF GASKET STRESS-STRAIN CURVE FOR FEM ANALYSIS IN BOLTED FLANGE JOINT DESIGN

S. Nagata, Toyo Engineering Corporation (Chiba, JAPAN); Y. Shoji, Shoji Consulting Service (JAPAN); and T. Sawa, Yamanashi University (Yamanashi, JAPAN)

AN EXPERIMENTAL INVESTIGATION ON FRICTIONAL PROPERTIES OF BOLTED JOINTS

Y. Jiang, M. Zhang, and Tae-Won Park, University of Nevada (Reno, NV USA); and Chu-Hwa Lee, Ford Motor Company (Dearborn, MI USA)

DYNAMIC CHARACTERISTICS OF STRUCTURES WITH BOLTED JOINT

S. Aoki, Tokyo Metropolitan College of Technology (Tokyo, JAPAN)

SESSION 1.3L (MF-7B)

Monday, August 5, 2:00 PM – 3:45 PM, Oxford

CONSTRAINT EFFECTS ON FRACTURE AND FRACTURE OF WELDS – II

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 434: Computational Weld Mechanics, Constraint, and Weld Fracture

Developed by: P. S. Lam, Westinghouse Savannah River Company, (Aiken, SC USA), Y. Y. Wang, Engineering Mechanics Corporation of Columbus (Columbus, OH USA)

Chair: Y. Y. Wang, Engineering Mechanics Corporation of Columbus (Columbus, OH USA)

Vice Chair: P. S. Lam, Westinghouse Savannah River Company (Aiken, SC USA)

CREEP AND CREEP-FATIGUE STRENGTH PROPERTY OF A LONG-TERM USED BOILER WELDMENT PARTS OF 2.25Cr-1Mo STEEL

T. Ogata, Central Research Institute of Electric Power Industry (Tokyo, JAPAN)

THE EFFECT OF RESIDUAL STRESSES ON THE FRACTURE RESISTANCE OF DUCTILE STEELS

N. P. O'Dowd and Y. Lei, Imperial College (London, UK)

THE EFFECTS OF INTERCRITICAL HEAT TREATMENT OF THE SA508 GRADE 3 CLASS 1 STEEL BEFORE WELDING ON THE MECHANICAL PROPERTIES IN ITS WELDED JOINT

J.-T. Kim, B.-I. Yang, and H.-K. Kwon, Doosan Heavy Industries & Construction Company (Changwon, KOREA)

EFFECTS OF PLASTIC CONSTRAINT AND STRAIN RATE ON CHARACTERISTICS OF STRENGTH AND FRACTURE IN UNDERMATCHED WELD JOINTS

M. Mochizuki, G-B. An, and M. Toyoda, Osaka University (Osaka, JAPAN)

INDENTATION PROBLEMS OF TWO-DIMENSIONAL ANISOTROPIC THERMOELASTICITY WITH PERTURBED BOUNDARIES (Presentation Only)

C. K. Chao, National Taiwan University of Science & Technology, (Taipei, TAIWAN)

SESSION 1.3M (OAC-01B)

Monday, August 5, 2:00 PM – 3:45 PM, Regency E

COMPONENT ANALYSIS AND EVALUATION – PUMPS, VALVES, TANKS, COMPRESSORS, AND HEAT EXCHANGERS – II

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 447: Piping and Component Analysis and Diagnosis

Developed by: B. Al-Bedoor, King Fahd University of Petroleum & Minerals (Dhahran, SAUDI ARABIA)

Chair: B. Al-Bedoor, King Fahd University of Petroleum & Minerals, (Dhahran, SAUDI ARABIA)

Vice Chair: L. I. Ezekoye, Westinghouse Electric Co. (Pittsburgh, PA USA)

FLUID PARTICLES FUNDAMENTAL MOVEMENT IN ROTATING FLOW PASSAGE OF TURBOMACHINERY

T. Tanaka, Kobe University, (Kobe, Japan.)

RELIABILITY, AVAILABILITY AND MAINTAINABILITY ANALYSIS OF STEAM TURBINES USED IN AN OIL REFINERY

A. Sheikh, King Fahd University of Petroleum & Minerals (Dhahran, SAUDI ARABIA); D. Al-Anazi, Ras Tanura Refinery Saudi Aramco (Dahhahran, SAUDI ARABIA); and M. Younis, King Fahd University of Petroleum & Minerals (Dhahran, SAUDI ARABIA)

ON THE INFLUENCE OF BACK PRESSURE AND SIZE ON THE PERFORMANCE OF SAFETY RELIEF VALVES

V. Dossena, Ing Gaetani, F. Marinoni, and C. Osnaghi, Dipartimento di Energetica (Milano, ITALY)

SESSION 1.3N (FSI-01B)

Monday, August 5, 2:00 PM – 3:45 PM, Regency B

ADVANCES IN COMPUTATIONAL FLUID DYNAMICS (CFD) CODES – II

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-1: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 1

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN), M. Souli, Université de Lille (Ascq, FRANCE), A. E. Holdo, University of Hertfordshire (Hertfordshire, UK), M. Fischer, Technical University of Munich (Garching, GERMANY), and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: Lafhaj Z. Skoscyas, University of Lille (Ascq, FRANCE)

Vice Chair: M. Fischer, Technical University of Munich (Garching, GERMANY)

MODELING OF FLOW AROUND A CIRCULAR CYLINDER IN SUB-CRITICAL FLOW REGIME WITH THE USE OF DYNAMIC GRID ADAPTATION

G. DeWith and A. E. Holdo, University of Hertfordshire, (Hatfield, UK); and T. A. Huld, Joint Research Centre (Ispra Va, ITALY)

THE PREDICTION OF FLOW PATTERNS BELOW A FIXED BED MEDIA

S. Platt and A. Cantwell, Brightwater Engineering Ltd. (Letchworth, Herts, UK); and S. J. Wakes, University of Hertfordshire (Herts, UK)

SOLUTION ADAPTIVE GRIDS APPLIED TO LOW REYNOLDS NUMBER FLOWS

G. DeWith and A. E. Holdo, University of Hertfordshire (Hatfield, UK)

INVESTIGATING FLOW INSIDE A COMMERCIAL AIRCRAFT CABIN

R. K. Calay and S. D Harris, University of Hertfordshire (Hatfield, UK)

SESSION 1.3O (FSI-11B)

Monday, August 5, 2:00 PM – 3:45 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – II: FUNDAMENTALS, CODES AND POST-PROCESSING (2)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications - 2002

Developed by: S. Kawano, Tohoku University (Sendai, JAPAN), C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS), and V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA)

Chair: M. Masi, Politecnico di Milano (Milano, ITALY)

Vice Chair: T. Muramatsu, Japan Nuclear Cycle Development Institute (Ibaraki, JAPAN)

ADVANCED CFD TECHNOLOGY DEVELOPMENT (Keynote)

D. Choudhury, FLUENT (Lebanon, NH USA)

CONVERGENCE ACCELERATION OF K- \bar{u} TURBULENCE EQUATIONS WITH MULTIGRID

Soo Hyung Park, Chun-Ho Sung, and Jang Hyuk Kwon, Korea Advanced Institute of Science And Technology (Taejeon, KOREA)

A TECHNIQUE FOR SKELETONIZING A SCALAR FIELD USING A

CRITICAL POINT GRAPH: APPLICATION TO A WEATHER SIMULATION

K. Kamisawa and A. Doi, Iwate Prefectural University (Iwate, JAPAN); K. Sakai, Research Institute for Environmental Sciences and Public Health of Iwate Prefecture (Iwate, JAPAN); and K. Koyamada, Kyoto University (Kyoto, JAPAN)

SIMULATION of ARTIFICIAL TURBULENCE BY THE VORTEX METHOD

Y. Ogami, K. Nishiwaki, and Y. Yoshihara, Ritsumeikan University (Shiga, JAPAN)

Block 1.4: Monday, August 5 (4:00 PM – 5:45 PM)

SESSION 1.4P

Monday, August 5, 4:00 PM – 5:45 PM, Regency South Foyer

NDE DEMONSTRATION FORUM – III

Developed by: C. C. Jaske, CC Technologies Services, Inc. (Columbus, OH USA)

Participants:

Advanced Technology Corporation, www.atc-ssm.com
Canspec Group Inc., www.canspec.com
CC Technologies Services, Inc., www.cctechnologies.com
Chemac Inc., www.chemacinc.com
EQE International, Inc., www.abs-ibfa.com
IESCO, Inc., www.iesconde.com
Mechanical Integrity Technologies, www.mechanicalintegrity.com
Nandiroyce International Limited, www.nandiroyce.com
R/D Tech, www.rd-tec.com
US Ultratek, Inc., www.usultrek.com

SESSION 1.4A (SE-08)

Monday, August 5, 4:00 PM – 5:45 PM, Regency F

HIGH LEVEL SEISMIC RESPONSE OF PIPING

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering – 2002, Volume 1

Developed by: G. Slagis, G C Slagis Associates (Pleasant Hill, CA USA)

Chair: G. C. Slagis Associates (Pleasant Hill, CA USA)

Vice-Chair: M. E. Nitzel, Idaho National Engineering & Environmental Lab. (Idaho Falls, ID USA)

ABOUT THE DESIGN CRITERIA FOR PIPING UNDER EXTREME LOADING CONDITIONS: ANALYSIS AND DESIGN

L. Lazzeri, TEA (Genova, ITALY)

NUCLEAR PIPING SEISMIC STRESS LIMITS – A CRITICAL REVIEW

G. Slagis, G C Slagis Associates (Pleasant Hill, CA USA)

ABOUT THE DESIGN CRITERIA FOR PIPING UNDER EXTREME LOADING CONDITIONS: APPENDIX DETAILED ANALYSES

L. Lazzeri, TEA (Genova, ITALY)

APPROXIMATE ANALYTICAL METHOD OF PIPING SYSTEMS WITH ELASTO-PLASTIC DAMPERS

S. Aoki, Tokyo Metropolitan College of Technology (Tokyo, JAPAN) and T. Watanabe, Yamanashi University (Kofu City, JAPAN)

SESSION 1.4B (OAC-06B/SE-04B)

Monday, August 5, 4:00 PM – 5:45 PM, Grouse

INTERNATIONAL SYMPOSIUM ON SEISMIC, SHOCK, AND VIBRATION ISOLATION – II

Sponsored by: The Operations, Applications, and Components Committee and The Seismic Engineering Committee

Published in PVP Vol. 445-2: Seismic Engineering – 2002, Volume 2

Developed by: H. H. Chung, MITEC International (Naperville, IL USA), A. Martelli, ENEA, (Bologna, ITALY), and K. Ishida, CRIEPI (Chiba, JAPAN)

Chair: A. Martelli, ENEA, (Bologna, ITALY)

Vice Chair: K. Ishida, CRIEPI (Chiba, JAPAN)

DEVELOPMENT OF INNOVATIVE ANTI-SEISMIC SYSTEMS FOR CIVIL AND INDUSTRIAL STRUCTURES: NEW ACHIEVEMENTS OF ENEA

M. Forni, A. Martelli, A. Poggianti, B. Spadoni, and G. Venturi, ENEA (Bologna, ITALY); C. Bortolotti, G. F. Cesari, E. Sobrero, and A. Welponer, University of Bologna (Bologna, ITALY); G. De Canio, ENEA (Rome, ITALY); R. Antonucci, University of Ancona (Ancona, ITALY); and A. Marioni and M. Battaini, ALGA & GLIS (Milan, ITALY)

DEVELOPMENT AND APPLICATION OF INNOVATIVE ANTI-SEISMIC SYSTEMS FOR THE PROTECTION OF CULTURAL HERITAGE: NEW ACHIEVEMENTS OF ENEA

M. Indirli, M. Forni, A. Martelli, and B. Spadoni, ENEA (Bologna, ITALY); A. Dusi, GLIS (Cremona, ITALY); C. Alessandri, A. Bertocchi, and R. Cami, University of Ferrara (Ferrara, ITALY); A. Baratta, and A. Procaccio, University of Naples (Naples, ITALY); B. Carpani, ENEA (Brasimone, ITALY); P. Clemente, Casaccia (Rome) Centers & GLIS (Rome, ITALY); and M. Mucciarella, Studio Il Trilite” & GLIS (Rome ITALY)

STUDY ON LIMITS OF HEIGHT-TO-WIDTH RATIO FOR BASE-ISOLATED BUILDINGS UNDER EARTHQUAKE

H. N. Li, Shenyang Architectural and Civil Engineering Institute (Shenyang, CHINA) and X.-X. Wu, Dalian University of Technology (Dalian, CHINA)

MODEL OF TRANSMISSION TOWER-PILE-SOIL DYNAMIC INTERACTION UNDER EARTHQUAKE: IN-PLANE

H. N. Li, Shenyang Architectural and Civil Engineering Institute (Shenyang, CHINA); and S.-Y. Xiao and S.-Y. Wang, Dalian University of Technology (Dalian, CHINA)

SESSION 1.4C (MF-09C)

Monday, August 5, 4:00 PM – 5:45 PM, Stanley

RECENT ADVANCES IN FRACTURE AND DAMAGE STUDIES – III

Sponsored by: The Material and Fabrication Committee

Published in PVP Vol. 438: New and Emerging Computational Methods: Applications to Fracture, Damage, and Reliability

Developed by: T. Nishioka, Kobe University of Mercantile Marine (Kobe, JAPAN)

Chair: C. L. Chow, Univ. of Michigan-Dearborn, (Dearborn, MI USA)

Vice Chair: I. C. Howard, University of Sheffield (Sheffield, UK)

EVALUATION OF STRESS-INTENSITY FACTOR OF MIXED-MODE CRACK BY HYBRID SPECKLE PHOTOGRAPHY

K. Machida, Science University of Tokyo (Chiba, Japan)

EXTENDING THE LOCAL APPROACH TO FRACTURE: METHODS FOR DIRECT INCORPORATION OF MICROSTRUCTURAL EFFECTS INTO FINITE ELEMENT MODELS OF FRACTURE

J. H. Beynon, S. Das, I. C. Howard, and A. Cherenlikht, The University of Sheffield (Sheffield, UK)

STATIC STRENGTH PROPERTIES OF AN ALUMINUM ALLOY HONEYCOMB SANDWICH PANEL AND STRENGTH RELIABILITY EVALUATION OF AN ACTUAL CAR BODY STRUCTURE

S. Okuno, Oshima National College of Maritime Technology (Yamaguchi, JAPAN); M. Takeichi, M. Okazaki, and H. Tsuruda, Hitachi, Ltd. (Yamaguchi, JAPAN); and S. Kawano, Yamaguchi University (Ube, JAPAN)

MULTI-AXIAL FATIGUE LIFE PREDICTION UNDER VARIABLE AMPLITUDE NON-PROPORTIONAL LOADING (presentation only)

R. Mohan, Rouge Steel (Dearborn, MI USA)

SESSION 1.4D (DA-03B)

Monday, August 5, 4:00 PM – 5:45 PM, Cypress

DESIGN AND ANALYSIS OF PIPING COMPONENTS – II

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 440: Design and Analysis of Piping, Vessels, and Components - 2002

Developed by A. A. Dermenjian, Sargent & Lundy, LLC (Chicago, IL USA)

Chair R. Baliga, Advent Engineering Services (Camino Ramon, CA USA)

Vice Chair: W. Moussa, University of Alberta (Edmonton, AB CANADA)

TEMPERATURE ATTENUATION ALONG PIPE SUPPORT STANCHIONS

C. Basavaraju, R. C. Fox, Bechtel Corporation (Frederick, MD USA)

STRUCTURAL INTEGRITY OF PIPING SYSTEMS SUBJECT TO THERMAL STRATIFICATION

S. Chattopadhyay, American University in Cairo (Cairo, EGYPT)

DESIGN AND OPTIMIZATION OF GEOTHERMAL PIPELINE SUPPORTS

F. Jonsdottir, G. O. Agustsson, and M. T. Jonson, University of Iceland (Reykjavik, ICELAND)

MAXIMUM DYNAMIC PIPE STRESSES RESULTING FROM A WATER HAMMER INDUCED FLUID SHOCK WAVE—I. A FINITE ELEMENT SOLUTION

R. A. Leishear, Westinghouse Savannah River Corp. (Aiken, SC USA); and C. Rhodes, E. Young, and E. Alford, University of South Carolina (Columbia, SC USA)

INVESTIGATION OF TORSIONAL STRESS INTENSIFICATION FACTORS FOR BUTT WELDS IN STRAIGHT PIPE

E. A. Wais, Wais and Associates (Atlanta, GA USA); E. C. Rodabaugh, Consultant (Dublin, OH USA); and R. Carter, Electric Power Research Institute (Charlotte, NC USA)

SESSION 1.4E (MF-01C)

Monday, August 5, 4:00 PM – 5:45 PM, Prince of Wales

RESIDUAL STRESS, FRACTURE, AND FATIGUE OF WELDED STRUCTURES – III

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 434: Computational Weld Mechanics, Constraint, and Weld Fracture

Developed by: E. Keim, Framatome ANP GmbH Technical Center, (Erlangen, GERMANY), P. Dong, Battelle (Columbus, OH USA), and F. W. Brust, Battelle (Columbus, OH USA)

Chair: F. W. Brust, Battelle (Columbus, OH USA)

Vice Chair: Y. P. Yang, Battelle (Columbus, OH USA)

MATHEMATICAL EXPRESSION FOR THE PREDICTION OF PENETRATION IN V-GROOVE JOINTS FOR ALUMINUM 6063-T5

M. C. Payares, P. Munoz-Escalona, and M. D. Almenara, Universidad Simon Bolivar, (Caracas, VENEZUELA)

MEASUREMENT OF RESIDUAL STRESSES IN STEEL NOZZLE INTERSECTIONS CONTAINING REPAIR WELDS

A. Thomas and R. Ehrlich, Siempelkamp Pruf-u (Dresden, GERMANY); E. Kingston and D. J. Smith, University of Bristol (Bristol, UK)

EFFECT OF WELD INDUCED RESIDUAL STRESSES ON PIPE CRACK OPENING AREAS AND IMPLICATIONS ON LEAK-BEFORE-BREAK CONSIDERATIONS

L. F. Fredette and F. W. Brust, Battelle Memorial institute, (Columbus, OH USA)

IMPROVED DATA REDUCTION FOR THE DEEP HOLE METHOD OF RESIDUAL STRESS MEASUREMENT

A. T. DeWald and M. R. Hill, University of California (Davis, CA USA)

SESSION 1.4F (DA-07/M&F-11)

Monday, August 5, 4:00 PM – 5:45 PM, Plaza C

FRACTURE MECHANICS AND MATERIALS

Sponsored by: The Design & Analysis Committee and The Materials & Fabrication Committee

Published in PVP Vol. 443-1: Fatigue, Fracture and Damage Analysis – 2002, Volume 1

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE), S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE), K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA), and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: K. K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA)

Vice Chair: D. Siegele, IWM Freiburg (Freiburg, GERMANY)

APPLICATION OF MASTER CURVE APPROACH TO WWER-1000 RPV MATERIALS

M. Brumovsky and A. Ballesteros, Nuclear Research Institute (Rez, CZECH REPUBLIC)

AN INDENTATION THEORY BASED ON FEA SOLUTIONS FOR MATERIAL PROPERTY EVALUATION

H. Lee and J.H. Lee, Sogang University (Seoul, KOREA)

DUCTILE FRACTURE OF FERRITIC STEELS: CORRELATION OF K_{IIC}/K_{IC} RATIO AND STRAIN HARDENING CURVE

J. Novak, Nuclear Research Institute (Rez, CZECH REPUBLIC)

THE FLUENCE PREDICTION OF REACTOR PRESSURE VESSEL MATERIALS DUE TO NEUTRON IRRADIATION BY ULTRASONIC CHARACTERISTIC ANALYSIS

S. L. Lee, B. C. Kim, and K. O. Chang, Korea Atomic Energy Research Institute (Taejon, KOREA)

SESSION 1.4G (FSI-04)

Monday, August 5, 4:00 PM – 5:45 PM, Plaza B

ADVANCES IN TURBULENCE FLOW

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-2: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 2

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN), M. Souli, Université de Lille (Villeneuve d'Ascq, FRANCE), A. Holdo, University of Hertfordshire (Hertfordshire, UK), Michael Fischer, Technical University of Munich (Garching, GERMANY), and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: S. Itoh, Kumamoto University (Kumamoto, JAPAN)

Vice Chair: M. Souli, Université de Lille (Ascq, FRANCE)

TURBULENCE MODELING FOR INDUSTRIAL APPLICATIONS (KEYNOTE)

A. Holdo, University of Hertfordshire (Hertfordshire, UK)

BENCHMARKING CURRENT WALL FUNCTION FOR INDUSTRIAL APPLICATIONS

S. I. Eggleton, S. J. Wakes, and A. E. Holdo, University of Hertfordshire (Hertfordshire, UK)

NUMERICAL PREDICTION OF FLOW OVER HILL BY LINEAR AND NONLINEAR k - ϵ MODELS

Y. F. Lun, A. Mochida, H. Yoshino, and S. Murakami, Tohoku University (Sendai, JAPAN)

SESSION 1.4H (CS-02C/MF-03C)

Monday, August 5, 4:00 PM – 5:45 PM, Plaza A

ENVIRONMENTAL FATIGUE ISSUES IN THE ASME B&PV CODE – III

Sponsored by: The Materials & Fabrication Committee and The Codes & Standards Committee

Published in PVP Vol 439: Pressure Vessels & Piping, Codes and Standards – 2002

Developed by: D. P. Jones, Bechtel Bettis, Inc. (Pittsburgh, PA USA), M. Higuchi, IHI (Yokohama, JAPAN), H. Mehta, GE (San Jose, CA USA), and S. Yukawa, Consultant (Colorado Springs, CO USA)

Chair: D. P. Jones, Bechtel Bettis, Inc. (Pittsburgh, PA USA)

Vice Chair: M. Higuchi, IHI (Yokohama, JAPAN)

FATIGUE OF PIPING AND VESSEL WELDS: ASME'S FSRF RULES REVISTED

P. Dong, Battelle, (Columbus, OH USA), D. Osage, The Equity Engineering Group (Shaker Heights, OH USA), and M. Prager, Pressure Vessel Research Council (NY, NY USA)

PROBABILISTIC APPROACH FOR CREEP-FATIGUE EVALUATION IN LIQUID METAL COOLED FAST REACTOR

N. Kawasaki and T. Asayama, Japan Nuclear Cycle Development Institute (JAPAN), Y. Chuman, Mitsubishi Heavy Industries, Ltd. (JAPAN), Y. Tanaka, Japan Atomic Power Company (JAPAN)

DEVELOPMENT OF FATIGUE STRENGTH DATABASE FOR LWR WATER ENVIRONMENT

A. Sayano, JAPEIC (Hitachinaka, JAPAN), M. Higuchi, IHI (Yokohama, JAPAN), A. Hirano, Hitachi Ltd. (Hitachi, JAPAN), K. Tsutsumi, MHI (Takasago, JAPAN), Y. Yamamoto, JAPEIC (Hitachinaka, JAPAN), K. Sakaguchi, JAPEIC (Hitachinaka, JAPAN), and K. Iida, JAPEIC (Tokyo, JAPAN)

FLOW ACCELERATED CORROSION BEHAVIOR OF CANDU FEEDER PIPING CHARACTERIZED BY HIGH TEMPERATURE ROTATING CYLINDER ELECTRODE

Jun-Hwan Kim and In-Sup Kim, Korea Electric Power Research Institute (Taejon, KOREA); and Han-Sub Chung, Korea Advanced Institute of Science and Technology (Taejon, KOREA)

SESSION 1.4J (OAC-03C)

Monday, August 5, 4:00 PM – 5:45 PM, Georgia B

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS – III: CHEMISTRY & CORROSION ISSUES (1)

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Volume 449: Transportation, Storage, and Disposal of Radioactive Materials – 2002

Developed by: R. S. Hafner and J. C. Farmer, Lawrence Livermore National Laboratory (Livermore, CA USA)

Chair: M. R. Feldman, BWXT Y-12, LLC (Oak Ridge, TN USA)

Vice Chair: J. G. Field, Packaging Technology, Inc. (Tacoma, WA USA)

ELECTROCHEMICAL BEHAVIOR OF ALLOY 22 IN 5M CaCl₂

G. O. Ilevbare, Lawrence Livermore National Laboratory (Livermore, CA USA)

BIOCHEMICAL EFFECTS ON THE GROUND WATER COMPOSITION (PRESENTATION ONLY)

J. M. Horn, A. C. Carrillo, V. L. Dias, and S. I. Martin, Lawrence Livermore National Laboratory (Livermore, CA USA)

PASSIVE CORROSION BEHAVIOR OF ALLOY 22 IN MULTI-IONIC AQUEOUS ENVIRONMENTS

T. Lian, J. C. Estill, G. A. Hust, D. V. Fix, and R. B. Rebak, Lawrence Livermore National Laboratory (Livermore, CA USA)

TEST RESULTS USING A BELL JAR TO MEASURE CONTAINMENT VESSEL PRESSURIZATION

S. J. Hensel and G. C. Rodrigues, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 1.4K (CT-03C)

August 5, 4:00P – 5:45 PM, Georgia A

ANALYSIS OF BOLTED JOINTS – III

Sponsored by: The Computer Technology Committee and The PVRC Bolted Flanged Connections Committee

Published in PVP Vol. 433: Analysis of Bolted Joints – 2002

Developed by: K. H. Hsu, BWX Technologies, (Barberton, OH USA), T. Sawa, Yamanashi University (Yamanashi, JAPAN), and H. Kockelmann, University of Stuttgart (Stuttgart, GERMANY)

Chair: H. Kockelmann, University of Stuttgart (Stuttgart, GERMANY)

Vice Chair: K.H. Hsu, BWX Technologies (Barberton, OH USA)

FEM STRESS ANALYSIS AND THE SEALING PERFORMANCE IN PIPE FLANGE CONNECTIONS WITH GASKETS SUBJECTED TO INTERNAL PRESSURE AND EXTERNAL BENDING MOMENT

T. Sawa and M. Matsumoto, Yamanashi University (Yamanashi, JAPAN)

DESIGN OF COMPACT FLANGE JOINTS

F. Kirkemo, SeaFlex a.s. (Asker, NORWAY)

COMPACT FLANGED CONNECTIONS FOR HIGH TEMPERATURE APPLICATIONS

S. Lassesen and F. Woll, Steelproducts Offshore (Drammen, NORWAY)

STRESS ANALYSIS AND THE SEALING PERFORMANCE EVALUATION OF PIPE FLANGE CONNECTIONS WITH SPIRAL WOUND GASKETS UNDER INTERNAL PRESSURE

T. Sawa and N. Ogata, Yamanashi University (Yamanashi, JAPAN)

MECHANICAL ANALYSIS OF GLASS REINFORCED PLASTICS BOLTED FLANGED CONNECTION WITH ELASTOMERIC SEALS

H. Mallard, C. Landry, and Y. Birembaut, CETIM (Nantes, FRANCE)

SESSION 1.4L (FSI-09)

Monday, August 5, 4:00 PM – 5:45 PM, Oxford

FLUID-STRUCTURE INTERACTION AND SLOSHING

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 435: Thermal-Hydraulic Problems, Sloshing Phenomena, and Extreme Loads on Structures

Developed by: D. Brochard, Institute for Protection and Nuclear Safety, Fontenay Aux roses (Cedex, FRANCE), T. Chiba, Japan Power Engineering and Inspection Corporation, (Tokyo, JAPAN), and D. C. Ma, Argonne National Laboratory (Argonne, IL, USA)

Chair: D. Brochard, Institute for Protection and Nuclear Safety (Cedex, FRANCE)

Vice Chair: T. Chiba, Japan Power Engineering and Inspection Corporation (Tokyo, JAPAN)

ANALYTICAL EVALUATION OF A SEISMIC CAPABILITY OF ACTUAL LNG TANK UNDER SEVERE SEISMIC EXCITATION

H. Tazuke and S. Yamaguchi, Ishikawajima-Harima Heavy Industries (Tokyo, JAPAN); H. Akiyama, Nihon University (Tokyo, JAPAN);

T. Sakurai, Ishikawajima-Harima Heavy Industries (Tokyo, JAPAN); and T. Chiba, Japan Power Engineering and Inspection Corporation (Tokyo, JAPAN)

MODELISATION AND SIMULATION OF THE 3D HYDRODYNAMIC IMPACT PROBLEM

M. Tourbier, B. Donguy, B. Peseux, and L. Gornet, Ecole Centrale of Nantes (Nantes Cedex, FRANCE)

AN EXPERIMENTAL STUDY OF EFB BEHAVIOR OF LARGE MODEL TANK

H. Tazuke and S. Yamaguchi, Ishikawajima-Harima Heavy Industries (Tokyo, JAPAN); H. Akiyama, Nihon University (Tokyo, JAPAN); T. Sakurai, Ishikawajima-Harima Heavy Industries (Tokyo, JAPAN); and T. Chiba, Japan Power Engineering and Inspection Corporation (Tokyo, JAPAN)

STOCHASTIC STABILITY OF SOME HAMILTONIAN SYSTEMS

F. Jedrzejewski, CEA-CE Saclay (Gif-sur-Yvette Cedex, FRANCE)

AN EXPERIMENTAL STUDY OF SLIP BEHAVIOR OF LARGE SCALE MODEL TANK

H. Tazuke and S. Yamaguchi, Ishikawajima-Harima Heavy Industries (Tokyo, JAPAN); H. Akiyama, Nihon University (Tokyo, JAPAN); T. Sakurai, Ishikawajima-Harima Heavy Industries (Tokyo, JAPAN); and T. Chiba, Japan Power Engineering and Inspection Corporation (Tokyo, JAPAN)

SESSION 1.4M (OAC-01C)

Monday, August 5, 4:00 PM – 5:45 PM, Regency E

COMPONENT ANALYSIS AND EVALUATION – PUMPS, VALVES, TANKS, COMPRESSORS, AND HEAT EXCHANGERS – III

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 447: Piping and Component Analysis and Diagnosis

Developed by: B. Al-Bedoor, King Fahd University of Petroleum & Minerals (Dhahran, SAUDI ARABIA)

Chair: B. Al-Bedoor, King Fahd University of Petroleum & Minerals (Dhahran, SAUDI ARABIA)

Vice Chair: L. I. Ezekoye, Westinghouse Electric Co. (Pittsburgh, PA USA)

DISCUSSION OF THE AVAILABLE METHODS FOR BLADE VIBRATION MEASUREMENT

B. O. Al-Bedoor, King Fahd University of Petroleum & Minerals, (Dhahran, SAUDI ARABIA)

AVOIDING FAILURE IN A HOT ISOSTATIC PRESS

D. Taylor, Hydro-Pac, Inc. (Fairview, PA USA)

DETECTION OF PROPAGATING CRACKS IN ROTORS USING NEURAL NETWORKS

S. A. Adewusi and B. O. Al-Bedoor, King Fahd University of Petroleum & Minerals, (Dhahran, SAUDI ARABIA)

SESSION 1.4N (CS-05)

Monday, August 5, 4:00 PM – 5:45 PM, Regency B

PROBABILISTIC SAFETY ASSESSMENT STANDARDS FOR APPLICATION TO NUCLEAR POWER PLANTS

Sponsored by: The Codes & Standards Committee

Published in PVP Vol. 439: Pressure Vessels & Piping Codes and Standards – 2002

Developed by: R. E. Schneider, Westinghouse (Windsor, CT USA)

Chair: R. E. Schneider, Westinghouse (Windsor, CT USA)

Vice Chair: B. T. Lubin, Consultant (Hartford, CT USA)

OVERVIEW OF THE ASME STANDARD FOR PSA APPLICATIONS

R. E. Schneider, Westinghouse (Windsor, CT)

THE NEXUS BETWEEN THE ASME STANDARD AND INDUSTRY PEER REVIEW PROCESS

B. Bradley, NEI (Washington, DC USA)

THE ROLE OF THE ASME STANDARD IN THE NUCLEAR REGULATORY PROCESS

M. Drouin, U.S Nuclear Regulatory Commission (Rockville, MD USA)

PSA CERTIFICATION: THE EXPERIENCE OF THE CE OWNER'S GROUP

D. Finnicum, Westinghouse (Windsor, CT USA)

SESSION 1.40 (FSI-11C)

Monday, August 5, 4:00 PM – 5:45 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – III: FLOW IN INTERACTION WITH ELECTROMAGNETIC FIELDS

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications - 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS), V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA), and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: A. Singhal, CFDRC (Huntsville, AL USA)

Vice Chair: K. Takita, Tohoku University (Sendai, JAPAN)

COMPUTATIONAL ELECTROMAGNETIC NONDESTRUCTIVE EVALUATION AND INVERSE ANALYSIS IN DEFECTS CHARACTERIZATION (Keynote)

T. Takagi, Tohoku University (Sendai, JAPAN)

A THREE DIMENSIONAL SIMULATION MODEL FOR LIQUID PHASE ELECTROEPITAXY UNDER MAGNETIC FIELD

Y. C. Liu, H. Sheibani, S. Sakai, and S. Dost, University of Victoria (Victoria, BC CANADA); and Y. Okano, Shizuoka University (Hamamatsu, JAPAN)

THREE- DIMENSIONAL NUMERICAL ANALYSES ON LIQUID-METAL MAGNETOHYDRODYNAMIC FLOW IN MAGNETIC-FIELD INLET-REGION

H. Kumamaru, Himeji Institute of Technology (Hyogo, JAPAN)

NUMERICAL ANALYSIS OF AIR CONVECTION IN A VERTICAL CYLINDRICAL CONTAINER WITH AND WITHOUT A GRAVITATIONAL FIELD UNDER A GRADIENT OF A MAGNETIC FIELD

M. Akamatsu, M. Higano, and Y. Takahashi, Akita Prefectural University (Akita, JAPAN) and H. Ozoe, Kyushu University (Fukuoka, JAPAN)

TUESDAY, AUGUST 6

Block 2.1: Tuesday, August 6 (8:30 AM – 10:15 AM)

SESSION 2.1P

Tuesday, August 6, 8:30 AM – 10:15 AM, Regency South Foyer

SOFTWARE DEMONSTRATION FORUM – I

Developed by: J. F. Cory, Jr., EDS PLM Solutions (Milford, OH USA)

Participants:

ABZ, Inc, www.abzinc.com

Advanced Technology Corporation, www.atc-ssm.com

AEA Technology Engineering Software, www.cfx.aeat.com

Algor Inc., www.algor.com

ATDAS

CC Technologies, www.cctlabs.com

CFD Research Corporation, www.cfdrc.com

COADE, www.coade.com

Codeware, www.codeware.com

Computer Engineering, www.computereng.com

Continental Imaging Products, www.continentalimaging.com

Nandiroyce International, www.nandiroyce.com

Rebis, www.rebis.com

SDS Inc., www.sds3dscan.com

Sloan Technologies Inc., www.sloaninc.com

Structural Reliability Technology, www.srt-boulder.com

SESSION 2.1A (TUT-01A)

Tuesday, August 6, 8:15 AM - 10:15 AM, Regency F

TUTORIAL 1: THE PRACTICE AND PITFALLS OF LINEAR FINITE ELEMENT ANALYSIS – I

Presented by: D. K. Williams, Sharoden Engineering Consultants (Matthews, NC USA); M. Porter, Dynamic Analysis, (Lawrence, KS USA); and D. H. Martens, Black & Veatch Pritchard, Inc. (Overland Park, KS USA)

SESSION 2.1B (OAC-06C/SE-04C)

Tuesday, August 6, 8:30 AM – 10:15 AM, Grouse

INTERNATIONAL SYMPOSIUM ON SEISMIC, SHOCK, AND VIBRATION ISOLATION – III

Sponsored by: The Operations, Applications, and Components Committee and The Seismic Engineering Committee

Published in PVP Vol. 445-2: Seismic Engineering-2002, Volume 2

Developed by: H. H. Chung, MITEC International (Naperville, IL USA), A. Martelli, ENEA, (Bologna, ITALY), and K. Ishida, CRIEPI (Chiba, JAPAN)

Chair: M. Forni, ENEA (Bologna, ITALY)

Vice Chair: Tae-Ryong Kim, KEPRI (Taejeon, KOREA)

DYNAMIC CHARACTERISTICS OF A HYDRAULIC DAMPER

V. Verma, A. K. Ghosh, and H. S. Kushwaha, Bhabha Atomic Research Center (Mumbai, INDIA)

ANALYSES OF SEISMIC ISOLATION SYSTEMS IN KYRGYZSTAN

T. Ormonbekov, State Agency on Science and Intellectual Property Under Government of Kyrgyz Republic (Bishkek, KYRGYZ) and U. Begaliev, Kyrgyz, Scientific-Research and Design Institute of Construction (Bishkek, KYRGYZ)

SESSION 2.1C (DA-08A)

Tuesday, August 6, 8:30 AM – 10:15 AM, Stanley

FRACTURE MECHANICS: EVALUATION OF J AND K – I

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-1: Fatigue, Fracture and Damage Analysis – 2002, Volume 1

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE), S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE), K. Yoon, Framatome-ANP Inc. (Lynchburg, VA, USA), and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: S. Chapuliot, CEA-DMT (Gif sur Yvette, FRANCE)

Vice Chair: F. Otremba, MPA Stuttgart (Stuttgart, GERMANY)

J EVALUATION BY ANALYTICAL METHOD FOR CRACKED ELBOWS UNDER MECHANICAL LOADING

M. H. Lacire, S. Marie, and S. Chapuliot, CEA-DMT (Gif sur Yvette, FRANCE)

INFLUENCE COEFFICIENTS TO CALCULATE STRESS INTENSITY FACTORS FOR AN ELLIPTICAL CRACK IN A PLATE

P. Le Delliou, B. Barthelet, EDF-DER (Moret/Loing, FRANCE)

STRESS INTENSITY FACTOR OF A CIRCUMFERENTIAL CRACK IN A THICK WALLED CYLINDER UNDER THERMAL STRIPPING

T. Meshii, K. Watanabe, Fukui University (Fukui, JAPAN)

SESSION 2.1D (DA-03C)

Tuesday, August 6, 8:30 AM – 10:15 AM, Cypress

DESIGN & ANALYSIS OF PIPING COMPONENTS - III

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 440: Design and Analysis of Piping, Vessels, and Components - 2002

Developed by: A. A. Dermenjian, Sargent & Lundy (Chicago, IL USA)

Chair: J. F. McCabe, Electric Boat Corporation (Groton, CT USA)

Vice Chair: C. Basavaraju, Bechtel Corp. (Frederick, MD USA)

APPLICATION OF CC N-597 FOR LOCAL THINNING ASSESSMENT FOR CLASS 1 PIPING

S. Iyer and R. Kumar, Atomic Energy of Canada Ltd. (Mississauga, ON CANADA)

FATIGUE LIFE PREDICTION FOR SHORT DENTS IN PETROLEUM PIPELINES

A. J. Rinehart and P. B. Keating, Texas A&M University (College Station, TX USA)

MAXIMUM DYNAMIC PIPE STRESSES RESULTING FROM A

WATER HAMMER INDUCED FLUID SHOCK WAVE—II A VIBRATION ANALYSIS

R. A. Leishear, Westinghouse Savannah River Corporation (Aiken, SC USA)

A DYNAMIC INVESTIGATION OF PIPING SYSTEMS WITH A BOLTED FLANGE

W. H. Semke, G.D. Bibel, S. Jerath, S.B. Gurav, and A.L. Webster, University of North Dakota (Grand Forks, ND USA)

SESSION 2.1E (MF-01D)

Tuesday, August 6, 8:30 AM – 10:15 AM, Prince of Wales

RESIDUAL STRESS, FRACTURE, AND FATIGUE OF WELDED STRUCTURES - IV

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 434: Computational Weld Mechanics, Constraint, and Weld Fracture

Developed by: E. Keim, Framatome ANP GmbH Technical Center, (Erlangen, GERMANY), P. Dong, Battelle (Columbus, OH USA), and F. W. Brust, Battelle (Columbus, OH USA)

Chair: M. C. Payares, Universidad Simon Bolivar (Caracas, VENEZUELA)

Vice Chair: E. Keim, Framatome ANP GmbH, (Erlangen GERMANY)

THREE-DIMENSIONAL ANALYSIS OF IN-PROCESS DISTORTION CONTROL IN FILLET WELDED JOINTS BY ADDITIONAL COOLING

M. Mochizuki, N.i Takahashi, and M. Toyoda, Osaka University (Osaka, JAPAN)

FATIGUE LIFE IMPROVEMENT OF T-FILLET WELD USING ROBOTIZED TIG TOE DRESSING

N. Chen, L. Chen, A. Vanli, and Z. Yang, Caterpillar, Inc, (Peoria, IL USA)

CONSISTENT TREATMENT OF WELD RESIDUAL STRESSES IN FRACTURE ASSESSMENT

P. Dong and J. K. Hong, Battelle Memorial institute, (Columbus, OH USA)

RESIDUAL STRESSES AND FATIGUE LIFE IMPROVEMENTS PRODUCED BY LASER PEENING

M. R. Hill and J. E. Rankin, University of California (Davis, CA USA); L. A. Hackel, Lawrence Livermore National Laboratory (Livermore, CA USA); and F. Harris, Metal Improvement Company Inc. (Rocklin, CA USA)

SESSION 2.1G (FSI-05)

Tuesday, August 6, 8:30 AM – 10:15 AM, Plaza B

ADVANCES IN FLOW-INDUCED VIBRATIONS

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-2: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 2

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN), M. Souli, Université de Lille LML (Ascq, FRANCE), A. Holdo, University of Hertfordshire (Hertfordshire, UK), M. Fischer, Technical University of Munich

(Garching, GERMANY), and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: E. Longatte, EDF R&D Division (Cedex, FRANCE)

Vice Chair: A. Holdo, University of Hertfordshire (Hertfordshire, UK)

IMPROVED SCREENING CRITERIA FOR THE PREDICTION OF WIND INDUCED VIBRATION OF TALL PROCESS VESSELS ARISING FROM RECENT FIELD EXPERIENCE

M. Findlay, ExxonMobil Chemical (Houston, TX USA)

CALCULATION OF INCOMPRESSIBLE FLOW AROUND A CIRCULAR CYLINDER

C. Reichel and K. Strohmeier, Technical University of Munich (Garching, GERMANY)

ADVANCED NUMERICAL TECHNIQUES IN MODERN AERO-ENGINE DESIGN

R. Walther, MTU Aero Engines (München, GERMANY)

THE DEVELOPMENT OF THE GENERATING DEVICE FOR SHOCK WAVE

H. Hamashima, S. Kugimiya, S. Nagano, and S. Itoh, Kumamoto University (Kumamoto, JAPAN)

DYNAMIC STABILITY ANALYSIS OF FLEXIBLE BELLOWS SUBJECTED TO PERIODIC INTERNAL FLUID PRESSURE EXCITATION

M. Watanabe, N. Kobayashi, and Y. Wada, Aoyanra Gakuin University (Tokyo, JAPAN)

SESSION 2.1H (MF-08A/CS-12A)

Tuesday, August 6, 8:30 AM – 10:15 AM, Plaza A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT - I

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 437: Service Experience and Failure Assessment Applications

Developed by: D. P. G. Lidbury, Serco Assurance (Warrington, Cheshire UK) and D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

Chair: D. P. G. Lidbury, Serco Assurance (Warrington, Cheshire, UK)

Vice Chair: K. Hasegawa, Hitachi, Ltd. (Ibraki-ken, JAPAN)

CRACK INITIATION BEHAVIOUR IN SMALL ROOT RADIUS Zr-2.5Nb PRESSURE TUBE SPECIMENS UNDER MONOTONIC AND CYCLIC LOADING CONDITIONS AT AMBIENT TEMPERATURE

E. T. C. Ho, Kinectrics, Inc. (Toronto, ON CANADA); R. Choubey, Atomic Energy of Canada, Ltd. (Chalk River, ON CANADA); G. K. Shek, Kinectrics, Inc. (Toronto, ON CANADA); S. Sagat, Atomic Energy of Canada, Ltd. (Chalk River, ON CANADA); and D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

A SIMPLIFIED METHOD FOR CALCULATING CRACK OPENING AREA

T. Smith, Manchester University (Manchester, UK)

THE EFFECT OF PLASTICITY ON PROCESS-ZONE PREDICTIONS OF DHC INITIATION AT A FLAW IN CANDU REACTOR Zr-Nb PRESSURE TUBES

D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA) and T. Smith, Manchester University (Manchester, UK)

SESSION 2.1J (OAC-03D)

Tuesday, August 6, 8:30 AM – 10:15 AM, Georgia B

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS – IV: STRUCTURAL ISSUES (2)

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Volume 449: Transportation, Storage, and Disposal of Radioactive Materials - 2002

Developed by: R. S. Hafner, Lawrence Livermore National Laboratory (Livermore, CA USA); S. J. Hensel and A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA); and M. E. Wangler, U.S. Department of Energy (Washington, DC USA)

Chair: W. H. Lake Jr., U.S. Department of Energy (Washington, DC USA)

Vice Chair: R. B. Rebak, Lawrence Livermore National Laboratory (Livermore, CA USA)

RESPONSE OF CONVENTIONAL RING CLOSURES OF DRUM TYPE PACKAGES TO REGULATORY DROP TESTS WITH APPLICATION TO THE 9974/9975 PACKAGE

P. S. Blanton and A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

PROPOSAL FOR QUALIFICATION OF GAS-GENERATING RADIOACTIVE PAYLOADS FOR TRANSPORTATION WITHIN A TYPE B PACKAGE

T. K. Houghtaling, Westinghouse Savannah River Company (Aiken, SC USA)

RESULTS OF A SHALLOW-ANGLE DROP TEST FOR A RELATIVELY HEAVY DRUM-TYPE PACKAGING (Presentation Only)

G. C. Mok, L. B. Hagler, and R. S. Hafner, Lawrence Livermore National Laboratory (Livermore, CA USA)

STRAIN GAGE TEST RESULTS OF BAND-TYPE LOCKING RINGS FOR A TYPICAL DRUM TYPE RADIOACTIVE MATERIAL PACKAGE

C. A. McKeel and A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 2.1K (CT-03D)

Tuesday, August 6, 8:30 AM – 10:15 AM, Georgia A

ANALYSIS OF BOLTED JOINTS – IV

Sponsored by: The Computer Technology Committee

Published in PVP Vol. 433: Analysis of Bolted Joints - 2002

Developed by: K. H. Hsu, BWX Technologies (Barberton, OH USA); T. Sawa, Yamanashi University (Yamanashi, JAPAN); and H. Kockelmann, University of Stuttgart (Stuttgart, GERMANY)

Chair: J. R. Payne, JPAC, Inc. (Long Valley, NJ USA)

Vice-Chair: T. Kobayashi, Numazu College of Technology (Numazu, JAPAN)

FINITE ELEMENT SIMULATION OF THE DISASSEMBLY PROCESS OF PIPE FLANGE CONNECTIONS

T. Fukuoka and T. Takaki, Kobe University of Mercantile Marine (Kobe, JAPAN)

SYSTEMATICAL FE ANALYSIS OF BOLT ASSEMBLY PROCESS OF PIPE FLANGE CONNECTIONS

T. Takaki and T. Fukuoka, Kobe University of Mercantile Marine (Kobe, JAPAN)

THE EFFECT OF STEADY STATE THERMAL LOADING ON THE DEFLECTIONS OF A FLANGED JOINT WITH A COVER PLATE

H. A. Bouzid and A. Nechache, École de Technologie Supérieure (Montréal, QC CANADA); and W. Brown, École Polytechnique of Montreal (Montréal, QC CANADA)

BOLT PRELOAD CONTROL FOR BOLTED FLANGE JOINT

H. Tsuji and M. Nakano, Tokyo Denki University (Saitama, JAPAN)

SESSION 2.1L (SE-03A)

Tuesday, August 6, 8:30 AM – 10:15 AM, Oxford

LARGE SCALE ONGOING R&D PROJECTS ON THE INNOVATIVE TECHNIQUES FOR SEISMIC ISOLATION AND VIBRATION CONTROL OF STRUCTURES – I

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-2: Seismic Engineering - 2002, Volume 2

Developed by: S. Fujita, Tokyo Denki University (Tokyo, JAPAN) and K. Ishida, CRIEPI (Chiba, JAPAN)

Chair: N. Shimizu, Iwaki Meisei University, (Fukushima, JAPAN)

Vice-Chair: S. Fujita, Tokyo Denki University (Tokyo, JAPAN)

A LARGE SCALE ONGOING R&D PROJECT ON THREE-DIMENSIONAL SEISMIC ISOLATION FOR FBR IN JAPAN

A. Kato and K. Umeki, Japan Atomic Power Company (Tokyo, JAPAN); M. Morishita, Japan Nuclear Cycle Development Institute (Ibaraki, JAPAN); T. Fujita, University of Tokyo (Tokyo, JAPAN); and S. Midorikawa, Tokyo Institute of Technology (Yokohama, JAPAN)

FEASIBILITY TESTS ON A THREE-DIMENSIONAL BASE ISOLATION SYSTEM INCORPORATING HYDRAULIC MECHANISM

A. Kashiwazaki, T. Shimada, and T. Fujiwaka, Ishikawajima-Harima Heavy Industries Co. (Yokohama, JAPAN); and K. Umeki, Japan Atomic Power Company (Tokyo, JAPAN)

DEVELOPMENT OF CABLE REINFORCED 3-DIMENSIONAL BASE ISOLATION AIR SPRING

M. Kageyama, T. Iba, T. Somaki, and H. Hino, Obayashi Corporation (Tokyo, JAPAN); and K. Umeki, Japan Atomic Power Company (Tokyo, JAPAN)

DEVELOPMENT OF DOUBLE METAL BELLOWS AIR PRESSURE SPRING WITH LEAD RUBBER BEARING TYPE 3-DIMENSIONAL SEISMIC ISOLATOR

K. Nakamura, S. Ogiso, and M. Suzuki, Kawasaki Heavy Industries (Tokyo, JAPAN); and K. Umeki, Japan Atomic Power Company (Tokyo, JAPAN)

SESSION 2.1M (OAC-05A)

Tuesday, August 6, 8:30 AM – 10:15 AM, Regency E

AGING MANAGEMENT AND LICENSE RENEWAL – I

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 444: Selected Topics on Aging Management, Reliability, Safety, and License Renewal

Developed by: V. N. Shah, Argonne National Laboratory (Argonne, IL USA), M. H. Sanwarwalla, Sargent & Lundy LLC, (Chicago, IL USA), and G. Bezdikian, EDF Pole Industrie (Saint Denis, FRANCE)

Chair: B. Elliot, U.S. NRC (Washington, DC USA)

Vice Chair: M. Brumovsky, Nuclear Research Institute Rez plc (Rez, CZECH REPUBLIC)

REACTOR PRESSURE VESSEL LIFE MANAGEMENT AT FRENCH PWR PLANTS

A. Mermillod, Electricité de France (Marseille, FRANCE); G. Bezdikian, Electricité de France, (Saint Denis, FRANCE); and S. Rostain, Electricité de France (Marseille, FRANCE)

DEVELOPMENT OF EVALUATION METHOD ON INTEGRITY OF RPV AT THE UPPER SHELF REGION

K. Sakamoto and S. Hatano, Japan Power Engineering and Inspection Corp. (Chiba, JAPAN)

TEN YEARS EXPERIENCE ON INCONEL ALLOYS SINCE THE BUGEY LEAK IN 1991

F. Champigny and C. Pages, Electricité de France (Saint Denis, FRANCE); and C. Amzallag and F. Billy, Electricité de France (Moret sur Loing, FRANCE)

SESSION 2.1N (FSI-10A)

Tuesday, August 6, 8:30 AM – 10:15 AM, Regency B

STRUCTURES UNDER EXTREME LOADING CONDITIONS – I: BLAST AND IMPACT LOADING OF STRUCTURES

Sponsored by: The Fluid-Structures Interaction Committee

Published in PVP Vol. 435: Thermal-Hydraulic Problems, Sloshing Phenomena, and Extreme Loads on Structures

Developed by: S. E. Jones, University of Alabama (Tuscaloosa, AL USA), H. S. Levine, Weidlinger Associates, Inc. (Los Altos, CA USA), and D. M. Jerome, U. S. Air Force (Eglin AFB, FL USA)

Chair: S. E. Jones, University of Alabama (Tuscaloosa, AL USA)

Vice Chair: H. S. Levine, Weidlinger Associates, Inc. (Los Altos, CA USA)

IMPACT OF AIRCRAFT ENGINES INTO REINFORCED STRUCTURES

D. Lawver, D. Tennant, J. Mould, Jr., and H. Levine, Weidlinger Associates, Inc. (Los Altos, CA USA)

ANALYSIS OF DYNAMIC LOADING OF A SIMPLE STRUCTURE TO A BLAST WAVE

V. Berg, D. Preece, V. Saul, and J. Stoffleth, Sandia National Laboratories (Albuquerque, NM USA)

CHIMNEY WALLS BEHAVIOR SUBMITTED TO AN INTERNAL EXPLOSION

B. Autrusson and G. Milcent, Institut de Radioprotection et Sureté Nucleaire, Cedex and Engineering Systems International (Rungis, FRANCE)

AN ESTIMATE FOR MASS LOSS FROM HIGH VELOCITY STEEL PENETRATORS

S. E. Jones, University of Alabama (Tuscaloosa, AL USA); O. A. Toness, J. C. Foster, Jr., and R. J. DeAngelis, Air Force Research Laboratory (Eglin AFB, FL USA); and W. K. Rule, SUNY-Oswego (Oswego, NY USA)

SESSION 2.10 (FSI-11D)

Tuesday, August 6, 8:30 AM – 10:15 AM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – IV: REACTING AND COMBUSTING FLOWS (1)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications - 2002

Developed by: V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); S. Kawano, Tohoku University (Sendai, JAPAN); and C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS)

Chair: J.-Y. Jang, National Cheng-Kung University (Tainan, TAIWAN)

Vice-Chair: V. V. Kudriavtsev, CFDC (Toronto, ON CANADA)

MULTI-SCALE AND MULTI-HIERARCHY MODELLING IN ELECTRONIC MATERIALS PROCESSING (KEYNOTE)

M. Masi, C. Cavalotti, G. Valente, and M. di Stanislao, Politecnico di Milano (Milano, ITALY)

SIMULATION OF SiO₂ DEPOSITION IN A VERTICAL 300 MM LPCVD FURNACE

G. J. Schoof, C. R. Kleijn, and H. E. A. Van den Akker, Delft University of Technology (Delft, NETHERLANDS) and T. G. M. Oosterlaken, H. J. C. M. Terhorst, and F. Huussen, ASM International (Bilthoven, NETHERLANDS)

A NEWTON-KRYLOV BASED SOLVER FOR MODELING FINITE RATE CHEMISTRY

D. Wang, M. Bockelie, M. Cremer, and J.Y. Chen, Reaction Engineering (Salt Lake City, UT USA) and UC at Berkeley (Berkeley, CA USA)

NUMERICAL MODELING OF COMBUSTION PROCESSES AND POLLUTANTS FORMATION IN DIRECT INJECTION DIESEL ENGINE

Hoo-Joong Kim, Nam-Il Heo, and Yong-Mo Kim, Hanyang University (Seoul, KOREA); and Sung-Mo Kang and Jae-Hyun Ahn, Cleancom Inc. (Seoul, KOREA)

Block 2.2: Tuesday, August 6 (10:30 AM – 12:15 PM)

SESSION 2.2P

Tuesday, August 6, 10:30 AM - 12:15 PM, Regency South Foyer

SOFTWARE DEMONSTRATION FORUM – II

Developed by: J. F. Cory, Jr., EDS PLM Solutions (Milford, OH USA)

Participants:

ABZ, Inc, www.abzinc.com
Advanced Technology Corporation, www.atc-ssm.com
AEA Technology Engineering Software, www.cfx.aeat.com
Algor Inc., www.algor.com
ATDAS
CC Technologies, www.cctlabs.com
CFD Research Corporation, www.cfdrc.com
COADE, www.coade.com
Codeware, www.codeware.com
Computer Engineering, www.computereng.com
Continental Imaging Products, www.continentalimaging.com
Nandiroyce International, www.nandiroyce.com
Rebis, www.rebis.com
SDS Inc., www.sds3dscan.com
Sloan Technologies Inc., www.sloaninc.com
Structural Reliability Technology, www.srt-boulder.com

SESSION 2.2A (TUT-01B)

Tuesday, August 6, 10:30 AM – 12:15 PM, Regency F

TUTORIAL 1: THE PRACTICE AND PIT FALLS OF LINEAR FINITE ELEMENT ANALYSIS – II

Presented by: D. K. Williams, Sharoden Engineering Consultants (Matthews, NC USA); M. Porter, Dynamic Analysis (Lawrence, KS USA); and D. H. Martens, Black & Veatch Pritchard, Inc. (Overland Park, KS USA)

SESSION 2.2B (OAC-06D/ SE-04D)

Tuesday, August 6, 10:30 AM – 12:15 PM, Grouse

INTERNATIONAL SYMPOSIUM ON SEISMIC, SHOCK, AND VIBRATION ISOLATION – IV

Sponsored by: The Seismic Engineering Committee and The Operations, Applications, and Components Committee

Published in PVP Vol. 445-2: Seismic Engineering – 2002, Volume 2

Developed by: K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN), S. Fujita, Tokyo Denki University (Tokyo, JAPAN), and A. Martelli, ENEA (Bologna, ITALY)

Chair: L. Geraets, Tractebel Electricity & Gas International (Brussels, BELGIUM)

Vice-Chair: G. Roussel, AVN (Brussels, BELGIUM)

A STUDY OF AN ARM TYPE DAMPER CONSISTING OF TWO LINKS, TWO JOINTS AND A HINGE

T. Matsuoka, K. Omata, and Y. Okano, Meiji University (Kanagawa, JAPAN)

DEVELOPMENT OF DAMPER FOR VIBRATION CONTROL OF DETACHED HOUSES

I. Shimoda, K. Shiki, and G. Tanaka, OILES Corporation (JAPAN)

DESIGN AND ANALYSIS OF VISCOELASTIC SEISMIC DAMPERS

N. Shimizu, H. Nasuno, IwakiMeisei University (Fukushima, JAPAN); T. Yazaki, Chinontec Co. (Nagano, JAPAN); and K. Sunakoda, Sanwa TekkiCo. (Tokyo, JAPAN)

SEISMIC EVALUATION PROCEDURES OF SEISMICALLY ISOLATED BUILDINGS INTRODUCED TO THE BUILDING CODE OF JAPAN

M. Midorikawa and M. Liba, Building Research Institute (Ibaraki, JAPAN); N. Kani, Japan Society of Seismic Isolation (Tokyo, JAPAN); N. Koshika, Kajima Corporation (Tokyo, JAPAN); and T. Azuhata, Building Research Institute (Ibaraki, JAPAN)

SESSION 2.2C (DA-08B)

Tuesday, August 6, 10:30 AM – 12:45 PM, Stanley

FRACTURE MECHANICS: EVALUATION OF J AND K – II

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-1: Fatigue, Fracture and Damage Analysis – 2002, Volume 1

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE); S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE); K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA); and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: S. Chapuliot, CEA (Saclay, FRANCE)

Vice Chair: D. Moinereau, EDF-DER (Moret/Loing, FRANCE)

ANALYTICAL METHOD FOR THE CALCULATION OF J PARAMETER FOR ON CRACKED PIPES UNDER THERMAL LOADING AND MECHANICAL PLUS THERMAL LOADING

S. Chapuliot and M. Nedelec, CEA-DMT (Gif sur Yvette, FRANCE)

J-INTEGRAL AND CMOD AROUND THE AXIAL CRACK-FRONTS IN AN FULL-DIMENSIONAL ALL-STEEL CYLINDER UNDER ELASTO-PLASTIC DEFORMATION STATE

B. Su and G.S. Bhuyan, Beijing Institute of Aeronautic Materials (Beijing, CHINA)

RESIDUAL LIFETIME ASSESSMENT OF PIPELINES WITH MULTIPLE CRACKS INDUCED BY STRESS CORROSION CRACKING

M. Malyukova and S. A. Timashev, Russian Academy of Sciences (Yekaterinburg, RUSSIA)

SESSION 2.2D (DA-03D)

Tuesday, August 6, 10:30 AM – 12:45 PM, Cypress

DESIGN AND ANALYSIS OF PIPING COMPONENTS – IV

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 440: Design and Analysis of Piping, Vessels, and Components - 2002

Developed by: A. A. Dermenjian, Sargent & Lundy (Chicago, IL USA)

Chair: J. F. McCabe, Electric Boat Corporation (Groton, CT USA)

Vice Chair: C. Basavaraju, Bechtel Corporation (Frederick, MD USA)

MODELING UNDERGROUND PIPE WITH PIPE STRESS ANALYSIS PROGRAM

R. Robleto, KBR Piping Engineering (Houston, TX USA)

INVESTIGATION OF DESIGN METHOD FOR PIPING SYSTEMS TO PREVENT THE ACOUSTIC FATIGUE IN PROCESS PLANT

IHayashi, T. Hioki, and H. Isobe, Chiyoda Corporation (Yokohama, JAPAN)

MAXIMUM DYNAMIC PIPE STRESSES RESULTING FROM A WATER HAMMER INDUCED FLUID SHOCK WAVE—III. COMPLEX HYDRO-DYNAMIC PIPE STRESSES AND DYNAMIC STRESSES IN SIMPLE STRUCTURAL ELEMENTS

R. A. Leishear, Westinghouse Savannah River Corp. (Aiken, SC USA)

SIMULATION OF GRP PIPE MATERIALS AND INSTALLATION PARAMETERS EXPERIMENTALLY AND USING FEA

A. Ibrahim, R. El-Kousy, I. El-Mahlway, and N. Zafaraani, American University in Cairo (Cairo, EGYPT)

SESSION 2.2E (MF-01E)

Tuesday, August 6, 10:30 AM – 12:15 PM, Prince of Wales

RESIDUAL STRESS, FRACTURE, AND FATIGUE OF WELDED STRUCTURES – V

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 434: Computational Weld Mechanics, Constraint, and Weld Fracture

Developed by: E. Keim, Framatome ANP GmbH (Erlangen, GERMANY); P. Dong, Battelle (Columbus, OH USA); and F. W. Brust, Battelle (Columbus, OH USA)

Chair: M. Kocak, Institute of Materials Research (Geesthacht, GERMANY)

Vice Chair: P. Dong, Battelle (Columbus, OH USA)

EFFECT OF SMALL AMOUNT OF BISMUTH ON CORROSION RESISTIBILITY OF AUSTENITIC STAINLESS STEEL WELD METALS

Y. Hara and K. Shiga, Shinko Plantech Co., Ltd. (Yokohama, JAPAN)

PREDICTING HOW CRACK TIP RESIDUAL STRESSES INFLUENCE BRITTLE FRACTURE

S. Hadidimoud, A. M. Sisan, C. E. Truman, D. J. Smith, University of Bristol (Bristol, UK)

INFLUENCE OF THE CUTTING PARAMETERS ON THE CUTTING FORCES OF CARBON STEELS

Z. Cassier, P. Munoz-Escanola, and R. Sanchez, Universidad Simon Bolivar (Caracas, VENEZUELA)

GENERATION BEHAVIOR OF THERMAL AND RESIDUAL STRESSES DUE TO PHASE TRANSFORMATION DURING WELDING HEAT CYCLES

M. Mochizuki, S. Matsushima, and M. Toyoda, Osaka University (Osaka, JAPAN); Z. Zhang, SINTEF Materials Technology (Trondheim, NORWAY); O. Gundersen, Elkem ASA (Trondheim, NORWAY); and C. Thalow, Norwegian University of Science and Technology (Trondheim, NORWAY)

SESSION 2.2F (SPC-01)

Tuesday, August 6, 10:30 AM – 12:15 PM, Plaza C

10TH STUDENT PAPER COMPETITION – I

Sponsored by: The Senate of Past PVP Division Chairs

Published in PVP Vol. 447: Piping and Component Analysis and Diagnosis

Developed by: T. H. Liu, Westinghouse Electric Co. (Pittsburgh, PA USA); A. G. Ware (Idaho Falls, ID USA) and R. C. Gwaltney (Oak Ridge, TN USA)

Chair: T. H. Liu, Westinghouse Electric Co. (Pittsburgh, PA USA)

Vice Chair: A. G. Ware (Idaho Falls, ID USA)

Judges: T. H. Liu, Westinghouse Electric Co. (Pittsburgh, PA, USA); A.G. Ware (Idaho Falls, ID USA); and R. C. Gwaltney (Oak Ridge, TN USA)

ELASTIC SHAKEDOWN IN PRESSURE VESSEL COMPONENTS UNDER NON-PROPORTIONAL LOADING

M. Muscat and R. Hamilton, University of Strathclyde (Glasgow, Scotland, UK)

PLASTIC LIMIT SOLUTIONS FOR CRACKED PIPES BASED ON 3-D FINITE ELEMENT LIMIT ANALYSES

D. J. Shim and Y. J. Kim, Sungkyunkwan University (Suwon, KOREA)

CROSS PROPERTY CORRELATIONS FOR METALS SUBJECTED TO FATIGUE DAMAGE ACCUMULATION

M. C. Gogarapu and I. Sevostianov, New Mexico State University (Las Cruces, NM, USA)

APPLICATION OF SURFACE CRACK ANALYSIS SYSTEM "SCAN" TO CRACKS AT HOLE

N. Seki and M. Shiratori, Yokohama National University (Yokohama-shi, JAPAN); T. Miyoshi, Tokai University (Kanagawa, JAPAN); and Y. Yamashita and K. Sakano, Ishikawajima-Harima Heavy Industries (Yokohama, JAPAN)

SESSION 2.2G (DA-01)

Tuesday, August 6, 10:30 AM – 12:15 PM, Plaza B

INELASTIC AND NON-LINEAR ANALYSIS

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 442: Fitness for Service Evaluations and Non-Linear Analysis – 2002

Developed by: M. Y. A. Younan, American University in Cairo (Cairo, EGYPT)

Chair: A. R. S. Ponter, University of Leicester (Leicester, UK)

Vice Chair: R. Seshadri, Memorial University of Newfoundland (St. Johns, NF CANADA)

LIMIT ANALYSIS OF A PIPE SECTION WITH NON-UNIFORM WALL THINNING

K. K. Dwivedy, Dominion Generation (Glen Allen, VA USA)

LIMIT ANALYSIS FOR ANISOTROPIC SOLIDS USING VARIATIONAL PRINCIPLE AND REPEATED ELASTIC FINITE ELEMENT ANALYSES

R. Seshadri and L. Pan, Memorial University of Newfoundland (St. John's, NF CANADA)

NONLINEAR ANALYSIS OF ANCHORED TANKS SUBJECT TO EQUIVALENT SEISMIC LOADING

D. Redekop, P. Mirfakhraei, and T. Muhammed, University of Ottawa (Ottawa, ON CANADA)

3D FINITE ELEMENT MODELING OF THE WELDING PROCESS USING ELEMENT BIRTH AND ELEMENT MOVEMENT TECHNIQUES

F. Z. Fanous and M. Y. A. Younan, The American University in Cairo (Cairo, EGYPT) and A. S. Wifi, Cairo University (Cairo, EGYPT)

SESSION 2.2H (MF-08B/CS-12B)

Tuesday, August 6, 10:30 AM – 12:15 PM, Plaza A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT – II

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 437: Service Experience and Failure Assessment Applications

Developed by: D.P.G. Lidbury, Serco Assurance (Cheshire, UK) , D.A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

Chair: D.A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

Vice Chair: Ted Smith, Manchester University (Manchester, UK)

LBB ASSESSMENT ON FERRITE PIPING STRUCTURE OF LARGE-SCALE LMFR

Y. S. Yoo, Japan Nuclear Cycle Development Institute (Ibaraki, JAPAN)

THE DEVELOPMENT OF STRUCTURAL INTEGRITY PROCEDURES FOR THE SAFE WORKING OF CERAMICS INDUSTRY BALL MILLS WITH CAST IRON ENDS

I. Howard and A. Pugh, University of Sheffield (Sheffield, UK)

INSPECTION AND EVALUATION GUIDELINES FOR LIGHT WATER REACTOR CORE INTERNALS IN JAPAN

K. Takeuchi, Japan Atomic Power Company (Fukui, JAPAN); N. Iizuka, Tokyo Electric Power Company (Tokyo, JAPAN); M. Kameyama, Kansai Electric Power Company (Osaka, JAPAN); H. Fujimori, Hitachi, Ltd. (Ibaraki, JAPAN); Y. Matora, Toshiba Corporation (Yokohama, JAPAN); and K. Koyama, Mitsubishi Heavy Industries, Ltd. (Kobe, JAPAN)

DUCTILE FRACTURE BEHAVIOR OF CARBON STEEL CRACKED PIPES WITH MODERATE-TOUGHNESS

N. Miura and K. Kashima, CRIEPI (Tokyo, JAPAN); K. Miyazaki, M. Hisatsune, and K. Hasegawa, Hitachi, Ltd. (Ibaraki, JAPAN)

SESSION 2.2J (OAC-03E)

Tuesday, August 6, 10:30 AM – 12:15 PM, Georgia B

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS – V: CHEMISTRY & CORROSION ISSUES (2)

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Volume 449: Transportation, Storage, and Disposal of Radioactive Materials - 2002

Developed by: R. S. Hafner and J. C. Farmer, Lawrence Livermore National Laboratory (Livermore, CA USA)

Chair: G. J. Field, Packaging Technology, Inc. (Tacoma, WA USA)

Vice Chair: M. R. Feldman, BWXT Y-12, LLC (Oak Ridge, TN USA)

CHARACTERISTICS OF THE PASSIVE FILMS ON ALLOY 22 (Presentation Only)

C. A. Orme, A. W. Szmodis, K. L. Campos, T. Lian, T. S. Edgecumbe

Summers, and J. C. Estill, Lawrence Livermore National Laboratory (Livermore, CA USA)

CHARACTERIZATION OF THE RESISTANCE OF ALLOY 22 TO STRESS CORROSION CRACKING

K. J. King, J. C. Estill, and R. B. Rebak, Lawrence Livermore National Laboratory (Livermore, CA, USA)

MECHANICAL PROPERTIES AND CORROSION CHARACTERISTICS OF THERMALLY AGED ALLOY 22

R. B. Rebak, Lawrence Livermore National Laboratory (Livermore, CA USA) and P. Crook, Haynes International, Inc (Kokomo, IN USA)

STRUCTURAL EVALUATION OF 9975 SHIPPING PACKAGE PUNCTURED BY FORKLIFT TINE (Presentation Only)

T. T. Wu and P. S. Blanton, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 2.2K (CT-03E)

Tuesday, August 6, 10:30 AM – 12:15 PM, Georgia A

ANALYSIS OF BOLTED JOINTS – V

Sponsored by: The Computer Technology Committee and The PVRC Bolted Flanged Connections Committee

Published in PVP Vol. 433: Analysis of Bolted Joints - 2002

Developed by: K. H. Hsu, BWX Technologies (Barberton, OH USA); T. Sawa, Yamanashi University (Yamanashi, JAPAN); and H. Kockelmann, University of Stuttgart (Stuttgart, GERMANY)

Chair: Y. Birembaut, CETIM (Nantes, FRANCE)

Vice-Chair: K. H. Hsu, BWX Technologies (Barberton, OH USA)

THREE-DIMENSIONAL FINITE ELEMENT ANALYSIS OF PIPE FLANGE CONNECTIONS — IN CASE OF USING COMPRESSED ASBESTOS SHEET GASKET

T. Takaki and T. Fukuoka, Kobe University of Mercantile Marine (Kobe, JAPAN)

REQUIREMENTS FOR NUMERICAL FLANGE CALCULATIONS ACCORDING TO THE GERMAN NUCLEAR CODE

R. Kauer, TÜV Süddeutschland Bau und Betrieb GmbH (Munche, GERMANY)

NORSOK L-005; COMPACT FLANGED CONNECTIONS (CFC) - THE NEW FLANGE STANDARD

S. Lassesen, Steelproducts Offshore (Drammen, NORWAY); T. Eriksen, Statoil (Stavanger, NORWAY); and F. Teller, Norsk Hydro (Oslo, NORWAY)

COMPARISON OF LEAK RATES PREDICTED BY ROTT CONSTANTS WITH EXPERIMENTAL DATA FROM A 16" AND 24" PRESSURE VESSEL

G. Bibel, University of North Dakota (Grand Forks, ND U.S.A)

SESSION 2.2L (SE-03B)

Tuesday, August 6, 10:30 AM – 12:15 PM, Oxford

LARGE SCALE ONGOING R&D PROJECTS ON THE INNOVATIVE TECHNIQUES FOR SEISMIC ISOLATION AND VIBRATION CONTROL OF STRUCTURES – II

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-2: Seismic Engineering – 2002, Volume 2

Developed by: S. Fujita, Tokyo Denki University (Tokyo, JAPAN) and K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN)

Chair: N. Shimizu, Iwaki Meisei University (Fukushima, JAPAN)

Vice-Chair: M. Aggarwal, Ontario Power Generation (Toronto, ON CANADA)

THREE DIMENSIONAL SEISMIC ISOLATION SYSTEM USING HYDRAULIC CYLINDER

S. Kajii, N. Sawa, and N. Kunitake, Mitsubishi Heavy Industries (Hyogo, JAPAN) and K. Umeki, Japan Atomic Power Company (Tokyo, JAPAN)

DEVELOPMENT OF THREE DIMENSIONAL SEISMIC ISOLATION DEVICE WITH LAMINATED RUBBER BEARING AND ROLLING SEAL TYPE AIR SPRING

J. Suhara, T. Tamura, and Y. Okada, Shimizu Corporation (Tokyo, JAPAN) and K. Umeki, Japan Atomic Power Company (Tokyo, JAPAN)

APPLICATION OF SEMI-ACTIVE OIL DAMPER SYSTEM TO BASE ISOLATION SYSTEMS

T. Kawai and Y. Tsuyuki, Kayaba Industry Co., Ltd. (Kanagawa, JAPAN); Y. Inoue, General Building Research Corporation of Japan (Osaka, JAPAN); O. Takahashi, Kozo Keikaku Engineering, Inc. (Tokyo, JAPAN); and K. Oka, Ohmoto-gumi Co., Ltd. (Tokyo, JAPAN)

DESIGN METHOD OF VERTICAL COMPONENT ISOLATION SYSTEM

S. Kitamura and M. Morishita, Japan Nuclear Cycle Development Institute (Ibaraki, JAPAN)

SESSION 2.2M (OAC-05B)

Tuesday, August 6, 10:30 AM – 12:15 PM, Regency E

AGING MANAGEMENT AND LICENSE RENEWAL – II

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 444: Selected Topics on Aging Management, Reliability, Safety, and License Renewal

Developed by: V. N. Shah, Argonne National Laboratory, (Argonne, IL USA); M. H. Sanwarwalla, Sargent & Lundy LLC (Chicago, IL USA); and G. Bezdikian, EDF Pole Industrie (Saint Denis, FRANCE)

Chair: G. Bezdikian, EDF Pole Industrie (Saint Denis, FRANCE)

Vice Chair: K. Sakamoto, Japan Power Engineering and Inspection Corp. (Chiba, JAPAN)

LICENSE RENEWAL DEMONSTRATION PROJECT

B. Elliot and J. Dozier, U.S. Nuclear Regulatory Commission (Washington, DC USA)

GENERIC AGING MANAGEMENT PROGRAMS FOR LICENSE RENEWAL OF PWR REACTOR COOLANT SYSTEM COMPONENTS

V. N. Shah and Y. Y. Liu, Argonne National Laboratory, (Argonne, IL USA)

AGING MANAGEMENT OF REACTOR COOLANT SYSTEM MECHANICAL COMPONENTS IN PRESSURIZED WATER REACTORS FOR LICENSE RENEWAL

M. Subudhi and R. Morante, Brookhaven National Laboratory (Upton, NY USA) and A. D. Lee, U.S. Nuclear Regulatory Commission (Washington, DC USA)

BWR RPV INTERNALS MANAGEMENT PROGRAM OF THE GERMAN NPP GUNDREMMINGEN, UNITS B AND C: RESULTS AND CONCLUSIONS

M. Widera, RWE Power AG (Essen, GERMANY)

SESSION 2.2N (FSI-10B)

Tuesday, August 6, 10:30 AM – 12:15 PM, Regency B

STRUCTURES UNDER EXTREME LOADING CONDITIONS – II: MUNITIONS AND PENETRATION MECHANICS

Sponsored by: The Fluid-Structures Interaction Committee

Published in PVP Vol. 435: Thermal-Hydraulic Problems, Sloshing Phenomena, and Extreme Loads on Structures

Developed by: S. E. Jones, University of Alabama (Tuscaloosa, AL USA), H. S. Levine, Weidlinger Associates, Inc. (Los Altos, CA USA), and D. M. Jerome, U. S. Air Force (Eglin AFB, FL USA)

Chair: H. S. Levine, Weidlinger Associates, Inc. (Los Altos, CA USA)

Vice Chair: D. M. Jerome, U. S. Air Force (Eglin AFB, FL USA)

NUMERICAL SIMULATIONS AND EXPERIMENTS WITH EXPLOSIVES FRAGMENTATION MUNITIONS

V. Gold, U. S. Army TACOM-ARDEC (Picatinny Arsenal, NJ USA)

DESIGN OF CONICAL SHAPED CHARGES FOR PROMPT INITIATION OF TNT CHEMICAL MUNITION BURSTERS

D. S. Preece, J. H. Stoffleth, D. L. Cole, and P. W. Cooper, Sandia National Laboratories (Albuquerque, NM USA)

MODELING OF MUNITIONS FRAGMENTATION AND FRAGMENTATION INTERACTION WITH CONTAINMENT VESSELS AND SHIELDING SYSTEMS

W. Venner Saul and D. S. Preece, Sandia National Laboratories (Albuquerque, NM USA)

PENETRATION WITH HIGH-SPEED FRICTION

S. E. Jones and R. N. Davis, University of Alabama (Tuscaloosa, AL USA); and M. L. Hughes and O. A. Toness, Air Force Research Laboratory (Eglin AFB, FL USA)

SESSION 2.2O (FSI-11E)

Tuesday, August 6, 10:30 AM – 12:15 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – V: REACTING AND COMBUSTING FLOWS (2)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational

Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications - 2002

Developed by: S. Kawano, Tohoku University (Sendai, JAPAN), C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS), and V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA)

Chair: H. Herwig, TU Hamburg-Harburg (Hamburg, GERMANY)

Vice Chair: K. Koyamada, Kyoto University (Kyoto, JAPAN)

MULTISCALE ANALYSIS OF NONEQUILIBRIUM RAREFIED GAS FLOWS (Keynote)

Y. Matsumoto, University Of Tokyo (Tokyo, JAPAN)

DENSITY DISTRIBUTION IN STAGNATION REGION OF SAFFMAN EQUATION FOR DUSTY GAS

K. Tsuboi, Ibaraki University (Ibaraki, JAPAN)

SIMULATION OF INVISCID MULTI-SPECIES PLASMA FLOW

A. Martin, M. Reggio, J.Y. Trepanier, CERCA, Montreal (Montreal, QC CANADA) and Ecole Polytechnique (Montreal, QC CANADA)

NUMERICAL SIMULATION of FULL OXY-FIRED OSCILLATING COMBUSTION

O. Marin and B. Bugeat, Air Liquide (Countryside, IL USA) and O. Louedin and M. Till, Air Liquide (Les Loges en Josas, FRANCE)

Block 2.3: Tuesday, August 6 (2:00 PM – 3:45 PM)

SESSION 2.3P

Tuesday, August 6, 2:00 PM – 3:45 PM, Regency South Foyer

SOFTWARE DEMONSTRATION FORUM – III

Developed by: J. F. Cory, Jr., EDS PLM Solutions (Milford, OH USA)

Participants:

ABZ, Inc, www.abzinc.com

Advanced Technology Corporation, www.atc-ssm.com

AEA Technology Engineering Software, www.cfx.aeat.com

Algor Inc., www.algor.com

ATDAS

CC Technologies, www.cctlabs.com

CFD Research Corporation, www.cfdrc.com

COADE, www.coade.com

Codeware, www.codeware.com

Computer Engineering, www.computereng.com

Continental Imaging Products, www.continentalimaging.com

Nandiroyce International, www.nandiroyce.com

Rebis, www.rebis.com

SDS Inc., www.sds3dscan.com

Sloan Technologies Inc., www.sloaninc.com

Structural Reliability Technology, www.srt-boulder.com

SESSION 2.3A (TUT-02A)

Tuesday, August 6, 2:00 PM – 3:45 PM, Regency F

TUTORIAL 2: BEHAVIOR OF STRUCTURES AT HIGH TEMPERATURES – I

Presented by: A. R. S. Ponter, Univ. of Leicester (Leicester, UK)

SESSION 2.3B (OAC-6E/SE-04E)

Tuesday, August 6, 2:00 PM – 3:45 PM, Grouse

INTERNATIONAL SYMPOSIUM ON SEISMIC, SHOCK, AND VIBRATION ISOLATION – V

Sponsored by: The Seismic Engineering Committee and The Operations, Applications, and Components Committee

Published in PVP Vol. 445-2: Seismic Engineering - 2002, Volume 2

Developed by: K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN), S. Fujita, Tokyo Denki University (Tokyo, JAPAN), and A. Martelli, ENEA (Bologna, ITALY)

Chair: K. Suzuki, Tokyo Metropolitan University (Tokyo, JAPAN)

Vice-Chair: L. Geraets, Tractebel Electricity & Gas International (Brussels, BELGIUM)

SEMI-ACTIVE VIBRATION ISOLATION CONTROL FOR MULTI-DEGREE-OF-FREEDOM STRUCTURES

H. Nishimura and Y. Okumura, Chiba University (Chiba, JAPAN)

SEISMIC CONTROL EFFECT FOR NONLINEAR BENCHMARK BUILDING USING PASSIVE OR SEMI-ACTIVE DAMPER

A. Fukukita, T. Saito, and K. Shiba, Shimizu Corporation (Tokyo, JAPAN)

STOCHASTIC ANALYSIS OF SENSITIVITY AND EFFICIENCY OF BASE ISOLATION SYSTEM IN SEISMIC STRUCTURAL PROTECTION

V. Dipaola, R. Greco and G. Marano, Politecnico of Bari (Bari, ITALY)

SEISMIC ISOLATION DESIGN CODE FOR HIGHWAY BRIDGE

K. Kawashima, Tokyo Institute of Technology (Tokyo, JAPAN) and S. Unjoh, Public Works Research Institute (Tsukuba, JAPAN)

SESSION 2.3C (DA-09)

Tuesday, August 6, 2:00 PM – 3:45 PM, Stanley

PROBABILISTIC DAMAGE EVALUATION

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-2: Fatigue, Fracture and Damage Analysis – 2002, Volume 2

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE), S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE), K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA), and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: T. Dickson, Oak Ridge National Lab. (Oak Ridge, TN USA)

Vice Chair: J. Novak, Nuclear Research Institute Rez (Rez, CZECH REPUBLIC)

RELIABILITY ANALYSIS OF FRP LAMINATED PLATES WITH INITIAL IMPERFECTION

J. Chen, X. Wang, and C. Luo, Huazhong University of Science & Technology (Wuhan, CHINA)

PROBABILISTIC FRACTURE MECHANICS ANALYSIS OF NUCLEAR PIPING CONSIDERING AN EMBEDDED CRACK

H. Machida and S. Yoshimura, TEPCO Systems Corporation (Tokyo, JAPAN)

THE APPLICATION OF RELIABILITY-BASED DESIGN FACTORS IN STRESS CORROSION CRACKING EVALUATIONS

E. Friedman, Bechtel Bettis, Inc. (West Mifflin, PA USA)

SESSION 2.3D (DA-02A)

Tuesday, August 6, 2:00PM – 3:45 PM, Cypress

DESIGN AND ANALYSIS OF PRESSURE VESSELS, HEAT EXCHANGERS, AND COMPONENTS – I

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 440: Design and Analysis of Piping, Vessels, and Components - 2002

Developed by: D. K. Williams, Sharoden Engineering Consultants (Matthews, NC USA) and D. H. Martens, Black & Veatch Pritchard (Overland Park, KS USA)

Chair: D. K. Williams, Sharoden Engineering Consultants (Matthews, NC USA)

Vice Chair: D. H. Martens, Black & Veatch Pritchard (Overland Park, KS USA)

DESIGN OF ELLIPSOIDAL HEADS USING ELASTIC-PLASTIC FINITE ELEMENT ANALYSIS

D. Florizone, Propak Systems Ltd. (Airdrie, AB CANADA)

THERMAL SHOCK FAILURE ANALYSIS AND REMEDIATION DESIGN OF AN INTERNAL CATALYST STRUCTURE

K. Saunders and Kappa Engineers (Carson, CA USA) and J. Camburn, Watson Cogeneration Company (Carson, CA USA)

VIBRATION MODES OF SPHERICAL SHELLS AND CONTAINMENT VESSELS

T. Duffey, Consulting Engineer (Tijeras, NM USA) and C. Romero, Los Alamos National Laboratory (Los Alamos, NM USA)

CONVERGENCE OF THE AXISYMMETRIC BESSELS FUNCTION SOLUTION TO THE PIPE STRAP ANCHOR PROBLEM

D. Williams, Sharoden Engineering Consultants (Matthews, NC USA)

SESSION 2.3E (MF-02)

Tuesday, August 6, 2:00 PM – 3:45 PM, Prince of Wales

HIGH TEMPERATURE BEHAVIOR OF STRUCTURES AND MATERIALS

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 438: New and Emerging Computational Methods: Applications to Fracture, Damage, and Reliability

Developed by: R. A. Ainsworth (Gloucester, UK) and F. W. Brust, Battelle (Columbus, OH USA)

Chair: R. A. Ainsworth (Gloucester, UK)

Vice Chair: F. W. Brust, Battelle (Columbus, OH USA)

UNRESOLVED ISSUES WITH REGARD TO CREEP AND CREEP FATIGUE LIFE PREDICTION

J. Oh, and N. Katsube, The Ohio State University (Columbus, OH USA) and F. W. Brust, Battelle (Columbus, OH USA)

A SENSITIVITY STUDY OF CREEP CRACK GROWTH IN PIPES

K. Wasmer, K. M. Nikbin, and G. A. Webster, Imperial College (London, UK)

CRACK OPENING AREAS DURING HIGH TEMPERATURE OPERATION

S. F. Yellowlees, D. G. Hooton, and J. K. Sharples, Serco Assurance (Cheshire, UK); and P. J. Budden and D. W. Dean, British Energy Generation Ltd. (Gloucester, UK)

CREEP-FATIGUE DAMAGE AND LIFE EVALUATION FOR BOILER HEADER STUB WELDMENT

T. Ito, I. Nonaka, and H. Umaki, Ishikawajima-Harima Heavy Industries Co. (Yokohama, JAPAN); N. Nishida and S. Shintani, Chugoku Electric Power Co. (Yokohama, JAPAN)

LOCAL FAILURE MODES OF A NUCLEAR REACTOR PRESSURE VESSEL NOZZLE REGION UNDER SEVERE ACCIDENT CONDITIONS

Y. J. Oh, B. G. Park, K. J. Jeong, and I. S. Hwang, Seoul National University (Seoul, KOREA)

SESSION 2.3F (SPC-02)

Tuesday, August 6, 2:00 PM – 3:45 PM, Plaza C

10TH STUDENT PAPER COMPETITION – II

Sponsored by: The Senate of Past PVP Division Chairs

Published in PVP Vol. 447: Piping and Component Analysis and Diagnosis

Developed by: T. H. Liu, Westinghouse Electric Co. (Pittsburgh, PA USA); A. G. Ware (Idaho Falls, ID USA) and R. C. Gwaltney (Oak Ridge, TN USA)

Chair: A. G. Ware (Idaho Falls, ID USA)

Vice Chair: T. H. Liu, Westinghouse Electric Co. (Pittsburgh, PA, USA)

Judges: T. H. Liu, Westinghouse Electric Co. (Pittsburgh, PA, USA); A. G. Ware (Idaho Falls, ID USA); and R. C. Gwaltney (Oak Ridge, TN USA)

INFLUENCE OF PAD REINFORCEMENT ON THE LIMIT AND BURST PRESSURE OF LARGE DIAMETER CYLINDRICAL SHELL INTERSECTIONS

L. Xue and G.E.O. Widera, Marquette University (Milwaukee, WI USA) and Z. F. Sang, Nanjing University of Chemical Technology (Nanjing, Jiangsu, CHINA)

UTILIZATION OF MICRO-ELECTRONIC-MACHINE SYSTEM (mems) TO POSSIBLE FUTURE USE IN THE ENHANCED ANALYSIS OF SAFETY IN NUCLEAR POWER PLANTS

A. Bhavnani, New Jersey Institute of Technology (Newark, NJ USA)

DETERMINATION OF THE REGIONAL FUNCTION OF THE HEART

E. U. Azeloglu, G. R. Gaudette, I. B. Krukenkamp, and F. Chiang, State University of New York at Stony Brook (Stony Brook, NY USA)

SESSION 2.3G (MF-10A)

Tuesday, August 6, 2:00 PM – 3:45 PM, Plaza B

SERVICE EXPERIENCE IN OPERATING NUCLEAR PLANTS – I

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 437: Service Experience and Failure Assessment Applications

Developed by: W. H. Bamford, Westinghouse (Pittsburgh, PA,

USA), D. Rodgers, AECL Chalk River, ONT CANADA)

Chair: W. H. Bamford, Westinghouse (Pittsburgh, PA, USA)

Vice Chair: D. Rodgers, AECL (Chalk River, ON CANADA)

A FRACTURE MECHANICS EVALUATION OF OBSERVED CRACKING AT A BWR-2 REACTOR PRESSURE VESSEL WELD

H. S. Mehta and R. M. Horn, GE Nuclear Energy (San Jose, CA USA), and G. Inch, Niagara Mohawk Power Co. (Lycoming, NY USA)

EXPERIENCES IN EXAMINING AND DISPOSITIONING FLAWS IN Zr-2.5Nb PRESSURE RETAINING CANDU REACTOR COMPONENTS

A. Celovsky, AECL (Chalk River, ON CANADA) and J. Slade, NB Power (Point Lepreau, NB CANADA)

CRACKING IN ALLOY 600/182 REACTOR VESSEL HEAD PENETRATIONS

C. R. Frye, T. Alley, M. L. Arey, Jr., and M. R. Robinson, Duke Power Company (Charlotte, NC USA)

SESSION 2.3H (MF-08C/CS-12C)

Tuesday, August 6, 2:00 PM – 3:45 PM, Plaza A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT – III

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 437: Service Experience and Failure Assessment Applications

Developed by: D. P. G. Lidbury, Serco Assurance (Warrington, Cheshire, UK) and D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

Chair: E. Keim, Framatome-ANP GmbH (Erlangeen, GERMANY)

Vice Chair: B. R. Bass, ORNL (Oak Ridge, TN USA)

VALIDATION OF CONSTRAINT-BASED METHODOLOGY IN STRUCTURAL INTEGRITY: PROJECT OVERVIEW

D. P.G. Lidbury, Serco Assurance (Warrington, Cheshire, UK); B.R. Bass, ORNL (Oak Ridge, TN USA), E. Keim, Framatome ANP GmbH (Erlangen, GERMANY); S. Bhandari, Framatome ANP (Paris, FRANCE); D. Connors, BNFL Magnox Generation (Berkeley, Gloucestershire, UK); U. Eisele, MPA (Stuttgart, GERMANY); K.-F. Nilsson, European Commission Joint Research Centre (Petten, NETHERLANDS)

VALIDATION OF CONSTRAINT-BASED METHODOLOGY IN STRUCTURAL INTEGRITY: CURRENT ISSUES AND BEST PRACTICE HANDBOOK

K.-F. Nilsson and N. Taylor, European Commission Joint Research Centre (Petten, NETHERLANDS); S. Bhandari, Framatome ANP (Paris, FRANCE); D. Siegele, Fraunhofer Institut für Werkstoffmechanik (Freiburg, GERMANY); and D. Lidbury, Serco Assurance (Warrington, Cheshire, UK)

VALIDATION OF CONSTRAINT-BASED METHODOLOGY IN STRUCTURAL INTEGRITY: EXPERIMENTAL PROGRAMME

U. Eisele, MPA (Stuttgart, GERMANY); B. R. Bass, ORNL (Oak Ridge, TN USA); H. Keinanen, VTT (Helsinki, FINLAND); S. Marie, CEA (FRANCE); E. Keim, Framatome-ANP GmbH (Erlangeen, GERMANY); and A. Sherry, Serco Assurance (Warrington, Cheshire, UK)

VALIDATION OF CONSTRAINT-BASED METHODOLOGY IN STRUCTURAL INTEGRITY: ANALYTICAL PROGRAMME

E. Keim, Framatome-ANP GmbH (Erlangen, GERMANY); B. Richard Bass, ORNL (Oak Ridge, TN USA); S. Bhandari, Framatome ANP (Paris, FRANCE); S. Marie, CEA (Saclay, FRANCE); Y. Wadier, EDF (Clamart, FRANCE); D. P.G. Lidbury and A. Sherry, Serco Assurance (Warrington, Cheshire, UK); U. Eisele, MPA (Stuttgart, GERMANY); and H. Keinanen and K. Wallin, VTT (Helsinki, FINLAND)

SESSION 2.3J (OAC-03F)

Tuesday, August 6, 2:00 PM – 3:45 PM, Georgia B

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS – VI: THERMAL ISSUES

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Volume 449: Transportation, Storage, and Disposal of Radioactive Materials - 2002

Developed by: R. S. Hafner, Lawrence Livermore National Laboratory (Livermore, CA USA) and M. E. Wangler, U.S. Department of Energy (Washington, DC USA)

Chair: A. C. Smith, Westinghouse Savannah River Co. (Aiken, SC USA)

Vice Chair: G. D. Morandin, Atomic Energy of Canada, Ltd. (Mississauga, ON CANADA)

ANALYTICAL INVESTIGATION OF CONTAINMENT VESSEL FLANGE SEPARATION DURING IMPACT SCENARIOS (Presentation Only)

K. D. Handy and M. R. Feldman, BWXT Y-12, LLC (Oak Ridge, TN USA)

EFFECT OF INSULATION BOUNDARY CONDITIONS ON TYPE B PACKAGE INTERNAL TEMPERATURES

J. Hovingh, Lawrence Livermore National Laboratory (Livermore, CA, USA) and V. L. Shah, Argonne National Laboratory (Argonne, IL USA)

A STANDARD FOR STORAGE AND TRANSPORT OF DAMAGED SPENT NUCLEAR FUEL

W. H. Lake, U.S. Department of Energy (Washington, DC USA)

AN APPROXIMATION METHOD FOR TRANSIENT THERMAL ANALYSIS OF TRANSPORT PACKAGING (PRESENTATION ONLY)

W. H. Lake, U.S. Department of Energy (Washington, DC USA)

SESSION 2.3K (CT-03F)

Tuesday, August 6, 2:00 PM – 3:45 PM, Georgia A

INTERNATIONAL INFORMATION EXCHANGE MEETING ON HARMONIZATION ON GASKET TESTINGS (Panel Session)

Sponsored by: The PVRC Bolted Flanged Connections Committee and The Computer Technology Committee

Developed by: K. H. Hsu, BWX Technologies (Barberton, OH USA) and H. Kockelmann, University of Stuttgart (Stuttgart, GERMANY)

Co-Chair: K. H. Hsu, BWX Technologies (Barberton, OH USA)

Co-Chair: J. R. Payne, JPAC & Associates (Long Valley, NJ USA)

Panelists:

J. R. Payne, PAC & Associates (Long Valley, NJ USA)

M. Derenne, Ecole Polytechnique (Montreal, QC CANADA)

H. Kockelmann, MPA University of Stuttgart (Stuttgart, GERMANY)

J. Hoyes Flexitallic (West Yorkshire, UK)

Y. Birembaut, CETIM (Cedex, FRANCE)

P. Petrunic, Fluid Sealing Association (Wayne, PA USA)

T. Sawa, Yamanashi University (Yamanashi, JAPAN)

SESSION 2.3L (CS-01A)

Tuesday, August 6, 2:00 PM – 4:45 PM, Oxford

PLASTIC ANALYSIS IN PRESSURE VESSEL DESIGN – I: SHAKE-DOWN AND RATCHETING

Sponsored by: The Codes and Standards Technical Committee

Published in PVP Vol 439: Pressure Vessels & Piping, Codes and Standards – 2002

Developed by: A. Kalnins, Lehigh University (Bethlehem, PA USA)

Chair: A. Kalnins, Lehigh University (Bethlehem, PA USA)

Vice-Chair: A. Okamoto, IHI Ishikawajima-Harima Heavy Industries (Yokohama, Kanagawa, JAPAN)

Evaluation of Thermal Stress Ratchet in Plastic FEA

Y. Yamamoto, Babcock-Hitachi K. K. (Kure, Hiroshima, JAPAN); N. Yamashita, Tokyo Electric Power Company (Tokyo, JAPAN); and M. Tanaka, Hitachi, Ltd. (Hitachi, Ibaraki, JAPAN)

Effects of Local Peak Stress Distribution on Ratchet Limit

N. Yanagida, Hitachi, Ltd. (Hitachi, Ibaraki, JAPAN); M. Tanaka, Hitachi, Ltd. (Hitachi, Ibaraki, JAPAN); N. Yamashita, Tokyo Electric Power Company (Tokyo, JAPAN); and Y. Yamamoto, Babcock-Hitachi K. K. (Kure, Hiroshima, JAPAN)

Verification of Alternative Criteria for Shakedown Evaluation Using Flat Head Vessel

S. Asada, Mitsubishi Heavy Industries (Kobe, Hyogo, JAPAN); N. Yamashita, Tokyo Electric Power Company (Tokyo, JAPAN); A. Okamoto, IHI Ishikawajima-Harima Heavy Industries (Yokohama, Kanagawa, JAPAN); and I. Nishiguchi, Kanagawa Institute of Technology (Atsugi, Kanagawa, JAPAN)

Verification of Alternative Criteria for Shakedown Evaluation Using 2-dimensional and 3-dimensional Nozzle Models

S. Asada, Mitsubishi Heavy Industries (Kobe, JAPAN); A. Okamoto, IHI Ishikawajima-Harima Heavy Industries (Yokohama, JAPAN); and I. Nishiguchi, Kanagawa Institute of Technology (Atsugi, JAPAN)

SESSION 2.3M (OAC-05C)

Tuesday, August 6, 2:00 PM – 3:45 PM, Regency E

AGING MANAGEMENT AND LICENSE RENEWAL – III

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 444: Selected Topics on Aging Management, Reliability, Safety, and License Renewal

Developed by: V. N. Shah, Argonne National Lab. (Argonne, IL USA), M. H. Sanwarwalla, Sargent & Lundy (Chicago, IL USA), and G. Bezdikian, EDF Pole Industrie (Saint Denis, FRANCE)

Chair: V. N. Shah, Argonne National Lab. (Argonne, IL USA)

Vice Chair: F. Champigny, Electricité de France (Saint Denis, FRANCE)

HIGH-CYCLE ANALYTICAL THERMAL FATIGUE TEST ON PIPE STRUCTURES

J. M. Stephan and F. Curtit, Electricité de France (Moret sur Loing, FRANCE)

LIFETIME MANAGEMENT OF REACTOR COOLANT PIPING PROBABILISTIC CALIBRATION OF PARTIAL SAFETY FACTORS IN FLOW ACCEPTANCE CRITERIA-APPLICATION TO CAST DUPLEX STAINLESS STEEL COMPONENTS

B. Barthelet and G. Bezdikian, Electricité de France (Saint Denis, FRANCE), C. Franco, Electricité de France (Villeurbanne, FRANCE), and P. Le Delliou, Electricité de France (Moret sur Loing, FRANCE)

AGE-RELATED DEGRADATION OF STEAM GENERATOR INTERNALS BASED ON INDUSTRY RESPONSES TO GENERIC Letter 97-06

M. Subudhi, Brookhaven National Laboratory (Upton, NY USA) and E. J. Sullivan, USNRC, (Washington, DC USA)

MANAGING AGING OF COATINGS FOR PLANT LICENSE RENEWAL

H. R. Miller, Sargent & Lundy LLC, (Chicago, IL)

SESSION 2.3N (FSI-10C)

Tuesday, August 7, 2:00 PM – 3:45 PM, Regency B

STRUCTURES UNDER EXTREME LOADING CONDITIONS – III: MATERIAL PROPERTIES AND CONSTITUTIVE MODELING

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 435: Thermal-Hydraulic Problems, Sloshing Phenomena, and Extreme Loads on Structures

Developed by: S. E. Jones, University of Alabama (Tuscaloosa, AL USA), H. S. Levine, Weidlinger Associates, Inc. (Los Altos, CA USA), and D. M. Jerome, U. S. Air Force (Eglin AFB, FL USA)

Chair: D. M. Jerome, U. S. Air Force (Eglin AFB, FL USA)

Vice Chair: S. E. Jones, University of Alabama (Tuscaloosa, AL USA)

SINGLE CHAIN STOCHASTIC POLYMER MODELING AT HIGH STRAIN RATES

E. N. Harstad and F. H. Harlow, Los Alamos National Laboratory (Los Alamos, NM USA); and H. L. Schreyer, University of New Mexico (Albuquerque, NM USA)

PENETRATION OF A RATE SENSITIVE GEOLOGICAL TARGET BY THE COMPACTION RING THEORY

M. R. Gilmore, Defense Science and Technology Laboratory (UK); S. E. Jones, University of Alabama (Tuscaloosa, AL USA), and J. C. Foster, Jr., AFRL (Eglin AFB, FL USA)

EFFECT OF COMPRESSIVE STRESS ON LONGITUDINAL WAVE SPEED IN CEMENTIOUS MATERIAL

M. L. Hughes, Air Force Research Laboratory (Eglin AFB, FL USA);

C. A. Ross and V. L. Ashley, University of Florida (Shalimar, FL USA)

SESSION 2.3O (FSI-11F)

Tuesday, August 6, 2:00 PM – 3:45 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – VI: FLOW IN TURBOMACHINERY AND ENGINES

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications - 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS); V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: M. J. Braun, University Of Akron (Akron, OH USA)

Vice Chair: Y. Kim, Hanyang University (Seoul, KOREA)

NUMERICAL STUDY ON THE UNSTEADY BEHAVIOR IN TURBOMACHINERY (KEYNOTE)

Je-Hyun Baek, Postech (Kyungbuk, KOREA)

VALIDATED 1D/3D COUPLING METHOD TO SOLVE TRANSIENT FLOW IN INTERNAL COMBUSTION ENGINES

R. Sinclair, P. Schindler, and T.S Strauss, Volkswagen AG (Wolfsburg, GERMANY)

LARGE EDDY SIMULATION OF TURBULENT COMBUSTION FLOWS IN GAS TURBINE COMBUSTOR

T. Tominaga, N. Taniguchi, Y. Itoh, and T. Kobayashi, University of Tokyo (TOKYO, JAPAN)

USING CFD TO IMPROVE AERO-ENGINE AIR/OIL SEPARATOR DESIGN

B. Eastwick, S. Hibberd, K. Simmons, Y. Wang, and A. Aroussi, University of Nottingham (Nottingham, UK) and I. Care, Rolls-Royce plc. (Derby, UK)

Block 2.4: Tuesday, August 6 (4:00 PM – 5:45 PM)

SESSION 2.4P

Tuesday, August 6, 4:00 PM – 5:45 PM, Regency South Foyer

SOFTWARE DEMONSTRATION FORUM - IV

Developed by: J. F. Cory, Jr., EDS PLM Solutions (Milford, OH USA)

Participants:

ABZ, Inc, www.abzinc.com

Advanced Technology Corporation, www.atc-ssm.com

AEA Technology Engineering Software, www.cfx.aeat.com

Algor Inc., www.algor.com

ATDAS

CC Technologies, www.cctlabs.com

CFD Research Corporation, www.cfdrc.com

COADE, www.coade.com

Codeware, www.codeware.com
Computer Engineering, www.computereng.com
Continental Imaging Products, www.continentalimaging.com
Nandiroyce International, www.nandiroyce.com
Rebis, www.rebis.com
SDS Inc., www.sds3dscan.com
Sloan Technologies Inc., www.sloaninc.com
Structural Reliability Technology, www.srt-boulder.com

SESSION 2.4A (TUT-02B)

Tuesday, August 6, 4:00 PM – 5:45 PM, Regency F

TUTORIAL 2: BEHAVIOR OF STRUCTURES AT HIGH TEMPERATURES – II

Presented by: A. R. S. Ponter, University of Leicester (Leicester, UK)

SESSION 2.4C (DA-11)

Tuesday, August 6, 4:00 PM – 5:45 PM, Stanley

FRACTURE MECHANICS: DEVELOPMENT OF NEW METHODS

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-2: Fatigue, Fracture and Damage Analysis – 2002, Volume 2

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE); S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE); K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA); and W. Moussa, Univ. of Alberta (Edmonton, AB CANADA)

Chair: D. G. Moffat, Univ. of Liverpool (Liverpool, UK)

Vice Chair: S. A. Timashev, Russian Academy of Sciences (Yekaterinburg, RUSSIA)

LOAD HISTORY EFFECT ON PLASTIC COLLAPSE IN SINGLE EDGE NOTCHED SUS316 SUBJECTED TO COMBINED TENSION AND BENDING

S. Izawa, M. Matsubara, and K. Nezu, Oyama National College of Technology (Tochigi, JAPAN)

SIMPLIFIED MODELING OF CRACK OPENING AND ITS APPLICATION TO A RPV FAILURE ACCIDENT

V. Koundy, M. Durin, L. Nicolas, and A. Combescure, CEA-IPSN-DPEA (Fontenay-aux-Roses, FRANCE)

PREDICTING MIXED MODE CRACK INITIATION ANGLES IN ANISOTROPIC MATERIALS USING THE SHAPE OF THE CRACK TIP CORE REGION

S. M. A. Khan and M.K. Khraisheh, University of Kentucky (Lexington, KY USA)

THE BEHAVIOUR OF A PROCESS ZONE AT THE ROOT OF A DEEP SHARP FLAW

E. Smith, Manchester University (Manchester, ENGLAND)

FRACTURE MECHANICS EVALUATION CONSIDERING THERMAL AGING EMBRITTLEMENT

Y. S. Chang and T. E. Jin, Korea Power Engineering Company (Gyeonggi-do, KOREA)

SESSION 2.4D (DA-02B)

Tuesday, August 6, 4:00 PM – 5:45 PM, Cypress

DESIGN AND ANALYSIS OF PRESSURE VESSELS, HEAT EXCHANGERS, AND COMPONENTS – II

Sponsored by: Design and Analysis Committee

Published in PVP Vol. 440: Design and Analysis of Piping, Vessels, and Components – 2002

Developed by: D. K. Williams, Sharoden Engineering Consultants (Matthews, NC USA) and D. H. Martens, Black & Veatch Pritchard (Overland Park, KS USA)

Chair: D. H. Martens, Black & Veatch Pritchard (Overland Park, KS USA)

Vice Chair: D. K. Williams, Sharoden Engineering Consultants (Matthews, NC USA)

STIFFNESS COEFFICIENTS FOR NOZZLES IN API 650 TANKS

M. Lengsfeld, K. Bardia, K. Hathaitham, and D. LaBounty, Fluor Daniel (Aliso Viejo, CA USA); J. Taagepera, Valero Refining (Benicia, CA USA); and M. Lengsfeld, Crane Valves North America (Long Beach, CA USA)

A PROPOSED DESIGN CRITERION FOR VESSEL LIFTING LUGS IN LIEU OF ASME B30.20

D. Williams, Sharoden Engineering Consultants (Matthews, NC USA)

RESIDUAL STRESS OF THIN-WALL PIPE SUBJECTED TO AXISYMMETRIC PLASTIC EXPANSION

N. Chiba, Y. Ishida, N. Ogasawara, H. Ito, K. Enomoto, and H. Kimoto, National Defense Academy (Yokosuka, JAPAN)

ASME B&PV CODE SECTION VIII PRESSURE VESSEL DESIGN: A COMPARISON – DIVISION 1 v. DIVISION 2

D. Smith, Colt Engineering (Calgary, AB CANADA)

SCALED EXPLOSIVE CONTAINMENT TRIALS (Presentation only)

S. Thompson, I. D. Smith, S. Dooley, and M. Philpott, Aldermaston (Reading, UK)

SESSION 2.4F (PSD-01)

Tuesday, August 6, 4:00 PM – 5:45 PM, Plaza C

NORTHERN PIPELINE DEVELOPMENT

Sponsored by: The ASME Pipeline System Sub-Division

Published in PVP Vol. 449: Nondestructive Evaluation Engineering (NDE) - 2002

Developed by: A. Murray, Principia Consulting Inc. (Calgary, AB CANADA)

Chair: A. Murray, Principia Consulting Inc. (Calgary, AB CANADA)

Vice Chair: C. C. Jaske, CC Technologies Services, Inc. (Columbus, OH USA)

Panelists:

J. Skalsky, Enbridge Pipelines (Calgary, AB CANADA)
J. Rush, TransCanada Pipelines (Calgary, AB CANADA)
L. Myers, SNC-Lavalin (Calgary, AB CANADA)
R. Priddle, Consultant (Victoria, BC CANADA)

SESSION 2.4G (MF-10B)

Tuesday, August 6, 4:00 PM – 5:45 PM, Plaza B

SERVICE EXPERIENCE IN OPERATING NUCLEAR PLANTS – II

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 437: Service Experience and Failure Assessment Applications

Developed by: W. H. Bamford, Westinghouse (Pittsburgh, PA USA) and D. Rodgers, AECL (Chalk River, ON CANADA)

Chair: L. Mathews, Southern Nuclear Operating Co. (Birmingham, AL USA)

Vice Chair: W. H. Bamford, Westinghouse (Pittsburgh, PA USA)

ROOT CAUSE EVALUATION AND REPAIR OF ALLOY 82/182 J-GROOVE WELD CRACKING OF REACTOR VESSEL HEAD PENETRATIONS AT NORTH ANNA UNIT 2

J. I. Bennetch, G. E. Modzelewski, and L. L. Spain, Dominion Generation (Richmond, VA USA) and G. V. Rao, Westinghouse Electric Co. (Pittsburgh, PA USA)

EXPERIENCES WITH THE FRAMATOME REPAIR PROCESS FOR CRACKING DISCOVERED IN REACTOR VESSEL HEAD PENETRATIONS (presentation only)

D. E. Waskey and K. B. Stuckey, Framatome Technology (Lynchburg, VA USA)

DETECTION AND DISPOSITION OF CRACKING IN THE HEAD PENETRATIONS OF THE THREE MILE ISLAND NUCLEAR PLANT (Presentation Only)

G. Gerzen, Exelon (Naperville, IL USA)

INSPECTION AND EVALUATION OF THE HEAD PENETRATIONS OF THE DC COOK UNIT 2 NUCLEAR PLANT (presentation only)

D. Garner, R. Hall, and P. Donovan, American Electric Power (Bridgeman, MI USA) and W. H. Bamford, J. Lareau, and K. R. Hsu, Westinghouse Electric Co. (Pittsburgh, PA USA)

SESSION 2.4H (MF-08D/CS-12D)

Tuesday, August 6, 4:00 PM – 5:45 PM, Plaza A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT – IV

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 437: Service Experience and Failure Assessment Applications

Developed by: D. P. G. Lidbury, S Serco Assurance (Warrington, Cheshire, UK) and D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

Chair: S. Yellowlees, Serco Assurance (Warrington, Cheshire, UK)

Vice Chair: D. P. G. Lidbury, Serco Assurance (Warrington, Cheshire, UK)

A PROBABILISTIC APPLICATION OF THE R6 DETECTABLE LEAKAGE LEAK-BEFORE-BREAK PROCEDURE

D. W. Beardsmore, S.F. Yellowlees, and J.K. Sharples, Serco Assurance (Warrington, Cheshire, UK) and R. A. Ainsworth and P. J. Budden, British Energy Generation, Ltd. (Barnwood, Gloucester, UK)

A COMPARISON OF 3D-FINITE ELEMENT AND SIMPLIFIED ESTIMATES OF J UNDER THERMAL AND MECHANICAL LOADS
Y. Lei, British Energy Generation, Ltd. (Barnwood, Gloucester, UK)

APPLICATION OF LOCAL APPROACH CONCEPT OF CLEAVAGE FRACTURE TO VVER MATERIALS

B. Z. Margolin, G.P. Karzov, and V.A. Shvetsova, CRISM Prometey Institute (St. Petersburg, RUSSIA); E. Keim, Framatome-ANP GmbH (Eriangen, GERMANY); and R. Chaouadi, SCK.CEN (Brussels, BELGIUM)

SESSION 2.4J (OAC-03G)

Tuesday, August 6, 4:00 PM – 5:45 PM, Georgia B

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS – VII: TRANSPORTATION & STORAGE CASK ISSUES

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Volume 449: Transportation, Storage, and Disposal of Radioactive Materials - 2002

Developed by: R. S. Hafner, Lawrence Livermore National Laboratory (Livermore, CA USA) J.G. Field, Packaging Technology, Inc. (Tacoma, WA USA), and M.E. Wangler, U.S. Department of Energy (Washington, DC USA)

Chair: S. J. Hensel, Westinghouse Savannah River Co. (Aiken, SC USA)

Vice Chair: C. S. Bajwa, U.S. Nuclear Regulatory Commission (Rockville, MD USA)

TRANSFER CASK ASSEMBLY - ONSITE TRANSFER OF K BASIN FUEL AT HANFORD

D. A. Jensen, A. T. Kee, R. A. Johnson, and P. W. Noss, Packaging Technology, Inc. (Tacoma, WA USA)

MOX FRESH FUEL PACKAGING: STATUS OF FULL SCALE PROTOTYPE TESTING

J. G. Field, J. C. Nichols, and P. W. Noss, Packaging Technology, Inc. (Tacoma, WA USA)

GAMMA SCAN CONFIRMATION OF LEAD POUR IN A TYPE B CASK

R. J. Migliore, J. G. Field, D. S. Hillstrom, and R. A. Johnson, Packaging Technology, Inc. (Tacoma, WA USA)

RECENT DEVELOPMENTS IN THE DEVELOPMENT OF THE NUPACK CODE (Presentation Only)

G. C. Mok, Lawrence Livermore National Laboratory (Livermore, CA USA)

SESSION 2.4K (CT-06)

Tuesday, August 6, 4:00 PM – 5:45 PM, Georgia A

FIELD APPLICATIONS OF FINITE ELEMENT METHODS

Sponsored by: The Computer Technology

Published in PVP Vol. 433: Analysis of Bolted Joints – 2002

Developed by: P. Muñoz, Universidad Simon Bolivar (Caracas, VENEZUELA), J. Martin, Lockheed Martin Inc. (Albany, NY, USA), C. Martinez, Universidad Simon Bolivar (Caracas, VENEZUELA)

Chair: J. Martin, Lockheed Martin Inc. (Albany, NY USA)

Vice Chair: Y. Urthaler, Texas A&M University (College Station, TX USA)

NON-LINEAR TRANSIENT CONDENSATION INDUCED WATER HAMMER STRUCTURAL INTEGRITY ANALYSIS OF A PIPING SYSTEM

B. W. Manning and T. Stevens, Ontario Power Generation (Toronto, ON CANADA); R. G. Sauvé and G. Morandin, Kinectrics, Inc. (Toronto, ON CANADA); and R. Richards, S. Manro, and J. Czajkowski, Ontario Power Generation (Toronto, ON CANADA)

FINITE ELEMENT FORMULATION FOR THE ANALYSIS OF THE EROSION CHARACTER OF OIL-BASED DRILLING FLUIDS DURING WELL DRILLING PROCESSES

J. Jenkins, PDVSA-INTEVEP, SA (Los Teques, Edo. Miranda, VENEZUELA) and O. Nuñez, Universidad Simon Bolivar (Caracas, VENEZUELA)

ROLLER BURNISHING - A COLD WORKING TOOL TO REDUCE WELD INDUCED RESIDUAL STRESS

J. Martin, Lockheed Martin Inc. (Albany, NY USA)

NUMERICAL STUDY OF MASS DISPERSION IN LAMINAR AND TURBULENT FLOWS THROUGH A PIPELINE

H. Antonio and F. Guzmán, University of Simon Bolivar (Caracas, VENEZUELA)

SESSION 2.4L (CS-01B)

Tuesday, August 6, 4:00 PM – 5:45 PM, Oxford

PLASTIC ANALYSIS IN PRESSURE VESSEL DESIGN – 2: DESIGN BY ANALYSIS IN A GLOBAL CONTEXT

Sponsored by: The Codes and Standards Technical Committee

Published in PVP Vol. 439: Pressure Vessels & Piping Codes and Standards – 2002

Developed by: A. Kalnins, Lehigh University (Bethlehem, PA USA)

Chair: A. Kalnins, Lehigh University (Bethlehem, PA USA)

Vice-Chair: J. L. Zeman, Vienna University of Technology (Vienna, AUSTRIA)

THE EUROPEAN APPROACH TO DESIGN BY ANALYSIS

J. L. Zeman, Vienna University of Technology (Vienna, Austria)

ANALYTICAL AND NUMERICAL EVALUATION OF THE CYCLIC YIELD AREA CRITERIA FOR SHAKEDOWN REQUIREMENTS

I. Nishiguchi, Kanagawa Institute of Technology (Atsugi, Kanagawa, JAPAN); A. Okamoto, IHI Ishikawajima-Harima Heavy Industries (Yokohama, JAPAN); N. Yamashita, Tokyo Electric Power Company (Tokyo, JAPAN); and M. Aoki, Tokyo Electric Power Company (Tokyo, JAPAN)

SHAKEDOWN AND RATCHETING DIRECTIVES OF ASME B&PV CODE AND THEIR EXECUTION

A. Kalnins, Lehigh University (Bethlehem, PA USA)

SESSION 2.4M (OAC-05D)

Tuesday, August 6, 4:00 PM – 5:45 PM, Regency E

AGING MANAGEMENT AND LICENSE RENEWAL – IV

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 444: Selected Topics on Aging Management, Reliability, Safety, and License Renewal

Developed by: V. N. Shah, Argonne National Laboratory (Argonne, IL USA), M. H. Sanwarwalla, Sargent & Lundy (Chicago, IL USA), and G. Bezdikian, EDF Pole Industrie, (Saint Denis, FRANCE)

Chair: M. H. Sanwarwalla, Sargent & Lundy (Chicago, IL USA)

Vice Chair: M. Subudhi, Brookhaven National Laboratory (Upton, NY USA)

TAKING ADVANTAGE OF SIGNAL PROCESSING FOR LIFETIME MANAGEMENT

S. Gautier and L. Chatellier, Electricité de France (Chatou, FRANCE)

AN ECONOMIC ASSESSMENT METHODOLOGY FOR REPLACEMENT OF THE COMPONENTS OF POWER PLANT

Ho-Rim Moon, Changheui Jang, Jun-Hyun Park, Ill-Seok Jeong, and Tae-Ryong Kim, Korea Electric Power Research Institute (Taejon, KOREA)

LIFE TIME MANAGEMENT – A PRACTICAL APPROACH OF NUCLEAR POWER PLANTS

J. Bartonicek, GKN (Neckarwesteim, GERMANY); K. J. Metzner, E. ON Kernkraft (Hannover, GERMANY); and F. Schoeckle, AMTEC-Services (Lauffen, GERMANY)

INDUSTRY SURVEY OF RISK-BASED LIFE MANAGEMENT PRACTICES

J. B. Speck and A. T. M. Iravani, TWI Ltd. (Cambridge, UK)

SESSION 2.4N (CS-07)

Tuesday, August 6, 4:00 PM – 5:45 PM, Regency B

WHAT'S NEW IN SECTION X AND RTP-1?

Sponsored by: The Codes & Standards Committee

Published in PVP Vol. 439: Pressure Vessels & Piping Codes and Standards – 2002

Developed by: P. J. Conlisk, Conlisk Engineering Mechanics, Inc. (St. Louis, MO USA); D. Eisberg, Progressive Composite Technology (Vista, CA USA); and G. Hopkins, RL Industries, (Fairfield, OH USA)

Chair: P. J. Conlisk, Conlisk Engineering Mechanics (St. Louis, MO USA)

Vice Chair: D. Eisberg, Progressive Composite Technology (Vista, CA USA)

SCOPES OF RTP-1 AND SECTION X, CLASSES I & II AND DESIGN QUALIFICATION OVERVIEW

P. J. Conlisk, Conlisk Engineering Mechanics, Inc. (St. Louis, MO USA)

DESIGN QUALIFICATION AND MANUFACTURING OF SECTION X CLASS I VESSELS

D. Eisberg, Progressive Composite Technology (Vista, CA USA)

DESIGN QUALIFICATION AND MANUFACTURING OF RTP-1 TANKS AND VESSELS

G. Hopkins, RL Industries (Fairfield, OH USA)

SESSION 2.40 (FSI-11G)

Tuesday, August 6, 4:00 PM – 5:45 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – VII: PRESENT AND FUTURE OF INDUSTRIAL STRENGTH CFD CODES (Panel Session)

Sponsored by: Fluid-Structure Interaction Committee

Developed by: V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS); and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: B. Spalding, CHAM Ltd. (London, UK)

Panelists:

- D. Choudhury, Fluent (Lebanon, NH USA)
- F. Habashi, Newmerical Technologies & Editor-in-Chief Journal of Computational Fluid Dynamics (Montreal, QC CANADA)
- M. Raw, AEA Technology (Oxfordshire, UK)
- A. Singhal, CFD Research (Huntsville, AL USA)
- B. Spalding, CHAM Ltd. (London, UK)
- P. Stephenson, CD ADAPCO Group (Plymouth, MI USA)
- T. Wintergerste, ERCOFTAC and Sultzter Innotec (Wintherthur, SWITZERLAND)

WEDNESDAY, AUGUST 7

Block 3.1: Wednesday, August 7 (8:30 AM – 10:15 AM)

SESSION 3.1A (TUT-03A)

Wednesday, August 7, 8:30 AM – 10:15 AM, Regency F

TUTORIAL 3: SHOCK SPECTRUM – APPLICATION TO SHOCK & SEISMIC ANALYSIS – I

Presented by: R. J. Scavuzzo, University of Akron, (Akron, OH USA)

SESSION 3.1B (FSI-02A)

Wednesday, August 7, 8:30 AM – 10:15 AM, Grouse

ADVANCES IN FLUID/STRUCTURE INTERACTION – I

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-1: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 1

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille (Villeneuve d'Ascq, FRANCE); A. Holdo, University of Hertfordshire (Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: M. Souli, Université de Lille (Villeneuve d'Ascq, FRANCE)

Vice Chair: H. Iyama, Yatsushiro National College of Technology (Yatsushiro, JAPAN)

CFD-TOOL FOR THERMAL-HYDRAULICS PRESSURIZED THERMAL SHOCK ANALYSIS: QUALIFICATION OF THE CODE SATURNE

A. Martin, EDF/Research and Development Division (Cedex, FRANCE) and S. Bellet, EDF/Industry (Villurbanne Cedex, FRANCE)

FLUID-STRUCTURE INTERACTION IN LSDYNA: INDUSTRIAL APPLICATIONS

M. Souli, L. Olovson, and L. Do, University of Lille France (Villeneuve d'Ascq, FRANCE)

A BEAM EMBEDDED ELEMENT FOR NUMERICAL MODELING OF GEO-COMPOSITES STRUCTURES

M. Sadek, I. Shahrouh, and H. Mroueh, Université des Sciences et Technologies de Lille (Villeneuve d'Ascq Cedex, FRANCE)

DESIGN OF TUNNELS IN SWELLING SOILS: DETERMINATION OF SWELLING SOIL PROPERTIES

T. Windal and I. Shahrouh, Laboratoire de Mécanique de Lille (Villeneuve d'Ascq Cedex, FRANCE)

SESSION 3.1C (DA-05A)

Wednesday, August 7, 8:30 AM – 10:15 AM, Stanley

FATIGUE: DESIGN and ANALYSIS - I

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-1: Fatigue, Fracture and Damage Analysis – 2002, Volume 1

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE); S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE); K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA); and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: J.-M. Stéphan, EDF-DER (Moret/Loing, FRANCE)

Vice Chair: F. Otremba, MPA Stuttgart (Stuttgart, GERMANY)

FATIGUE CRACK GROWTH IN PLATE LIKE STRUCTURES DUE TO THERMAL STRIPING

S. Chattopadhyay, The American University in Cairo (Cairo, EGYPT)

REDUCED LIFE CYCLE COSTS AND IMPROVED ANALYSIS ACCURACY UTILIZING WESTEMS™ INTEGRATED MODELING METHODS

E. L. Cranford, M. A. Gray, and R. Kabir, Westinghouse Electric Co. (Pittsburgh, PA USA)

FEASIBILITY STUDY OF A SPECTRAL DENSITY MODELING OF THERMAL FLUCTUATIONS IN MIXING TEES

C. Vindeirinho, EDF-DER (Chatou, FRANCE)

STRESS RESPONSE FUNCTIONS TO MULTIDIMENSIONAL SPATIAL FLUCTUATIONS TO FLUID TEMPERATURE

N. Kasahara and H. Takasho, Japan Nuclear Cycle Development Institute (Oarai, JAPAN)

SESSION 3.1D (SE-05)

Wednesday, August 7, 8:30 AM – 10:15 AM, Cypress

TECHNOLOGIES FOR SEISMIC MITIGATION

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-2: Seismic Engineering – 2002, Volume 2

Developed by: C. S. Tsai, Feng Chia University (Taichung, TAIWAN)

Chair: C. S. Tsai, Feng Chia University (Taichung, TAIWAN)

Vice-Chair: J. C. Chen, Lawrence Livermore National Laboratory (Livermore, CA USA)

IMPACT BEHAVIOR OF ROCKING BRIDGE PIERS

C.-T. Cheng and M.-H. Shih, National Kaohsiung First University of Science and Technology (Kaohsiung, TAIWAN)

REASONABLE LATERAL FORCE DISTRIBUTIONS ON ISOLATED STRUCTURES

C. S. Tsai, T. C. Chiang, and B. J. Cheng, Feng Chia University (Taichung, TAIWAN)

AN IMPROVED FPS ISOLATOR FOR SEISMIC MITIGATION ON STEEL STRUCTURES

C. S. Tsai, T. C. Chiang, C. K. Cheng, W. S. Chen, and C. W. Chang, Feng Chia University (Taichung, TAIWAN)

SHAKING TABLE TESTS OF FULL SCALE BASE-ISOLATED STRUCTURES

B. S. Tsai, B. J. Chen, and T. C. Chiang, Feng Chia University (Taichung, TAIWAN)

SESSION 3.1E (HPT-01)

Wednesday, August 7, 8:30 AM – 10:15 AM, Prince of Wales

HIGH PRESSURE TECHNOLOGY: METHODS, APPLICATIONS AND HISTORY

Sponsored by: The High Pressure Technology Committee

Published in PVP Vol. 436: Pressure Vessel and Piping High Pressure Technology – 2002: Design, Analysis, Applications and History

Developed by: E. D. Roll, The Ingersoll-Rand Company (Bryan, OH USA)

Chair: E. D. Roll, The Ingersoll-Rand Company (Bryan, OH USA)

Vice Chair: D. T. Peters, Autoclave Engineers (Erie, PA USA)

RECENT ADVANCES IN HIGH PRESSURE FOOD PROCESSING EQUIPMENT AND EQUIPMENT REQUIREMENTS TO MEET NEW PROCESS NEEDS

J. A. Kapp, Elmhurst Research, Inc. (Albany, NY USA) and D. F. Farkas, Elmhurst Research, Incorporated (Albany, NY USA)

INTENSIVE QUENCHING THEORY AND APPLICATION FOR IMPARTING RESIDUAL SURFACE STRESSES IN PRESSURE VESSELS

M. Aronov, N. Kobasko, and J. A. Powell, IQ Technologies (Akron, OH USA) and A. M. Freborg and B. L. Ferguson, Deformation Control, Inc. (Cleveland, OH USA)

FROM TEST PILOT TO 20TH CENTURY HIGH PRESSURE ENTREPRENEUR

N. Wayne Walkup, Ingersoll-Rand Company (Baxter Springs, KS USA)

THE INFLUENCE OF FINITE THREE DIMENSIONAL MULTIPLE AXIAL EROSIONS ON THE FATIGUE LIFE OF PARTIALLY AUTOFRETTAGED PRESSURIZED CYLINDERS

C. Levy, Florida International University (Miami, FL USA); M. Perl, Ben-Gurion University of the Negev (Beer-Sheva, ISRAEL); and Q. Ma, Carnegie-Mellon University (Pittsburgh, PA USA)

SESSION 3.1F (NDE-01)

Wednesday, August 7, 8:30 AM – 10:15 AM, Plaza C

GENERAL NONDESTRUCTIVE EVALUATION ENGINEERING (NDE) – I

Sponsored by: The ASME Nondestructive Evaluation Engineering Division

Published in PVP Vol. 449: Nondestructive Evaluation Engineering (NDE) – 2002 and PVP Vol. 439: Pressure Vessels & Piping, Codes and Standards – 2002

Developed by: G. Ramirez, University of Kansas (Lawrence, KS USA)

Chair: O. F. Hedden, Consultant (Fort Worth, TX USA)

Vice Chair: A. Curry, University of Kansas (Lawrence, KS USA)

CASE STUDIES OF ULTRASONIC THICKNESS AND PULSED-EDDY CURRENT NONDESTRUCTIVE EXAMINATIONS FOR THE DETECTION OF WALL LOSS ON FEEDWATER HEATER SHELLS

J. Norton, Power Inspection Consultants, Inc. (Wadsworth, OH USA) and M. Cohn, Aptech Engineering Services, Inc. (Sunnyvale, CA USA)

NONDESTRUCTIVE MEASUREMENT OF STRESSES IN STRUCTURAL MATERIALS

S. F. da Silva, Jr., J. Cruz, M. Werneck, and M. Neto, CDNEN/CDTN (Belo Horizonte, MG BRAZIL)

DIGITAL RADIOGRAPHY VS. CONVENTIONAL RADIOGRAPHY – IS DIGITAL RADIOGRAPHY IN COMPLIANCE WITH THE CODE?

R. Poland, Savannah River Site (Aiken, SC USA); and B. Howard and D. Immel, Savannah River Site (Augusta, GA USA)

QUANTITATIVE NDE AND FITNESS-FOR-PURPOSE

M. D. C. Moles, R/D Tech, (Mississauga, ON CANADA), E. Ginzler, Materials Research Institute (Kitchener, ON CANADA), and N. Dube, R&D Tech Quebec (Quebec, QC CANADA)

PHASED ARRAY UT TECHNOLOGY FOR NUCLEAR PIPE INSPECTION

G. Selby, J. Landrum, M. Dennis, and D. MacDonald, EPRI (Charlotte, NC USA)

SESSION 3.1G (DA-04A)

Wednesday, August 7, 8:30 AM – 10:15 AM, Plaza B

FITNESS FOR SERVICE, LIFE EXTENSION, REMEDIATION AND REPAIR – I

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 442: Fitness for Service Evaluations and Non-Linear Analysis – 2002 and PVP Vol. 439: Pressure Vessels & Piping Codes and Standards – 2002

Developed by: W. J. Koves, UOP LLC (Des Plaines, IL USA); D. Williams, Sharoden Engineering Consultants (Matthews, NC USA); R. Seshadri, Memorial University of Newfoundland (St. Johns, NF CANADA); and C. Rodery, BP (Alvin, TX USA)

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

Vice Chair: D. Williams, Sharoden Engineering Consultants (Matthews, NC USA)

USE OF STRUCTURAL RELIABILITY ANALYSIS FOR UPGRADING ABOVE GROUND INSTALLATIONS

C. Jandu, A. Francis, and M. A. McCallum, Advantica Technologies (London, ENGLAND)

PRO-ACTIVE FITNESS FOR SERVICE OF 19 METER DIAMETER NGL SURGE SPHERE

M. Walsh, Saudi Arabian Oil Company (Dhahran, SAUDI ARABIA)

FITNESS-FOR-PURPOSE ASSESSMENT OF ENCIRCLEMENT SPLIT-TEES

S. Wheat, C. S. Jandu, D. N. Bramley, and J. H. Liu, Advantica Technologies (London, ENGLAND)

101 ESSENTIAL ELEMENTS IN A PRESSURE EQUIPMENT INTEGRITY MANAGEMENT PROGRAM FOR THE HYDROCARBON PROCESS INDUSTRY

J. Reynolds, Shell Global Solutions US (Houston, TX USA)

SESSION 3.1H (MF-08E/CS-12E)

Wednesday, August 7, 8:30 AM – 10:15 AM, Plaza A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT – V

Sponsored by: The Materials and Fabrication Committee

Published in PVP Vol. 437: Service Experience and Failure Assessment Applications

Developed by: D. P. G. Lidbury, Serco Assurance (Warrington, Cheshire, UK) and D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

Chair: B. R. Bass, Oak Ridge National Laboratory (Oak Ridge, TN USA)

Vice Chair: S. Yellowlees, Serco Assurance (Warrington, Cheshire, UK)

CODE BASED FAILURE AVOIDANCE ASSESSMENTS OF THE NESC-1 LARGE SCALE PRESSURISED THERMAL SHOCK EXPERIMENT

M. C. Smith, British Energy Generation, Ltd. (Barnwood, Gloucester, UK)

LIMIT LOAD SOLUTIONS FOR SURFACE CRACKS IN PLATES UNDER DIFFERENT LOADING TYPES

P. Dillström and I. Sattari-Far, Det Norske Veritas Consulting (Stockholm, SWEDEN)

OVERVIEW OF NESC-IV CRUCIFORM SPECIMEN TEST RESULTS

N. Taylor, European Commission Joint Research Centre (Petten, NETHERLANDS) and B. R. Bass, ORNL (Oak Ridge, TN USA)

SESSION 3.1J (CS-03)

Wednesday, August 7, 8:30AM - 10:15 AM, Georgia B

NEW DEVELOPMENTS IN PRESSURE VESSEL CODES

Sponsored by: The Codes and Standards Coimmittee

Published in PVP Vol. 439: Pressure Vessels & Piping Codes and Standards – 2002

Developed by: M. D. Rana, Praxair Inc. (Tonawanda, NY USA)

Chair: M. D. Rana, Praxair Inc. (Tonawanda, NY USA)

Vice Chair: F. Osweiler, CETIM (Cedex, FRANCE)

JAPANESE CODE FOR ASSESSMENT PROCEDURE FOR CRACKLIKE FLAWS IN PRESSURE EQUIPMENT

S. Konosu, Ibaraki University (Ibaraki, JAPAN); T. Tahara, High Pressure Institute of Japan (Tokyo, JAPAN); and H. Kobayashi, Tokyo Institute of Technology (Tokyo, JAPAN)

NEW COMMON DESIGN RULES FOR U-TUBE HEAT EXCHANGERS IN ASME, CODAP AND UPV CODES

F. Osweiler, CETIM (Cedex, FRANCE)

101 ESSENTIAL ELEMENTS IN A PRESSURE EQUIPMENT INTEGRITY MANAGEMENT PROGRAM FOR THE HYDROCARBON PROCESS INDUSTRY, PART 2

J. T. Reynolds, Shell Global Solutions-US (Houston, TX USA)

DEVELOPMENT OF SYSTEM BASED CODE FOR STRUCTURAL INTEGRITY OF FBRS

T. Asayama, M. Morishita, and N. Kawasaki, Japan Nuclear Cycle Developments Institute (Higashi-Ibaraki, JAPAN) and K. Dozaki, Japan Atomic Power Company, Ltd. (JAPAN)

SESSION 3.1K (SE-O2A)

Wednesday, August 7, 8:30 AM – 10:15 AM, Georgia A

LARGE SCALE ONGOING R&D PROJECTS ON SEISMIC ENGINEERING – I

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering – 2002, Volume 1

Developed by: S. Fujita, Tokyo Denki University (Tokyo, JAPAN) and K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN)

Chair: M. Aggarwal, Ontario Power Generation (Toronto, ON CANADA)

Vice-Chair: S. Fujita, Tokyo Denki University (Tokyo, JAPAN)

STUDY ON 3-D MEASUREMENT METHOD FOR STRUCTURAL DYNAMIC DISPLACEMENT IN SHAKE TABLE TESTS USING IMAGE PROCESSING

S. Fujita, Tokyo Denki University (Tokyo, JAPAN); O. Furuya, Tokyo Metropolitan College of Tech. (Tokyo, JAPAN); Y. Niitsu, Tokyo Denki University (Tokyo, JAPAN); T. Mikoshiba, National Research Institute for Earth Science and Disaster Prevention (Ibaraki, JAPAN); and H. Yamazaki, Tokyo Denki University (Tokyo, JAPAN)

DEVELOPMENT OF ADVANCED MECHANICAL SYSTEM FOR 3-D FULL-SCALE EARTHQUAKE TESTING FACILITY

S. Watanabe, K. Maekawa, Y. Tanaka, A. Koike, and Y. Yamasaki, Mitsubishi Heavy Industries (Nagasaki, JAPAN)

DEVELOPMENT OF NUMERICAL DYNAMIC SIMULATORS FOR 3-D FULL-SCALE EARTHQUAKE TESTING FACILITY (PHASE-2)

S. Kajii, C. Yasuda, T. Yamashita, Y. Okuda, and J. Hira, Mitsubishi Heavy Industries (Takasago, JAPAN); N. Ogawa, National Research Institute for Earth Science and Disaster Prevention (Ibaraki, JAPAN); and H. Shibata, Nihon University (Tokyo, JAPAN)

FEASIBILITY STUDY OF TANK DESTRUCTION TEST WITH “E-DEFENSE”

S. Oka, Japan Science and Technology Corporation (Ibaraki, JAPAN); K. Kajiwara, National Research Institute for Earth Science and Disaster Prevention (Ibaraki, JAPAN), and T. Itoh, Takasago Research & Development Center (Hyogo, JAPAN)

SESSION 3.1L (CS-01C)

Wednesday, August 7, 8:30 AM – 10:15 AM, Oxford

PLASTIC ANALYSIS IN PRESSURE VESSEL DESIGN – III: ROLE OF INELASTIC ANALYSIS

Sponsored by: The Codes and Standards Technical Committee

Published in PVP Vol 439: Pressure Vessels & Piping, Codes and Standards – 2002

Developed by: A. Kalnins, Lehigh University (Bethlehem, PA USA)

Chair: A. Kalnins, Lehigh University (Bethlehem, PA USA)

Vice-Chair: W. Reinhardt, Babcock & Wilcox (Cambridge, ON CANADA)

EVALUATION CRITERIA FOR ALTERNATING LOADS BASED ON PARTIAL INELASTIC ANALYSES

A. Okamoto, IHI Ishikawajima-Harima Heavy Industries (Yokohama, JAPAN); Y. Ohtake, Ishikawajima-Harima Heavy Industries (Tokyo, JAPAN); and N. Yamashita, Tokyo Electric Power Company (Tokyo, JAPAN)

COLLAPSE TESTS ON EXTERNALLY PRESSURISED STEEL TOROIDS

J. Blachut, The University of Liverpool (Liverpool, UK)

A SIMPLE INELASTIC CONSTITUTIVE MODEL FOR EVALUATION OF STABLE CYCLIC STRESS RESPONSE UNDER NONPROPORTIONAL STRAINING

M. Sakane, Ritsumeikan University (Shiga, JAPAN); T. Itoh, Fukui University (Fukui, JAPAN); and X. Chen, Tianjin University (Tianjin, CHINA)

CREEP LIFE PREDICTION FOR HIGH ENERGY PIPING GIRTH WELDS CASE HISTORY - CHOLLA UNIT 2

M. J. Cohn, Aptech Engineering Services (Sunnyvale, CA USA); and D. Nass, Arizona Public Service Company (Phoenix, AZ USA)

SESSION 3.1M (FSI-22A)

Wednesday, August 7, 8:30 AM – 10:15 AM, Regency E

CURRENT THERMAL-HYDRAULIC PROBLEMS IN VESSELS, PIPING, AND COMPONENTS – I

Sponsored by: The Fluid-Structure-Interaction Committee

Published in PVP Vol. 435: Thermal-Hydraulic Problems, Sloshing Phenomena, and Extreme Loads on Structures

Developed by: F. J. Moody (Murphys, CA USA) and J. C. Jo, Korea Institute of Nuclear Safety (Taejon, KOREA)

Chair: F. J. Moody (Murphys, CA USA)

Vice Chair: J. C. Jo, Korea Institute of Nuclear Safety (Taejon, KOREA)

INTERNAL DAMAGE IN A HIGH PRESSURE PROCESS SYSTEM BY THERMAL-HYDRAULIC FORCES: A CASE HISTORY (Keynote Paper)

S. Brown, QUEST Engineering (Houston, TX USA), I. LeMay, MCS/ISI (CANADA), and F. J. Moody, GE Retired (Murphys, CA USA)

AIR CLEARING OSCILLATION PRODUCED BY APR 1400 PROTOTYPE SPARGER

S. Cho, C. K. Park, H. Y. Kim, S. Y. Chun, and C. H. Song, Korea Atomic Energy Research Institute (Taejon, KOREA)

A CASE STUDY OF A VALVE FAILURE DUE TO CONDENSATION-INDUCED WATERHAMMER

H. Harling, Duke Power, (Anderson, SC USA)

UNIT CELL SPARGER TEST PROGRAM AND PRELIMINARY TEST RESULTS FOR APR 1400

C. K. Park, S. Cho, C. H. Song, and S. Y. Chun, Korea Atomic Energy Research Institute (KAERI) (Taejon, KOREA)

SESSION 3.1N (FSI-11I)

Wednesday, August 7, 8:30 AM – 10:15 AM, Regency B

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – IX: FLOW IN BIOLOGICAL AND MEDICAL SYSTEMS

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS), V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA), and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: N. Djilali, University of Victoria (Victoria, BC CANADA)

Vice Chair: Kil-Mo Koo, Korea Atomic Energy Research Institute (Taejon, KOREA)

DESIGN ANALYSIS OF THE VOLUMATIC SPACER - A CFD AND EXPERIMENTAL STUDY

V. Jalili, M. K. Patel, and C. Bailey, University of Greenwich (Greenwich, UK); S. M. Begg, University of Brighton (Brighton, UK); H. K. Versteeg and I. Hargrave, University of Loughborough (Loughborough, UK); and I. Shrubbs, Astra Zeneca Pharmaceutical Co. (Loughborough, UK)

THREE-DIMENSIONAL FLOW ANALYSIS IN VFP TYPE ARTIFICIAL HEART BY UNSTRUCTURED GRID

S. Kawano, T. Kato, K. Nakahashi, A. Shirai, T. Hayase, T. Yambe, and S. Nitta, Tohoku University (Sendai, JAPAN) and H. Hashimoto, Ebara Research Co., Ltd. (Fujisawa, JAPAN)

CFD ANALYSIS of THE BEHAVIOR of AIRBORNE ALLERGENS IN CARPETED AND UNCARPETED DWELLINGS

B. A. Ciccirelli, MIT (Cambridge, MA USA); D. L. Davidson, E. H. Hart, and P. R. Peoples, Solutia Inc. (Cantonment, FL USA)

FORCED FLOW HEAT AND MASS TRANSFER TO A CYLINDER SURROUNDED BY A POROUS MATERIAL WITH APPLICATION TO NBC PROTECTIVE CLOTHING

M. P. Sobera, C. R. Kleijn, and H. E. A. Van Den Akker, Delft University of Technology (Delft, NETHERLANDS) and P. Brasser, TNO Prins Maurits Laboratory (Rijswijk, NETHERLANDS)

SELF-EXCITATION VOCALIZATION ANALYSES of VOCAL CHORD UNDER BREATHING FLOW AND WIDE FREQUENCY CHANGE BY MUSCLE ACTIVATION

T. Tsuta, T. Iwamoto, T. Shimizu, and D. Egusa, Hiroshima University (Hiroshima, JAPAN)

SESSION 3.10 (FSI-11H)

Wednesday, August 7, 8:30 AM – 10:15 AM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – VIII: REACTING AND COMBUSTING FLOWS (3)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications - 2002

Developed by: S. Kawano, Tohoku University (Sendai, JAPAN), C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS), and V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA)

Chair: H. Terasaka, Tohoku University (Sendai, JAPAN)

Vice Chair: P. Nielsen, Haldoer Topsoe A/S (Lyngby, DENMARK)

HYDROGEN DISTRIBUTION, COMBUSTION AND DETONATION FOR H2 RISK ANALYSIS IN LARGE FACILITIES

A. Beccantini, N. Coulon, F. Dabbene, S. Gounand, S. Kudriakov, J-P. Magnaud, and H. Paillere, CEA (Gif-sur-Yvette, FRANCE)

NUMERICAL ANALYSIS OF INTERACTION BETWEEN PLASMA JET AND FLAME IN SUPERSONIC FLOW

K. Takita, Tohoku University (Sendai, JAPAN)

NUMERICAL SIMULATION OF NON-PREMIXED DIFFUSION FLAME AND REACTION PRODUCT AEROSOL BEHAVIOR IN LIQUID METAL POOL COMBUSTION

A. Yamaguchi and Y. Tajima, Japan Nuclear Cycle Development Institute (Ibaraki, JAPAN)

NUMERICAL MODELING of ECCENTRIC JET PRECOMBUSTOR

S. Yezhu, Huaneng Power International, Inc. (Beijing, CHINA)

USING COMPUTATIONAL TECHNOLOGY TO SIMULATE LARGE MIXING-LIMITED FIRES USING THREE-DIMENSIONAL CALCULATIONS

R. R. Linn, Los Alamos National Laboratory (Los Alamos, NM USA)

Block 3.2: Wednesday, August 7 (10:30 AM – 12:15 PM)

SESSION 3.2A (TUT-03B)

Wednesday, August 7, 10:30 AM – 12:15 PM, Regency F

TUTORIAL 3: SHOCK SPECTRUM – APPLICATION TO SHOCK & SEISMIC ANALYSIS – II

Presented by: R. J. Scavuzzo, University of Akron (Akron, OH USA)

SESSION 3.2B (FSI-02B)

Wednesday, August 7, 10:30 AM – 12:15 PM, Grouse

ADVANCES IN FLUID/STRUCTURE INTERACTION – II

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-1: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 1

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille (Ascq, FRANCE); A. Holdo, University of Hertfordshire (Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: S. Itoh, Kumamoto University (Kumamoto, JAPAN)

Vice Chair: M. Fischer, Technical University of Munich (Garching, GERMANY)

DEFORMATION AND COLLISION PROCESS OF METAL PLATE ON EXPLOSIVE WELDING USING UNDERWATER SHOCK WAVE

H. Iyama, Yatsushiro National College of Technology (Yatsushiro, Kumamoto, JAPAN); M. Fujita, Sojo University, (Kumamoto, JAPAN); K. Raghukandan, Annamalai University (Tamil Nadu, INDIA); K. Hokamoto and S. Itoh, Kumamoto University (Kumamoto, JAPAN)

FLUID-STRUCTURE INTERACTION FOR HYDRODYNAMIC PROBLEMS: IMPACT BETWEEN A TANK BOW FLARE AND A SUBMARINE

N. Aquelet and M. Souli, Université des Sciences et Technologies de Lille (Cedex, FRANCE) and H. Lesourne, IRCN Principia Marine (Nantes, FRANCE)

SIMULATION OF A CH-47 WATER CRASH EVENT

J. Gabrys and J. Schatz, Boeing Company Rotorcraft Division (Philadelphia, PA USA)

ALE MULTI-MATERIAL FORMULATION OF HIGH EXPLOSIVE DETONATION USING LSDYNA3D

K. Mahmadi, N.Aquelet, and M.Souli, Université des Sciences et Technologies de Lille (Cedex, FRANCE) and J. Gabrys, Boeing Company Rotorcraft Division (Philadelphia, PA USA)

SESSION 3.2C (DA-05B)

Wednesdy, August 7, 10:30 AM – 12:45 PM, Stanley

FATIGUE: DESIGN and ANALYSIS - II

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-1: Fatigue, Fracture and Damage Analysis – 2002, Volume 1

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE); S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE); K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA); and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: N. Kasahara, Japan Nuclear Cycle Development Institute (Oarai, JAPAN)

Vice Chair: S. Chattopadhyay, The American University in Cairo (Cairo, EGYPT)

EVALUATION OF THE RISK OF DAMAGES IN MIXING ZONES: EDF R&D PROGRAMME

J. M. Stephan, F. Curtit, C. Vindeirinho, S. Taheri, M. Akamatsu, and C. Peniguel, EDF-DER (Moret/Loing, FRANCE)

DETAILED ASSESSMENT OF FATIGUE LIFE: A CRITICAL REVIEW

E. Roos, K. H. Herter, and F. Otremba, MPA-University of Stuttgart (Stuttgart, GERMANY)

A CONTRIBUTION TO PROOF OF THE COMPONENT INTEGRITY TAKING INTO ACCOUNT THE CORROSION-ASSISTED CRACK GROWTH

E. Roos, F. Otremba, and F. Huttner, MPA-University of Stuttgart (Stuttgart, GERMANY)

AN INVESTIGATION INTO THE FEASIBILITY OF ENVIRONMENTAL FATIGUE DESIGN FOR APR 1400 PRIMARY COMPONENTS AND PIPING WITH A 60 YEAR DESIGN LIFE (Presentation Only)

J.-S. Park, J.-M. Kim, G.-S. Kim, and T.-S. Choi, Korea Power Engineering Company (Taejon, KOREA)

SESSION 3.2D (CS-11)

Wednesday, August 7, 10:30 AM – 12:15 PM, Cypress

THE EUROPEAN PRESSURE EQUIPMENT DIRECTIVE (97/23/EC) – THE CHALLENGES OF IMPLEMENTATION

Sponsored by: The Codes & Standards Committee

Published in PVP Vol 439: Pressure Vessels & Piping, Codes and Standards – 2002

Developed by: B. T. Lubin, Westinghouse Electric Corporation (Windsor, CT USA)

Chair: A. Garbolevsky, Hartford Steam Boiler of CT, Code Services (Framingham, MA USA)

Vice Chair: B. T. Lubin, Westinghouse Electric Corporation (Windsor, CT USA)

Panelists:

- J. Carter, Hartford Steam Boiler of CT (Canton, GA USA.)
- M. D. Norman, Det Norske Veritas (Calgary, AB CANADA)
- F. Osweiler, CETIM, (Senlis, FRANCE)
- M. Porfilio, Stainless Foundry and Engineering, Inc. (Milwaukee, WI USA)

SESSION 3.2E (HPT-02)

Wednesday, August 7, 10:30 AM – 12:15 PM, Prince of Wales

GLOBAL ADVANCEMENT IN HIGH PRESSURE TECHNOLOGY DESIGN & ANALYSIS

Sponsored by: The High Pressure Technology Committee

Published in PVP Vol. 436: Pressure Vessel and Piping High Pressure Technology – 2002; Design, Analysis, Applications and History

Developed by: D. T. Peters, Autoclave Engineers (Erie, PA USA)

Chair: D. T. Peters, Autoclave Engineers (Erie, PA USA)

Vice Chair: E. D. Roll, The Ingersoll-Rand Company (Bryan, OH USA)

COMPARISON OF METHODS FOR CALCULATING STRESS INTENSITY FACTORS FOR A CLOSURE THREAD

D. Kendall (Troy, NY USA)

STRESS CONCENTRATION FACTORS OF CROSS-BORES IN THICK WALLED CYLINDERS AND SQUARE BLOCKS

R. D. Dixon, E. I. DuPont de Nemours & Company (Wilmington, DE USA); D. T. Peters, Autoclave Engineers, Division of Snap-Tite, Inc. (Erie, PA USA); and J. G. M. Keltjens, DSM (Geleen, NETHERLANDS)

FATIGUE LIFE OF COMMERCIAL HIGH PRESSURE TUBING

M. D. Mann, Ingersoll-Rand, ARO (Joplin, MO USA)

YIELD PRESSURE MEASUREMENTS AND ANALYSIS FOR AUTOFRETTAGED CANNON

J. H. Underwood, D. B. Moak, and M. A. Audino, Army Armament RD&E Center (Watervliet, NY USA) and A. P. Parker, Royal Military College of Science, Cranfield University (Swindon, UK)

SESSION 3.2F (NDE-02)

Wednesday, August 7, 10:30 AM – 12:15 PM, Plaza C

ULTRASONIC NDE IN MEDICINE AND BIOLOGY

Sponsored by: The ASME Nondestructive Evaluation Engineering (NDE) Division

Published in PVP Vol. 449: Nondestructive Evaluation Engineering – 2002

Developed by: C. Miyasaka, Pennsylvania State University (University Park, PA USA)

Chair: C. Miyasaka, Pennsylvania State University (University Park, PA USA)

Vice Chair: N. B. Smith, Pennsylvania State University (University Park, PA USA)

IN VITRO IMAGING TECHNIQUE OF CELL ADHESION

C. Dong, Pennsylvania State University (University Park, PA USA)

CHARACTERIZATION OF THIN BIOLOGICAL TISSUE WITH SCANNING ACOUSTIC MICROSCOPY

C. Miyasaka, Jikai Du, and B. R. Tittmann, Pennsylvania State University (University Park, PA USA)

DEVELOPMENT IN HIGH FREQUENCY ULTRASONIC IMAGING AND TRANSDUCERS

K. K. Shung, Pennsylvania State University (University Park, PA USA)

NONINVASIVE ULTRASOUND MEDIATED TRANSDERMAL TRANSPORT OF INSULIN ACROSS EX VIVO HUMAN SKIN

N. B. Smith, S.-J. Lee, and K. K. Shung, Pennsylvania State University (University Park, PA USA)

THERMAL AND ACOUSTICAL INSULT TO CELLS AS STUDIED BY IN-VIVO ACOUSTIC MICROSCOPY

B. R. Tittmann and C. Miyasaka, Pennsylvania State University (University Park, PA USA)

SESSION 3.2G (DA-04B)

Wednesday, August 7, 10:30 AM – 12:45 PM, Plaza B

FITNESS FOR SERVICE, LIFE EXTENSION, REMEDIATION AND REPAIR – II

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 442: Fitness for Service Evaluations and Non-Linear Analysis – 2002

Developed by: W. J. Koves, UOP LLC (Des Plaines, IL USA); D. Williams, Sharoden Engineering Consultants (Matthews, NC USA); R. Seshadri, Memorial University of Newfoundland (St. Johns, NF CANADA); and C. Rodery, BP (Alvin, TX USA)

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

Vice Chair: C. Rodery, BP (Alvin, TX USA)

STEAM PIPE FITNESS FOR SERVICE

R. S. Vecchio and S. K. Sam Sinha, Lucius Pitkin Inc. (New York, NY USA)

HYDROGEN EMBRITTEMENT TESTING OF 2.25 CR-1MO STEEL USING LARGE THICK SPECIMEN

Y. Wada and T. Hasegawa, Japan Steel Works (Hokkaido, JAPAN) and H. Inoue, Nippon Mitsubishi Petroleum Refining (Hokkaido, JAPAN)

FLAW GROWTH PREDICTION AND FITNESS FOR SERVICE ASSESSMENT OF A PWR NUCLEAR PLANT STEAM GENERATOR U-TUBE

R. S. Vecchio and S.K. Sam Sinha, Lucius Pitkin Inc. (New York, NY USA)

SIMULATION OF DEGRADED REPAIR WELD AND SERVICEABILITY ASSESSMENT OF PETROLEUM PRESSURE VESSEL

R. Kayano, T. Hasegawa, Japan Steel Works, (Hokkaido, JAPAN) and H. Inoue, Nippon Mitsubishi Petroleum Refining, (Hokkaido, JAPAN)

SESSION 3.2H (SE-09)

Wednesday, August 7, 10:30 AM – 12:15 PM, Plaza A

FORUM ON APPROPRIATE CRITERIA AND METHODS FOR SEISMIC DESIGN OF NUCLEAR PIPING

Sponsored by: The Seismic Engineering Committee

Developed by: G. Slagis, G C Slagis Associates (Pleasant Hill, CA USA)

Chair: L. H. Geraets, Tractebel S.A. (Brussels, BELGIUM)

Vice-Chair: M. E. Nitzel, Idaho National Engineering & Environmental Lab. (Idaho Falls, ID USA)

Note: This is a forum session. All are invited to participate in the open discussion. The session will be recorded and a summary will be published in the Seismic Engineering Volume in 2003.

Topics to be discussed include: Design for SSE Only; Inspection after an OBE; Problems with New Seismic Rules; Fatigue Issue.

SESSION 3.2J (MF-05A/CT-04A)

Wednesday, August 7, 10:30 AM – 12:15 PM, Georgia B

NEW AND EMERGING COMPUTATIONAL METHODS – I

Sponsored by: The Material and Fabrication Committee and The Computer Technology Committee

Published in PVP Vol. 438: New and Emerging Computational Methods: Applications to Fracture, Damage, and Reliability

Developer: S. Rahman and J. Tang, University of Iowa (Iowa City, IA USA) and Y. H. Park, New Mexico State University (Las Cruces, NM USA)

Chair: J. Tang, University of Iowa (Iowa City, IA USA)

Vice-Chair: Y. H. Park, New Mexico State University (Las Cruces, NM USA)

MESH-FREE SIMULATION IN ELASTIC-PLASTIC FRACTURE MECHANICS

B. N. Rao and S. Rahman, University of Iowa (Iowa City, IA USA)

AN EFFICIENT ALGORITHM BASED ON FIRST ORDER RELIABILITY METHOD FOR FATIGUE RELIABILITY ANALYSIS OF MECHANICAL COMPONENTS

J. Tang, University of Iowa (Iowa City, IA USA) and Y. H. Park, New Mexico State University (Las Cruces, NM USA)

STOCHASTIC MESHLESS ANALYSIS OF ELASTIC-PLASTIC CRACKED STRUCTURES

S. Rahman and B. N. Rao, University of Iowa (Iowa City, IA USA)

THE INFLUENCE OF THERMOPHYSICAL MATERIAL PROPERTIES ON A NUMERICAL MODEL OF SOLIDIFICATION

F. Kavicka, J. Stetina, B. Sekanina, and J. Heger, Technical University of Brno (Brno, CZECH REPUBLIC)

LARGE ELASTIC-PLASTIC DEFORMATION ANALYSIS OF RECTANGULAR PLATES

R. Naghdabadi and M. Shahi, Sharif University of Technology (Tehran, IRAN)

SESSION 3.2K (SE-O2B)

Wednesday, August 7, 10:30 AM – 12:15 PM, Georgia A

LARGE SCALE ONGOING R&D PROJECTS ON SEISMIC ENGINEERING – II

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering – 2002, Volume 1

Developed by: S. Fujita, Tokyo Denki University (Tokyo, JAPAN) and K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN)

Chair: G. Roussel, AVN (Brussels, BELGIUM)

Vice-Chair: K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN)

EXPERIMENTAL METHOD USING THE INERTIAL LOADING EQUIPMENT BY THE LARGE SCALE SHAKING TABLE

S. Yamada, Tokyo Institute of Technology (Yokohama, JAPAN); Y. Matsumoto, Yokohama National Univ. (Yokohama, JAPAN); M. Yamaguchi, Tokyo Institute of Technology (Yokohama, JAPAN); N. Ogawa, National Research Institute for Earth Science and Disaster Prevention (Tsukuba, JAPAN); A. Wada, Tokyo Institute of Technology (Yokohama, JAPAN); and H. Akiyama, Niho University (Tokyo, JAPAN)

ALTERNATIVE CONTROL DESIGN APPROACH TO SHAKING FACILITIES FOR RE-CREATING SEISMIC MOTION

E. Sato, National Research Institute for Earth Science and Disaster Prevention (Ibaraki, JAPAN); T. Kakegawa, Seiko EPSON Co. (Nagano, JAPAN); T. Suzuki, Tokyo University of Agriculture and Technology (Tokyo, JAPAN); K. Kajiwara, National Research Institute

for Earth Science and Disaster Prevention (Ibaraki, JAPAN); Y. Tagawa, Tokyo University of Agriculture and Technology (Tokyo, JAPAN); and S. Takai, Nishimatsu Construction Co. (Kanagawa, JAPAN)

NEW DEVELOPMENT OF THE CONTROL METHOD OF SHAKING TABLE WITH BI-LINEAR STRUCTURES

N. Shimizu and Y. Shinohara, Iwaki Meisei University (Fukushima, JAPAN); and E. Sato, National Research Institute for Earth Science and Disaster Prevention (Ibaraki, JAPAN)

A MULTI-POINT RADIO DISPLACEMENT MEASUREMENT METHOD FOR TESTING QUAKE-PROOF STRUCTURE

A. Okamura, Mitsubishi Electric Co. (Kamakura, JAPAN); T. Mikoshiba, National Research Institute for Earth Science and Disaster Prevention (Ibaraki, JAPAN); W. Yosizaki, H. Nagai, A. Mogi, T. Sekiguchi, and H. Kikuchi, Mitsubishi Electric Co. (Kamakura, JAPAN)

SESSION 3.2L (OAC-04A)

Wednesday, August 7, 10:30 AM – 12:15 PM, Oxford

RELIABILITY & SAFETY – I

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 444: Selected Topics on Aging Management, Reliability, Safety, and License Renewal

Developed by: F. L. Cho, Illinois Department of Nuclear Safety (Springfield, IL USA)

Chair: B. Blyukher, Indiana State University (Terre Haute, IN USA)

Co-Chair: F. L. Cho, Illinois Department of Nuclear Safety (Springfield, IL USA)

A LOGIC-BASED APPROACH TO CONCEPTUAL DESIGN OF TECHNICAL FACILITIES

T. F. Bott and S.W. Eisenhower, Los Alamos National Laboratory (Los Alamos, NM USA)

USING QUANTITATIVE RISK ASSESSMENT TO MAKE MAINTENANCE TRADE-OFF DECISIONS

J. Farquharson, ABS Consulting (Knoxville, TN USA) and F. Choquette, Air Canada (Montreal, QC CANADA)

INCORPORATING OF TOTAL QUALITY MANAGEMENT INTO SAFETY PROGRAM: GENERAL APPROACH

B. Blyukher, Indiana State University (Terre Haute, IN USA)

INTEGRATED RISK EVALUATION FOR PROBABILISTIC SAFETY ASSESSMENT LEVELS 1, 2, AND 3 FOR NUCLEAR POWER STATION APPLICATION

F. L. Cho, Illinois Department of Nuclear Safety (Springfield, IL USA)

SESSION 3.2M (FSI-22B)

Wednesday, August 7, 10:30 AM – 12:15 PM, Regency E

CURRENT THERMAL-HYDRAULIC PROBLEMS IN VESSELS, PIPING, AND COMPONENTS – II

Sponsored by: The Fluid-Structure-Interaction Committee

Published in PVP Vol. 435: Thermal-Hydraulic Problems, Sloshing Phenomena, and Extreme Loads on Structures

Developed by: F. J. Moody (Murphys, CA USA) and J. C. Jo, Korea Institute of Nuclear Safety (Taejon, KOREA)

Chair: F. J. Moody (Murphys, CA USA)

Vice Chair: J. C. Jo, Korea Institute of Nuclear Safety (Taejon, KOREA)

NUMERICAL SIMULATION OF THE HDR BLOWDOWN EXPERIMENT V31.1 AT KARLSRUHE

L. Andersson and P. Andersson, Onsala Ingenjorsbyra AB (SWEDEN); J. Lundwall, Ringhals AB (SWEDEN); J. Sundqvist, Scandinavian Engineering Analysis AB (SWEDEN); and P. Veber, OKG AB (SWEDEN)

MEASUREMENT OF PRESSURE DROP IN INCLINED TRIANGULAR AND ROTATED TRIANGULAR TUBE BUNDLES

S. K. Choi, I. K. Choi, K. Y. Lee, H. Y. Nam, J. H. Choi, and H. K. Cho, Korea Atomic Energy Research Institute (Taejon, KOREA)

WATERHAMMER ANALYSIS OF FIRE PROTECTION SYSTEM DUE TO DRAINING OF HIGH ELEVATION HEADERS

S. M. Husaini, R. K. Quashu, D. Y. Arai, and F. Summy, Southern California Edison (San Clemente, CA USA)

EFFECTS OF TUBE RUPTURE MODELING METHODS ON MSSV LIFT TIME FOLLOWING A MSGTR EVENT IN PWR

J. H. Jeong, Cheonan College of Foreign Studies (Cheonan, KOREA); K. Y. Choi, Korea Atomic Energy Research Institute (Taejon, KOREA); and K. S. Chang, Sunmoon University (Choongnam, KOREA)

SESSION 3.2N (FSI-08)

Wednesday, August 7, 10:30 AM – 12:15 PM, Regency B

ADVANCES IN PIPING SYSTEM

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-1: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 1

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille (Villeneuve d'Ascq, FRANCE); A. Holdo, University of Hertfordshire (Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA, USA)

Chair: M. I Fischer, Technical University of Munich (Garching, GERMANY)

Vice Chair: S. Itoh, Kumamoto University (Kumamoto, JAPAN)

OPTIMIZATION OF LOADS IN PIPING SYSTEMS BY REALISTIC CALCULATION METHOD APPLYING FSI AND DYNAMIC FRICTION

T. Diesselhorst and U. Neumann, Framatome ANP (Erlangen, GERMANY)

METAL PIPE FORMING USING UNDERWATER SHOCK WAVE

H. Iyama, Yatsushiro National College of Technology (Yatsushiro, Kumamoto, JAPAN); K. Raghukandan, Annamalai University (Tamil Nadu, INDIA); and S. Nagano, S. Muramoto, and S. Itoh, Kumamoto Univ. (Kumamoto, JAPAN)

CONTINUOUS COMPUTATION IN APPARATUS ENGINEERING

S. Pilhar and K. Strohmeier, Technical University of Munich

(Garching, GERMANY); M. Zirkel and S. Vajna, Otto-von-Guericke-University Magdeburg (Magdeburg, GERMANY)

CFD SIMULATION OF SOIL FLOW OVER AUGERS

J. Davison, R. Calay, and T. Sands, University of Hertfordshire (Hatfield, Hertfordshire, UK) and M. England, Cementation Foundations Skanska (Rickmansworth, Hertfordshire, UK)

SESSION 3.20 (FSI-11J)

Wednesday, August 7, 10:30 AM – 12:15 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – X: FLOW IN ENERGY SYSTEMS (1)

Sponsored by: Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA), S. Kawano, Tohoku University (Sendai, JAPAN), and C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS)

Chair: Y. Matsumoto, University of Tokyo (Tokyo, JAPAN)

Vice Chair: D. L. Davidson, Solutia Inc. (Cantonment, FL USA)

COMPUTATIONAL MODELLING AND SIMULATION of PROTON-EXCHANGE MEMBRANE FUEL CELLS (Keynote)

N. Djilali, University of Victoria (Victoria, BC CANADA)

TOOLS AND TECHNIQUES FOR FUEL CELL PERFORMANCE SIMULATION

A. J. Reich, S. Mazumder, and J. V. Cole, CFD Research Co. (Huntsville, AL USA)

THREE-DIMENSIONAL MODELING of THE MEDIUM SIZE FUEL CELL STACKS: THERMAL EFFECTS ON THE STACK PERFORMANCE

V. Kudriavtsev, CFD Canada (Toronto, ON CANADA) and R. Das, CFDRC (Huntsville, AL USA)

NUMERICAL EXPERIMENTS FOR FLOW AROUND DUCTED TIP HYDROFOIL

H. Ingvarsdottir, C. Ollivier-Gooch, and S. Green, University of British Columbia (Vancouver, BC CANADA)

Block 3.3: Wednesday, August 7 (2:45 PM – 4:30 PM)

SESSION 3.3B (FSI-02C)

Wednesday, August 7, 2:45 PM – 4:30 PM, Grouse

ADVANCES IN FLUID/STRUCTURE INTERACTION – III

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-1: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 1

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille (Villeneuve d'Ascq, FRANCE); A. Holdo, University of Hertfordshire

(Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: A. Martin, EDF/Research and Development Division (CHATOU CEDEX, FRANCE)

Vice Chair: A. Holdo, University of Hertfordshire (Hertfordshire, UK)

FLUID-STRUCTURE INTERACTION OF STIRRERS IN MIXING VESSELS – PART I: DEVELOPMENT OF THE MECHANICAL MODEL

M. Fischer and K. Strohmeier, Technical University of Munich (Garching, GERMANY)

FLUID-STRUCTURE INTERACTION OF STIRRERS IN MIXING VESSELS - PART II: FULLY COUPLED SIMULATION

T. Berger, B. Eckl, and K. Strohmeier, Technical University of Munich (Garching, GERMANY)

INTEGRITY OF A CURVED DIVIDER PLATE IN STEAM GENERATORS OF PRESSURIZED WATER REACTORS DUE TO DYNAMIC PRESSURE LOADING CONSIDERING FLUID-STRUCTURE INTERACTION

K. Schramm, Framatome - ANP GmbH (Erlangen, GERMANY)

CHARACTERISTICS OF THE FLYING METAL PLATE SYSTEM USING OVERDRIVEN DETONATION

S. Itoh, H. Morimoto, S. Nagano, and M. Otsuka, Kumamoto University (Kumamoto, JAPAN); E. Hida and H. Kuroki, Asahikasei Co. (Oita, JAPAN); and Z. Y. Liu, Institute for Materials & Chemical Process, AIST (Tsukuba, JAPAN)

SESSION 3.3C (DA-10A)

Wednesday, August 7, 2:45 PM – 4:30 PM, Stanley

FRACTURE MECHANICS: APPLICATION TO COMPONENTS – I

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-2: Fatigue, Fracture and Damage Analysis – 2002, Volume 2

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE), S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE), K. Yoon, Framatome-ANP Inc. (Lynchburg, VA, USA), and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: D. Siegele, IWM (Freiburg, GERMANY)

Vice Chair: S. Chapuliot, CEA-DMT (Gif sur Yvette, FRANCE)

BENCHMARK COMPUTATIONS ON A TYPICAL TRANSITION WELD OF A PWR IN OPERATION

S. Bate and S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE)

THE LIMIT PRESSURE FOR A CRACKED BRANCH JUNCTION AND COMPARISON WITH A CRACKED PLAIN CYLINDER

K. S. Lee, D. N. Moreton, P. J. Bouchard, and D. G. Moffat, University of Liverpool (Liverpool, UK)

JUSTIFICATION OF THE USE OF LIQUID NITROGEN TO MAKE ICE-PLUGS IN CARBON-MANGANESE STEEL PIPES FOR MAINTENANCE PURPOSES IN NUCLEAR PLANTS

C. Messelier-Gouze, C. Brezillon, A. Tubiana, and G. Rousseau, EDF-DER (Moret/Loing, FRANCE)

FATIGUE FRACTURE BEHAVIOR OF STEEL PIPES WITH A PRE-CRACK

J-K. Lim and L. Bian, Chonbuk National University (Chonju, KOREA)

SESSION 3.3D (SE-07A)

Wednesday, August 7, 2:45 PM – 4:30 PM, Cypress

SEISMIC STRUCTURES RESPONSE AND INTERACTION – I

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering – 2002, Volume 1

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

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

Vice-Chair: C. S. Tsai, Feng Chia Univ. (Taichung, TAIWAN)

DYNAMIC STRESS CONCENTRATION OF A CYLINDRICAL CAVITY BURIED IN AN ELASTIC HALF-SPACE SUBJECTED TO A STANDARD COODIER-BISHOP STRESS WAVE

C. S. Yeh, T. J. Teng, W. I. Liao, and W. S. Shyu, National Taiwan University (Taipei, TAIWAN)

THE CURRENT DEVELOPMENT OF SEISMIC DESIGN CODE OF HIGHWAY BRIDGES IN TAIWAN

W. I. Liao, C. H. Loh, J. F. Tsai, and T. J. Teng, National Center for Research on Earthquake Engineering (Taipei, TAIWAN)

EXPERIMENTAL STUDY FOR A NEW ENERGY DISSIPATION DEVICE WITH MYLTIPLE-DIRECTION DAMPER

C. S. Tsai, Feng Chia University (Taichung, TAIWAN), L. L. Chung, National Center for Research on Earthquake Engineering (Taipei, TAIWAN), and T. C. Chiang, Feng Chia University (Taichung, TAIWAN)

SEISMIC ANALYSES OF VISCOUSLY-DAMPED STRUCTURES WITH AN UNBOUNDED FOUNDATION

C. S. Tsai and T. C. Chiang, Feng Chia University (Taichung, TAIWAN)

SESSION 3.3E (HPT-03)

Wednesday, August 7, 2:00 PM – 3:45 PM, Prince of Wales

LDPE APPLICATIONS

Sponsored by: The High Pressure Technology Committee

Published in PVP Vol. 436: Pressure Vessel and Piping High Pressure Technology – 2002; Design, Analysis, Applications and History

Developed by: J. G. M. Keltjens, DSM (Geleen, NETHERLANDS)

Chair: J. G. M. Keltjens, DSM (Geleen, NETHERLANDS)

Vice Chair: W. Hiller, Uhde Hochdrucktechnik GmbH (Hagen, GERMANY)

LEAK BEFORE BURST TESTING OF A HIGH PRESSURE TUBE

P. Körner, W. Hiller, and R. Wink, Uhde Hochdrucktechnik GmbH (Hagen, GERMANY)

DEVELOPMENT OF MATERIALS, DESIGN, CALCULATION AND TESTING OF HIGH PRESSURE EQUIPMENT, ESPECIALLY FOR LOW DENSITY POLYETHYLENE PLANTS

J. Schedelmaier and M. Pözl, Böhler Hochdrucktechnik GmbH (Kapfenberg, AUSTRIA)

HIGH PRESSURE SAFETY RELIEF VALVES IN ETHYLENE SERVICE

B. Foellmer and A. Schnettler, Bopp & Reuther Sicherheits (Mannheim, GERMANY) and P. Cornelissen, ExxonMobil Chemical (Zwijndrecht, BELGIUM)

IMPROVING AVAILABILITY OF HYPER COMPRESSORS

E. Giacomelli, R. Fani, S. Pratesi, and L. Gimignani, GE Power Systems (Florence, ITALY)

SESSION 3.3F (NDE-03)

Wednesday, August 7, 2:45 PM – 4:30 PM, Plaza

ULTRASONIC NDE IN INDUSTRIES

Sponsored by: The ASME Nondestructive Evaluation Engineering (NDE) Division

Published in PVP Vol. 449: Nondestructive Evaluation Engineering (NDE) – 2002

Developed by: C. Miyasaka, Pennsylvania State University (University Park, PA USA)

Chair: C. Miyasaka, Pennsylvania State University (University Park, PA USA)

Vice Chair: N. B. Smith, The Pennsylvania State University, (University Park, PA, USA)

GUIDED WAVE RESONANCE TUNING FOR PIPE INSPECTION

J. Barshinger, Krautkramer (Lewistown, PA USA); and J. L. Rose and M. J. Avioli Jr., Pennsylvania State University (University Park, PA USA)

THEORETICAL APPROACH TO CONTRAST MECHANISM FOR U-AFM

T. Adachi and A. Yamaji, Tokyo Institute of Technology (Tokyo, JAPAN); C. Miyasaka and B. R. Tittmann, Pennsylvania State University (University Park, PA USA)

SIZING STRESS CORROSION CRACKING IN NATURAL GAS PIPELINES USING PHASED-ARRAY ULTRASOUND

G. Selby and J. Spanner, EPRI, (Charlotte, NC USA)

RECENT EXPERIENCE IN BARKHAUSEN METHOD FOR RESIDUAL STRESS MEASUREMENTS

V. Vengrinovic, Institute of Applied Physics, Academy of Science (Minsk, BELARUS)

SESSION 3.3G (DA-04C)

Wednesday, August 7, 2:45 PM – 4:30 PM, Plaza B

FITNESS FOR SERVICE, LIFE EXTENSION, REMEDIATION AND REPAIR – III

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 442: Fitness for Service Evaluations and Non-Linear Analysis – 2002

Developed by: W. J. Koves, UOP LLC (Des Plaines, IL USA); D. Williams, Sharoden Engineering Consultants (Matthews, NC USA); R. Seshadri, Memorial University of Newfoundland (St. Johns, NF CANADA); and C. Rodery, BP (Alvin, TX USA)

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

Vice Chair: D. Williams, Sharoden Engineering Consultants (Matthews, NC USA)

CREEP CONSTITUTIVE EQUATIONS FOR 1CrMoV BOLT MATERIAL

F. V. Ellis, Tordonato Energy Consultants, Inc. (Chattanooga, TN USA) and R. L. Zielke, Tennessee Valley Authority (Chattanooga, TN USA)

IGSCC FAILURE OF REFRACTALLOY 26 TURBINE BOLTS

F. V. Ellis and S. Tordonato, Tordonato Energy Consultants, Inc. (Chattanooga, TN USA)

DEVELOPMENT OF FFS HANDBOOK FOR REFINERY AND PETRO-CHEMICAL INDUSTRIES

T. Tahara, High Pressure Institute of Japan (Tokyo, JAPAN); T. Kikuchi, Idemitsu Petrochemical Co. (Chiba, JAPAN); K. Ikeda, Nippon Mitsubishi Oil Co. (Tokyo, JAPAN); Y. Ideguchi, Toyo Engineering Co. (Chiba, JAPAN); T. Watanabe, Mitsubishi Chemical (Iiboraki, JAPAN); and T. L. Anderson, Structural Reliability Technology (Boulder, CO USA)

THE USE OF FITNESS FOR SERVICE ASSESSMENT PROCEDURES TO ESTABLISH ALLOWABLE FLAW SIZES IN STEEL CYLINDERS

J. Smith, Consultant (Potomac, MD USA) and M. Rana, Praxair, Inc. (Tonawanda, NY USA)

SESSION 3.3H (CS-04)

Wednesday, August 7, 2:45 PM – 4:30 PM, Plaza A

STRUCTURAL INTEGRITY OF PRESSURE COMPONENTS

Sponsored by: The Codes and Standards Technical Committee

Published in PVP Vol 439: Pressure Vessels & Piping, Codes and Standards – 2002

Developed by: Y. Hari, University of North Carolina (Charlotte, NC USA)

Chair: Y. Hari, University of North Carolina (Charlotte, NC USA)

Vice-Chair: D. Bhavnani, Public Service Electric & Gas (Hancock's Bridge, NJ USA)

FINITE ELEMENT ANALYSIS AND DESIGN OF A HORIZONTAL TANK ON SADDLE SUPPORTS

A. H. Birhane and Y.r Hari, University of North Carolina (Charlotte, NC USA)

LIMIT LOAD ANALYSIS OF API 620 TANK ROOF-SHELL JUNCTION

M. D. Rana and V. E. Bergsten, Praxair, Inc. (Tonawanda, NY USA) and Y. Hari, University of North Carolina (Charlotte, NC USA)

IDENTIFICATION AND RESOLUTION OF CRITICAL PIPING ACTIVITIES FOR POWER UPRATES AT NUCLEAR PLANTS

D. Bhavnani, Public Service Electric & Gas (Hancock's Bridge, NJ USA)

SESSION 3.3J (MF-05B/CT-04B)

Wednesday, August 7, 2:45 PM – 4:30 PM, Georgia B

NEW AND EMERGING COMPUTATIONAL METHODS – II

Sponsored by: The Material and Fabrication Committee and The Computer Technology Committee

Published in PVP Vol. 438: New and Emerging Computational Methods: Applications to Fracture, Damage, and Reliability

Developer: S. Rahman, University of Iowa (Iowa City, IA USA). J. Tang, University of Iowa (Iowa City, IA USA). and Y. H. Park, New Mexico State University (Las Cruces, NM USA)

Chair: S. Rahman, University of Iowa (Iowa City, IA USA)

Vice-Chair: J. Tang, University of Iowa (Iowa City, IA USA)

A NEW INTERACTION INTEGRAL METHOD FOR FRACTURE ANALYSIS OF CRACKS IN FUNCTIONALLY GRADED MATERIALS

B. N. Rao and S. Rahman, University of Iowa (Iowa City, IA USA)

MATERIAL PROCESSING SIMULATION USING A MESHFREE METHOD

Y. H. Park, New Mexico State University (Las Cruces, NM USA)

COMPARATIVE STUDY OF ADAPTIVE ANALYSIS PROCESSES FOR AUTOMOTIVE APPLICATIONS

H. P. Wang and M. E. Botkin, General Motors R&D Center (Warren, MI USA)

A COROTATIONAL FLOW RULE FOR RIGID PLASTIC HARDENING MATERIALS BASED ON LOGARITHMIC STRAIN TENSOR

R. Naghdabadi, M. Yeganeh, and A. R. Saidi, Sharif University of Technology, (Tehran, IRAN)

SESSION 3.3K (SE-O2C)

Wednesday, August 7, 2:45 PM – 4:30 PM, Georgia A

LARGE SCALE ONGOING R&D PROJECTS ON SEISMIC ENGINEERING – III

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering – 2002, Volume 1

Developed by: S. Fujita, Tokyo Denki University (Tokyo, JAPAN) and K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN)

Chair: K. Suzuki, Tokyo Metropolitan University (Tokyo, JAPAN)

Vice-Chair: N. Shimizu, Iwaki Meisei University (Fukushima, JAPAN)

SEISMIC PROVING TEST OF ERODED PIPING (PROGRAM AND PRELIMINARY ANALYSIS OF ERODED PIPING TESTS)

Y. Namita, K. Suzuki, H. Abe, and I. Ichihashi, Nuclear Power Engineering Corporation (Tokyo, JAPAN); M. Shiratori, Yokohama National University (Kanagawa, JAPAN); K. Iwata, Toshiba Corporation (Kanagawa, JAPAN); N. Kojima, Mitsubishi Heavy Industries, Ltd. (Hyogo, JAPAN); and M. Ishiwata, Hitachi, Ltd. (Ibaraki, JAPAN)

SEISMIC PROVING TEST OF ULTIMATE PIPING STRENGTH (TEST RESULTS ON PIPING COMPONENT AND SIMPLIFIED PIPING SYSTEM)

K. Suzuki, Y. Namita, H. Abe, and I. Ichihashi, Nuclear Power Engineering Corporation (Tokyo, JAPAN); K. Suzuki, Tokyo Metropolitan University (Hachioji, JAPAN); M. Ishiwata, Hitachi Ltd. (Hitachi, JAPAN); T. Fujiwaka, Ishikawajima-Harima Heavy Industries, Co., Ltd. (Yokohama, JAPAN); and K. Tai, Mitsubishi Heavy Industries, Ltd. (Takasago, JAPAN)

SEISMIC PROVING TEST OF HEAVY COMPONENT WITH ENERGY ABSORBING SUPPORTS - PROVEN TEST RESULTS

T. Iwatsubo, Kobe University (Kobe, JAPAN); M. Konno, H. Abe, and K. Kuroda, Nuclear Power Engineering Corporation (Tokyo, JAPAN);

K. Tai, Mitsubishi Heavy Industries (Hyogo, JAPAN); and H. Sumiya, Mitsubishi Heavy Industries (Kobe, JAPAN)

A NEW DESIGN METHOD FOR PIPING COMPONENTS AGAINST LEAKAGE AND DAMAGE SUBJECTED TO HIGH LEVEL EARTH-QUAKE LOAD

F. Ando, Chiyoda Corporation (Yokohama, JAPAN); T. Sawa, Yamanashi University (Yamanashi, JAPAN); and M. Ikeda, High Pressure Gas Safety Institute of Japan (Tokyo, JAPAN)

SESSION 3.3L (OAC-04B)

Wednesday, August 7, 2:45 PM – 4:30 PM, Oxford

RELIABILITY & SAFETY – II

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 444: Selected Topics on Aging Management, Reliability, Safety, and License Renewal

Developed by: J. A. Farquharson, ABS Consulting (Knoxville, TN USA)

Chair: J. A. Farquharson, ABS Consulting (Knoxville, TN USA)

Vice-Chair: F. L. Cho, Illinois Department of Nuclear Safety (Springfield, IL USA)

RISK-BASED MAINTENANCE: A NEW VISION FOR ASSET INTEGRITY MANAGEMENT

R. Montgomery, ABS Consulting (Knoxville, TN USA) and C. Serratella, ABS Consulting (Houston TX USA)

STATISTICAL CONSIDERATIONS FOR DETERMINING EXTENT OF PIPING INSPECTIONS FOR RBI OR API-570 DRIVEN INSPECTIONS

D. Hobbs and A. Ku, ABS Consulting (Clearlake, TX USA)

APPLICATIONS OF RISK-BASED DECISION MAKING FOR PROCESS EQUIPMENT MAINTENANCE

R. Montgomery and W. Satterfield, ABS Consulting (Knoxville, TN USA)

SESSION 3.3M (FSI-22C)

Wednesday, August 7, 2:45 PM – 4:30 PM, Regency E

CURRENT THERMAL-HYDRAULIC PROBLEMS IN VESSELS, PIPING, AND COMPONENTS – III

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 435: Thermal-Hydraulic Problems, Sloshing Phenomena, and Extreme Loads on Structures

Developed by: F. J. Moody (Murphys, CA USA) and J. C. Jo, Korea Institute of Nuclear Safety (Taejon, KOREA)

Chair: F. J. Moody (Murphys, CA USA)

Vice Chair: J. C. Jo, Korea Institute of Nuclear Safety (Taejon, KOREA)

ACOUSTIC AND STRUCTURAL MODELING OF FARLEY MAIN STEAM FLOW-INDUCED VIBRATION

G. Zysk, Altran Corporation (Boston, MA USA)

THERMAL-HYDRAULIC RESPONSE IN THE DISCHARGE PIPING WITH WATER POOL

Y. S. Bang, H. J. Ahn, I. G. Kim, and J. J. Kim, Korea Institute of Nuclear Safety (Taejon, KOREA)

FARLEY MAIN STEAM FLOW-INDUCED VIBRATION INVESTIGATION

G. Zysk, Altran Corporation (Boston, MA USA) and M. Oliver, Southern Company Services (Dothan, AL USA)

MEASUREMENT OF PRESSURE DROP IN A LIQUID METAL REACTOR FUEL ASSEMBLY

S. K., Choi, I. K. Choi, K. Y. Lee, H. Y. Nam, and J. H. Choi, Korea Atomic Energy Research Institute (Taejon, KOREA) and H. K. Choi, Changwon National University (Gyeongnam, KOREA)

SESSION 3.3N (FSI-11L)

Wednesday, August 7, 2:45 PM – 4:30 PM, Regency B

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XI: FLOW IN MULTIPHASE SYSTEMS (1)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS); V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: R. F. Mudde, Delft University of Technology (Delft, NETHERLANDS)

Vice Chair: Z. L. Jiang, Chinese Academy of Sciences (Beijing, CHINA)

TRANSIENT 3D SIMULATION of THE TURBULENT GAS-SOLID FLOW IN LARGE SCALE RISERS USING A DENSITY BASED SOLUTION ALGORITHM

A. K. Das, G. Van Engelandt, G. B. Marin, and G. J. Heynderickx, University of Gent (Gent, BELGIUM)

NUMERICAL STUDY of THE TWO PHASE AIR/OIL FLOW WITHIN AN AERO-ENGINE BEARING CHAMBER MODEL USING A COUPLED LAGRANGIAN DROPLET TRACKING METHOD

K. Simmons, S. Hibberd, Y. Wang, and I. Care, University of Nottingham (Nottingham, UK)

MULTIPHASE FLOW INVESTIGATION of A CENTRIFUGAL FILTER USING COMPUTATIONAL FLUID DYNAMICS AND EXPERIMENTS

S. D. Megson, M. Wilson, and S.A. Macgregor, University of Bath (Bath, UK)

AN EXPERIMENTAL AND NUMERICAL INVESTIGATION INTO THE DISPERSION of POWDER FROM A PIPE

V. A. O. Anjorin, H. Tang, A.J. Morgan, and I.E. Barton, Brunel University (Uxbridge, UK)

SESSION 3.3O (FSI-11K)

Wednesday, August 7, 2:45 PM – 4:30 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XII: FLOW IN MULTIPHASE SYSTEMS (2)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational

Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS); V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: D. R. Greatrix, Ryerson University (Toronto, ON CANADA)

Vice Chair: T. Saito, Tohoku University (Sendai, JAPAN)

DEVELOPMENT OF ULTRASONIC TEMPERATURE SENSORS FOR ULTRA-HIGH TEMPERATURE MEASUREMENT IN NUCLEAR REACTOR VESSEL

K.-M. Koo, K.-S. Ha, R.-J. Park, S.-B. Kim, H.-D. Kim, and H.-Y. Kang, Korea Atomic Energy Research Institute (Taejon, KOREA)

AUTOMATIC DESIGN OF HYDROPOWER FLOWS: THE DRAFT TUBE

T. S. Lundström, M. Lindgren, and B. D. Marjavaara, Lulea University of Technology (Lulea, SWEDEN)

A NUMERICAL STUDY OF BWR STEAM SEPARATOR

H. Terasaka and S. Shimizu, Tohoku University (Sendai, JAPAN)

CFD ANALYSIS OF TURBULENT FLOW IN A NUCLEAR FUEL BUNDLE WITH MIXING VANE

W. K. In, D. S. Oh, and T. H. Chun, Korea Atomic Energy Research Institute (Taejon, KOREA)

Block 3.4: Wednesday, August 7 (4:45 PM – 5:30 PM)

SESSION 3.4N (FSI-11N)

Wednesday, August 7, 4:45 PM – 6:15 PM, Regency B

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XIV: FLOW AND FLUID-STRUCTURE INTERACTION

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS); V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: T. Takagi, Tohoku University (Sendai, Miyagi, JAPAN)

Vice Chair: S. A. Macgregor, University of Bath (Bath, UK)

LARGE EDDY SIMULATIONS OF FLOW INDUCED VIBRATIONS IN A VACUUM FLASHER UNIT

D. Tafti, Virginia Tech University (Blacksburg, VA USA) and R. G. Menon, Shell Global Solutions (Houston, TX USA)

INTERACTIVE SIMULATION OF GAS DECOMPRESSION AND CRACK PROPAGATION IN NATURAL GAS TRANSMISSION PIPELINES

H. Makino, Sumitomo Metal Industries, Ltd. (Hyogo, JAPAN); Y. Kawaguchi, JSPS (Tokyo, JAPAN); Y. Matsumoto, S. Takagi, and S. Yoshimura, University of Tokyo (Tokyo, JAPAN)

MODELING OF STRUCTURAL VIBRATION FOR MOTOR CHAMBER INTERNAL FLOW

D. R. Greatrix, Ryerson University (Toronto, BC CANADA) and V. V. Kudriavtsev, CFD Canada (Toronto, BC CANADA)

TUBULAR STRUCTURE DEFORMATION UNDER THE THERMAL LOADS OF TWO FLUIDS

K. Suresh and S. Patil, Transsoft International (Bangalore, INDIA) and A. Tripathi, Fluidyn FRANCE (Saint-Denis, FRANCE)

NUMERICAL ANALYSIS ON WAVE DYNAMIC PROCESSES IN PULSE DETONATION DEVICES

Z. L. Jiang, C. Wang, Z. M. Hu, and W. Zhao, Chinese Academy of Sciences (Beijing, CHINA)

SESSION 3.4O (FSI-11M)

Wednesday, August 7, 4:45 PM – 6:15 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XIII: FLOW AND MIXING

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS); V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: S. Kawano, Tohoku University (Sendai, JAPAN)

Vice Chair: T. S. Lundström, Lulea University of Technology (Lulea, SWEDEN)

A COMPARISON OF SEVERAL CFD APPROACHES FOR PREDICTING GAS-LIQUID CONTACTING IN A CYLINDRICAL TANK AGITATED WITH A SINGLE RUSHTON TURBINE

P. Gillis, Dow Chemical Company (Freeport, TX USA); G. Hommersom, Dow Benelux (Terneusen, NETHERLANDS); and M. Schaefer, BSL Olefinverbund Gmbh (Merseburg, GERMANY)

NUMERICAL INVESTIGATIONS OF A TURBULENCE MIXING PROCESS RELATED TO THERMAL STRIPING PHENOMENA AT A T-JUNCTION OF LIQUID METAL FAST REACTOR PIPING SYSTEMS

T. Muramatsu, Japan Nuclear Cycle Development Inst. (Ibaraki, JAPAN)

CFD APPROACH OF GROWING CU-PARTICLES IN A 'KENICS' STATIC MIXER REACTOR

W. F. C. Van Wageningen, R. F. Mudde, and H. E. A. van den Akker, Delft University of Technology (Delft, NETHERLANDS)

COMPUTATION OF FLUID-STRUCTURE INTERACTION IN A STATIC MIXER USING MPCCI

T. Wintergerste, Sulzer Innotec (Wintherthur, SWITZERLAND)

SIMULATION OF THE LAMINAR FLOW IN A PREMIX STATIC MIXER

R. F. Mudde and C. Van Pijpen, Delft University of Technology (Delft, NETHERLANDS) and R. Beugels, Primix BV (Mijdrecht, NETHERLANDS)

THURSDAY, AUGUST 8

Block 4.1: Thursday, August 8 (8:30 AM – 10:15 AM)

SESSION 4.1B (FSI-02D)

Thursday, August 8, 8:30 AM – 10:15 AM, Grouse

ADVANCES IN FLUID/STRUCTURE INTERACTION – IV

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-1: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 1

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille (Villeneuve d'Ascq, FRANCE); A. Holdo, University of Hertfordshire (Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: A. M. Birk, Queen's University (Kingston, ON CANADA)

Vice Chair: W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

AN OVERVIEW OF VAPOR CLOUD EXPLOSIONS AND THEIR RELATIONSHIP TO EQUIPMENT AND PIPING CONFIGURATIONS

A. J. Pierorazio, Wilfred Baker Engineering, Inc. (San Antonio, TX USA)

A METHOD FOR PRODUCING EXTRA-HIGH DYNAMIC PRESSURE DUE TO THE EFFICIENT USE OF HIGH EXPLOSIVE

Z.-Y. Liu, Institute for Materials & Chemical Process, AIST (Tsukuba, JAPAN); K. Tanaka, Research Center for Developing Fluorinated Greenhouse Gas Alternatives, AIST (Tsukuba, JAPAN); and S. Itoh, Kumamoto University (Kumamoto, JAPAN)

ON THE STUDY OF FREE METAL FORMING USING UNDERWATER SHOCK WAVE

S. Itoh, S. Nagano, S. Muramoto, and R. Matsumura, Kumamoto Univ. (Kumamoto, JAPAN); H. Iyama, Yatsushiro National College of Technology (Kumamoto, JAPAN); and K. Raghukandan, Annamalai University (Tamil Nadu, INDIA)

FLOW CHARACTERISTICS OF A SHAFT DRIVEN LIFT ENGINE

C. Palmer, Rolls-Royce Plc. (Bristol, UK) and A. Holdo, University of Hertfordshire (Hertfordshire, UK)

SESSION 4.1C (DA-10B)

Thursday, August 8, 8:30 AM – 10:15 AM, Stanley

FRACTURE MECHANICS: APPLICATION TO COMPONENTS – II

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-2: Fatigue, Fracture and Damage Analysis – 2002, Volume 2

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE); S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE); K. Yoon, Framatome-ANP Inc. (Lynchburg, VA, USA); and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: D. Moinereau, EDF-DER (Moret/Loing, FRANCE)

Vice Chair: F. Minami, Osaka University (Osaka, JAPAN)

FRENCH RPV ASSESSMENT: CONTRIBUTION OF EXPERTISES IN MECHANICAL ANALYSES

G. Bezdikian, J. Bourgoïn, Y. Rouillon, and D. Moinereau, EDF-DPN (Saint-Denis, FRANCE)

CONSTRAINT BASED ASSESSMENT OF POSTULATED NOZZLE CORNER CRACKS

D. Siegele, I. Varfolomeyev, and G. Nagel, IWM (Freiburg, GERMANY)

ASSESSMENT OF THE FRENCH REACTOR PRESSURE VESSEL INTEGRITY IN PTS CONDITIONS. THERMALHYDRAULIC AND THERMALMECHANICAL STUDIES OF THE SBLOCA IN A 3 LOOP PWR PLANT

A. Martin, S. Bugat, F. Ternon-Morin, and S. Bellet, EDF-MFTT (Chatou, FRANCE)

FAILURE ANALYSIS ON A FULL-DIMENSIONAL ALL-STEEL CYLINDER WITH AXIAL CRACKS

B. Su and G. S. Bhuyan, Institute of Aeronautic Materials (Beijing, CHINA)

SESSION 4.1D (SE-07B)

Thursday, August 8, 8:30 AM – 10:15 AM, Cypress

SEISMIC STRUCTURES RESPONSE AND INTERACTION – II

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering – 2002, Volume 1

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

Chair: C. S. Yeh, National Taiwan University (Taipei, TAIWAN)

Vice-Chair: J. C. Chen, Lawrence Livermore National Laboratory (Livermore, CA USA)

DESIGN IMPLICATIONS OF STRUCTURAL IRREGULARITY

D. Nesbet and W. Pong, San Francisco State University (San Francisco, CA USA)

TESTING AND ANALYSIS OF A NEW LEAD-EXTRUSION DAMPER

C. S. Tsai, W. S. Liao, and C. W. Chang, Feng Chia University (Taichung, TAIWAN) and M. C. Li, National Taiwan University (Taipei, TAIWAN)

A SIMPLIFIED APPROACH TO ACCESS SEISMIC SOIL-PILE-STRUCTURE INTERACTION EFFECT OF A BRIDGE PIER FOUNDED ON SATURATED SOILS (Presentation only)

J. C. Chen, F. Heuze, and L. Hutchings, Lawrence Livermore National Laboratory (Livermore, CA USA) and J. Ueng, National Taiwan University (Taipei, TAIWAN)

RADAS DEVICE TECHNOLOGY FOR RETROFITTING DAMAGED STRUCTURE IN 921 CHI-CHI EARTHQUAKE

C. S. Tsai, C. S. Chen, and B. J. Chen, Feng Chia University (Taichung, TAIWAN); and L. L. Chung, National Center for Research on Earthquake Engineering (Taipei, TAIWAN)

SESSION 4.1E (CT-01A/CS-10A)

Thursday, August 8, 8:30 AM – 10:15 AM, Prince of Wales

EFFICIENT COMPUTATIONAL MODELS FOR LIMIT LOAD ANALYSIS OF PRESSURE VESSEL COMPONENTS – I

Sponsored by: The Computer Technology and The Codes & Standards Committee

Published in PVP Vol. 441: Computational Mechanics: Developments and Applications – 2002

Developed by: D. P. Jones, Bechtel Bettis Inc. (West Mifflin, PA USA) and W. Reinhardt, Babcock & Wilcox Canada (Cambridge, ON CANADA)

Chair: P. Mangalaramanan, Dana Corp (Kalamazoo, MI USA)

Vice Chair: W. Reinhardt, Babcock & Wilcox Canada (Cambridge, ON CANADA)

COMPUTATION OF RATCHET LIMITS FOR STRUCTURES SUBJECTED TO CYCLIC LOADING AND TEMPERATURE

A. R. S. Ponter, H. Chen, and M. Habibullah, University of Leicester (Leicester, UK)

APPLICATION OF A SIXTH ORDER GENERALIZED STRESS FUNCTION TO DETERMINE LIMIT LOADS FOR PLATES WITH TRIANGULAR PENETRATION PATTERNS

J. L. Gordon and D. P. Jones, Bechtel Bettis, Inc. (West Mifflin, PA USA)

EQUIVALENT SOLID BASED FATIGUE ANALYSIS OF PERFORATED PLATES WITH TRIANGULAR PERFORATION PATTERN

W. Reinhardt, Babcock & Wilcox Canada (Cambridge, ON CANADA)

SOME ACHIEVEMENTS OF THE EUROPEAN PROJECT LISA FOR FEM BASED LIMIT AND SHAKEDOWN ANALYSIS

M. Staat, Fachhochschule Aachen Div. Jülich (Jülich, GERMANY)

SESSION 4.1F (NDE-04)

Thursday, August 8, 8:30 AM – 10:15 AM, Plaza C

RESIDUAL STRESS EVALUATION AND OTHER INSPECTION USING NONDESTRUCTIVE TECHNIQUES

Sponsored by: The ASME Nondestructive Evaluation Engineering Division

Published in PVP Vol. 449, Nondestructive Evaluation Engineering (NDE) – 2002

Developed by: G. Nardoni, I&T Nardoni Institute, (Brescia, ITALY)

Chair: G. Nardoni, I&T Nardoni Institute, (Brescia, ITALY)

Vice-Chair: V. Vengrinovich, BANK & TD (Minsk, BELARUS)

COMPARISON BETWEEN ASME AND PED ON MAJOR ITEMS OF NDT TECHNIQUES

M. Farley, Mitsui Babcock, (Renfrew, Scotland, UK)

TRENDS IN THE CERTIFICATION AND QUALIFICATION OF NDT PERSONNEL ACCORDING TO ISO 9712

R. Murphy, National Certification Board (Ottawa, ON CANADA)

ADVANCED ULTRASONIC TECHNIQUES IN PIPELINE GIRTH WELDS EXAMINATIONS

R. Legori and G. Catoldi, SAIPEM – ENI Group, (Milan, ITALY)

SPECIAL TECHNIQUES IN ULTRASONIC EXAMINATION OF AUSTENITIC WELDS OF PRESSURE VESSEL

N. V. Wagle, Larsen & Tourbo, Ltd. (Bombay, INDIA), A. Pais, Larsen & Tourbo Limited (Bombay, INDIA), and G. Nardoni, I&T Nardoni Institute, (Brescia, ITALY)

EXPERIENCE IN TOFD TECHNIQUE IN PRESSURE VESSEL EXAMINATIONS ACCORDING TO ASME CODE CASE 2235 REV.3

L. Nottingham, Structural Integrity, San Jose, CA USA), P. Nardoni (I&T Nardoni Institute – Brescia, ITALY)

SESSION 4.1G (DA-04D)

Thursday, August 8, 8:30 AM – 10:15 AM, Plaza B

FITNESS FOR SERVICE, LIFE EXTENSION, REMEDIATION AND REPAIR – IV

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 442: Fitness for Service Evaluations and Non-Linear Analysis – 2002

Developed by: W. J. Koves, UOP LLC (Des Plaines, IL USA); D. Williams, Sharoden Engineering Consultants (Matthews, NC USA); R. Seshadri, Memorial University of Newfoundland (St. Johns, NF CANADA); and C. Rodery, BP (Alvin, TX USA)

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

Vice Chair: R. Seshadri, Memorial University of Newfoundland (St. Johns, NF CANADA)

PROBABILISTIC INTEGRITY ASSESSMENT OF AXIAL FLAW IN CANDU PRESSURE TUBE DUE TO THE DIAMETER AND THICKNESS VARIATION

S. L. Kwak and Y. J. Kim, Sungkyunkwan University (Suwon, KOREA); J. S. Lee, University of Kyonggi (Suwon, KOREA); and Y. W. Park, Korea Institute of Nuclear Safety (Taejon, KOREA)

CASE HISTORY OF SOLIDIFICATION CRACKS IN 2-1/4 CR 1 MO LOW CARBON WELDS – CHOLLA UNIT 2

M. J. Cohn and S. R. Paterson, Aptech Engineering Services (Sunnyvale, CA USA) and D. Nass, Arizona Public Service Company (Phoenix, AZ USA)

ASSESSMENT OF LOCAL WALL THINNED PIPELINE UNDER COMBINED BENDING AND PRESSURE

D. J. Shim, J. B. Choi, and Y. J. Kim, Sungkyunkwan University (Suwon, KOREA); and J. W. Kim and C. Y. Park, Korea Electric Power Research Institute (Taejon, KOREA)

INVESTIGATION OF RADIANT SUPERHEATER CROSSOVER PIPE WELD CRACKING AT BIG CAJUN II STATION

J. P. King, Babcock Borsig Power (Worcester, MA USA) and R. D. Hendrix, NRG Louisiana Generating LLC (New Roads, LA USA)

SESSION 4.1L (OAC-04C)

Thursday, August 8, 8:30 AM – 10:15 AM, Oxford

RELIABILITY & SAFETY – III: PERFORMANCE RISK AND CONSEQUENCES

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 444: Selected Topics on Aging Management, Reliability, Safety, and License Renewal

Developed by: B. Blyukher, Indiana State University (Terre Haute, IN USA); F. L. Cho, Illinois Department of Nuclear Safety (Springfield, IL USA); and J. Farquharson, ABS Consulting, Risk Consulting Division (Knoxville, TN USA)

Chair: F. L. Cho, Illinois Dept. of Nuclear Safety (Springfield, IL USA)

Vice-Chair: J. Farquharson, ABS Consulting, Risk Consulting Division (Knoxville, TN USA)

OPTIMAL CONTROL OF PERFORMANCE RISK FOR LARGE POTENTIALLY DANGEROUS SYSTEM (LPDS)

S. A. Timashev, Russian Academy of Sciences (Ekaterinvug, RUSSIA)

Panel Discussions:

WHERE AND WHAT ARE THE LIMITING FACTORS FOR PREVENTING CATASTROPHIC RISK CONSEQUENCE?

F. L. Cho, Illinois Department of Nuclear Safety, (Springfield, IL USA)

SESSION 4.1M (FSI-22D)

Thursday, August 8, 8:30 AM – 10:15 AM, Regency E

CURRENT THERMAL-HYDRAULIC PROBLEMS IN VESSELS, PIPING, AND COMPONENTS

Sponsored by: The Fluid-Structure-Interaction Committee

Published in PVP Vol. 435: Thermal-Hydraulic Problems, Sloshing Phenomena, and Extreme Loads on Structures

Developed by: F. J. Moody (Murphys, CA USA) and J. C. Jo, Korea Institute of Nuclear Safety, (Taejon, KOREA)

Chair: F. J. Moody (Murphys, CA USA)

Vice Chair: J. C. Jo, Korea Institute of Nuclear Safety (Taejon, KOREA)

EVALUATION OF SHUTDOWN COOLING TRANSIENTS USING SIMPLIFIED MODELS

G. Zysk, Altran Corporation (Boston, MA USA)

NUMERICAL ANALYSIS OF UNSTEADY CONJUGATE HEAT TRANSFER AND THERMAL STRESS FOR A PWR PRESSURIZER SURGE LINE PIPE SUBJECTED TO THERMAL STRATIFICATION

J. C. Jo and Y. H. Choi, Korea Institute of Nuclear Safety (Taejon, KOREA) and S. K. Choi, Korea Atomic Energy Research Institute (Taejon, KOREA)

AN INVESTIGATION OF HIGH PRESSURE COOLANT INJECTION (HPCI) LINE DYNAMIC TRANSIENT AT DRESDEN NUCLEAR GENERATING STATION

J. Drowley and K. Ramsden (Taejon, KOREA)

CHF FOR UNIFORMLY HEATED VERTICAL TUBE UNDER HIGH PRESSURE CONDITION

W. J. Shim and J. Y. Park, Dankook University (Seoul, KOREA)

NUMERICAL PREDICTION OF FLOW IN A NUCLEAR FUEL BUNDLE WITH VARIOUS TURBULENCE MODELS

W. K. In, D. S. Oh, and T. H. Chun, Korea Atomic Energy Research Institute (Taejon, KOREA)

SESSION 4.1N (CS-09 / SE-11)

Thursday, August 8, 8:30 AM – 10: 15 AM, Regency B

BACKGROUND ON RECENT CHANGES IN SECTION III RULES FOR SEISMIC PIPING DESIGN

Sponsored by: The Seismic Engineering Committee and The Codes and Standards Technical Committee

Published in PVP Vol. 439: Pressure Vessel & Piping Codes and Standards – 2002

Developed by: R. W. Barnes, ANRIC Enterprises (Toronto, ON CANADA) and Y. Asada, Central Research Institute of Electric Power Industry (Tokyo, JAPAN)

Chair: R. W. Barnes, ANRIC Enterprises (Toronto, ON CANADA)

Vice Chair: Y. Asada, Central Research Institute of Electric Power Industry (Tokyo, JAPAN)

USING COMPONENT TEST DATA TO ASSIST IN ESTABLISHING CODE CRITERIA TO ACHIEVE THE DESIRED SEISMIC CAPACITY MARGIN FOR PIPING

R. P. Kennedy, RPK Structural Mechanics Consulting (Escondido, CA USA)

SIMULATION OF EXCESSIVE DEFORMATION OF PIPING DUE TO SEISMIC AND WEIGHT LOADS

T. Fujiwaka and H. Kobayashi, Ishikawajima-Harima Heavy Industries (Tokyo, JAPAN); Y. Asada, Central Research Institute of Electric Power Industry (Tokyo, JAPAN); and C. Shitara, Tokyo Electric Power Industry (Tokyo, JAPAN)

A PARAMETRIC STUDY OF THE SEISMIC MARGINS OF PIPING COMPONENTS

W. D. Iwan (Pasadena, CA USA) and C.-T. Huang (Taipei, TAIWAN)

RECENT CHANGES TO THE SEISMIC RULES FOR PIPING IN SECTION III – A COMPREHENSIVE SUMMARY

E. B. Branch, Consultant (Elgin, IL USA); J. Minichiello, Duke Engineering Services (Lake Bluff, IL USA); T. Adams, Stevenson & Associates (Cleveland, OH USA); Y. Asada, Central Research Institute of Electric Power Industry (Tokyo, JAPAN); and R. W. Barnes, ANRIC Enterprises (Toronto, ON CANADA)

SESSION 4.1O (FSI-11O)

Thursday, August 8, 8:30 AM – 10:15 AM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XV: VARIOUS APPLICATIONS OF INDUSTRIAL CFD (1)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS). V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA). and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS)

Vice Chair: J. H. Kwon, Korea Advanced Inst. of Science and Technology (Taejeon, KOREA)

CFD MODELING OF STEAM METHANE REFORMER

V. Mehrotra, B. Rosendall, A. Heath, and J. Berkoe, Bechtel (San Francisco, CA USA)

EFFECTS ON PRANDTL NUMBER AND TRANSPIRATION PARAMETER ON A CERTAIN MHD FREE CONVECTION FLOW WITH VISCO-ELASTIC FLUID ALONG AN INFINITE VERTICAL POROUS PLATE

M. N. Islam, Tohoku University (Sendai, JAPAN)

NUMERICAL AND EXPERIMENTAL ANALYSIS OF AN EVAPORATION COOLER

R. Kickingger and P. Wimmer, Johannes Kepler University (Linz, AUSTRIA) and H. Leibinger, Scheuch GmbH (Auroszmuenster, AUSTRIA)

NUMERICAL ANALYSIS OF PHASE CHANGE AND NATURAL CONVECTION PHENOMENA DURING PIPE FREEZING PROCESS

G. H. Jeong, B. J. Ahn, Y. S. Seong, and K. S. Kim, Busan National University (Pusan, KOREA)

THE DEVELOPMENT AND VALIDATION OF FAST NUMERICAL METHOD OF SIMULATING WET STEAM FLOW

D. Zhang, J. Liu, and H. Jiang, Chinese Academy of Sciences (Beijing, CHINA)

REYNOLDS STRESS TURBULENCE MODEL FOR PREDICTION OF SHEAR STRESS TERMS IN FILM COOLING CROSS FLOW - NUMERICAL SIMULATION

A. Javadi, K. Javadi, and M. Taeibi-Rahni, Sharif University of Technology (Tehran, IRAN)

Block 4.2: Thursday, August 8 (10:30 AM – 12:15 PM)

SESSION 4.2C (DA-12/MF-04)

Thursday, August 8, 10:30 AM – 12:45 PM, Stanley

SELECTED TOPICS IN COMPOSITES AND FATIGUE

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-2: Fatigue, Fracture and Damage Analysis – 2002, Volume 2

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE); S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE); K. Yoon, Framatome-ANP, Inc. (Lynchburg, VA USA); and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: W. Moussa, University of Alberta (Edmonton, AB CANADA)

Vice Chair: E. Smith, University of Manchester (Manchester, UK)

ON THE DESIGN AND ANALYSIS OF FIBER REINFORCED POLY-MERIC COMPOSITE PIPES AND VESSELS

F. Ellyin, University of Alberta (Edmonton, AB CANADA)

ON THE INTERACTION OF NON-COPLANAR EMBEDDED CRACK WITH SURFACE CRACK IN 3D USING FE AND MULTI-LEVEL SUB-STRUCTURING

W. Moussa, University of Alberta (Edmonton, AB CANADA)

THERMAL RESIDUAL STRESSES INDUCED DURING MANUFACTURING PROCESS OF FIBER REINFORCED POLYMERIC COMPOSITES

Z. Xia, Y. Zhang, and F. Ellyin, University of Alberta (Edmonton, AB CANADA)

INFLUENCE OF LAMINATION OF COMPOSITE MATERIALS ON THE VIBRATION CHARACTERISTICS OF LAMINATED CIRCULAR CYLINDRICAL SHELLS

T. Narisawa, Tokyo Metropolitan College of Technology (Tokyo, JAPAN)

SESSION 4.2D (SE-06A)

Thursday, August 8, 10:30 AM – 12:15 PM, Cypress

SEISMIC EVALUATION OF SYSTEMS, STRUCTURES, AND COMPONENTS – I

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering – 2002, Volume 1

Developed by: S. C. Lu, Lawrence Livermore National Laboratory (Livermore, CA USA)

Chair: S. C. Lu, Lawrence Livermore National Laboratory (Livermore, CA USA)

Vice-Chair: M. E. Nitzel, Idaho National Engineering & Environmental Lab. (Idaho Falls, ID USA)

AN ADVANCED COMPUTATIONAL METHOD FOR NONLINEAR BEHAVIOR OF PIPING SYSTEMS SUBJECTED TO EARTHQUAKE LOAD

N. Mukaimachi, JGC Corporation (Yokohama, JAPAN); F. Ando, Chiyoda Corporation (Yokohama, JAPAN); and M. Ikeda, High Pressure Gas Safety Institute of Japan (Tokyo, JAPAN)

DYNAMIC BUCKLING BEHAVIOR OF AN ELASTIC BEAM SUBJECTED TO HORIZONTAL AND VERTICAL EXCITATIONS SIMULTANEOUSLY

K. Fujita and T. Nosaka, Osaka Prefecture University (Osaka, JAPAN)

VERTICAL RESPONSE OF MULTI-STORY STRUCTURES AT THE INSTANCE OF MAXIMUM HORIZONTAL RESPONSE

T. Taniguchi, Tottori University (Tottori, JAPAN)

ANALYTICAL EXPLORATION OF THE TIME HISTORY ANALYSIS OF SHOCK RESPONSE

S.-Y. Chang, National Taiwan University (Taipei, TAIWAN)

PROBABILISTIC SITE IDENTIFICATION ANALYSIS USING NUPEC RECORDED FREE-FIELD MOTION

J. Xu, C. Costantino, and C. Hofmayer, Brookhaven National Laboratory (Upton, NY USA); A. Murphy, U.S. Nuclear Regulatory Commission (Washington, DC USA); and Y. Kitada, Nuclear Power Engineering Corporation (Tokyo, JAPAN)

SESSION 4.2E (CT-01B/CS-10B)

Thursday, August 8, 10:30 AM – 12:15 PM, Prince of Wales

EFFICIENT COMPUTATIONAL MODELS FOR LIMIT LOAD ANALYSIS OF PRESSURE VESSEL COMPONENTS – II

Sponsored by: The Computer Technology Committee and The Codes & Standards Committee

Published in PVP Vol. 441: Computational Mechanics: Development and Applications – 2002

Developed by: D. P. Jones, Bechtel Bettis, Inc. (West Mifflin, PA USA) and W. Reinhardt, Babcock & Wilcox Canada (Cambridge, ON CANADA)

Chair: D. P. Jones, Bechtel Bettis, Inc. (West Mifflin, PA USA)

Vice Chair: R. Whipple, Fluor Daniel Corp. (Sugar Land, TX USA)

LIMIT ANALYSIS OF SHELLS WITH RANDOM PATTERNS OF SPREAD PITS

J. Porowski, JP Engineering, Inc. (Pittsburgh, PA USA); and D. Osage and J. Janelle, Equity Engineering Group (Shaker Heights, OH USA)

COMPARISON OF LIMIT LOAD SOLUTIONS WITH RESULTS OF COLLAPSE TESTS OF PERFORATED PLATES WITH A TRIANGULAR PENETRATION PATTERN

D. P. Jones and J. L. Gordon, Bechtel Bettis, Inc. (West Mifflin, PA USA)

EFFECT OF PLANE STRAIN, PLANE STRESS AND BENDING ON EQUIVALENT SOLID COLLAPSE PREDICTIONS FOR PERFORATED PLATES

W. Reinhardt, Babcock & Wilcox Canada (Cambridge, ON CANADA)

CAN REPEATED ELASTIC ANALYSES ALWAYS PROVIDE EXACT LIMIT LOADS?

S. P. Mangalaramanan, Dana Corp. (Kalamazoo, MI USA)

SESSION 4.2G (FSI-06A)

Thursday, August 8, 10:30 AM – 12:15 PM, Plaza B

ADVANCES IN FRACTURE DYNAMICS – I

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-2: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 2

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille (Villeneuve d'Ascq, FRANCE); A. Holdo, University of Hertfordshire (Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: I. Shahrour, Université des Sciences et Technologies de Lille (Cedex, FRANCE)

Vice Chair: M. Souli, Université de Lille LML Cité Scientifique (Villeneuve d'Ascq, FRANCE)

DEVELOPMENT OF AN OPENGL-BASED 3D GRAPHICAL POST PROCESSOR FOR MADYMO

W. Tiu, University of Hertfordshire (Hertfordshire, UK)

DEVELOPMENT OF THE GLASS RECYCLE TECHNOLOGY USING UNDERWATER SHOCK WAVE

S. Itoh and K. Ichimiya, Kumamoto Univ. (Kumamoto, JAPAN)

FRACTURE RESPONSE OF EXTERNALLY FLAWED CYLINDRICAL SHELLS TO INTERNAL GASEOUS DETONATION LOADING

T. W. Chao and J. Shepherd, California Institute of Technology (Pasadena, CA USA)

CRACK EXTENSION MODELING OF A DUCTILE FRACTURE DAMAGE

A. Imad and M. NaiT. Abdelaziz, Université des Sciences et Technologies de Lille (Lille, FRANCE)

SESSION 4.2M (FSI – 07A)

Thursday, August 8, 10:30 AM – 12:15 PM, Regency E

ADVANCES IN FLUID DYNAMICS – I

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-2: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 2

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille LML (Villeneuve d'Ascq, FRANCE); A. Holdo, University of Hertfordshire (Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: J. Gabrys, Boeing Company Rotorcraft Division (Philadelphia, PA USA)

Vice Chair: S. J. Wakes, Otagu University (Otagu, NEW ZEALAND)

ON THE TRANSITION FROM NON-BLEVE TO BLEVE FAILURE FOR 1.8M³ PROPANE TANK

M. Birk and J. D. J. VanderSteen, Queen's University (Kingston, ON CANADA)

THE EFFECT OF PRESSURE RELIEF VALVE BLOWDOWN AND FIRE CONDITIONS ON THE THERMO-HYDRAULICS WITHIN A PRESSURE VESSEL

A. M. Birk and J. D. J. VanderSteen, Queen's University (Kingston, ON CANADA)

THE ECCENTRIC SPHERICAL FREE METAL FORMING USING UNDERWATER SHOCK WAVE

S. Itoh, S. Nagano, S. Muramoto, and R. Matsumura, Kumamoto Univ. (Kumamoto, JAPAN); H. Iyama, Yatsushiro National College of Technology (Kumamoto, JAPAN); Y. Katoh and K. Murata, NOF Co. Taketoyo Plant (Aichi, JAPAN); and K. Raghukandan, Annamalai University (Tamil Nadu, INDIA)

THERMO-WELL VIBRATION INVESTIGATION AND ANALYSIS

M. A. Porter and D. H. Martens, Dynamic Analysis (Lawrence, KS USA)

ELABORATION OF A NUMERICAL MODEL FOR THE STUDY OF THE DAM RUPTURE WAVE DISPLACEMENT

R. Iddir and N. Laradi, Village Universitaire El Alia (Algiers, ALGERIA)

SESSION 4.2N (FSI-11Q)

Thursday, August 8, 10:30 AM – 12:15 PM, Regency B

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XVII: CFD OF FLOW WITH HEAT TRANSFER

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: S. Kawano, Tohoku University (Sendai, JAPAN); C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS); and V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA)

Chair: Je-Hyun Baek, Postech (Kyungbuk, KOREA)

Vice Chair: R. Sinclair, Volkswagen Ag (Wolfsburg, GERMANY)

CFD SIMULATION OF THE SIDE WALL FIRED TUBULAR REFORMING FURNACE

P. Nielsen and L. J. Christiansen, Haldoer Topsoe A/S (Lyngby, DENMARK)

AN ASSESSMENT OF PDP INSTALLED WITH VARIOUS RIBBED HEAT SPREADER FOR COOLING ENHANCEMENT

J. Kim and S. Chang, Daewoo Electric Co., Ltd. (Inchon, KOREA); H. Roh, Univ. of Maryland (Gaithersburg, MD USA); D. Doh, Univ. of Korea Maritime (Pusan, KOREA); and S. Chang, Daewoo Electric Co., Ltd. (Inchon, KOREA)

THREE-DIMENSIONAL MODELING OF LIME KILNS

M. Georgallis, P. Nowak, M. Salcudean and I. S. Gartshore, University of British Columbia (Vancouver, BC CANADA)

THREE-DIMENSIONAL THERMAL-HYDRAULIC ANALYSIS IN SLIT FINNED-TUBE HEAT EXCHANGERS

Jiin-Yuh Jang, Jer-Nan Yeh, and Her-Chang Ay, National Cheng-Kung University (Tainan, TAIWAN)

FLOW SEPARATION AND HEAT TRANSFER IN SHEAR FLOW OVER A WALL-MOUNTED OBSTACLE

S. Mahapatra and S. Bhattacharyya, Indian Institute of Technology Kharagpur (Kharagpur, INDIA)

SESSION 4.20 (FSI-11P)

Thursday, August 8, 10:30 AM – 12:15 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XVI: VARIOUS INDUSTRIAL APPLICATIONS OF CFD (2)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); S. Kawano, Tohoku University (Sendai, JAPAN); C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS)

Chair: A. J. Reich, CFD Research Corp. (Huntsville, AL USA)

Vice Chair: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS)

MODELING THE AIRFLOW AROUND COOLING TOWERS WITH MULTI-BLOCK CFD

Z. Zhai, Massachusetts Institute of Technology (Cambridge, MA USA) and S. Fu, Tsinghua University (Beijing, CHINA)

APPLYING CFD FOR DESIGN OF GAS CONDITIONING TOWERS WITH SWIRLING FLOW

N. F. Nielsen and L. Lind, FLS Miljo A/S (Copenhagen, DENMARK)

NUMERICAL CALCULATIONS OF WING TIP VORTICES AND EFFECTS OF SUCTION AT WING TIP

S. Okada, N. Arai, and K. Hiraoka, Tokai University (Hiratsuka, JAPAN)

INVESTIGATION OF TWO-EQUATION TURBULENCE MODELS APPLIED TO A CONFINED AXIS-SYMMETRIC SWIRLING FLOW

U. Engdar and J. Klingmann, Lund Institute of Technology (Lund, SWEDEN)

NUMERICAL SIMULATION OF ASYMMETRIC EXHAUST FLOWS USING AN ACTUATOR DISC BLADE ROW MODEL

J. Liu, Chinese Academy Of Sciences (Beijing, CHINA)

Block 4.3: Thursday, August 8 (2:00 PM – 3:45 PM)

SESSION 4.3C (DA-13)

Thursday, August 8, 2:00 PM – 3:45 PM, Stanley

RE-EVALUATION OF PRESSURIZED THERMAL SHOCK ASSESSMENT

Sponsored by: The Design and Analysis Committee

Published in PVP Vol. 443-2: Fatigue, Fracture and Damage Analysis – 2002, Volume 2

Developed by: D. Moinereau, EDF-DER (Moret/Loing, FRANCE); S. Bhandari, Framatome-ANP (Paris-La Défense, FRANCE); K. Yoon, Framatome-ANP Inc. (Lynchburg, VA, USA); and W. Moussa, University of Alberta (Edmonton, AB CANADA)

Chair: M. Kirk, NRC (Washington, DC USA)

Vice Chair: K. Yoon, Framatome-ANP Inc. (Lynchburg, VA USA)

THE IMPACT OF AN IMPROVED FLAW MODEL ON A PRESSURIZED THERMAL SHOCK EVALUATION

T. Dickson, Oak Ridge National Laboratory (Oak Ridge, TN USA) and F. A. Simonen, Pacific Northwest National Laboratory (Richland, WA USA)

DISTRIBUTIONS OF FABRICATIONS FLAWS IN REACTOR PRESSURE VESSELS FOR STRUCTURAL INTEGRITY EVALUATIONS

F. A. Simonen, Pacific Northwest National Laboratory (Richland, WA USA); and G. J. Schuster, S. R. Doctor, and T. L. Dickson, Oak Ridge National Laboratory (Oak Ridge, TN USA)

A PROCESS FOR IDENTIFYING AND QUANTIFYING THE UNCERTAINTY IN FRACTURE TOUGHNESS MODELS USED IN PRESSURIZED THERMAL SHOCK CALCULATIONS (Presentation Only)

M. Natisan, Phoenix Engineering Associates, Inc. (Davidsonville, MD USA) and M. Kirk, NRC (Washington, DC USA)

ALTERNATIVE RTNDT FOR LINDE 80 WELD MATERIALS

K. Yoon and J. B. Hall, Framatome-ANP Inc. (Lynchburg, VA USA)

SESSION 4.3D (SE-06B)

Thursday, August 8, 2:00 PM – 3:45 PM, Cypress

SEISMIC EVALUATION OF SYSTEMS, STRUCTURES, AND COMPONENTS – II

Sponsored by: The Seismic Engineering Committee

Published in PVP Vol. 445-1: Seismic Engineering – 2002, Volume 1

Developed by: M. E. Nitzel, Idaho National Engineering & Environmental Lab. (Idaho Falls, ID USA); S. Fujita, Tokyo Denki University (Tokyo, JAPAN); and K. Ishida, Central Research Institute of Electric Power Industry (Chiba, JAPAN)

Chair: M. E. Nitzel, Idaho National Engineering & Environmental Lab. (Idaho Falls, ID USA)

Vice-Chair: G. Slagis, G C Slagis Associates (Pleasant Hill, CA USA)

SIMPLIFIED CALCULATION METHOD OF SEISMIC RESPONSE ENERGY OF MECHANICAL SYSTEMS

S. Aoki, Tokyo Metropolitan College of Technology (Tokyo, JAPAN)

SEISMIC EVALUATION OF EXISTING STRUCTURES SUPPORTING LOADING-ARMS IN LNG RECEIVING TERMINAL

M. Oshima and T. Kase, Chiyoda Corporation (Yokohama, JAPAN)

USING LIMIT ANALYSIS FOR SEISMIC EVALUATION OF COMPONENTS LOCATED IN NUCLEAR POWER PLANTS

P. Zeman, SEDYV-Seismic and Dynamic Consultants (Plzen-Radnice, CZECH REPUBLIC)

GENERATION OF SPECTRUM-COMPATIBLE EARTHQUAKE MOTION USING WAVELET TRANSFORM

A. Masuda and A. Sone, Kyoto Institute of Technology (Kyoto, JAPAN)

SESSION 4.3G (FSI-06B)

Thursday, August 8, 2:00 PM – 3:45 PM, Plaza B

ADVANCES IN FRACTURE DYNAMICS – II

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-2: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 2

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille LML (Villeneuve d'Ascq, FRANCE); A. Holdo, University of Hertfordshire (Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: I. Shahrour, Université des Sciences et Technologies de Lille (Villeneuve d'Ascq cedex, FRANCE)

Vice Chair: M. Fischer, Technical University of Munich (Garching, GERMANY)

ON CRUSHING OF FROZEN SOIL BY UNDERWATER SHOCK WAVE

T. Watanabe, National Fisheries University (Yamaguchi, JAPAN); S. Itoh and T. Hamada, Kumamoto University (Kumamoto, JAPAN); and Y. Kuroyama, Akira Nakachi (Hokkaido, JAPAN)

APPLICATION OF AN ELECTRICAL CHARGE TO IMPROVE CARBON FIBER COMPOSITE REPAIRS

B. L. Wibberley, and W. Tiu, University of Hertfordshire (Hatfield, Hertfordshire, UK)

SELF-PIERCE RIVETING – A NEW WAY FOR JOINING STRUCTURES

L. Han, Y. K. Chen, A. Chrysanthou, and J. M. O'Sullivan, University of Hertfordshire (Hatfield, UK)

FLUID-STRUCTURE INTERACTION THROUGH SIMULTANEOUS CALCULATION OF VELOCITY AND DISPLACEMENT

J. J. Dale and A. E. Holdo, University of Hertfordshire (Hertfordshire, UK); D. B. Spalding, Concentration Heat and Momentum Ltd. (London, UK); and M. G. Armstrong, University of Hertfordshire (Hertfordshire, UK)

SESSION 4.3L (CS-08/M&F-12)

Thursday, August 7, 2:45 PM – 4:30 PM, Plaza A

NEW DEVELOPMENTS IN SECTION XI

Sponsored by: The Codes and Standards Committee and The Materials and Fabrication Committee

Published in PVP Vol. 439: Pressure Vessels & Piping Codes and Standards – 2002

Developed by: W. H. Bamford, Westinghouse Electric Co. (Pittsburgh, PA USA)

Chair: D. Scarth, Kinectrics (Toronto, ON CANADA)

Vice Chair: W. H. Bamford, Westinghouse Electric Co. (Pittsburgh, PA USA)

TECHNICAL BASIS FOR THE INCORPORATION OF A FATIGUE CRACK GROWTH THRESHOLD LIMIT INTO APPENDIX A OF SECTION XI

E. Friedman, Bechtel Bettis, (Pittsburgh, PA USA); R. Cipolla, Aptech Engineering, (Sunnyvale, CA USA), and J. M. Bloom, Consultant, (Alliance, OH USA).

COMPARISON OF STRESS INTENSITY FACTORS AND FLAW COMBINATION RULES FOR SECTION XI

K. Hasegawa, Hitachi, Ltd. (JAPAN); M. Shiratori (JAPAN); and N. Saki (JAPAN)

REVISIONS OF SECTION XI TO DEAL WITH REACTOR VESSEL HEAD PENETRATION CRACKING

R. Dyle, Southern Co. (Birmingham, AL USA) and W. H. Bamford, Westinghouse Electric Co. (Pittsburgh, PA USA)

TECHNICAL BASIS FOR ASME CODE CASES TO RISK INFORM SECTION XI REPAIR/REPLACEMENT PROCEDURES

K. R. Balkey, Westinghouse Electric Co. (Pittsburgh, PA USA) and W. C. Holston, Baltimore Gas and Electric Co. (Busby, MD USA)

SESSION 4.3M (FSI-07B)

Thursday, August 8, 2:00 PM – 3:45 PM, Regency E

ADVANCES IN FLUID DYNAMICS – II

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 446-2: Emerging Technology in Fluid, Structure and Fluid/Structure Interaction – 2002, Volume 2

Developed by: S. Itoh, Kumamoto University (Kumamoto, JAPAN); M. Souli, Université de Lille (Ascq, FRANCE); A. Holdo, University of Hertfordshire (Hertfordshire, UK); M. Fischer, Technical University of Munich (Garching, GERMANY); and W. L. Cheng, MechComp, Inc. (Sunnyvale, CA USA)

Chair: S. J. Wakes, Otagu University (Otagu, NEW ZEALAND)

Vice Chair: E. Longatte, EDF/Research and Development Division (Chatou, Cedex, FRANCE)

APPLICATION OF THE SIMPLIFIED ANALYSIS TO THE REAL STRUCTURES

K. Leila, H. Saïd, and V. Rachel, Ecole des Mines de Douai (Douai Cedex, FRANCE)

STUDY OF THE SCATTER BETWEEN GAS AND LIQUID PERMEABILITY OF A MORTAR

L. Z. Skoscylas and F. Loosveldt, University of Lille (Villeneuve d'Ascq, FRANCE)

HIGH PRESSURE GENERATION USING UNDERWATER EXPLOSION OF THE SPIRAL EXPLOSIVE IN THE CONICAL VESSEL

S. Itoh and T. Hamada, Kumamoto University (Kumamoto, JAPAN) and K. Murata and Y. Kato, NOF Co. (Aichi, JAPAN)

MEASUREMENT OF LOCAL CONVECTIVE EXCHANGE COEFFICIENT WITH NEW HEAT FLUX SENSORS

S. Lassue, L. Zalewski, and K. Boukhalfa, Université d'Artois (Artois, FRANCE) and S. Güths, Université Fédérale de Santa Catarina, (Florianopolis, BRAZIL)

SESSION 4.30 (FSI-11R)

Thursday, August 8, 2:00 PM – 3:45 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XVIII: VARIOUS INDUSTRIAL APPLICATIONS OF CFD (3)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS); V.V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); and S. Kawano, Tohoku University (Sendai, JAPAN)

Chair: T. Wintergerste, Sulzer Innotec (Wintherthur, SWITZERLAND)

Vice Chair: M. Higano, Akita Prefectural University (Honjyo, JAPAN)

A MODEL FOR SIMULATION HEAT TRANSFER IN POROUS MEDIA
A. Reich and M. Athavale, CFDRC (Huntsville, AL USA)

TURBULENCE AND FIBER ORIENTATION IN THE CONVERGING SECTION OF A PAPER-MACHINE HEADBOX

S. Dong, X. Feng, M. Salcudean, I. Gartshore, and M. Shariati, University of British Columbia (Vancouver, BC CANADA)

USE OF CFD TO DESIGN MELT BLOWING DIE

H. Krutka, R. L. Shambaugh, and D. V. Papavassiliou, University of Oklahoma (Norman, OK USA)

THE RECONSTRUCTIVE METHOD FOR THE ENHANCEMENT OF DEPTH RESOLUTION FOR ACOUSTIC IMAGE USING THE SPATIAL FREQUENCY RESPONSE IN NPPS' MATERIAL

Kil-Mo Koo, Sang-Baik Kim, Dong-In Oh, Chi-Seung Park, and Soon-Sin Hong, Korea Atomic Energy Research Institute (Taejon, KOREA)

Block 4.4: Thursday, August 8 (4:00 PM – 5:45 PM)

SESSION 4.40 (FSI-11S)

Thursday, August 8, 4:00 PM – 5:45 PM, Regency A

4th INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/CHEMICAL SYSTEMS WITH INDUSTRIAL APPLICATIONS – XIX: VARIOUS INDUSTRIAL APPLICATIONS OF CFD (4)

Sponsored by: The Fluid-Structure Interaction Committee

Published in PVP Vol. 448-1 and 448-2: Computational Technologies for Fluid/Thermal/Chemical Systems with Industrial Applications – 2002

Developed by: V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA); S. Kawano, Tohoku University (Sendai, JAPAN); and C. R. Kleijn, Delft University of Technology (Delft, NETHERLANDS)

Chair: S. Kawano, Tohoku University (Sendai, JAPAN)

Vice Chair: V. V. Kudriavtsev, CFD Canada (Toronto, ON CANADA)

SEMI-EMPIRICAL APPROACH TO PREDICTING TEMPERATURES OF A NON-OPAQUE SURFACE

B. Bush and S. Li, Kaiser Electronics (San Jose, CA USA)

A TECHNIQUE FOR DEVELOPING A PRECISE THERMAL COMPACT MODEL

K. Okamoto, K. Koyamada, and H. Kotera, Kyoto University (Kyoto, JAPAN) and M. Kuzuno and T. Nishio, IBM Japan, Ltd. (Shiga, JAPAN)

NUMERICAL SIMULATION OF A SPECIALTY OPTICAL FIBRE DRAWING PROCESS

K. Lyytikäinen and P. Råback, University of Sydney (Eveleigh, NSW AUSTRALIA); and J. Ruokolainen, Scientific Computing, Ltd. (Espoo, FINLAND)

CFD APPLICATION TO CONSTRUCTION OF HAZARD MAPS OF VOLCANIC ERUPTIONS

T. Saito, H. Yamashita, and K. Takayama, Tohoku University (Sendai, JAPAN)

ADVANCED HYDRODYNAMIC DESIGN OF VERTICAL DIFFUSER PUMPS USING COMPUTATIONAL FLUID DYNAMICS

K. Michaelides and A. Toulaklis, Cranfield University (Cranfield, UK)

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HOTEL FLOOR PLAN

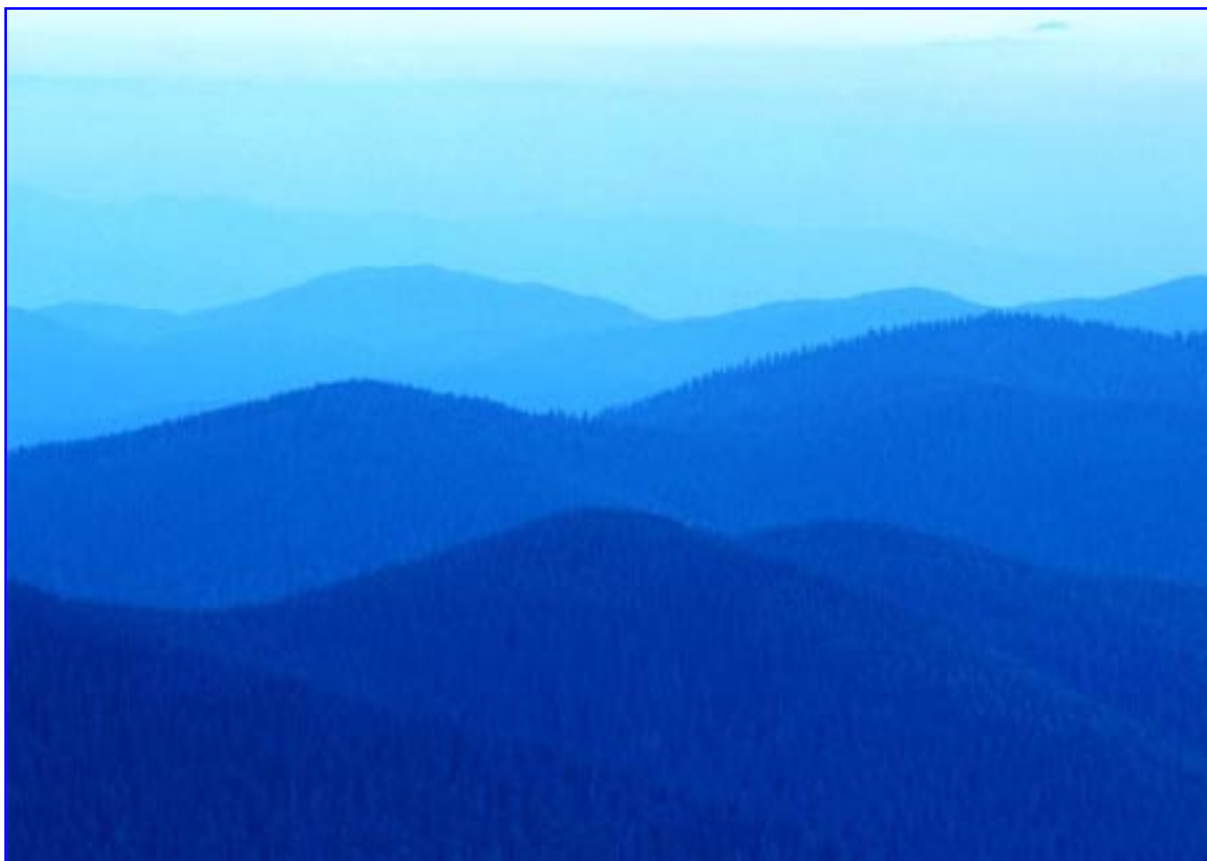
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