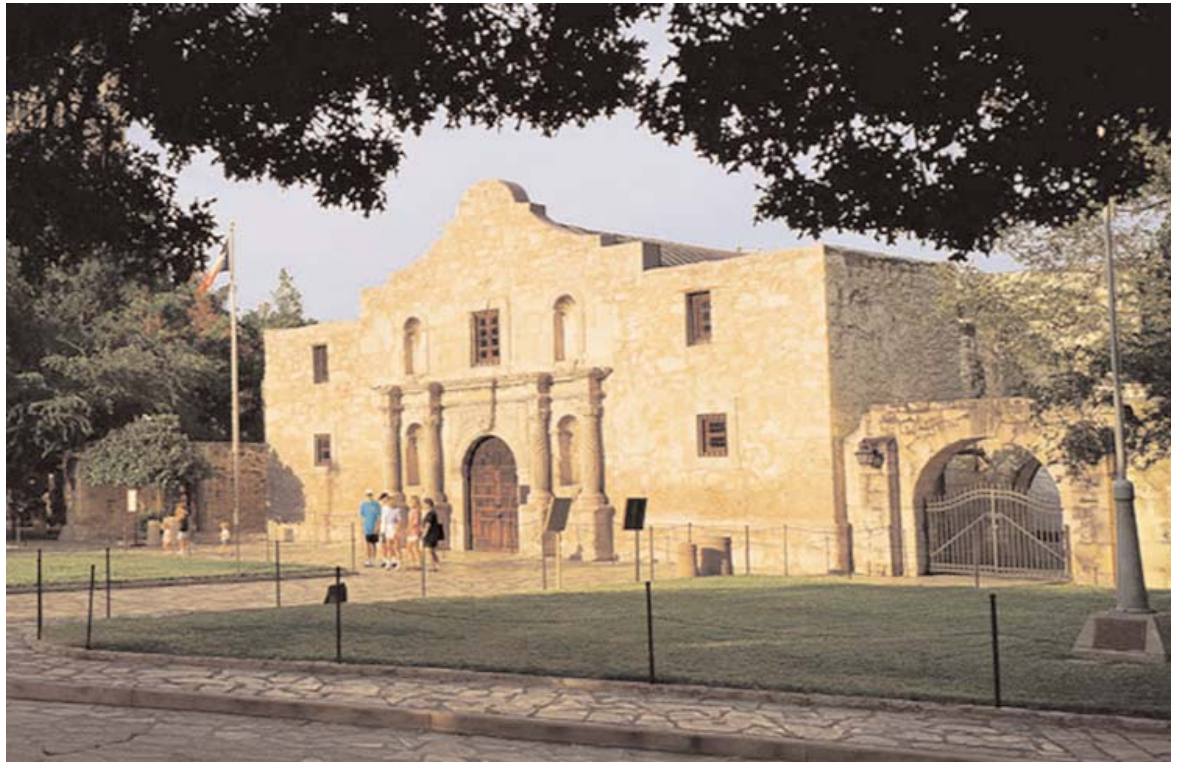


Final Program



PVP 2007/CREEP8

2007 Pressure Vessels & Piping Conference
and The Eighth International Conference on
Creep and Fatigue at Elevated Temperatures



CREEP8

July 22 - 26, 2007
Hyatt Regency San Antonio
San Antonio, Texas
USA



DAILY SESSION LISTING

Sessions are arranged in Session Blocks in the format "X.VZ", where: "X" indicates the Day, "V" indicates the Session Block, and "Z" indicates the Conference Session Room. Conference Session Rooms are as follows: A = Regency East #1; B = Regency East #2; C = Regency East #3; D = Rio Grande East; E = Rio Grande Central; F = Rio Grande West; G = Nueces/Frio; H = Blanco/Llano; J = Live Oak; K = Pecan; L = Bowie A/B; M = Bowie C; N = Navaro; O = Maverick A; P = Maverick B; Q = Sequin; R = Regency Foyer; S = Regency Ballroom. Refer to the Hotel Floor Plan in the back of this Program for room locations. Rooms L–Q are in the Losoya Conference Center on Losoya Street, across from the hotel. The parenthetical designations are the Technical Committee session references.

SUNDAY, JULY 22

July 22, 2007 (9:00 am – 6:00 pm)

SESSION 0.1K

Sunday, July 22, 9:00 am – 11:30 am, Pecan A-Level

ANSYS WORKSHOP: RAPID STRUCTURAL ANALYSIS FOR PRESSURE VESSEL DESIGN

Sponsored by: The PVP Division Conference Committee and ANSYS, Inc.

Presented by: J. Wolf, ANSYS, Inc., Houston, TX, USA

SESSION 0.2K

Sunday, July 22, 1:00 pm – 3:30 pm, Pecan A-Level

ANSYS WORKSHOP: MODELING FLUID STRUCTURE INTERACTION

Sponsored by: The PVP Division Conference Committee and ANSYS, Inc.

Presented by: H. Vinh, ANSYS, Inc., El Dorado Hills, CA, USA

SESSION 0.3J

Sunday, July 22, 4:00 pm – 6:00 pm, Live Oak A-Level

SPECIAL TUTORIAL: COMMUNICATING ENGINEERING SOLUTIONS AND THE CONCEPT OF RISK TO THE PUBLIC

Sponsored by: The PVP Division Conference Committee

Presented by: C. Bajwa, US Nuclear Regulatory Commission, Rockville, MD, USA

MONDAY, JULY 23

Block 1.1: Monday, July 23 (8:30 am – 10:15 am)

SESSION 1.1A (NT-1)

Monday, July 23, 8:30 am – 10:15 am, Regency East #1, B-Level

PANEL SESSION: NANOTECHNOLOGY PANEL

Sponsored by: The PVP Division Conference Committee

Developed by: Y. W. Kwon, Naval Postgraduate School, Monterey, CA, USA; X. Li, University of South Carolina, Columbia, SC, USA

Chair: Y. W. Kwon, Naval Postgraduate School, Monterey, CA, USA

Co-Chair: X. Li, University of South Carolina, Columbia, SC, USA

PVP2007-26858: FABRICATION OF NANOCOMPOSITE MATERIALS—LESSONS FROM NATURE

X. Li, University of South Carolina, Columbia, SC, USA

PVP2007-26859: NANOMATERIALS FOR HEAT TRANSFER AND MULTIFUNCTIONAL APPLICATIONS

F. Marquis, Naval Postgraduate School, Monterey, USA

PVP2007-26860: FERROELECTRIC/PIEZOELECTRIC THIN FILMS FOR NANO ACTIVE SENSING SYSTEMS

C. Chen, University of Texas-San Antonio, San Antonio, USA

PVP2007-26861: MINIATURE CHEMICAL ANALYZERS FOR HARSH INDUSTRIAL APPLICATIONS

A. Reich, Streamline Automation, LLC, Huntsville, AL, USA

PVP2007-26862: NANOCOMPOSITES FOR STRUCTURAL SYSTEMS: POLYMER AND METAL BASE

E. V. Barrera, Rice University, Houston, USA

SESSION 1.1B (SE-7-1)

Monday, July 23, 8:30 am – 10:15 am, Regency East #2, B-Level

SEISMIC EVALUATION OF SYSTEMS, STRUCTURES, & COMPONENTS—I

Sponsored by: Seismic Engineering Committee

Developed by: M. Nitzel, Idaho National Laboratory, Idaho Falls, ID, USA

Chair: M. Nitzel, Idaho National Laboratory, Idaho Falls, ID, USA

Co-Chair: T. Clark, Idaho National Laboratory, Idaho Falls, ID, USA

PVP2007-26134: HEALTH DIAGNOSIS OF STRUCTURAL SYSTEMS USING A REPETITIVE MODEL UPDATING APPROACH

J.-W. Lin, C.-S. Tsai, C.-W. Huang, Feng Chia University, Taichung, Taiwan, China

PVP2007-26283: EVALUATION OF STORAGE TANK FLOATING ROOFS FOR STRESS AND STABILITY DUE TO EARTHQUAKE INDUCED LIQUID SLOSHING

P. J. Cacciatore, B. F. Hantz IV, L. M. Gustafsson, ExxonMobil Research and Engineering Company, Fairfax, VA, USA

PVP2007-26265: STATISTICAL ANALYSIS OF EXPERIMENTAL AND NUMERICAL WELD RESIDUAL STRESSES

B. Nadri, University of Bristol, Bristol, United Kingdom; P. J. Bouchard, British Energy Ltd., Gloucester, United Kingdom; C. Truman, D. Smith, University of Bristol, Bristol, United Kingdom

PVP2007-26586: NUMERICAL SIMULATION OF RESIDUAL STRESSES DUE TO CLADDING PROCESS

D. Siegele, M. Brand, Fraunhofer Institute for Mechanics of Materials, Freiburg, Germany

PVP2007-26729: DEVELOPMENT OF ENGINEERING FORMULAE FOR WELDING RESIDUAL STRESS DISTRIBUTIONS OF DISSIMILAR WELDS ON NOZZLE IN NUCLEAR COMPONENT

J.-S. Kim, T.-E. Jin, KOPEC, Yongin, South Korea, Korea (Republic)

SESSION 1.1N (OAC-3-5)

Monday, July 23, 8:30 am – 10:15 am, Navarro, Losoya

AGING MANAGEMENT AND RELIABILITY I

Sponsored by: Operations, Applications, and Components Committee

Developed by: V. Shah, Argonne National Laboratory, Argonne, IL, USA

Chair: V. Shah, Argonne National Laboratory, Argonne, IL, USA

Co-Chair: A. Morris, E.ON UK, Nottingham, United Kingdom

PVP2007-26196: APPLICATION OF RISK-BASED INSPECTION (RBI) IN ETHYLENE PLANT

H. Jianyu, Sinopec Maoming Company, Maoming, Guangdong, China; G. Jinji, Beijing University of Chemical Technology, Beijing, Beijing, China; G. H. Chen, South China University of Technology, Guangzhou, Guangdong, China

PVP2007-26281: THE PROBABILITY OF PIPE FAILURE ON THE BASIS OF OPERATING EXPERIENCE

B. Lydell, Sigma-Phase, Inc., Vail, AZ, USA

PVP2007-26538: PROBABILISTIC ANALYSIS OF CRACKING PHENOMENON IN A MIXING TEE UNDER THERMAL FATIGUE

I. Varfolomeyev, Fraunhofer IWM, Freiburg, Germany

PVP2007-26625: APPLICATION OF ENTRY-TIME PROCESSES WITHIN PROBABILISTIC RISK ASSESSMENT (PRA) AND GENERATION RISK ASSESSMENT (GRA)

S. Wang, P. Nelson, Texas A&M University, College Station, TX, USA; E. Kee, South Texas Project Nuclear Operating Company, Wadsworth, TX, USA

SESSION 1.1O (OAC-2-1)

Monday, July 23, 8:30 am – 10:15 am, Maverick A, Losoya

RADIOACTIVE MATERIALS PACKAGING LICENSING AND OPERATIONAL ISSUES

Sponsored by: Operations, Applications, and Components Committee

Developed by: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

Chair: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

Co-Chair: M. Feldman, Oak Ridge National Laboratory, Knoxville, TN, USA

PVP2007-26279: DEVELOPMENT OF A NEW TRANSPORTATION/STORAGE CASK SYSTEM FOR USE BY THE DOE RUSSIAN RESEARCH REACTOR FUEL RETURN PROGRAM

M. Tyacke, Idaho National Laboratory, Idaho Falls, ID, USA; F. Sviták, J. Rycheký, Nuclear Research Institute Rez plc, Rez, Czech Republic; M. Pícek, ŠKODA JS a.s., Plzeň, Czech Republic; A. Smirnov, S. Komarov, R&D SOSNY Company, Dimitrovgrad, Ulyanovsk Region, Russia, E. Bradley, International Atomic Energy Agency, A-1400 Vienna, Austria; A. Dudchenko, K. Golubkin, FSUE Mayak Production Association, Ozersk, Russia

PVP2007-26289: CERTIFICATION OF DOT 7A TYPE A PACKAGING IN TYPE AF CONFIGURATIONS

Y. Liu, J. Liaw, Z. Li, Argonne National Laboratory, Argonne, IL, USA; J. Shuler, DOE, Washington D.C., DC, USA

PVP2007-26370: TYPE B RADIOACTIVE MATERIAL PACKAGE FAILURE MODES AND CONTENTS COMPLIANCE

S. Hensel, Savannah River National Laboratory, Aiken, SC, USA; R. Watkins, WSRC, Aiken, SC, USA; A. C. Smith, Savannah River National Laboratory, Aiken, SC, USA

SESSION 1.1P (DA-2-1)

Monday, July 23, 8:30 am – 10:15 am, Maverick B, Losoya

DESIGN AND ANALYSIS OF PRESSURE VESSELS, HX, AND COMPONENTS

Sponsored by: Design and Analysis Committee

Developed by: T. Seipp, Becht Engineering Canada Ltd., Calgary, AB, Canada; J. Taagepera, Chevron ETC, Richmond, CA, USA

Chair: T. Seipp, Becht Engineering Canada Ltd., Calgary, AB, Canada

Co-Chair: J. Taagepera, Chevron ETC, Richmond, CA, USA

PVP2007-26093: A SIMPLIFIED APPROACH TO FINITE ELEMENT MODELING OF ANISOTROPIC SCREENS

S. Krishnamurthy, UOP LLC, Des Plaines, IL, USA; W. Koves, UOP LLC., Des Plaines, IL, USA

PVP2007-26233: DETERMINING AN ACCEPTABLE VALUE OF LAMBDA C FOR MULTI-DIAMETER AND MULTI-THICKNESS PRESSURE VESSELS

K. Bardia, D. LaBounty, Fluor Corporation, Aliso Viejo, CA, USA

PVP2007-26486: STRUCTURAL ANALYSIS FOR ETHYLENE OXIDE REACTOR

H.-S. Woo, Y.-S. Hong, Y.-S. Lim, J.-Y. Park, H.-J. Ahn, C.-D. Lee, Hyundai Heavy Industries. Co., Ltd., Youngin-Si, Gyeonggi-Do, Korea (Republic)

SESSION 1.1Q (DA-4-1)

Monday, July 23, 8:30 am – 10:15 am, Seguin, Losoya

FATIGUE, FRACTURE MECHANICS, AND DAMAGE

PVP2007-26736: TENSILE TESTING OF CARBON STEEL IN HIGH PRESSURE HYDROGEN

A. Duncan, P.-S. Lam, T. Adams, Savannah River National Laboratory, Aiken, SC, , USA

PVP2007-26496: EVALUATION OF HYDROGEN ENVIRONMENT EMBRITTEMENT AND FATIGUE PROPERTIES OF STAINLESS STEELS IN HIGH PRESSURE GASEOUS HYDROGEN (INVESTIGATION OF MATERIALS PROPERTIES IN HIGH PRESSURE GASEOUS HYDROGEN-2)

T. Omura, M. Miyahara, H. Semba, M. Igarashi, H. Hirata, Sumitomo Metal Industries, Ltd., Amagasaki, Hyogo, Japan

SESSION 1.3N (OAC-3-6)

Monday, July 23, 2:00 pm – 3:45 pm, Navarro, Losoya

AGING MANAGEMENT AND RELIABILITY II

Sponsored by: Operations, Applications, and Components Committee

Developed by: A. Martin, Electricité De France, Chatou, France

Chair: A. Martin, Electricité De France, Chatou, France

Co-Chair: B. Lydell, Sigma-Phase, Inc., Vail, AZ, USA

PVP2007-26322: NUCLEAR PWR 3-LOOP PLANTS—REACTOR COOLANT CIRCUIT

G. Bezdikian, Electricite de France, Saint Denis, France (Metro)

PVP2007-26333: DEMONSTRATION RESULTS OF THE ROBOTIZED REPAIR OF UNDERCLAD CRACKS IN THE MAIN VESSEL

B. Delaunay, J. Guillet, M. Tortolano, EDF, Chatou, France

PVP2007-26349: DEGRADATION MECHANISMS: OVERVIEW IN CONNECTION WITH AMP

C. Faigy, EDF-SEPTEN, Villeurbanne Cedex, France

PVP2007-26578: PROJECT PRIORITIZATION VIA OPTIMIZATION

D. Morton, A. Koc, E. Popova, The University of Texas at Austin, Austin, TX, USA; E. Kee, D. Richards, A. Sun, South Texas Project Nuclear Operating Company, Wadsworth, TX, USA; S. Hess, Electric Power Research Institute, Glen Mills, PA, USA

SESSION 1.3O (OAC-2-2)

Monday, July 23, 2:00 pm – 3:45 pm, Maverick A, Losoya

THERMAL ANALYSIS AND TESTING—1

Sponsored by: Operations, Applications, and Components Committee

Developed by: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

Chair: M. Feldman, Oak Ridge National Laboratory, Knoxville, TN, USA

Co-Chair: M. Greiner, University of Nevada, Reno, Reno, NV, USA

PVP2007-26029: THERMAL TESTING OF THE PROTOTYPE GENERAL PURPOSE FISSION PACKAGE USING A FURNACE

A. C. Smith, P. Blanton, L. Gelder, R. Lutz, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26043: IMPROVING THERMAL PERFORMANCE OF RADIOACTIVE MATERIAL DRUM TYPE PACKAGES BY USING HEAT PIPES

N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26049: THERMAL TESTING OF 9977 / 9978 GENERAL PURPOSE FISSION PACKAGE IN A POOL FIRE

A. C. Smith, G. Abramczyk, L. Gelder, C. May, Savannah River National Laboratory, Aiken, SC, USA; J. Malloy, Novatech, Lynchburg, VA, USA

PVP2007-26242: CFD SIMULATIONS OF NATURAL CONVECTION/RADIATION HEAT TRANSFER WITHIN THE FUEL REGIONS OF A TRUCK CASK FOR NORMAL TRANSPORT

V. Venigalla, M. Greiner, University of Nevada, Reno, Reno, NV, USA

SESSION 1.3P (DA-2-3)

Monday, July 23, 2:00 pm – 3:45 pm, Maverick B, Losoya

DESIGN AND ANALYSIS OF PRESSURE VESSELS, HX, AND COMPONENTS

Sponsored by: Design and Analysis Committee

Developed by: D. LaBounty, Fluor Corporation, Aliso Viejo, CA, USA; J. Taagepera, Chevron ETC, Richmond, CA, USA

Chair: J. Taagepera, Chevron ETC, Richmond, CA, USA

Co-Chair: D. LaBounty, Fluor Corporation, Aliso Viejo, CA, USA

PVP2007-26740: MATERIAL REMOVAL SIMULATION OF ALUMINUM COMPOUND TUBES WITH INCORPORATING REAL UNLOADING BEHAVIOR

M. Mohammadi, The University of Western Ontario, London, ON, Canada; G. H. Farrahi, S. Hamed Hoseini, Sharif University of Technology, Tehran, Iran

PVP2007-26780: ANALYSIS AND COMPARISON OF PAD REINFORCEMENT OF PRESSURE VESSEL BY ELASTIC AND ELASTOPLASTIC FEM

L. H. Liang, Z. Gao, Y. Xu, K. Zhang, Zhejiang University of Technology, Hangzhou, Zhejiang, China; Z. Fan, Fushun Mechanical Equipment Manufacturing Company LTD, Fushun, Liaoning, China

PVP2007-26647: TECHNICAL JUSTIFICATION FOR INCREASING TEMPERBEAD WELDING AREA LIMITS ON LOW ALLOY STEEL

M. Herrera, S. Tang, Structural Integrity Associates, San Jose, CA, USA; A. Peterson, Electric Power Research Institute, Charlotte, NC, USA

PVP2007-26722: DERIVATIONS FOR HOOP STRESSES DUE TO SHOCK WAVES IN A TUBE

R. Leishear, Washington Savannah River Company, Aiken, SC, USA

SESSION 1.3Q (DA-4-2)

Monday, July 23, 2:00 pm – 3:45 pm, Seguin, Losoya

FATIGUE, FRACTURE MECHANICS, AND DAMAGE

Sponsored by: Design and Analysis Committee

Developed by: P. Mertiny, University of Alberta, Edmonton, AB, Canada; K. Yoon, AREVA NP Inc., Chantilly, VA, USA

PVP2007-26648: FLAW EVALUATIONS USING MASTER CURVE METHODOLOGY

T.-L. S. Sham, S. H. Mahmoud, H. P. Gunawardane, R. A. Hawileh, AREVA NP Inc, Lynchburg, VA, USA

SESSION 1.4M (MF-4-2)

Monday, July 23, 4:00 pm – 5:45 pm, Bowie C, Losoya

MATERIALS FOR HYDROGEN SERVICE—II

Sponsored by: Materials and Fabrication Committee

Developed by: Y. Tanaka, Nippon Steel Corp., Futtsu-city, Chiba, Japan;
M. P. H. Brongers, CC Technologies, Inc., Dublin, OH, USA

Chair: Y. Tanaka, Nippon Steel Corp., Futtsu-city, Chiba, Japan

Co-Chair: M. P. H. Brongers, CC Technologies, Inc., Dublin, OH, USA

PVP2007-26508: INTERNAL PRESSURE FATIGUE TEST OF CR-MO STEEL IN 45MPA GASEOUS HYDROGEN ENVIRONMENT

K. Takasawa, Y. Wada, R. Ishigaki, Y. Tanaka, T. Iwadate, K. Ohnishi, The Japan Steel Works Ltd., Hokkaido, Japan

PVP2007-26535: EFFECT OF SURFACE MACHINING ON THE FATIGUE LIFE OF LOW ALLOY STEEL FOR HYDROGEN PRESSURE VESSELS

Y. Wada, R. Ishigaki, Y. Tanaka, T. Iwadate, K. Ohnishi, The Japan Steel Works Ltd., Hokkaido, Japan

PVP2007-26730: LITERATURE SURVEY OF GASEOUS HYDROGEN EFFECTS ON THE MECHANICAL PROPERTIES OF CARBON AND LOW ALLOY STEELS

P.-S. Lam, R. Sindelar, T. Adams, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26533: EFFECT OF HYDROGEN GAS PRESSURE ON THE MECHANICAL PROPERTIES OF LOW ALLOY STEEL FOR HYDROGEN PRESSURE VESSELS

Y. Wada, R. Ishigaki, Y. Tanaka, T. Iwadate, K. Ohnishi, The Japan Steel Works Ltd., Hokkaido, Japan

PVP2007-26820: DEVELOPMENT OF NEW MATERIAL TESTING APPARATUS IN HIGH-PRESSURE HYDROGEN AND EVALUATION OF HYDROGEN GAS EMBRITTLEMENT OF METALS

S. Fukuyama, M. Imade, K. Yokogawa, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan

SESSION 1.4N (OAC-3-7)

Monday, July 23, 4:00 pm – 5:45 pm, Navarro, Losoya

AGING MANAGEMENT AND RELIABILITY III

Sponsored by: Operations, Applications, and Components Committee

Developed by: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA

Chair: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA

Co-Chair: E. Kee, South Texas Project Nuclear Operating Company, Wadsworth, TX, USA

PVP2007-26229: INCORPORATION OF UNIT 1 INSPECTION RESULTS ON THE STP REACTOR VESSEL HEAD NUCLEAR ASSET MANAGEMENT ANALYSIS

E. Kee, South Texas Project Nuclear Operating Company, Wadsworth, TX, USA; E. Popova, D. Morton, A. Galenko, The University of Texas at Austin, Austin, TX, USA; V. Moiseytseva, Texas A&M University, Engineering Experiment Station, College Station, TX, USA

PVP2007-26354: ASSET MANAGEMENT EVALUATION : EXTENDED PILOT CASE STUDIES

P. Haik, C. Bauby, J. Lonchampt, E. Remy, EDF - R&D, Chatou, France

PVP2007-26355: "ADAPTATIVE" USER INTERFACE FOR EXPERT KNOWLEDGE VALIDATION AND EVALUATIONS INTERPRETATION IN AN ASSET MANAGEMENT PROCESS

P. Haik, S. Parfouru, C. Bauby, S. Mahé, EDF - R&D, Chatou, France

SESSION 1.4O (OAC-2-3)

Monday, July 23, 4:00 pm – 5:45 pm, Maverick A, Losoya

THERMAL ANALYSIS AND TESTING—2

Sponsored by: Operations, Applications, and Components Committee

Developed by: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

Chair: M. Greiner, University of Nevada, Reno, Reno, NV, USA

Co-Chair: W. L. Daugherty, Washington Savannah River Company, Aiken, SC, USA

PVP2007-26455: COMPUTER SIMULATIONS TO ADDRESS Pu-Fe EUTECTIC TEMPERATURE ISSUE

N. K. Gupta, A. C. Smith, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26686: USE OF REGULAR ROD ARRAYS TO MODEL HEAT TRANSFER FROM BWR FUEL ASSEMBLIES INSIDE TRANSPORT CASKS

P. E. Araya, M. Greiner, University of Nevada, Reno, Reno, NV, USA

PVP2007-26735: BENCHMARKING OF A THERMAL FINITE ELEMENT APPROXIMATION SCHEME FOR EXTERNALLY COOLED SPENT FUEL STORAGE CASKS

C. Bajwa, I. Spivack, US Nuclear Regulatory Commission, Rockville, MD, USA

SESSION 1.4P(DA-3-1)

Monday, July 23, 4:00 pm – 5:45 pm, Maverick B, Losoya

DESIGN AND ANALYSIS OF PIPING & PIPING COMPONENTS

Sponsored by: Design and Analysis Committee

Developed by: J. McCabe, General Dynamics Electric Boat, Groton, CT, USA; S. Iyer, Atomic Energy of Canada Ltd., Mississauga, ON, Canada

Chair: J. McCabe, General Dynamics Electric Boat, Groton, CT, USA

Co-Chair: S. Iyer, Atomic Energy of Canada Ltd., Mississauga, ON, Canada

PVP2007-26266: DEVELOPMENT OF A SEMI-ANALYTICAL MODEL OF WELD INDUCED RESIDUAL STRESS

J. Bromley, H. Alizadeh, D. Smith, C. Truman, University of Bristol, Bristol, United Kingdom

PVP2007-26325: RESIDUAL STRESSES IN AUSTENITIC CLADDING
M. Brumovsky, V. Pistora, Nuclear Research Institute Rez plc, Rez, Czech Republic; I. Kupka, SKODA JS, Plzen, Czech Republic

PVP2007-26574: CRACK GROWTH ANALYSES OF SCC UNDER VARIOUS RESIDUAL STRESS DISTRIBUTIONS NEAR THE PIPING BUTT-WELDING

J. Katsuyama, Japan Atomic Energy Agency, Ibaraki, Ibaraki-ken, Japan; W. Asano, Osaka University, Osaka, Japan; K. Onizawa, Japan Atomic Energy Agency, Ibaraki, Japan; M. Mochizuki, Osaka University, Suita, Osaka, Japan; M. Toyoda, Osaka University, Osaka, Japan

SESSION 2.1N (OAC-3-8)

Tuesday, July 24, 8:30 am – 10:15 am, Navarro, Losoya

AGING MANAGEMENT AND RELIABILITY IV

Sponsored by: Operations, Applications, and Components Committee

Developed by: G. Bezdikian, Electricite de France, Saint Denis, France (Metro)

Chair: G. Bezdikian, Electricite de France, Saint Denis, France (Metro)

Co-Chair: I. Varfolomeyev, Fraunhofer IWM, Freiburg, Germany

PVP2007-26313: RESOLUTION OF CREEP STRAIN MEASUREMENTS USING THE ARCMAC STRAIN MONITORING SYSTEM

A. Morris, E.ON UK, Nottingham, United Kingdom; J. Dear, M. Kourmpetis, A. Puri, C. Maharaj, Imperial College, London, United Kingdom

PVP2007-26314: RESEARCHING METHODS TO STUDY CREEP STRAIN VARIATIONS IN POWER STATION STEAM PLANT

A. Morris, E.ON UK, Nottingham, United Kingdom; J. Dear, M. Kourmpetis, A. Puri, C. Maharaj, Imperial College, London, United Kingdom

PVP2007-26316: USE OF A CFD-TOOL FOR ASSESSMENT OF THE REACTOR PRESSURE VESSEL INTEGRITY IN PRESSURE THERMAL SHOCK CONDITIONS.THERMAL-HYDRAULIC METHODOLOGY AND PRESENT LIMITATION

A. Martin, S. Bosse, Electricite De France, Chatou, France; F. Lestang, EDF SEPTEN, Villeurbanne, France

PVP2007-26785: EX-VESSEL NEUTRON DOSIMETRY RESULTS IN THE VICINITY OF RPV SUPPORTS

D. Hopkins, Southwest Research Institute, San Antonio, TX, USA; E. T. Hayes, Westinghouse Electric Company, Madison, PA, USA; A. H. Ferro, Westinghouse Electric Company, Waltz Mill, PA, USA

SESSION 2.1O (OAC-2-4)

Tuesday, July 24, 8:30 am – 10:15 am, Maverick A, Losoya

PACKAGING MATERIALS—1

Sponsored by: Operations, Applications, and Components Committee

Developed by: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

Chair: W. L. Daugherty, Washington Savannah River Company, Aiken, SC, USA

Co-Chair: S. Hensel, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26114: PROPERTIES OF FIBERBOARD OVERPACK MATERIAL IN THE 9975 SHIPPING PACKAGE FOLLOWING THERMAL AGING

W. L. Daugherty, Washington Savannah River Company, Aiken, SC, USA

PVP2007-26161: ANODIC POLARIZATION BEHAVIOR OF TITANIUM GRADE 7 IN DUST DELIQUESCENCE SALT ENVIRONMENTS

K. J. Evans, R. B. Rebak, Lawrence Livermore National Laboratory, Livermore, CA, USA

PVP2007-26179: AGING PERFORMANCE OF VITON GLT O-RINGS IN MODEL 9975 SHIPPING PACKAGES

T. E. Skidmore, K. A. Dunn, K. M. Counts, E. N. Hoffman, E. B. Fox, Washington Savannah River Company, Aiken, SC, USA

PVP2007-26182: IMPACT TESTING OF STAINLESS STEEL MATERIAL AT ROOM AND ELEVATED TEMPERATURES

D.K. Morton, S. D. Snow, T. E. Rahl, R. K. Blandford, Idaho National Laboratory, Idaho Falls, ID, USA

SESSION 2.1P (DA-5-1)

Tuesday, July 24, 8:30 am – 10:15 am, Maverick B, Losoya

LIMIT LOAD ANALYSIS

Sponsored by: Design and Analysis Committee

Developed by: M. Younan, The American University in Cairo, Cairo, Egypt; Atomic Energy of Canada Limited, Mississauga, ON, Canada

Chair: M. Younan, The American University in Cairo, Cairo, Egypt

Co-Chair: I. Fanous, Atomic Energy of Canada Limited, Mississauga, ON, Canada

PVP2007-26170: SHAKEDOWN LIMIT LOAD OF A KINEMATICALLY HARDENING 90- DEGREE PIPE BEND SUBJECTED TO CONSTANT INTERNAL PRESSURE AND CYCLIC BENDING

H. Abdalla, M. Megahed, Cairo University, Cairo, Egypt; M. Younan, The American University in Cairo, Cairo, Egypt

PVP2007-26191: NONLINEAR FINITE ELEMENT ANALYSIS OF COLLAPSE LOADS OF CYLINDRICAL SHELLS SUBJECTED TO COMBINED THERMAL LOADS AND EXTERNAL PRESSURE

T. Sato, T. Hirose, S. Kataoka, JGC Corporation, Yokohama, Japan

PVP2007-26158: MECHANICAL BUCKLING OF FUNCTIONALLY GRADED CYLINDRICAL SHELLS BASED ON THE FIRST ORDER SHEAR DEFORMATION THEORY

P. Khazaeinejad, Azad University, Arak Branch, Arak, Markazi, Iran; Mehdi K. Khorramabadi, Young Researchers Club, Arak Branch, Azad University, Khorramabad, Lorestan, Iran; R. Narimani, Iran University of Science and Technology, Arak Engineering and Technical Department, Arak, Iran

PVP2007-26505: STATIC AND DYNAMIC J-R TESTS FOR LBB DESIGN APPLICATION OF FERRITIC PIPING MATERIALS

K.-C. Kim, Doosan Heavy Industries & Construction, Changwon, Gyeongnam, Korea (Republic); J.-I. Suk, Doosan Heavy Industries & Construction, Daejeon, Gyeongnam, Korea (Republic); U.-H. Sung, B.-K. Kim, J.-T. Kim, Doosan Heavy Industries & Construction, Changwon, Gyeongnam, Korea (Republic)

PVP2007-26573: EVALUATION OF STRENGTH CHARACTERISTICS CONSIDERING MICROSCOPIC HETEROGENEITY OF STRUCTURAL STEELS AND WELD ZONE BY USING FEM-MD COUPLING METHOD

M. Mochizuki, R. Higuchi, Osaka University, Osaka, Japan; J. Katsuyama, Japan Atomic Energy Agency, Ibaraki, Ibaraki-ken, Japan; M. Toyoda, Osaka University, Osaka, Japan

PVP2007-26712: COMPARISON OF METHODS FOR PREDICTING THE INFLUENCE OF RESIDUAL STRESSES ON BRITTLE FRACTURE

A. Sisan, TWI Ltd., Cambridge, United Kingdom; S. Hadidi-Moud, D. Smith, University of Bristol, Bristol, United Kingdom

PVP2007-26264: A COMPARISON OF 2D AND 3D FRACTURE ASSESSMENTS IN THE PRESENCE OF RESIDUAL STRESSES

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

SESSION 2.2M (MF-5-2)

Tuesday, July 24, 10:30 am – 12:15 pm, Bowie C, Losoya

WELDING AND RESIDUAL STRESS II

Sponsored by: Materials and Fabrication Committee

Developed by: M. Mochizuki, Osaka University, Suita, Osaka, Japan

Chair: E. Keim, AREVA NP GmbH, Erlangen, Germany

Co-Chair: P. Dong, Battelle, Columbus, OH, USA

PVP2007-26263: MEASUREMENT OF RESIDUAL STRESSES IN A NOZZLE-TO-CYLINDER WELD AFTER THERMAL AGEING AT 550C

S. Hossain, C. Truman, D. Smith, University of Bristol, Bristol, United Kingdom; P. J. Bouchard, British Energy Ltd., Gloucester, United Kingdom

PVP2007-26460: STUDY ON THICKNESS AND ACTUAL STRESS MEASUREMENT OF STEEL STRUCTURES USING ELECTROMAGNETIC ACOUSTIC TRANSDUCER

K. Mitani, NICHIZO TECH INC., Osaka, Japan; M. Mochizuki, M. Toyoda, Osaka University, Osaka, Japan

PVP2007-26502: ASSESSMENT OF RESIDUAL STRESS AND DETERMINATION OF STRESS DIRECTIONALITY BY INSTRUMENTED INDENTATION TECHNIQUE

M.-J. Choi, K.-H. Kim, K.-W. Lee, Seoul National University, Seoul, Korea (Republic); K.-H. Kim, Frontics, Inc., Seoul, Korea (Republic); D. Kwon, Seoul National University, Seoul, Korea (Republic)

PVP2007-26699: RESIDUAL STRESSES IN CANDU FEEDER BENDS-COMPARISON OF MEASUREMENTS AND PREDICTIONS

M. Yetisir, AECL, Chalk River, ON, Canada; S. Khajehpour, AECL, Mississauga, ON, Canada; Y. Ding, AECL, Chalk River, ON, Canada

SESSION 2.2N (OAC-5-1)

Tuesday, July 24, 10:30 am – 12:15 pm, Navarro, Losoya

RISK & RELIABILITY—I

Sponsored by: Operations, Applications, and Components Committee

Developed by: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA; W. Cho, RiskSolver Communications, Irvine, CA, USA

Chair: M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA

Co-Chair: W. Cho, RiskSolver Communications, Irvine, CA, USA

PVP2007-26129: A QUALITATIVE RISK-BASED ASSESSMENT PROCEDURE FOR HIGH TEMPERATURE HYDROGEN ATTACK OF C-1/2Mo STEEL

J. McLaughlin, ExxonMobil Research and Engineering Company, Fairfax, VA, USA

PVP2007-26271: REGULATORY AND INDUSTRY GUIDANCE ON USE OF RISK TECHNOLOGY IN NUCLEAR POWER PLANT APPLICATIONS

M. Sanwarwalla, Sargent & Lundy, LLC, Chicago, IL, USA

PVP2007-26519: NUMERICAL SIMULATION OF THE DISPERSION OF NATURAL GAS DUE TO PIPELINE FAILURE

Y. Liu, J. Zheng, Zhejiang University, Hangzhou, Zhejiang, China

PVP2007-26605: DATA ANALYSIS FOR RPV LIFE MANAGEMENT STUDIES OF TEMPERATURE MEASUREMENTS FROM MONITORING OF SAFETY INJECTION FLUID IN REFUELING WATER STORAGE TANK

A. Cagnac, S. Turato, EDF R&D, Chatou, France; F. Lestang, EDF SEPTEN, Villeurbanne, France; F. Planckee, EDF CNPE de Gravelines, Gravelines, France

SESSION 2.2O (OAC-2-5)

Tuesday, July 24, 10:30 am – 12:15 pm, Maverick A, Losoya

PACKAGING MATERIALS—2

Sponsored by: Operations, Applications, and Components Committee

Developed by: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

Chair: S. Hensel, Savannah River National Laboratory, Aiken, SC, USA

Co-Chair: C. Bajwa, US Nuclear Regulatory Commission, Rockville, MD, USA

PVP2007-26162: LONG-TERM CORROSION POTENTIAL BEHAVIOR OF ALLOY 22 IN HOT 5 m CaCl₂ + 5 m Ca(NO₃)₂ BRINES

M. A. Rodriguez, Atomic Energy Commission of Argentina, Buenos Aires, Argentina; R. M. Carranza, Atomic Energy Commission of Argentina, San Martin, Buenos Aires, Argentina; M. L. Stuart, R. B. Rebak, Lawrence Livermore National Laboratory, Livermore, CA, USA

PVP2007-26163: LONG-TERM IMMERSION TESTING OF ALLOY 22 AND TITANIUM GRADE 7 DOUBLE U-BEND SPECIMENS

K. J. Evans, M. L. Stuart, P. D. Hailey, R. B. Rebak, Lawrence Livermore National Laboratory, Livermore, CA, USA

PVP2007-26164: CREVICE REPASSIVATION POTENTIAL OF ALLOY 22 IN HIGH-NITRATE DUST DELIQUESCENT TYPE ENVIRONMENTS
T. Lian, G. E. Gdowski, P. D. Hailey, R. B. Rebak, Lawrence Livermore National Laboratory, Livermore, CA, USA

PVP2007-26165: THE LONG-TERM CORROSION TEST FACILITY AT THE LAWRENCE LIVERMORE NATIONAL LABORATORY
D. V. Fix, R. B. Rebak, Lawrence Livermore National Laboratory, Livermore, CA, USA

SESSION 2.2P (DA-5-2)

Tuesday, July 24, 10:30 am – 12:15 pm, Maverick B, Losoya

INELASTIC AND NONLINEAR ANALYSIS

Sponsored by: Design and Analysis Committee

Developed by: M Younan, The American University in Cairo, Cairo, Egypt; I. Fanous, Atomic Energy of Canada Limited, Mississauga, ON, Canada

Chair: D. Mackenzie, Strathclyde University, Glasgow, United Kingdom

Co-Chair: I. Fanous, Atomic Energy of Canada Limited, Mississauga, ON, Canada

PVP2007-26227: FINITE ELEMENT ANALYSIS OF A COMPRESSOR HOUSING USED IN HIGH PRESSURE REFRIGERATION SYSTEM
R. Bosco Jr., R. A. Maciel, Embraco, Joinville, Santa Catarina, Brazil; M. Mattar, C. A. J. Miranda, IPEN - CNEN/SP, São Paulo, São Paulo, Brazil

PVP2007-26298: GROSS PLASTIC DEFORMATION OF A HEMISPHERICAL HEAD WITH CYLINDRICAL NOZZLE: A COMPARATIVE STUDY
T. Naruse, Hitachi, Ltd. Mechanical Engineering Research Laboratory, Hitachinaka, Ibaraki, Japan; D. Mackenzie, D. Camilleri, Strathclyde University, Glasgow, United Kingdom

PVP2007-26426: ELASTIC-PLASTIC MODELING OF HARDENING MATERIALS USING A COROTATIONAL RATE BASED ON THE PLASTIC SPIN TENSOR
K. Ghavam, R. Naghdabadi, Sharif University of Technology, Tehran, Iran

SESSION 2.2Q (DA-4-6)

Tuesday, July 24, 10:30 am – 12:15 pm, Seguin, Losoya

FATIGUE, FRACTURE MECHANICS, AND DAMAGE

Sponsored by: Design and Analysis Committee

Developed by: J. M. Stephan, Electricite de France R&D, Moret-Sur-Loing, France; D. Moinereau, Electricite de France - EDF R&D - Département MMC, Moret-sur-Loing, France

Chair: J. M. Stephan, Electricite de France R&D, Moret-Sur-Loing, France

Co-Chair: D. Moinereau, Electricite de France - EDF R&D - Département MMC, Moret-sur-Loing, France

PVP2007-26144: STRESS INTENSITY FACTORS OF VARIOUS SURFACE CRACKS INSIDE A HOLLOW CYLINDER UNDER STEADY STATE THERMAL STRIPING
T. Meshii, K. Shibata, University of Fukui, Fukui-shi, Fukui, Japan

PVP2007-26235: AN EXPERIMENTAL INVESTIGATION INTO FATIGUE LIFE ESTIMATION OF RISERS UNDER VIV INDUCED VARIABLE AMPLITUDE LOADING

M. Iranpour, F. Taheri, Dalhousie University, Halifax, NS, Canada

PVP2007-26388: RESEARCH ON STRESS CORROSION CRACKING OF A REBOILER CYLINDER IN DESULFURATION SYSTEM
Z.-M. Lu, S.-E. Sheng, Z. Gao, Zhejiang University of Technology, Hangzhou, Zhejiang, China

SESSION 2.2R (CT-19-2)

Tuesday, July 24, 10:30 am – 12:15 pm, Regency Foyer, B-Level

PVP SOFTWARE DEMONSTRATION FORUM—PART 2

Sponsored by: Computer Technology Committee

Developed by: J. Cory, Jr., Siemens - UGS PLM Software, Milford, OH, USA

Block 2.3: Tuesday, July 24 (2:00 pm – 3:45 pm)

SESSION 2.3A

Tuesday, July 24, 2:00 pm – 3:45 pm, Regency East #1, B-Level

TECHNICAL TUTORIAL IIA: FAILURE ANALYSIS OF ENGINEERING EQUIPMENT

Sponsored by: The PVP Division Conference Committee

Presented by: M. P. H. Brongers, CC Technologies, Inc. (A DNV Company), Dublin, OH, USA

SESSION 2.3B (SE-10-1)

Tuesday, July 24, 2:00 pm – 3:45 pm, Regency East #2, B-Level

SEISMIC DESIGN OF PIPING SYSTEMS

Sponsored by: Seismic Engineering Committee

Developed by: G. Slagis, GC Slagis Associates, Pleasant Hills, CA, USA

Chair: G. Slagis, GC Slagis Associates, Pleasant Hills, CA, USA

Co-Chair: M. Nitzel, Idaho National Laboratory, Idaho Falls, ID, USA

PVP2007-26424: TECHNICAL ISSUES ON SEISMIC DESIGN OF NUCLEAR PIPING SYSTEMS

G. Slagis, GC Slagis Associates, Pleasant Hills, CA, USA

PVP2007-26806: APPLICATION OF EARTHQUAKE EXPERIENCE DATA TO THE EVALUATION OF MECHANICAL EQUIPMENT AND PIPING SYSTEMS—AN OVERVIEW AND SUMMARY

T. M. Adams, Stevenson & Associates, Cleveland, OH, USA

PVP2007-26757: THE “SPECTRUM DIP”: DYNAMIC INTERACTION OF SYSTEM COMPONENTS

R. J. Scavuzzo, The University of Akron, Akron, OH, USA; G. D. Hill, P. Saxe, Alion Science and Technology, Arlington, VA, USA

PVP2007-26069: LOAD AND CRACK HISTORY EFFECTS ON FRACTURE

J. Sharples, P. James, L. A Higham, P. Wood, H. Teng, D. Beardsmore, Serco Assurance, Warrington, United Kingdom; A. H Sherry, University of Manchester, Manchester, United Kingdom; M. Goldthorpe, The University of Manchester, Manchester, United Kingdom; C. T Watson, Rolls-Royce plc., Derby, United Kingdom

PVP2007-26125: TIMES: AN INTERNATIONAL PROJECT ON TRANSFERABILITY OF FRACTURE TOUGHNESS VALUES FOR IRRADIATED RPV STEELS

M. Huemmer, E. Keim, AREVA NP GmbH, Erlangen, Germany; H. Hoffmann, VGB PowerTech e.V., Essen, Germany

PVP2007-26328: CONSTRAINT EFFECTS IN UNDERCLAD CRACKS

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

PVP2007-26506: PROGRESS ON THE NATIONAL PROJECT CARISMA: CRACK ARREST TESTING OF IRRADIATED MATERIALS

E. Keim, H. Hein, H. Schnabel, T. Seibert, AREVA NP GmbH, Erlangen, Germany

PVP2007-26562: REPRESENTATION AND PARTITIONING OF WELDING RESIDUAL STRESS DISTRIBUTIONS FOR USE IN STRUCTURAL INTEGRITY ASSESSMENTS (Presentation Only)

A. Toft, D. Beardsmore, P. James, J. Sharples, Serco Assurance, Warrington, United Kingdom; M. Martin, Rolls Royce P.L.C., Derby, United Kingdom

SESSION 2.30 (OAC-2-6)

Tuesday, July 24, 2:00 pm – 3:45 pm, Maverick A, Losoya

PACKAGING MATERIALS—3

Sponsored by: Operations, Applications, and Components Committee

Developed by: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

Chair: C. Bajwa, US Nuclear Regulatory Commission, Rockville, MD, USA

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

PVP2007-26166: ENHANCED CORROSION RESISTANCE OF IRON-BASED AMORPHOUS ALLOYS

R. B. Rebak, S. D. Day, T. Lian, Lawrence Livermore National Laboratory, Livermore, CA, USA; L. F. Aprigliano, Consultant, Berlin, MD, USA; P. D. Hailey, J. C. Farmer, Lawrence Livermore National Laboratory, Livermore, CA, USA

PVP2007-26758: HIGH PERFORMANCE COATINGS FOR SPENT FUEL CONTAINERS AND COMPONENTS

J. C. Farmer, J.-S. Choi, S. D. Day, T. Lian, P. D. Hailey, Lawrence Livermore National Laboratory, Livermore, CA, USA

PVP2007-26775: CORROSION RESISTANT IRON-BASED AMORPHOUS ALLOY FOR CRITICALITY CONTROL (Presentation Only)

T. Lian, J. C. Farmer, S. D. Day, J.-S. Choi, P. D. Hailey, Lawrence Livermore National Laboratory, Livermore, CA, USA

SESSION 2.3P (CS-3-1)

Tuesday, July 24, 2:00 pm – 3:45 pm, Maverick B, Losoya

ENVIRONMENTAL FATIGUE CRACK INITIATION AND GROWTH—I

Sponsored by: Codes and Standards and Materials and Fabrication Committees

Developed by: H. Mehta, General Electric, San Jose, CA, USA; O. Chopra, Argonne National Laboratory, Argonne, IL, USA; M. Higuchi, Ishikawajima-Harima Heavy Industries Co., Ltd., Yokohama, Japan

Chair: D. P. Jones, Bechtel Bettis, Inc., West Mifflin, PA, USA

Co-Chair: O. Chopra, Argonne National Laboratory, Argonne, IL, USA

PVP2007-26100: FINAL PROPOSAL OF ENVIRONMENTAL FATIGUE LIFE CORRECTION FACTOR (FEN) FOR STRUCTURAL MATERIALS IN LWR WATER ENVIRONMENTS

M. Higuchi, Ishikawajima-Harima Heavy Industries Co., Ltd., Yokohama, Japan; K. Sakaguchi, Japan Nuclear Energy Safety Organization, Tokyo, Japan; A. Hirano, Hitachi, Ltd., Hitachi, Ibaraki, Japan; Y. Nomura, Mitsubishi Heavy Industry, Takasago, Hyogo, Japan

PVP2007-26101: EFFECTS OF STRAIN HOLDING AND CONTINUOUSLY CHANGING STRAIN RATE ON FATIGUE LIFE REDUCTION OF STRUCTURAL MATERIALS IN SIMULATED LWR WATER

M. Higuchi, Ishikawajima-Harima Heavy Industries Co., Ltd., Yokohama, Japan; K. Sakaguchi, Japan Nuclear Energy Safety Organization, Tokyo, Japan; Y. Nomura, Mitsubishi Heavy Industry, Takasago, Hyogo, Japan

PVP2007-26709: ENVIRONMENTAL CRACK GROWTH PREDICTIONS FOR PIPING

S. Ranganath, XGEN Engineering, San Jose, CA, USA; G. DeBoo, Exelon Nuclear, Warrenville, IL, USA

PVP2007-26755: INFLUENCE OF LOAD RATIO, RISE TIME AND WAVEFORM ON THE CORROSION FATIGUE CRACK GROWTH OF AUSTENITIC STAINLESS STEEL IN A PWR PRIMARY COOLANT ENVIRONMENT

N. Platts, D. Tice, K. Rigby, J. Stairmand, Serco Assurance, Warrington, United Kingdom

SESSION 2.3Q (DA-6-1)

Tuesday, July 24, 2:00 pm – 3:45 pm, Seguin, Losoya

STRESS CLASSIFICATION AND DESIGN BY ANALYSIS

Sponsored by: Design and Analysis Committee

Developed by: I. Fanous, Atomic Energy of Canada Limited, Mississauga, ON, Canada

Chair: I. Fanous, Atomic Energy of Canada Limited, Mississauga, ON, Canada

Co-Chair: M. Ruggles-Wrenn, Air Force Institute of Technology, WPAFB, OH, USA

PVP2007-26307: RESIDUAL STRESS IMPROVEMENT IN REPAIR WELDED PLATES USING WATER-SHOWER COOLING DURING WELDING PROCESS

N. Yanagida, Hitachi, Ltd., Hitachi, Ibaraki, Japan; K. Saito, Hitachi, Ltd., Hitachi-shi, Japan; H. Koide, Hitachi, Ltd., Hitachi, Ibaraki, Japan; M. Kawakami, Hitachi Engineering & Service, Hitachi, Ibaraki, Japan

PVP2007-26324: WELDING REPAIR OF DEFECTS IN WWER REACTOR PRESSURE VESSELS

M. Brumovsky, J. Brynda, Nuclear Research Institute Rez plc, Rez, Czech Republic; J. Ellinger, SKODA JS, Plzen, Czech Republic

PVP2007-26544: TRANSFORMATION TEMPERATURES AND WELDING RESIDUAL STRESSES IN FERRITIC STEELS

J. A. Francis, University of Manchester, Manchester, United Kingdom; H. J. Stone, S. Kundu, University of Cambridge, Cambridge, United Kingdom; R. B. Rogge, Canadian Neutron Beam Centre, Chalk River, ON, Canada; H. K. D. H. Bhadeshia, University of Cambridge, Cambridge, United Kingdom; P. J. Withers, University of Manchester, Manchester, United Kingdom; L. Karlsson, ESAB AB, SE-402 77 Gothenburg, Sweden

SESSION 2.4N (MF-9-1)

Tuesday, July 24, 4:00 pm – 5:45 pm, Navarro, Losoya

WALL THINNING—I

Sponsored by: Materials and Fabrication Committee

Developed by: K. Hasegawa, Japan Nuclear Energy Safety Organization (JNES), Tokyo, Ibaraki-ken, Japan; Y. J. Kim, Korea University, Seoul, Korea (Republic)

Chair: C.-Y. Park, KEPRI, Daejeon, Korea (Republic)

Co-Chair: S. Hamada, Tokyo Electric Power Company, Tokyo, Japan

PVP2007-26086: TACKLING EROSION IN NUCLEAR PIPING SYSTEMS

J. Horowitz, dba Jeff Horowitz, Escondido, CA, USA; H. Crockett, Electric Power Research Institute, Charlotte, NC, USA

PVP2007-26178: PROPOSED FAC MECHANISM USING A MACRO-CELL CORROSION MODEL

M. Matsumura, Hiroshima University, Higashi-Hiroshima, Hiroshima, Japan

PVP2007-26225: AXIAL LENGTH AND SHAPE EFFECTS OF LOCAL WALL THINNING ON NET-SECTION LIMIT LOADS

C.-Y. Park, S.-H. Lee, KEPRI, Daejeon, Korea (Republic); Y. J. Kim, N.-H. Myung, C.-K. Oh, Korea University, Seoul, Korea (Republic)

PVP2007-26222: INFLUENCE OF FLAW LENGTH ON FAILURE PRESURE OF STRAIGHT PIPE WITH WALL-THINNING

M. Kamaya, Institute of Nuclear Safety System, Fukui, Japan; T. Meshii, T. Suzuki, M. Yamada, University of Fukui, Fukui-shi, Fukui, Japan

SESSION 2.4O (OAC-2-7)

Tuesday, July 24, 4:00 pm – 5:45 pm, Maverick A, Losoya

STRUCTURAL ANALYSIS FOR RAM PACKAGES

Sponsored by: Operations, Applications, and Components Committee

Developed by: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

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

Co-Chair: R. B. Rebak, Lawrence Livermore National Laboratory, Livermore, CA, USA

PVP2007-26294: DYNAMIC ANALYSIS OF THE BULK TRITIUM SHIPPING PACKAGE SUBJECTED TO CLOSURE TORQUES AND SEQUENTIAL IMPACTS

T.-T. Wu, P. Blanton, K. Eberl, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26330: EFFECT OF IMPACT LIMITER MATERIAL DEGRADATION ON STRUCTURAL INTEGRITY OF 9975 PACKAGE SUBJECTED TO TWO FORKLIFT TRUCK IMPACT

T.-T. Wu, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26130: DESIGN QUALIFICATION OF DOE RADIOACTIVE WASTE PACKAGES EMPLOYING POLYURETHANE FOAM BASED IMPACT LIMITERS (Presentation Only)

L. Hagler, G. Mok, Lawrence Livermore Nat'l Lab, Livermore, CA, USA

SESSION 2.4P (CS-3-2)

Tuesday, July 24, 4:00 pm – 5:45 pm, Maverick B, Losoya

ENVIRONMENTAL FATIGUE CRACK INITIATION AND GROWTH—II

Sponsored by: Codes and Standards and Materials and Fabrication Committees

Developed by: H. Mehta, General Electric, San Jose, CA, USA; O. Chopra, Argonne National Laboratory, Argonne, IL, USA

Chair: R. Cipolla, Aptech Engineering Services, Inc., Sunnyvale, CA, USA

Co-Chair: M. Higuchi, Ishikawajima-Harima Heavy Industries Co., Ltd., Yokohama, Japan

PVP2007-26143: APPLICATION OF DRAFT REGULATORY GUIDE DG-1144 GUIDELINES FOR ENVIRONMENTAL FATIGUE EVALUATION TO A BWR FEEDWATER PIPING SYSTEM

H. Mehta, General Electric, San Jose, CA, USA; Henry Hwang, GE Nuclear Energy, Sunol, CA, USA

PVP2007-26210: EVALUATION OF CONTROLLING TRANSIENT RAMP TIMES USING PIPING METHODOLOGIES CONSIDERING ENVIRONMENTAL FATIGUE (FEN) EFFECTS

G. Stevens, Structural Integrity Associates, Inc., Centennial, CO, USA; J. M. Davis, Duke Energy Corporation, Charlotte, NC, USA

PVP2007-26211: SAMPLE ENVIRONMENTAL FATIGUE CALCULATIONS ASSOCIATED WITH THE REVIEW OF DRAFT REGULATORY GUIDE DG-1144

G. Stevens, Structural Integrity Associates, Inc., Centennial, CO, USA; J. M. Davis, Duke Energy Corporation, Charlotte, NC, USA; L. Spain, Dominion, Glen Allen, VA, USA

PVP2007-26556: EFFECTS OF RESIDUAL STRESS BY WELD OVERLAY CLADDING AND PWHT ON THE STRUCTURAL INTEGRITY OF RPV DURING PTS

M. Udagawa, J. Katsuyama, K. Onizawa, Japan Atomic Energy Agency, Ibaraki, Ibaraki-ken, Japan

SESSION 3.1N (MF-17-1)

Wednesday, July 25, 8:30 am – 10:15 am, Navarro, Losoya

PIPELINE STRUCTURAL INTEGRITY AND ASSESSMENT I

Sponsored by: Materials and Fabrication Committee

Developed by: X.-K. Zhu, Battelle Memorial Institute, Columbus, OH, USA

Chair: X.-K. Zhu, Battelle Memorial Institute, Columbus, OH, USA

Co-Chair: X. Zhao, Tubular Research Goods Center of CNPC, Xi'an, China

PVP2007-26217: LOWER BOUND NET-SECTION LIMIT LOADS FOR CIRCUMFERENTIAL PART-THROUGH SURFACE CRACKED PIPES UNDER COMBINED PRESSURE AND BENDING

C.-K. Oh, Korea University, Seoul, Korea (Republic); Y. J. Kim, J.-S. Kim, T.-E. Jin, KOPEC, Yongin, South Korea, Korea (Republic)

PVP2007-26473: ANALYSIS OF CAUSES FOR CRACKING OF CHINESE LARGE HIGH-STRENGTH STEEL SPHERIC TANK AND SUGGESTION ABOUT ITS PREVENTION

C. Xuedong, Y. Rong, W. Bing, Y. Tiecheng, L. Pingjin, C. Chuanqing, Hefei General Machinery Research Institute, Hefei, Anhui, China

PVP2007-26808: THE RESEARCHES ON TOUGHNESS INDEX OF REHEATED HIGH GRADE LINEPIPE BEND PIPES

Z. X. Li, F. Y. Rong, Z. W. Zhen, L. Y. Lai, C. Zhuang, J. Ling Kang, L. Weiwei, C. Huo, Tubular Goods Research Center of China National Petroleum Co., Xi'an, Shaanxi, China

SESSION 3.1O (OAC-2-8)

Wednesday, July 25, 8:30 am – 10:15 am, Maverick A, Losoya

RADIOACTIVE MATERIALS PACKAGING TESTING

Sponsored by: Operations, Applications, and Components Committee

Developed by: N. K. Gupta, Savannah River National Laboratory, Aiken, SC, USA

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

Co-Chair: T.-T. Wu, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26371: ACCIDENTAL DROP OF A CARBON STEEL/LEAD SHIPPING CASK AT LOW TEMPERATURES

B. Hawkes, K. Durstine, Idaho National Laboratory, Idaho Falls, ID, USA

PVP2007-26590: THE USE OF DIGITAL RADIOGRAPHY IN THE EVALUATION OF RADIOACTIVE MATERIALS PACKAGING PERFORMANCE TESTING

C. May, L. F. Gelder, B. D. Howard, Savannah River National Laboratory, Aiken, SC, USA

PVP2007-26786: TESTING OF THE MD-2 SHIPPING PACKAGE (Presentation Only)

M. Feldman, Oak Ridge National Laboratory, Knoxville, TN, USA

SESSION 3.1P (CS-3-3)

Wednesday, July 25, 8:30 am – 10:15 am, Maverick B, Losoya

**ENVIRONMENTAL FATIGUE CRACK INITIATION AND GROWTH—III
Sponsored by: Codes and Standards and Materials and Fabrication Committees**

Developed by: H. Mehta, General Electric, San Jose, CA, USA; O. Chopra, Argonne National Laboratory, Argonne, IL, USA; M. Higuchi, Ishikawajima-Harima Heavy Industries Co., Ltd., Yokohama, Japan

Chair: G. Stevens, Structural Integrity Associates, Inc., Centennial, CO, USA

Co-Chair: H. Mehta, General Electric, San Jose, CA, USA

PVP2007-26185: FATIGUE CRACK GROWTH RATES OF NICKEL-BASED ALLOYS IN PWR ENVIRONMENT

Y. Nomura, H. Kanasaki, Mitsubishi Heavy Industry, Takasago, Hyogo, Japan

PVP2007-26186: FATIGUE CRACK GROWTH RATE CURVE FOR NICKEL BASED ALLOYS IN PWR ENVIRONMENT

Y. Nomura, Mitsubishi Heavy Industry, Takasago, Hyogo, Japan; K. Sakaguchi, Japan Nuclear Energy Safety Organization, Tokyo, Japan; H. Kanasaki, Mitsubishi Heavy Industry, Takasago, Japan

PVP2007-26356: CRACK GROWTH BEHAVIOR OF NICKEL ALLOY WELDS IN A PWR ENVIRONMENT

B. Alexandreanu, O. Chopra, W. Shack, Argonne National Laboratory, Argonne, IL, USA

PVP2007-26379: EVALUATION FOR ENVIRONMENTAL FATIGUE OF NOTCHED SPECIMEN OF NI-BASE ALLOY

M. Itatani, Toshiba Corporation, Yokohama, Japan; K. Sakaguchi, Japan Nuclear Energy Safety Organization, Tokyo, Japan; T. Saito, T. Hayashi, Toshiba Corporation, Yokohama, Japan

SESSION 3.1Q (CS-2-1)

Wednesday, July 25, 8:30 am – 10:15 am, Seguin, Losoya

FATIGUE OF PRESSURE VESSELS—I

Sponsored by: Codes and Standards Committee

Developed by: A. Kalnins, Lehigh University, Bethlehem, PA, USA; M. Sakane, Ritsumeikan University, Shiga, Japan

Chair: M. Rana, Praxair, Inc., Tonawanda, NY, USA

Co-Chair: K. S. Kim, Pohang University of Science and Technology, Pohang, Korea (Republic)

PVP2007-26691: FATIGUE STRENGTH REDUCTION FACTORS FOR WELDED JOINTS—ANOTHER VIEW

A. Kalnins, Lehigh University, Bethlehem, PA, USA

PVP2007-26622: FATIGUE OF WELDED FLAT HEAD PRESSURE VESSELS

C. Hinnant, Paulin Research Group, Houston, TX, USA