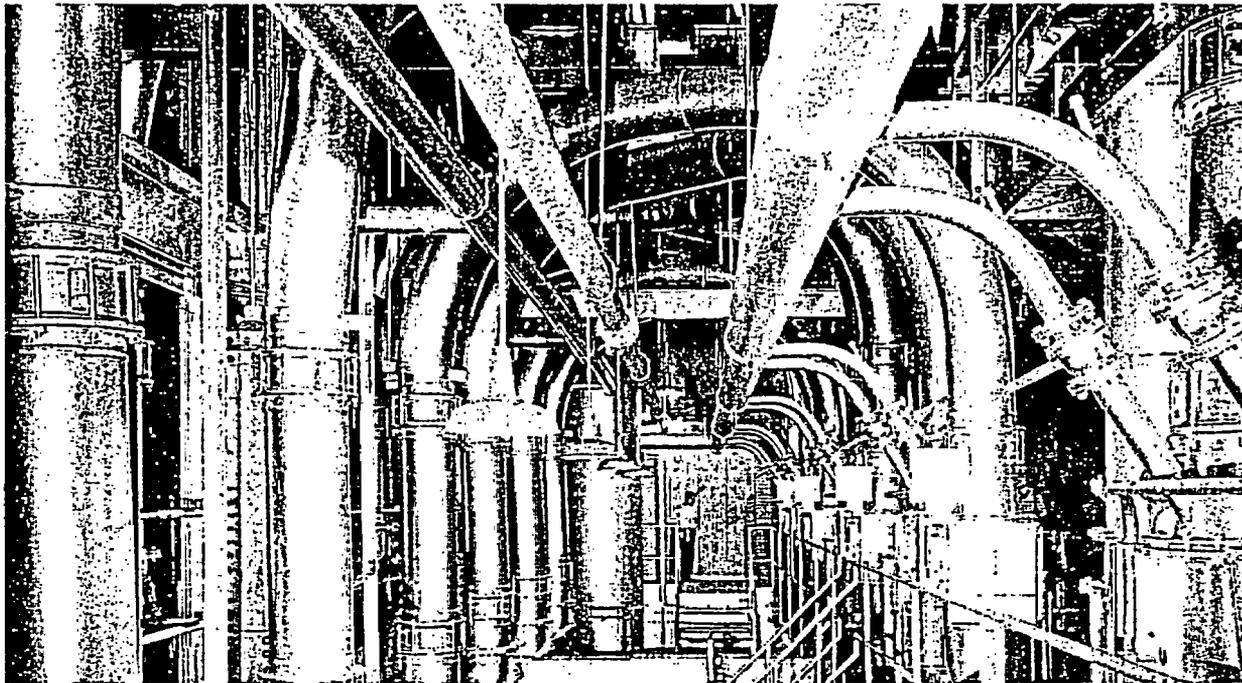




FINAL PROGRAM

ASME/JSME 2004 Pressure Vessels & Piping Conference



*July 25-29, 2004
Hyatt Regency La Jolla at Aventine
San Diego, California USA*



SESSION 1.1C (FSI-02A)

Monday, July 26, 8:30 AM - 10:15 AM, Salon C

THE 8TH INTERNATIONAL SYMPOSIUM ON EMERGING TECHNOLOGY IN FLUIDS, STRUCTURES, AND FLUID-STRUCTURE INTERACTIONS - ADVANCES IN FLUID DYNAMICS - I: PHYSICAL MODELS

Sponsored by: Fluid-Structure Interaction Technical Committee

Published in PVP Vol. 485, PROCEEDINGS OF THE SYMPOSIUM

Symposium Organizers: W. L. Cheng, Mech. Comp. Inc. (Sunnyvale, CA USA), A. E. Holdo, University of Hertfordshire (Herts UK)

Session Developed by: M. Fischer, Technical Consultant (München GERMANY), M. Souli, Université de Lille (Lille FRANCE)

Chair: W. L. Cheng, Mech. Comp. Inc. (Sunnyvale, CA USA)

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

MODELING DOWNHOLE NATURAL SEPARATION USING A BUBBLE TRACKING METHOD

B. Liu, Petroleum Department, University of Tulsa (Tulsa, OK USA)

SOME CONSEQUENCES OF MATERIAL FRAME INVARIANCE ON ENGINEERING FLOW CALCULATIONS

G. Mompean, L. Thals and L. Helin, University of Lille (Lille FRANCE)

APRIORI EVALUATION AND OBJECTIVE OF EXPLICIT ALGEBRAIC MODELS FOR A TURBULENT FLOW THROUGH STRAIGHT SQUARE DUCT

H. Najj and O. Elyahyaoui, G. Monpeon, University of Lille, LML (Lille FRANCE)

SESSION 1.1I (OAC-01A)

Monday, July 26, 8:30 AM - 10:15 AM, Portofino A

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

Sponsored by: Operations, Applications, and Components Committee

Published in PVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS

Developed by: A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA), N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA)

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

Vice Chair: A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

BEHAVIOR OF NUCLEAR MATERIAL CASKS UNDER EXPLOSIVE LOADING

K. Cheval et al, Institut de Radioprotection et de Sécurité Nucléaire (Fontenay-aux-Roses, FRANCE)

MODEL BASED ON STRUCTURAL EVALUATION AND DESIGN OF OVERPACK CONTAINERS FOR BAG-BUSTER PROCESSING OF TRU WASTE DRUMS

D. T. Clark, A. S. Siahpush and G. L. Anderson, Idaho National Engineering and Environmental Laboratory (Idaho Falls, ID USA)

CORROSION ISSUES ASSOCIATED WITH ALLOY 22

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

DESIGN OF AN ON-SITE SPENT-MELT-CASK

P. S. Blanton, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 1.1J (CT-02)

Monday, July 26, 8:30 AM - 10:15 AM, Portofino B

FINITE ELEMENT ANALYSIS IN FIELD APPLICATIONS AND TESTING

Sponsored by: Computer Technologies Committee

Published in PVP Vol. 482, COMPUTER TECHNOLOGY AND APPLICATIONS

Developed by: J. Martin, Lockheed Martin, Inc (Albany, NY USA)
Y. Urthaler, Texas A&M University (College Station, TX USA)

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

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

CHOICE OF OBJECTIVE RATE FOR NON-PROPORTIONAL LOADING APPLICATIONS

R. G. Sauv , Atomic Energy of Canada (Toronto, ON Canada)

DETERMINATION OF THE THREE-PARAMETER WEIBULL DISTRIBUTION AND CONFIDENCE BANDS FROM EXPERIMENTAL FATIGUE STRENGTH DATA

E. Mahajerin, Saginaw Valley State University, University Center (MI USA)
G. Burgess, Michigan State University (East Lansing, MI USA)

PRACTICAL CRITERION FOR ESTIMATION OF NOTCH FATIGUE STRENGTH

H. Matsuno and Y. Mukai, Sojo University (Kumamoto JAPAN)

NON-LINEAR FINITE ELEMENT ANALYSIS OF A PIPE DENTING PROBLEM DURING A PIPE TRANSFER OPERATION

S. Dan, Youngstown State University (OH USA)

SESSION 1.1K (MF-02, PSD-04)

Monday, July 26, 8:30 AM - 10:15 AM, Mykonos A

MATERIALS FOR HYDROGEN SERVICE

Sponsored by: Materials and Fabrication Committee and Pipeline System Division

Published in PVP Vol. 475, FLAW EVALUATION, SERVICE EXPERIENCE AND MATERIALS FOR HYDROGEN SERVICE

Developed by: M. P. Brongers, CC Technologies (Dublin, OH USA)
K. Subramanian, Savannah River Site (Aiken, SC USA)

Chair: M. P. Brongers, CC Technologies (Dublin, OH USA)

Vice Chair: K. Subramanian, Savannah River Site (Aiken, SC USA)

MATERIALS IN SUPPORT OF A NEWLY EMERGING HYDROGEN INFRASTRUCTURE

L. E. Hayden, (USA), J. Tverberg, (USA)

REVIEW OF TEST METHODS FOR EVALUATING HYDROGEN EMBRITTLEMENT SUSCEPTIBILITY OF MATERIALS

D. J. Burwell, M. P. Brongers and J. A. Beavers (Dublin, OH USA)

MATERIALS SELECTION AND PERFORMANCE CRITERIA FOR HYDROGEN PIPELINE TRANSMISSION

M. Mohitpour, Tepsys Pipeline Solutions, Inc., (White Rock, BC CAN)
H. Solanky, NASA Kennedy Space Center (FL USA), G. K. Vinjamuri, Department of Transportation (Washington DC USA)

SESSION 1.1M (SE-03)

Monday, July 26, 8:30 AM - 10:15 AM, Palatine A

SEISMIC EVALUATION OF SYSTEMS, STRUCTURES, AND COMPONENTS

Sponsored by: Seismic Engineering Committee

(cont)

SE-01A

1Q (CS-05A) (continued)

M. D. Rana, Praxair, Inc. (Tonawanda, NY USA)
Feldstein, Foster Wheeler Power Group Inc. (Clinton, NJ USA)

Vice Chair: M. D. Rana, Praxair, Inc. (Tonawanda, NY USA)

WHAT'S NEW IN ASME SECTION I, RULES FOR CONSTRUCTION OF POWER BOILERS

J. R. MacKay, Consulting Engineer (St Laurent, QC CANADA)

WHAT'S NEW IN ASME SECTION II, MATERIALS

M. Gold, Gold Metallurgical Services (North Benton, OH USA)

WHAT'S NEW IN ASME SECTION IX, WELDING AND BRAZING QUALIFICATIONS

J. G. Feldstein, Foster Wheeler North America Corp. (Clinton, NJ USA)

SESSION 1.1S (SE-01A)

Monday, July 26, 8:30 AM - 10:15 AM, Palatine B

SEISMIC STRUCTURES/SYSTEMS: TECHNOLOGIES FOR SEISMIC RESPONSE, CONTROL AND MITIGATION

Sponsored by: Seismic Engineering Committee

Published in PVP Vol. 486, SEISMIC ENGINEERING - 2004

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: S. C. Lu, Lawrence Livermore National Laboratory (Livermore, CA USA)

SEISMIC RESPONSE PREDICTION OF NUPEC'S FIELD MODEL TESTS OF NPP STRUCTURES WITH ADJACENT BUILDING EFFECT

J. Xu et al, Brookhaven National Laboratory (Upton, NY USA)

STUDY ON SIMPLIFIED MODELS FOR COUPLED TRANSMISSION TOWER-LINE SYSTEM TO SEISMIC EXCITATIONS

H. N. Li, G. X. Wang, Dalian University of Technology (Dalian, PR CHINA),
W. L. Shi, Tongji University (Shanghai, PR China)

EXACT SOLUTION OF THE BASE-ISOLATED STRUCTURE WITH SLIDING-TYPE BASE ISOLATOR

C. S. Tsai, T. C. Chiang and B. J. Chen, Feng Chia University (Taichung TAIWAN)

EXACT SOLUTION OF THE BASE-ISOLATED STRUCTURE WITH ELASTOMERIC-TYPE BASE ISOLATOR

C. S. Tsai, T. C. Chiang and B. J. Chen, Feng Chia University (Taichung TAIWAN)

FOYER - NDE DEMONSTRATION FORUM

Block 1.2: Monday, July 26 (10:30 AM - 12:15 PM)

SESSION 1.2DEF

Monday, July 26, 10:30 AM - 12:15 PM, Salon DEF

**PVP- 2004 CONFERENCE OPENING AND PLENARY SESSION
INNOVATIVE PVP TECHNOLOGIES - MEETING EMERGING CHALLENGES NOW**

Sponsored by: The PVP Division Conference Committee

Chair: I. T. Kisisel, Conference Chair, Sargent & Lundy LLC (Chicago, IL USA)

Vice Chair: T. Sawa, Conference Co-Chair, Hiroshima University (Higashi-Hiroshima, JAPAN)

WELCOME REMARKS

H. Armen, President, ASME (New York, NY USA)

T. Sawa, Representative, JSME (Tokyo, JAPAN)

CHALLENGES FACING THE U.S. NUCLEAR POWER INDUSTRY

M. B. Sellman, President and CEO, Nuclear Management Company (Hudson, WI USA)

APPLICATION OF INNOVATIVE TECHNOLOGIES TO NUCLEAR POWER PLANT SECURITY

R. E. Nickell, Consultant, Applied Science & Technology (Poway, CA USA)

OVERVIEW OF DAMAGE DURING AND AFTER THE 1995 KOBE EARTHQUAKE AND RECENT DEVELOPMENTS OF TECHNOLOGY IN SEISMIC ENGINEERING

K. Suzuki, Dean of Engineering Faculty, Tokyo Metropolitan University (Tokyo, JAPAN)

FOYER - NDE DEMONSTRATION FORUM

Block 1.3: Monday, July 26 (2:00 PM - 3:45 PM)

SESSION 1.3A (TUT-01A)

Monday, July 26, 2:00 PM - 3:45 PM, Salon A

TUTORIAL: INTRODUCTION TO FINITE ELEMENT ANALYSIS

Sponsored by: The PVP Division Conference Committee

Presented by: J. L. Gordon, Bechtel Bettis Inc., R. G. Sauve, Atomic Energy of Canada Ltd

SESSION 1.3B (CT-06B)

Monday, July 26, 2:00 PM - 3:45 PM, Salon B

ANALYSIS OF BOLTED JOINT - II

Sponsored by: Computer Technologies Committee

Published in PVP Vol. 478, ANALYSIS OF BOLTED JOINTS

Developed by: A. Bouzid, Ecole de Technologie Superieure (Montreal, QC CANADA); H. Kockelmann, University of Stuttgart (Stuttgart GERMANY)

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

Vice Chair: K. Yahiaoui, University of Wolverhampton (Telford UK)

THE SEALING PERFORMANCE OF PIPE FLANGE CONNECTIONS WITH SHAPE MEMORY ALLOY GASKETS UNDER INTERNAL PRESSURE

Y. Takagi et al, Tokyo Electric Power Co. (JAPAN)

CREEP MODELING IN BOLTED FLANGE JOINTS

A. Bouzid and A. Nechache, Ecole de Technologie Superieure (Montreal, QC CANADA)

DETERMINATION OF CRITICAL TEMPERATURE OF COMPRESSED NON-ASBESTOS SHEET GASKETS

C. F. A. Cipolatti et al, Teadit Ind. Com. Ltda. (Rio de Janeiro BRAZIL)

THERMAL STRESS ANALYSIS AND SEALING PERFORMANCE EVALUATION OF PIPE FLANGE CONNECTIONS WITH SPIRAL WOUND GASKETS UNDER ELEVATED TEMPERATURE

T. Sawa and W. Maezaki, Yamanashi University (Yamanashi JAPAN)

N 1.3F (SERAD-01) (continued)

ASSET MANAGEMENT—RIMAP (RISK-BASED INSPECTION AND MAINTENANCE FOR EUROPEAN INDUSTRIES)—THE EUROPEAN APPROACH

R. Kauer et al, TÜV Industry Service (München, Bavaria GERMANY)

SESSION 1.3H (NDE-01A)

Monday, July 26, 2:00 PM - 3:45 PM, San Remo

ULTRASONIC NDE - I

Sponsored by: NDE Engineering Division Committee

Published in PVP Vol. 484, RECENT ADVANCES IN NON-DESTRUCTIVE TESTING AND INSPECTION

Developed by: Y. Yokono, Non-destructive Inspection Co., Ltd. (Chiba, JAPAN), T. Hayashi, Nagoya Institute of Technology, (Nagoya, Aichi JAPAN)

Chair: Y. H. Cho, Pusan National University (Pusan KOREA)

Vice Chair: I. Ihara, Nagaoka University of Technology (Nagaoka, Niigata JAPAN)

A NOVEL METHOD OF ESTIMATING AN ASPECT RATIO OF PIPE WALL THICKNESS TO DIAMETER UTILIZING THE CHARACTERISTICS OF A LOW CYLINDRICAL GUIDED WAVE

H. Nishino et al, Tohoku University (Sendai, Miyagi JAPAN)

DESIGN AND PERFORMANCE OF A BROADBAND 10MHZ TRANSDUCER FOR ELEVATED TEMPERATURE, LEAVE-IN-PLACE APPLICATION

M. Pedric, B. R. Tittmann and J. Seliga, The Pennsylvania State University, (University Park, PA USA)

TIME FREQUENCY DOMAIN ANALYSIS OF THE DISPERSION OF GUIDED WAVE

Y. H. Cho, Pusan National University, (Pusan KOREA), Y. K. Kim and I. K. Park, Seoul National University of Technology (Seoul KOREA)

CIRCUMFERENTIAL GUIDED WAVE INSPECTION FOR A DEFECT AT AN INNER SURFACE OF A PIPE

T. Hayashi et al, Nagoya Institute of Technology (Nagoya, Aichi JAPAN)

HEALTH MONITORING OF PIPING WELD WITH GUIDED WAVES

Y. H. Cho et al, Pusan National University (Pusan KOREA)

SESSION 1.3I (OAC-01B)

Monday, July 26, 2:00 PM - 3:45 PM, Portofino A

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS II: DESIGN AND FABRICATION

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS

Developed by: N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA), A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

Chair: N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA)

Vice Chair: S. J. Hensel, Westinghouse Savannah River Company (Aiken, SC USA)

ES-3100: A NEW GENERATION SHIPPING CONTAINER FOR BULK HIGHLY ENRICHED URANIUM AND OTHER FISSILE MATERIALS

J. G. Arbutal and G. B. Singleton, BWXT Y-12 (Oak Ridge, TN USA), D. R. Tousley, U.S. Department of Energy (Washington DC, USA)

WELDING PLUTONIUM STORAGE CONTAINERS

S. L. Hudlow, Westinghouse Savannah River Company (Aiken, SC USA)

DEVELOPMENT OF A TRANSPORTATION PACKAGE WITH A NON-CIRCULAR CROSS SECTION CONTAINMENT VESSEL FOR THE TRANSPORT OF HAZARDOUS EVIDENCE

D. R. Leduc and A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

DEVELOPMENT OF A LIGHT WEIGHT MODULAR PACKAGE FOR THE TRANSPORT OF HAZARDOUS EVIDENCE

D. R. Leduc and A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 1.3J (CT-01A)

Monday, July 26, 2:00 PM - 3:45 PM, Portofino B

ISSUES RELATED TO NONLINEAR FINITE ELEMENT ANALYSIS - I

Sponsored by: Computer Technologies Committee

Published in PVP Vol. 482, COMPUTER TECHNOLOGY AND APPLICATIONS

Developed by: R. Sauvé, Atomic Energy of Canada (Toronto, ON Canada), Y. Nakasone, Tokyo University of Science (Tokyo JAPAN)

Chair: D.R. Metzger, McMaster University (Hamilton, ON Canada)

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

MESHLESS DYNAMIC RELAXATION TECHNIQUE FOR SIMULATING ATOMISTIC MODELS SUBJECTED TO EXTERNAL FORCES UNDER THE PERIODIC SYMMETRY

L. Pan et al, McMaster University (Hamilton, ON Canada)

MULTIPLE VOID GROWTH SIMULATIONS IN THE HYPERELASTIC MATERIAL

T. Tsuji, Chuo University (Tokyo JAPAN)

ON THE IMPLEMENTATION OF NONLINEAR SHELL-TO-SOLID CONSTRAINTS IN EXPLICIT FINITE ELEMENT FORMULATIONS

R. J. Ho and S. A. Meguid, University of Toronto (Toronto, ON Canada), R. G. Sauvé, Atomic Energy of Canada (Toronto, ON Canada)

SESSION 1.3K (MF-05A)

Monday, July 26, 2:00 PM - 3:45 PM, Mykonos A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT - I

Sponsored by: Materials and Fabrication Committee

Published in PVP Vol. 474, FRACTURE METHODOLOGIES AND MANUFACTURING PROCESSES

Developed by: P. S. Lam, Savannah River National Laboratory (Aiken, SC USA), D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

Chair: P. S. Lam, Savannah River National Laboratory (Aiken, SC USA)

Vice Chair: D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

THREE-DIMENSIONAL ANALYSIS OF CRACK IN CENTRALLY PERFORATED PHOTOELASTIC CYLINDERS UNDER INTERNAL PRESSURE

C. T. Liu, AFRL/PRSM (Edwards AFB CA USA), C. W. Smith, Virginia Polytechnic Institute and State University (Blacksburg, VA USA)

(continued)

ENT OF SIL TARGETS TO OVERPRESSURE PROTECTION IN ITEMS

Developed by: M. A. DeJong and K. A. Wehrman, Baker Engineering and Risk Consultants, Inc. (Stafford, TX USA)

JUSTIFYING THE USE OF HIGH INTEGRITY PRESSURE PROTECTION SYSTEMS (HIPPS)

Developed by: E. M. Marszal and K. J. Mitchell, Exida (Columbus, OH USA)

SESSION 1.4H (NDE-01B)

Monday, July 26, 4:00 PM - 5:45 PM, San Remo

ULTRASONIC NDE - II

Sponsored by: NDE Engineering Division Committee

Published in PVP Vol. 484, RECENT ADVANCES IN NON-DESTRUCTIVE TESTING AND INSPECTION

Developed by: T. Hayashi, Nagoya Institute of Technology (Nagoya, Aichi, JAPAN), Y. H. Cho, Pusan National University (Pusan KOREA)

Chair: T. Hayashi, Nagoya Institute of Technology (Nagoya, Aichi JAPAN)

Vice Chair: I. K. Park, Seoul National University of Technology (Seoul KOREA)

AUTOMATED ULTRASONIC INSPECTION OF PRESSURE VESSEL WELDS
M. Moles, R/D Tech (ON CANADA), S. Labbé, R/D Tech (QC CANADA)

DEFECT SIZING IN PIPELINE WELDS — WHAT CAN WE REALLY ACHIEVE?
M. Moles, R/D Tech (ON CANADA)

HIGH S/N RATIO GUIDED WAVE INSPECTION OF PIPE USING CHIRP PULSE COMPRESSION
K. Toiyama et al, Western Industrial Research Institute of Hiroshima Prefecture (Hiroshima JAPAN)

ELASTIC GUIDED WAVES IN COMPOSITE PIPES
Y. H. Cho et al, Pusan National University (Pusan KOREA)

NON-CONTACT TUBE INSPECTION TECHNIQUE USING LASER GENERATION OF GUIDED WAVE AND ITS RECEPTION BY AIR-COUPLED TRANSDUCER
K. Y. Jhang et al, Han-Yang-University (Seoul KOREA)

SESSION 1.4I (OAC-01C)

Monday, July 26, 4:00 PM - 5:45 AM, Portofino A

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS III: REGULATORY ISSUES

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS

Developed by: N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA), A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

Chair: J. G. Arbibal, BWXT Y-12, LLC (Oak Ridge, TN USA)

Vice Chair: A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

AN UPDATE ON RAMPAC.COM, THE DEPARTMENT OF ENERGY'S WEBSITE FOR INFORMATION ON RADIOACTIVE MATERIAL PACKAGING
S. J. Primeau, Eagle Research Group (Germantown, MD USA)

DEVELOPING QUALITY ASSURANCE PROGRAMS THAT SATISFY 10 CFR 71, SUBPART H AND DEPARTMENT OF ENERGY REQUIREMENTS FOR PACKAGING ORGANIZATIONS AT DEPARTMENT OF ENERGY SITES
E. M. Ryan and E. W. Russell Jr., Lawrence Livermore National Laboratory (Livermore, CA USA)

RADIOACTIVE MATERIAL TRANSPORTATION CONSIDERATIONS WITH RESPECT TO DOE 3013 STORAGE CONTAINERS
S. J. Hensel, T. T. Wu, and B. R. Seward, Westinghouse Savannah River Company (Aiken, SC USA)

VALIDATION OF THE STRESS CORROSION CRACKING MODEL FOR HIGH LEVEL RADIOACTIVE WASTE PACKAGES
S. C. Lu, Lawrence Livermore National Laboratory (Livermore, CA USA), G. M. Gordon, Framatome ANP (Las Vegas, NV USA), and P. L. Andresen, GE Global Research (Schenectady, NY USA)

SESSION 1.4J (CT-01B)

Monday, July 26, 4:00 PM - 5:45 PM, Portofino B

ISSUES RELATED TO NONLINEAR FINITE ELEMENT ANALYSIS - II

Sponsored by: Computer Technologies Committee

Published in PVP Vol. 482, COMPUTER TECHNOLOGY AND APPLICATIONS

Developed by: R. Sauvé and G. Morandin, Atomic Energy of Canada (Toronto, ON Canada)

Chair: R. G. Sauvé, Atomic Energy of Canada (Toronto, ON Canada)

Vice Chair: N. Badie, Atomic Energy of Canada (Toronto, ON Canada)

SIMULATION OF BUCKLING INSTABILITY OF A LARGE DEFORMATION TWISTING OPERATION
D. Metzger et al, McMaster University (Hamilton, ON CANADA) -

NONLINEAR DYNAMIC EXPLICIT SIMULATION OF A BLAST LOAD ON A BUILDING
S. Khajehpour et al, Atomic Energy of Canada (Toronto, ON CANADA)

PREDICTION OF TRIMMING PROCESS PARAMETERS IN ALUMINUM SHEET MATERIALS USING FE METHOD
Q. Situ et al, McMaster University (Hamilton, ON CANADA)

DEFORMATION BEHAVIOUR OF A TRANSVERSELY LOADED GARTER SPRING
B. Leitich, Atomic Energy of Canada (Chalk River, ON CANADA)

INFLUENCE OF YIELD CRITERIA ON THE PREDICTION OF SHEAR LOCALIZATION CONSIDERING THE INHOMOGENEOUS DISTRIBUTION OF MICROSTRUCTURE
X. Duan et al, McMaster University (Hamilton, ON CANADA)

SESSION 1.4K (MF-05B)

Monday, July 26, 4:00 PM - 5:45 PM, Mykonos A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT - II

Sponsored by: Materials and Fabrication Committee

Published in PVP Vol. 474, FRACTURE METHODOLOGIES AND MANUFACTURING PROCESSES

Developed by: P. S. Lam, Savannah River National Laboratory (Aiken, SC USA), D. P. G. Lidbury, Serco Assurance (Warrington, Cheshire UK)

Chair: J. A. Wang, Oak Ridge National Laboratory (Oak Ridge, TN USA)

Vice Chair: P. S. Lam, Savannah River National Laboratory (Aiken, SC USA)

(continued)

SESSION 2.1H (SPC-01) (continued)

Vol. 473, HIGH PRESSURE TECHNOLOGY- 2004: INNOVANCES IN HIGH PRESSURE EQUIPMENT

Sinnappan (Downers Grove, IL USA), H. Chung (Naperville, IL USA)

Chair: H. Chung (Naperville, IL USA)

Vice Chair: A. G. Ware (Idaho Falls, ID USA)

A FUZZY APPROACH FOR DETERMINING A FEASIBLE POINT IN A CONSTRAINED PROBLEM

T. Marler and J. Yang, The University of Iowa, (Iowa USA), S. S. Rao, University of Miami, (FL USA)

FITNESS-FOR-SERVICE METHODOLOGY BASED ON A VARIATIONAL FORMULATION IN PLASTICITY

H. Indermohan and R. Seshadri, Memorial University (St. John's CANADA)

NONLINEAR FINITE ELEMENT ANALYSIS OF A THREADED PIPE CONNECTION

F. Tasbihgoo, J. P. Caffrey and S. F. Masri, University of Southern California (Los Angeles, CA USA)

STUDY ON ESTIMATION METHOD FOR SEISMIC SAFETY MARGIN OF 3D PIPING SYSTEM WITH DEGRADATION -ESTABLISHING ELASTO-PLASTIC ANALYSIS MODEL

A. Mikami, M. Udagawa and H. Takada, Yokohama National University (Kanagawa JAPAN)

SESSION 2.1I (OAC-01D)

Tuesday, July 27, 8:30 AM - 10:15 AM, Portofino

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS IV: THERMODYNAMIC ISSUES

Sponsored by: The Operations, Applications, and Components Committee

Published in FVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS

Developed by: A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA), N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA)

Chair: S. J. Primeau, Eagle Research Group (Germantown, MD USA)

Vice Chair: A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

PRESSURE INDICATION OF 3013 INNER CONTAINER USING DIGITAL RADIOGRAPHY

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

RADIOLYTIC HYDROGEN G VALUES FOR WASTE MATERIALS

J. G. McFadden, Duratek Technical Services (Richland, WA USA)

THERMAL RESPONSE OF VARIOUS SPENT NUCLEAR FUEL TRANSPORTATION CASK DESIGNS TO THE 2001 BALTIMORE TUNNEL FIRE EVENT

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

MONTE CARLO SIMULATIONS TO DETERMINE FAILURE TEMPERATURES AND PRESSURES FOR 3013 OUTER CAN UNDER ROOM FIRE CONDITIONS

N. K. Gupta and C. A. McKeel, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 2.1J (CT-04)

Tuesday, July 27, 8:30 AM - 10:15 AM, Portofino B

NUMERICAL ALGORITHM

Sponsored by: Computer Technologies Committee

Published in PVP Vol. 482, COMPUTER TECHNOLOGY AND APPLICATIONS

Developed by: C. N. Chen, National Cheng Kung University (Tainan, Taiwan)

Chair: C. N. Chen, National Cheng Kung University (Tainan, Taiwan)

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

DYNAMIC RESPONSES OF FRAME STRUCTURES SOLVED USING DQEM AND EDQ BASED TIME INTEGRATION METHOD

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

OUT-OF-PLANE DEFLECTIONS OF NONPRISMATIC CURVED BEAMS CONSIDERING THE EFFECT OF SHEAR DEFORMATION SOLVED BY DQEM

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

AN EFFICIENT ALGORITHM FOR DAMAGE-COUPLED VISCO-PLASTIC FATIGUE MODEL

A. H. Zhao and C. L. Chow, University of Michigan-Dearborn (Dearborn, MI USA)

AN APPLICATION OF MODIFIED PREDICTOR-CORRECTOR METHOD

M. Mestrovic, University of Zagreb (Zagreb CROATIA)

SESSION 2.1K (MF-05C)

Tuesday, July 27, 8:30 AM - 10:15 AM, Mykonos A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT - III

Sponsored by: Materials and Fabrication Committee

Published in PVP Vol. 474, FRACTURE METHODOLOGIES AND MANUFACTURING PROCESSES

Developed by: D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA), K. Kashima, CRIEPI (Tokyo JAPAN)

Chair: D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

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

DELAYED HYDRIDE CRACKING INITIATION AT SIMULATED SECONDARY FLAWS IN ZR-2.5 NB PRESSURE TUBE MATERIAL

J. Cui et al, Kinectrics Inc. (Toronto, ON CANADA)

DEVELOPMENT OF WEIGHT FUNCTIONS FOR MODELLING DELAYED HYDRIDE CRACKING INITIATION AT A BLUNT FLAW

D. A. Scarth et al, Kinectrics Inc. (Toronto, ON CANADA)

DEVELOPMENT OF ANALYTICAL EVALUATION PROCEDURES AND ACCEPTANCE CRITERIA FOR PIPE WALL THINNING IN ASME CODE SECTION XI

K. Hasegawa et al, Hitachi, Ltd. (Hitachi-shi, Ibaraki-ken JAPAN)

COMPARISON OF FRACTURE METHODOLOGIES FOR FLAW STABILITY ANALYSIS OF STORAGE TANKS

P. S. Lam and R. L. Sindelar, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 2.1L (MF-10A)

Tuesday, July 27, 8:30 AM - 10:15 AM, Mykonos B

EUROPEAN R&D PROJECTS - I

(continued)

SESSION 2.2F (DA-05B) (continued)

DESIGN AND FABRICATION OF REACTOR PRESSURE VESSEL FOR HIGH TEMPERATURE ENGINEERING TEST REACTOR (HTR)

Y. Tachibana, S. Nakagawa and T. Iyoku, Japan Atomic Energy Research Institute, (Ibaraki JAPAN)

SOPHISTICATED CREEP-FATIGUE LIFE ESTIMATION SCHEME FOR PRESSURE VESSEL COMPONENTS BASED ON STRESS REDISTRIBUTION LOCUS CONCEPT

T. Shimakawa, K. Nakamura and K. Kobayashi, Kawasaki Heavy Industries, Ltd. (Kobe JAPAN)

SESSION 2.2H (SPC-02)

Tuesday, July 27, 10:30 AM - 12:15 PM, San Remo

STUDENT PAPER COMPETITION - II

Sponsored by: Senate of Past PVP Division Chairs

Published in PVP Vol. 473, HIGH PRESSURE TECHNOLOGY - 2004, INNOVATIONS AND ADVANCES IN HIGH PRESSURE EQUIPMENT

Developed by: J. Sinnappan, Genex Corporation (Downers Grove, IL USA), A. G. Ware (Idaho Falls, ID USA)

Chair: A. G. Ware (Idaho Falls, ID USA)

Vice Chair: K. Suzuki, Tokyo Metropolitan University (Tokyo JAPAN)

ANALYTICAL STUDY OF FLOW REGIMES FOR DIRECT CONTACT CONDENSATION BASED ON PARAMETRICAL INVESTIGATION

A. Petrovic and R. K. Calay, University of Hertfordshire (Hatfield UK)

DYNAMIC ANALYSES OF A METALLIC SAMPLE IN SONIC IR NDE TECHNIQUE - EXPERIMENTAL AND COMPUTATIONAL APPROACH

C. P. Saha, Wayne State University (Detroit, MI USA)

APPLICATION OF A KNOWLEDGE-BASED INFORMATION SYSTEM FOR LIFE EXTENSION OF STEEL MAKING PLANT

Y. J. Park, J. B. Choi and Y. J. Kim, Sungkyunkwan University (Suwon KOREA)

STRESS ANALYSIS AND SEALING PERFORMANCE EVALUATION IN NON-CIRCULAR FLANGE CONNECTIONS WITH GASKETS SUBJECTED TO INTERNAL PRESSURE

W. Maezaki and Tishluki Sawa, University of Yamanashi (Yamanashi JAPAN)

SESSION 2.2I (OAC-01E)

Tuesday, July 27, 10:30 AM - 12:15 PM, Portofino A

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS-V: CLOSURE RING ISSUES

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS

Developed by: A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA), N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA)

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

Vice Chair: N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA)

DROP TEST RESULTS FOR THE COMBUSTION ENGINEERING MODEL NO. ABB 2901 FUEL PELLET SHIPPING PACKAGE

R. S. Hafner, G. C. Mok and L. G. Hagler, Lawrence Livermore National Laboratory (Livermore, CA USA)

DROP TESTS FOR THE 6M SPECIFICATION PACKAGE CLOSURE INVESTIGATION

A. C. Smith and L. F. Gelder, Westinghouse Savannah River Company (Aiken, SC USA)

RESPONSE OF RING CLOSURES IN DROP TESTS OF TYPICAL-WEIGHT 6M PACKAGES

A. C. Smith, L. F. Gelder and R. N. Lutz, Westinghouse Savannah River Company (Aiken, SC USA)

DYNAMIC ANALYSIS OF RADIOACTIVE MATERIAL PACKAGE WITH CLAMP RING CLOSURE

T. T. Wu, L. F. Gelder, and A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 2.2J (CT-03A, CS-09A)

Tuesday, July 27, 10:30 AM - 12:15 PM, Portofino B

EFFICIENT COMPUTATIONAL MODELS FOR ELASTIC-PLASTIC AND LIMIT LOAD ANALYSIS OF PRESSURE VESSEL COMPONENTS - I

Sponsored by: Computer Technologies and Codes and Standards Committees

Published in PVP Vol. 482, COMPUTER TECHNOLOGY AND APPLICATIONS

Developed by: W. Reinhardt, Babcock & Wilcox Canada (Cambridge, ON CANADA), D. Jones, Bechtel Bettis Inc. (West Mifflin, PA USA)

Chair: N. Idvorian, Babcock & Wilcox Canada (Cambridge, ON CANADA)

Vice Chair: C.S. Gerhard, Bechtel Bettis Inc. (West Mifflin, PA USA)

ANALYSIS OF A THERMAL FATIGUE TEST OF A STEPPED PIPE

D. P. Jones et al, Bechtel Bettis, Inc. (West Mifflin, PA USA)

ELASTIC-PLASTIC FINITE ELEMENT ANALYSIS OF DOUBLE-EDGE NOTCHED FATIGUE TESTS

D. P. Jones, Bechtel Bettis Inc. (West Mifflin, PA USA), S. A. Adams, Lockheed Martin Corp. (Schenectady, NY USA)

ADVANCED GENERAL-PURPOSE FINITE ELEMENT SOLID ANALYSIS SYSTEM ADVENTURE SOLID ON THE EARTH SIMULATOR-ITS APPLICATION TO FULL-SCALE ANALYSIS OF NUCLEAR PRESSURE VESSEL

R. Shloya et al, Kyushu University (Fukuoka JAPAN)

WEIGHT FUNCTIONS FOR T-STRESS FOR EDGE CRACKS IN THICK-WALLED CYLINDERS

J. Li, C. L. Tan and X. Wang, Carleton University (Ottawa, ON Canada)

SESSION 2.2K (MF-05D)

Tuesday, July 27, 10:30 AM - 12:15 PM, Mykonos A

APPLICATION OF FRACTURE MECHANICS IN FAILURE ASSESSMENT - IV

Sponsored by: Materials and Fabrication Committee

Published in PVP Vol. 474, FRACTURE METHODOLOGIES AND MANUFACTURING PROCESSES

Developed by: P. S. Lam, Savannah River National Laboratory (Aiken, SC USA); D. A. Scarth, Kinectrics, Inc. (Toronto, ON CANADA)

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

Vice Chair: B. Bezensek, University of Maribor (Maribor SLOVENIA)

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2.3F (DA-05C)

July 27, 2:00 PM - 3:45 PM, Salon F

ANALYSIS AND MATERIALS FOR ELEVATED TEMPERATURES - III

Sponsored by: Design and Analysis Committee

Published in PVP Vol. 472, ELEVATED TEMPERATURE DESIGN AND ANALYSIS, NON LINEAR ANALYSIS, PLASTIC COMPONENTS, THERMAL FATIGUE AND FATIGUE

Developed by: A. Ponter, University of Leicester (Leicester UK), N. Kasahara, Japan Nuclear Cycle Development Institute (Ibaraki JAPAN)

Chair: R. Swindeman, Lockheed Martin Energy (Oak Ridge, TN USA)

Vice Chair: N. Kasahara, Japan Nuclear Cycle Development Institute (Ibaraki JAPAN)

DEVELOPMENT OF THE GUIDELINE ON INELASTIC ANALYSIS FOR DESIGN
Y. Tanaka et al, Japan Atomic Power Company (Ibaraki JAPAN)

CYCLIC ANALYSIS FOR HIGH TEMPERATURE DESIGN
P. Carter, D. L. Marriott and M. J. Swindeman, Stress Engineering Services, Inc. (Mason, OH USA)

TYPE IV CREEP DAMAGE ANALYSIS FOR FULL SIZE COMPONENT TEST ON WELDED P91 BOILER HOT REHEAT PIPING
F. Takemasa et al, Ishikawajima-Harima Heavy Industries Co. Ltd. (Yokohama JAPAN)

SESSION 2.3H (SPC-03)

Tuesday, July 27, 2:00 PM - 3:45 PM, San Remo

STUDENT PAPER COMPETITION - III

Sponsored by: Senate of Past PVP Division Chairs

Published in PVP Vol. 473, HIGH PRESSURE TECHNOLOGY- 2004: INNOVATIONS AND ADVANCES IN HIGH PRESSURE EQUIPMENT

Developed by: J. Sinnappan, Genex Corporation (Downers Grove, IL USA), H. Chung (Naperville, IL USA)

Chair: K. Suzuki, Tokyo Metropolitan University (Tokyo JAPAN)

Vice Chair: H. Chung (Naperville, IL USA)

FUNDAMENTAL STUDY ON THE SUPER-LONG-PERIOD ACTIVE ISOLATION SYSTEM

K. Minagawa and S. Fujita, Tokyo Denki University (Tokyo JAPAN)

DEVELOPMENT OF A WEB-BASED INTERFACE FOR THE AUTOMATIC FINITE ELEMENT ANALYSIS OF PRESSURE VESSELS
C. Russell and D. Nash, University of Strathclyde, (Scotland UK)

FE PREDICTIONS OF TEMPERATURE DISTRIBUTIONS IN MULTIPASS WELDED PIPING BRANCH JUNCTION
W. Jiang et al, University of Wolverhampton, (Telford UK)

STRESS/FLUID PRESSURE WAVES IN RADIALLY EXPANDED SOLID TUBULAR

A. Karrech et al, Ecole Nationale des Ponts et Chaussees, (Paris FRANCE)

SESSION 2.3I (OAC-01F)

Tuesday, July 27, 2:00 PM - 3:45 PM, Portofino A

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS VI: MATERIAL CORROSION

Sponsored by: Operations, Applications, and Components Committee

Published in PVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS

Developed by: R. B. Rebak, Lawrence Livermore National Laboratory (Livermore, CA USA), R. S. Hafner, Lawrence Livermore National Laboratory (Livermore, CA USA)

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

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

GENERAL AND LOCALIZED CORROSION OF AUSTENITIC AND BORATED STAINLESS STEELS IN SIMULATED CONCENTRATED GROUND WATERS
D. V. Fix et al, Lawrence Livermore National Laboratory (Livermore, CA USA)

EFFECT OF THE ENVIRONMENT ON THE GENERAL CORROSION RATE OF ALLOY 22 (N06022)

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

EFFECT OF CARBON SUPERSATURATION ON THE PITTING CORROSION BEHAVIOR OF AUSTENITIC 316L SS

S. D. Day, J. J. Haslam, and R. B. Rebak, Lawrence Livermore National Laboratory (Livermore, CA USA)

DETERMINATION OF THE CREVICE REPASSIVATION POTENTIAL OF ALLOY 22 BY A POTENTIODYNAMIC-GALVANOSTATIC POTENTIOSTATIC METHOD
K. J. Evans, R. B. Rebak and L. L. Wong, Lawrence Livermore National Laboratory (Livermore, CA USA)

SESSION 2.3J (CT-03B; CS-09B)

Tuesday, July 27, 2:00 PM - 3:45 PM, Portofino B

EFFICIENT COMPUTATIONAL MODELS FOR ELASTIC-PLASTIC AND LIMIT LOAD ANALYSIS OF PRESSURE VESSEL COMPONENTS - II

Sponsored by: Computer Technologies and Codes and Standards Committees

Published in PVP Vol. 482, COMPUTER TECHNOLOGY AND APPLICATIONS

Developed by: D. Jones, Bechtel Bettis Inc. (West Mifflin, PA USA), S. Yoshimura, University of Tokyo (Tokyo JAPAN)

Chair: J. Gordon, Bechtel Bettis Inc. (West Mifflin, PA USA)

Vice Chair: S. Yoshimura, University of Tokyo (Tokyo JAPAN)

A TWO STAGE CRACK GROWTH MODEL INCORPORATING ENVIRONMENTAL FATIGUE

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

ANALYTICAL LIMIT LOADS OF DEGRADED TUBE SECTIONS

W. D. Reinhardt, Babcock & Wilcox Canada (Cambridge, ON Canada) and X. Wang, Carleton University (Ottawa, ON Canada)

STUDY ON STRAIN CONCENTRATION FOR CYLINDRICAL TUBES UNDER AXIAL COMPRESSIVE LOADING

K. Ushijima et al., Tokyo University of Science (Tokyo JAPAN)

MODELING AND SIMULATION OF MULTI-SCALE CRYSTAL PLASTICITY BASED ON SELF-ORGANIZATION OF DISLOCATION CELL AND SUBGRAIN FOR PRODUCTION OF ULTRA-FINE GRAINED METALS

Y. Aoyagi and K. Shizawa, Keio University (Kanagawa JAPAN)

4E (OAC-02F) (continued)

**N FRACTURE TOUGHNESS ESTIMATION SAFETY ASSESS-
EXTENSION FOR IN-SERVICE HIGH PRESSURE VESSELS**
Shen et al, South China University of Technology (Guangzhou CHINA)

**THE FRENCH REGULATORY EXPERIENCE AND VIEWS ON NICKEL-BASE
ALLOY PWSCC PREVENTION AND TREATMENT**
D. Emond and J. Renchet, General Directorate for Nuclear Safety & Radia-
tion Protection and Institute of Radiological Protection and Nuclear Safety
(Dijon FRANCE)

SESSION 2.4F (PSD-01)

Tuesday, July 27, 4:00 PM - 5:45 PM, Salon F

INNOVATIVE PIPELINE SYSTEMS TECHNOLOGIES

Sponsored by: Pipeline Systems Division

Published in PVP Vol. 490, STORAGE TANK INTEGRITY AND MATERIALS
EVALUATION

Developed by: C. E. Jaske, CC Technologies (Dublin, OH USA), Y. Uchida,
JFE Engineering Corp. (Yokohama JAPAN)

Chair: C. E. Jaske, CC Technologies (Dublin, OH USA)

Vice Chair: Y. Uchida, JFE Engineering Corp. (Yokohama JAPAN)

**REMOTE MONITORING SYSTEMS FOR DETECTION OF CONTACT BY UNAU-
THORIZED CONSTRUCTION EQUIPMENT AND THE CATHODIC PROTECTION
CONDITION ON BURIED PIPELINES**
S. Hatanaka, JFE Engineering Co., Ltd. (JAPAN), M. Tange, Toho Gas Co.,
Ltd. (JAPAN), M. Sumiyama, JFE Koken Co., Ltd. (JAPAN)

**STRUCTURAL INTEGRITY ASSESSMENT FOR VARIOUS FAILURE MODES
USING A RISK-BASED MAINTENANCE METHOD**
H. Horikawa, M. Yoshikawa and N. Takasu, JFE Engineering Corp. (Kawasa-
ki JAPAN)

**ASSESSING THE EFFECTS OF VIBRATORY LOADS ON PIPELINES USING
ANALYSIS AND MONITORING TECHNIQUES**
C. Alexander, Stress Engineering Services, Inc. (Houston, TX USA),
D. Runte, Florida Gas Transmission Pipeline (Maitland, FL USA), R. Long,
Stress Engineering Services, Inc. (Houston, TX USA)

**NEURO-FUZZY APPROACHES FOR FRP OIL AND GAS PIPELINE CONDI-
TION ASSESSMENT**
S. Kumar and F. Taheri, Dalhousie University (Halifax, NS Canada)

**PLASTIC COLLAPSE ASSESSMENTS OF UNEQUAL WALL JOINTS IN
PIPELINE TRANSITIONS**
X. K. Zhu and B. N. Leis, Battelle Pipeline Technology Center (Columbus, OH
USA)

SESSION 2.4H (NDE-01C)

Tuesday, July 27, 4:00 PM - 5:45 PM, San Remo

ULTRASONIC NDE - III

Sponsored by: NDE Engineering Division Committee

Published in PVP Vol. 484, RECENT ADVANCES IN NON-DESTRUCTIVE
TESTING AND INSPECTION

Developed by: Y. Yokono, Non-destructive Inspection Co., Ltd. (Chiba
JAPAN), Y. H. Cho, Pusan National University (Pusan
KOREA)

Chair: Y. Yokono, Non-destructive Inspection Co., Ltd (Chiba JAPAN)

Vice Chair: Y. Murata, Wakayama University (Wakayama JAPAN)

FLEXURAL TORSIONAL MODE FOCUSING IN PIPE INSPECTION
Z. Sun, J. L. Rose, The Pennsylvania State University (University Park, PA
USA)

**FLAW CLASSIFICATION BY USING ARTIFICIAL NEURAL NETWORK AND
WAVELET**
L. Li et al, Kyoto University (Kyoto JAPAN)

**DETECTION OF CORROSION OF INSULATED PIPING USING SH ANGLE
PROBE**
T. Kikuchi et al, Idemitsu Petrochemical Co., Ltd. (Chiba JAPAN)

**APPLICATION OF ADVANCED ULTRASONIC TECHNOLOGY TO MEASURE
INTERNAL DEPOSIT THICKNESS FOR BOILER WATERWALL TUBE IN THER-
MAL POWER PLANTS**
Y. Imaizumi et al, Kyusyu Electric Power Co., Inc. (Fukuoka JAPAN)

SESSION 2.4I (OAC-01G)

Tuesday, July 27, 4:00 PM - 5:45 PM, Portofino A

**TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERI-
ALS VII: STRUCTURAL AND THERMAL ANALYSIS**

Sponsored by: Operations, Applications, and Components Committee

Published in PVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL
OF RADIOACTIVE MATERIALS

Developed by: N. K. Gupta, Westinghouse Savannah River Company
(Aiken, SC USA), A. C. Smith, Westinghouse Savannah
River Company (Aiken, SC USA)

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

Vice Chair: M. R. Feldman, National Transportation Research Center
(Knoxville, TN USA)

**COMPUTER SIMULATION OF A TRANSPORTATION PACKAGE IMPACTING
CONCRETE AND SOIL TARGETS**
S. N. Huang, S. S. Shiraga and L. M. Hay, Duratek Federal Services (Rich-
land, WA USA)

**THE STATE OF STRESS OF TRANSPORTATION PACKAGES DURING HYPO-
THEITICAL ACCIDENT FREE DROP IMPACT**
S. N. Huang, S. S. Shiraga and L. M. Hay, Duratek Federal Services (Rich-
land, WA USA)

**CAFÉ-3D: A FAST RUNNING COMPUTATIONAL TOOL FOR ANALYSIS OF
RADIOACTIVE MATERIAL PACKAGES IN FIRE ENVIRONMENTS**
N. Are and M. Grefner, University of Nevada (Reno, NV USA), A. Suo-Anttila,
Alion Science and Technology (Albuquerque, NM USA)

**RUPTURE TESTING OF A-106, GRADE B STEEL PIPES REPAIRED WITH
CARBON/EPOXY COMPOSITES**
J.M. Wilson, M. R. Kessler and J. M. Duell, The University of Tulsa (Tulsa,
OK USA)

SESSION 2.4J (CT-03C, CS-09C)

Tuesday, July 27, 4:00 PM - 5:45 PM, Portofino B

**EFFICIENT COMPUTATIONAL MODELS FOR ELASTIC-PLASTIC AND LIMIT
LOAD ANALYSIS OF PRESSURE VESSEL COMPONENTS - III**

Sponsored by: Computer Technologies and Codes and Standards Commit-
tees

(continued)

SESSION 3.1 (DA-03A) (continued)

Chair: Otani, Ishikawajima-Harima Heavy Industries, Ltd. (Yokohama JAPAN)

IMPACT OF LOCAL DECREASES IN WALL THICKNESS AT THE CONNECTION OF STRAIGHT-PIPE TO 0-90 DEGREE BENDS
R. Kauer and W. Holzer, TUV-SUD (Munich GERMANY)

ULTIMATE CAPACITY OF PRESSURIZED STEEL ELBOWS UNDER BENDING
S. A. Karamanos and D. Tsouvalas, University of Thessaly (Volos GREECE), A. M. Gresnigt, Delft University of Technology (Delft THE NETHERLANDS)

RECENT DESIGN APPROACHES OF LARGE BORE PIPING EXCEEDING 100 OF RATIO D/T
T. Mabuchi, Chiyoda Corporation (Yokohama, Kanagawa JAPAN), M. Shinohara, Chiyoda Advanced Solutions Corporation (Yokohama, Kanagawa JAPAN)

RELIABILITY TESTING OF PRESSURE RELIEF VALVES
R. Gross, Westinghouse Savannah River Company (Aiken, SC USA)

SESSION 3.1H (NDE-01D, CT-07D)

Wednesday, July 28, 8:30 AM - 10:15 AM, San Remo

ULTRASONIC NDE - IV

Sponsored by: NDE Engineering Division And Computer Technologies Committees

Published in PVP Vol. 484, RECENT ADVANCES IN NON-DESTRUCTIVE TESTING AND INSPECTION

Developed by: Y. Yokono, Non-destructive Inspection Co., Ltd. (Chiba JAPAN), T. Takagi, Tohoku University (Sendai, Miyagi JAPAN)

Chair: M. Moles, R/D Tech (ON CANADA)

Vice Chair: H. Nishino, Tohoku University (Sendai, Miyagi JAPAN)

NONDESTRUCTIVE EVALUATION OF CONCRETE STRUCTURES BY LASER ULTRASONIC METHOD
S. Akamatsu et al, Kochi National College of Technology (Kochi JAPAN)

EVALUATION OF THE ROLLING DIRECTION EFFECT IN THE ACOUSTOELASTIC PROPERTIES FOR API 5L X70 STEEL USED IN PIPELINES
A. A. Santos et al, UNICAMP (Sao Paulo BRAZIL)

ULTRASONIC IN-SITU MONITORING OF ALUMINUM ALLOY DURING SOLIDIFICATION AND MELTING
I. Ihara, D. Burhan and Y. Seda, Nagaoka University of Technology (Nagaoka, Niigata JAPAN)

CHARACTERIZATION OF SH WAVE ELECTROMAGNETIC ACOUSTIC TRANSDUCER (EMAT) AT ELEVATED TEMPERATURE
Y. Xu et al, Japan Nuclear Cycle Development Institute (Fukui JAPAN)

SESSION 3.1I (OAC-01H)

Wednesday, July 28, 8:30 AM - 10:15 AM, Portofino A

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS VIII: GENERAL PAPERS

Sponsored by: Operations, Applications, and Components Committee

Published in PVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS

Developed by: N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA), A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA)

Chair: S. J. Hensel, Westinghouse Savannah River Company (Aiken, SC USA)

Vice Chair: C. R. Witt, Duratek, Inc. (Columbia, SC USA)

TESTING OF THE MD-1 AND ES-3100 SHIPPING PACKAGES TO 10 CFR 71 REQUIREMENTS

M. R. Feldman et al, Oak Ridge National Laboratory (Knoxville, TN USA)

REVISION OF NNSA PCD SAFETY GUIDE 100 (SG-100)

M. R. Feldman, Oak Ridge National Laboratory (Knoxville, TN USA)

ACQUISITION OF EQUIPMENT AND SERVICES FOR TRANSPORTING SNF AND HLW TO THE FEDERAL REPOSITORY

W. H. Lake et al, ASE Inc (Silver Springs, MD USA)

TECHNOLOGY DEVELOPMENT TO SUPPORT OCRWM TRANSPORTATION ACTIVITIES

W. H. Lake et al, ASE Inc (Silver Springs, MD USA)

SESSION 3.1J (CT-05A)

Wednesday, July 28, 8:30 AM - 10:15 AM, Portofino B

RECENT DEVELOPMENTS IN COMPUTATIONAL METHODS - I

Sponsored by: Computer Technologies Committee

Published in PVP Vol. 482, COMPUTER TECHNOLOGY AND APPLICATIONS

Developed by: J. Tang, University of Iowa (Iowa City, IA USA), 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)

FATIGUE RELIABILITY ANALYSIS FOR RANDOM LOADING BASED ON THE STRAIN-LIFE METHOD AND REPLACEMENT DECISION

J. Tang, University of Iowa (Iowa City, IA USA), Y. Park, New Mexico State University (Las Cruces, NM USA)

FORCE IDENTIFICATION USING NEURAL NETWORK

W. Kozukue and H. Miyaji, Kanagawa Institute of Technology (Kanagawa JAPAN)

THE ELUCIDATION OF MECHANISM OF LOCAL SOUND PRESSURE INCREASE PHENOMENON

R. Koganei et al, Tokyo Institute of Technology (Tokyo JAPAN)

EFFECTIVE ELASTIC MODULI OF CRACKED SOLID AND APPLICATION TO FUNCTIONALLY GRADED MATERIAL

Y. H. Park and W. Morgan, New Mexico State University (Las Cruces, NM USA)

SESSION 3.1K (MF-08A)

Wednesday, July 28, 8:30 AM - 10:15 AM, Mykonos A

WELDING AND RESIDUAL STRESS - I

Sponsored by: Materials and Fabrication Committee

Published in PVP Vol. 479, RESIDUAL STRESS, FRACTURE, AND STRESS CORROSION CRACKING

Developed by: Elisabeth Keim, Framatome ANP GmbH (Erlangen GERMANY), F. W. Brust, Battelle Memorial Institute (Columbus, OH USA)

(continued)

3.2H (NDE-01E) (continued)**WHEEL INSPECTION WITH EMAT TECHNOLOGY**

B. ... ann and S. Jayaraman, The Pennsylvania State University (University Park, PA USA)

INFLUENCE ON ULTRASONIC INCIDENT ANGLE AND DEFECT DETECTION SENSITIVITY BY CAST STAINLESS STEEL STRUCTURE

Y. Kurozumi, Institute of Nuclear Safety System, Inc. (Fukui JAPAN)

DEVELOPMENT OF A FOCUSED ULTRASONIC TRANSDUCER FOR THE TESTING OF THE WHEEL SEAT IN THE HOLLOW AXLE OF SHINKANSEN VEHICLES

Y. Murata et al, Wakayama University (Wakayama JAPAN)

SESSION 3.2I (OAC-01I)

Wednesday, July 28, 10:30 AM - 12:15 PM, Portofino A

TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS - IX: STRUCTURAL ANALYSIS II

Sponsored by: The Operations, Applications, and Components Committee

Published in PVP Vol. 483, TRANSPORTATION, STORAGE, AND DISPOSAL OF RADIOACTIVE MATERIALS

Developed by: A. C. Smith, Westinghouse Savannah River Company (Aiken, SC USA), N. K. Gupta, Westinghouse Savannah River Company (Aiken, SC USA)

Chair: M. R. Feldman, National Transportation Research Center (Knoxville, TN USA)

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

ELEVATED STRAIN RATE MATERIAL TESTING TO SUPPORT ACCIDENTAL DROP ANALYSES OF RADIOACTIVE MATERIAL CONTAINERS

S. D. Snow et al, Idaho National Engineering and Environmental Laboratory (Idaho Falls, ID USA)

SILOS 1 AND SILOS 2 STABILIZED WASTE TRANSPORT AND DISPOSAL CONTAINERS

M. J. Ahearn, S. D. Pearson and C. R. Witt, Duratek Inc. (Columbia, SC USA)

SPENT NUCLEAR FUEL STRUCTURAL RESPONSE WHEN SUBJECTED TO AN IMPACT ACCIDENT

H. E. Adkins and B. J. Koppel, Pacific Northwest National Laboratories (Richland, WA USA), D. T. Tang, U.S. Nuclear Regulatory Commission (Rockville, MD USA)

IMPACT SIMULATION OF A RADIOACTIVE MATERIAL PACKAGE DURING A FORKLIFT TRUCK ACCIDENT

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

SESSION 3.2J (CT-05B)

Wednesday, July 28, 10:30 AM - 12:15 PM, Portofino B

RECENT DEVELOPMENTS IN COMPUTATIONAL METHODS - II

Sponsored by: Computer Technologies Committee

Published in PVP Vol. 482, COMPUTER TECHNOLOGY AND APPLICATIONS

Developed by: J. Tang, University of Iowa (Iowa City, IA USA), I. Hagiwara, Tokyo Institute of Technology (Tokyo JAPAN)

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WAVELET DOMAIN SOLUTION OF CSRBF SLAE FOR IMAGE INTERPOLATION USING ITERATIVE METHODS

L. A. Diago et al, Tokyo Institute of Technology (Tokyo JAPAN)

FUNCTION REPRESENTATION OF AN IMAGE BY MEANS OF CSRBF-AN APPLICATION FOR RESOLUTION CONVERSION

M. Kitago et al, Tokyo Institute of Technology (Tokyo JAPAN)

MOAA AND TOPOLOGY JUDGEMENT FOR MESH CONSTRUCTION

W. Cheng et al, Tokyo Institute of Technology (Tokyo JAPAN)

FEM ANALYSIS OF MAGNETIC FIELD INDUCED BY MARTENSITIC PHASE TRANSFORMATION AROUND FATIGUE CRACKS IN SUS304 STAINLESS STEEL

Y. Nakasone and Y. Iwasaki, Tokyo University of Science (Tokyo JAPAN)

SESSION 3.2K (MF-08B)

Wednesday, July 28, 10:30 AM - 12:15 PM, Mykonos A

WELDING AND RESIDUAL STRESS - II

Sponsored by: Materials and Fabrication Committee

Published in PVP Vol. 479, RESIDUAL STRESS, FRACTURE, AND STRESS CORROSION CRACKING

Developed by: P. Dong, Battelle Memorial Institute (Columbus, OH USA), N. P. O'Dowd, Imperial College London (London UK)

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HOW VALIDATES RESIDUAL STRESS EFFECT ON FATIGUE STRENGTH AND SCC EVALUATIONS

M. Mochizuki, M. Toyoda, Osaka University (Osaka Japan)

ANALYSIS OF VESSEL AND PIPING WELD FATIGUE DATA USING THE MASTER S-N CURVE METHOD

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

A STUDY ON FATIGUE ANALYSIS PROCEDURE FOR NUCLEAR WELDED STRUCTURES BASED ON STRUCTURAL STRESS AND FRACTURE MECHANICS APPROACH

J. S. Kim and T. E. Jin, Korea Power Engineering Company (SOUTH KOREA)

FRACTURE ASSESSMENT OF THROUGH-WALL AND SURFACE CRACKED PIPES BY BS 7910 AND API 579 ASSESSMENT PROCEDURES - A COMPARATIVE STUDY

A. K. Motarjemi, TWI (Cambridge UK)

SESSION 3.2L (MF-09)

Wednesday, July 28, 10:30 AM - 12:15 PM, Mykonos B

SERVICE EXPERIENCE IN OPERATING NUCLEAR PLANTS

Sponsored by: Materials and Fabrication Committee

Published in PVP Vol. 475, FLAW EVALUATION, SERVICE EXPERIENCE, AND MATERIALS FOR HYDROGEN SERVICE

Developed by: D. K. Rodgers, Atomic Energy of Canada, Ltd. (Chalk River, ON CANADA), H. S. Mehta, GE Nuclear Energy (San Jose, CA USA)

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(continued)

SESSION 4.1B (CS-02A) (continued)

FATIGUE CRACK PROPAGATION TESTS ON 304 STAINLESS STEEL IN HIGH TEMPERATURE WATER-ACCELERATED CRACKING RATES AND TRANSITION TO LOWER RATES

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

CORROSION FATIGUE BEHAVIOR OF LOW-ALLOY PRESSURE VESSEL STEELS IN HIGH TEMPERATURE WATER UNDER MULT-FACTOR CONDITIONS

X. Wu and Y. Katada, National Institute for Materials Science (Tsukuba JAPAN)

COMPARISON OF CRACK GROWTH MODELS IN LWR ENVIRONMENTS FOR STAINLESS STEELS AND NICKEL BASED ALLOYS (PRESENTATION ONLY)

W. A. Van Der Sluys, Consultant (Eustis, FL USA)

SESSION 4.1C (DA-02A)

Thursday, July 29, 8:30 AM - 10:15 AM, Salon C

RPV INTEGRITY - I

Sponsored by: Design and Analysis Committee

Published in PVP Vol. 481, RPV INTEGRITY AND FRACTURE MECHANICS

Developed by: D. Moineau, EDF, Département MMC (Moret-sur-Loing FRANCE), K. K. Yoon, Framatome ANP (Lynchburg, VA USA)

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ASSESSMENT OF THE RPV INTEGRITY IN PTS CONDITIONS. THERMAL-HYDRAULIC AND MECHANICAL STUDIES OF A SAFETY INJECTION IN A FOUR LOOP PWR PLANT

G. Martin et al, Electricité de France (Chatou FRANCE)

EMBEDDED CRACK TREATMENTS AND FRACTURE TOUGHNESS EVALUATION METHODS IN PROBABILISTIC FRACTURE MECHANICS ANALYSIS CODE FOR THE PTS ANALYSIS OF A RPV

K. Onizawa et al, Japan Atomic Energy Research Institute (Tokai, Ibaraki JAPAN)

RPV INTEGRITY ASSESSMENT: COMPARISON BETWEEN 3 LOOPS AND 4 LOOPS STUDIES

G. Bezdikian, D. Moineau and C. Faldy, Electricité de France (Saint-Denis FRANCE)

SESSION 4.1D (FSI-07J)

Thursday, July 29, 8:30 AM - 10:15 AM, Salon D

5TH INTERNATIONAL SYMPOSIUM ON COMPUTATIONAL TECHNOLOGIES FOR FLUID/THERMAL/STRESS SYSTEMS WITH INDUSTRIAL APPLICATIONS - CFD FUNDAMENTALS - II

Sponsored by: Fluid-Structure Interaction Technical Committee

Published in PVP Vol. 491, PROCEEDINGS OF THE SYMPOSIUM

Session Developed by: V. Kudriavtsev, CFD Canada (Toronto CANADA), C. R. Kleijn, Delft University of Technology (Delft THE NETHERLANDS)

Chair: D. H. Wang, Reaction Engineering International (Salt Lake City, UT USA)

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

UNIFIED SOLVER FOR RAREFIED AND CONTINUUM FLOWS (KEYNOTE)
V. Kolobov, CFD Research Corporation (Huntsville, AL USA)

A PFFT ACCELERATED BEM LINEAR STRENGTH POTENTIAL SOLVER
D. J. Willis, J. White and J. Peaire, Massachusetts Institute of Technology (Cambridge, MA USA)

SIMULTANEOUS SOLUTION ALGORITHMS FOR GAS-SOLID FLOWS: AN EFFICIENT PARALLEL LINE SOLVER
J. De Wilde et al, Universiteit Gent (Gent BELGIUM)

IMPLEMENTATION OF THE LEVEL SET INTERFACE TRACKING METHOD IN THE FIDAP AND CFX-4 CODES
S. V. Shepel and B. L. Smith, Paul Scherrer Institute (Villigen SWITZERLAND), S. Paolucci, University of Notre Dame (Notre Dame, IN USA)

SESSION 4.1E (OAC-02I)

Thursday, July 29, 8:30 AM - 10:15 AM, Salon E

PANEL SESSION: LASER PEENING ISSUES - II

Sponsored by: Operations, Applications, and Components Committee

Developed by: F. M. G. Wong, Lawrence Livermore Laboratory (Livermore, CA USA) and R. S. Hafner, Lawrence Livermore Laboratory (Livermore, CA USA)

Chair: Y. Sano, Toshiba Corporation (Yokohama, JAPAN)

Vice Chair: F. M. G. Wong, General Electric Aircraft Engines (Cincinnati, OH USA)

PANELISTS:

M. Hill, University of California at Davis (Davis, CA USA)

D. Sokol, LSP Technologies, Inc. (Dublin, OH USA)

S. K. Zou, Beijing Aeronautical Manufacturing Technology Research Institute (Beijing CHINA)

S. Levesque, Framatome, ANP, Inc. (Lynchburg, VA USA)

SESSION 4.1F (DA-06A)

Thursday, July 29, 8:30 AM - 10:15 AM, Salon F

FATIGUE - I

Sponsored by: Design and Analysis Committee

Published in PVP Vol. 472, ELEVATED TEMPERATURE DESIGN AND ANALYSIS, NON LINEAR ANALYSIS, PLASTIC COMPONENTS, THERMAL FATIGUE AND FATIGUE

Developed by: M. Hayashi, Hitachi, Ltd. (Ibaraki JAPAN), J. M. Stephan, Electricite de France (Cedex FRANCE)

Chair: J. M. Stephan, Electricite de France (EDF FRANCE)

Vice Chair: T. Nakamura, Japan Aerospace Exploration Agency (Tokyo JAPAN)

FREQUENCY EFFECTS ON GIGACYCLE FATIGUE PROPERTIES OF HIGH-STRENGTH STEELS

Y. Furuya, S. Matsuoka and T. Abe, National Institute for Materials Science (MITS/NIMS) (Ibaraki JAPAN)

HIGH-CYCLE FATIGUE STRENGTH AND RESIDUAL STRESS IN WELDED JOINTS OF STRUCTURAL STEELS

M. Mochizuki and M. Toyoda, Osaka University (Osaka JAPAN)

FRETTING FATIGUE STRENGTH OF NOZZLE SHAPED STRUCTURE
M. Hayashi and T. Ito, Hitachi, Ltd. (Ibaraki JAPAN)

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