CONTENTS

OPERATIONS, APPLICATIONS, AND COMPONENTS
MONITORING, DIAGNOSTICS, AND INSPECTION

Introduction .................................................................................................................. 1

PVP2010-25067 ........................................................................................................... 3
Leak Localization in Pipelines via Computational Pipeline Monitoring
    Kamal A. F. Moustafa, Yousef Haik, Saud Aldajah, and Farag Omar

PVP2010-25172 ........................................................................................................... 9
Initial Development of a High-Speed Thermocouple Data Acquisition System
    Jennifer Nye, Alton Reich, and James Shaw

PVP2010-25362 ......................................................................................................... 17
The Geometry of Steam Generator Tube and its Relevance to the Occurrence of Stress Corrosion Cracking in Operating Nuclear Power Plants
    Deok Hyun Lee, Do Haeng Hur, Myung Sik Choi, Kyung Mo Kim, Jung Ho Han, and Myung Ho Song

PVP2010-25585 ......................................................................................................... 19
Development of Advanced Fatigue Evaluation Methodology for Monitoring Major Components in Nuclear Power Plant
    W. Kim, Jongjooh Kwon, Hong Tae Kang, Gyeong-Hoi Koo, and Tae-Ryong Kim

OPERATIONS AND MAINTENANCE OF PRESSURE VESSELS,
HEAT EXCHANGERS AND STRUCTURES

Introduction .................................................................................................................. 27

PVP2010-25120 ......................................................................................................... 29
The Reliability Investigation on the Assessment Criteria for Local Metal Loss Based on API 579-1/ASME FFS-1
    Takuyo Kaida, Yuichi Mogami, Satoshi Izumi, and Shinsuke Sakai

PVP2010-25183 ......................................................................................................... 37
Effect of Hot Feed Injection Time on Thermal Fatigue Life of Shell-to-Skirt Junction Area of Coke Drums
    Masaaki Oka, Himsar Ambarita, Kenichi Kawashima, and Masashi Daimaruya

PVP2010-25214 ......................................................................................................... 45
Fracture Toughness of Pressure Boundary Steels With Higher Yield Strength
    Karan K. Gupta, Christopher L. Hoffmann, Andrew M. Hamilton, and Frank DeLose

PVP2010-25220 ......................................................................................................... 59
Guide for Applying Codes and Standards for Safe Operation and Maintenance of Pressure Equipment in Refinery and Petrochemical Services
    John Reynolds
PVP2010-25606
Measurement of Pressure Loss Throughout a Clogged Steam Generator Tube Support Plate in Single Phase Flow
Olivier Brunin, Geoffrey Deotto, Franck David, Joël Pillet, Gilles Dague, and Alexandre Nicoli

PVP2010-25685
Installation of Serrated Metal Core Without Full Disassembly of a Heat Exchanger
Rich Davis and Russ Currie

PVP2010-25971
Weld Repair for Pressure Vessels Made From Cr-Mo Steels
Rinzo Kayano, Eiichi Yamamoto, and Takayasu Tahara

PVP2010-26026
Fault Analysis of Above Ground Oil Storage Tank Leakage Accident
Haruki Nishi, Tatsuya Suzuka, and Kota Suzuki

PVP2010-26086
Strain Rate Evaluation of Some Typical Nuclear Power Plant Components During Plant Operation
Koji Dozaki, Hiromasa Chitose, Hiroshi Ogawa, and Hideo Machida

PVP2010-26156
Effects of Initial Tube-Tubesheet Clearance and Grooves on Axial and Hoop Residual Stresses of Roller Expanded Joints
A. N. Shuaib, O. M. Duffuaa, N. Merah, and Y. Al-Nassar

PVP2010-26168
An Analysis of a Completed Temper Bead Weld Repair Performed on an Amine Tower
William C. Mohr, Matt A. Boring, and Yu-Ping Yang

PIPING AND PIPE SUPPORTS
Introduction

PVP2010-25603
Advanced Methods for Vibration Reduction at a Piping
Klaus Kerkhof, Joachim Schwenkkros, Frank Barutzki, and Christa Gurr-Beyer

PLANT LIFE EXTENSION: AGING AND LIFE MANAGEMENT
Introduction

PVP2010-25112
Variation of Plant Electrical Output Due to Main Steam Temperature and Thermal Power

PVP2010-25115
Integrity Management of Aged Equipment in Sour Oil and Gas Service: Kuwait Oil Company Approach
Abdul Wahab Al-Mithin, Abdul Wahab Al-Ahmad, Vinayak Sardesai, and G. Santhosh Kumar
<table>
<thead>
<tr>
<th>Paper Code</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVP2010-25437</td>
<td>Authorizing the DOT Specification 6M Packaging for Continued Use at the Savannah River Site</td>
<td>Robert W. Watkins, Bradley M. Loftin, and Don S. Hoang</td>
</tr>
<tr>
<td>SAFETY, RELIABILITY, AND RISK ASSESSMENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAFETY, RELIABILITY, AND RISK ASSESSMENT</td>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>PVP2010-25010</td>
<td>Review of Proposed Methodology for Risk-Informed Relaxation to ASME Section XI: Appendix G</td>
<td>Terry Dickson, Eric Focht, and Mark Kirk</td>
</tr>
<tr>
<td>PVP2010-25676</td>
<td>Probabilistic Leak-Before-Break Assessment of a Main Coolant Line</td>
<td>Igor Varfolomeev, Denis Ivanov, Dieter Siegele, and Gerhard Nagel</td>
</tr>
<tr>
<td>PVP2010-26146</td>
<td>Towards an Improved Understanding of Water-Hammer Column-Separation Due to Rapid Valve Closure</td>
<td>H. A. Warda and Y. Elashry</td>
</tr>
<tr>
<td>TOXIC SUBSTANCES: TRANSPORTATION AND STORAGE OF RADIOACTIVE MATERIALS</td>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>TOXIC SUBSTANCES: TRANSPORTATION AND STORAGE OF RADIOACTIVE MATERIALS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PVP2010-25017</td>
<td>Thermal Performance of Radioactive Material (RAM) Packages in Transport Configuration</td>
<td>Narendra K. Gupta</td>
</tr>
<tr>
<td>PVP2010-25047</td>
<td>Dynamic Structural Analysis of the 9516 Transport Package</td>
<td>Zenghu Han, Vikram N. Shah, Jeries Abou-Hanna, and Yung Y. Liu</td>
</tr>
</tbody>
</table>
The Potential Impacts of Recent Transportation Accidents Involving Severe Fires on the Safe Shipment of Spent Nuclear Fuel
Christopher S. Bajwa and Earl P. Easton

A Method for the Coupled Thermal-Structural Analysis of Radioactive Material Shipping Packages in Hypothetical Accident Conditions: Part 1. NCT Thermal Load and Some HAC Mechanical Loads
Tsu-te Wu, Narendra K. Gupta, Allen C. Smith, and Paul S. Blanton

Use of Geometrically-Accurate Models to Predict Spent Nuclear Fuel Cladding Temperatures Within a Truck Cask Under Normal and Fire Accident Conditions
Krishna Kumar Kamichetty, Miles Greiner, and Venkata V. R. Venigalla

A Comparison of Two Thermal Insulation and Structural Materials for Use in Type B Packagings
Paul S. Blanton, Kurt R. Eberl, and Paul T. Mann

Prediction of Closure Bolt Loads in Small Pressure Vessels: NUREG/CR-6007 vs. Detailed Finite Element Analysis
Charles A. McKeel

Effects of Package Content Position on Slap-Down Angle
Charles A. McKeel

Validation of Container Analysis Fire Environment (CAFE) Code for Memorial Tunnel Fire Ventilation Test Program
N. R. Chalasani, Miles Greiner, and Ahti Suo-Anttila

Preshipment Leak Testing of 9977 Containment Vessels With the TM Electronics Solution Model S1A-L2-V Leak Tester
Donald J. Trapp

Thermal Analysis of a Proposed Transport Cask for Three Advanced Burner Reactor Used Fuel Assemblies
Tim Bullard, Miles Greiner, Matt Dennis, Samuel Bays, and Ruth Weiner

Author Index