

Programme Committee

Y. Dou China

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IAEA Secretariat:

Scientific Secretaries: K. Kang

R. Krivanek

Conference Coordination: M. Khaelss

Location of the Conference:

Lyon Convention Centre Cité Internationale 50 Quai Charles de Gaulle 69443 Lyon cedex 06 France

www.ccc-lyon.com

Working Language: English

Resolutions: No resolutions may be submitted for consideration on any subject; no votes will be taken.

| TIMETABLE | | | | | | | | |
|-------------------------|--|--------------------|--|--|--|--|--|--|
| Sunday, 22 Octo | Sunday, 22 October 2017 | | | | | | | |
| 16:00-18:00 | Registration and Distribution of Conference Material | Foyer | | | | | | |
| 17:30-18:30 | Welcome Reception hosted by IAEA | Foyer | | | | | | |
| Monday, 23 October 2017 | | | | | | | | |
| 08:00 | Registration | Foyer | | | | | | |
| 09:30-10:00 | Welcome coffee | Forum 2 | | | | | | |
| 10:00-11:40 | Opening session | Forum 3 | | | | | | |
| 11:40-11:50 | Break | | | | | | | |
| 11:50-12:40 | Plenary session | Forum 3 | | | | | | |
| 12:40-14:00 | Lunch / Exhibition and Poster Session | Forum 2 | | | | | | |
| 14:00-15:40 | Parallel Session: 1-1 Approaches to Plant Life Management | Saint Claire 2 | | | | | | |
| | Parallel Session: 2-1 Economics of Plant Life Management | Saint Claire 3A | | | | | | |
| | Parallel Session: 3-1 | Forum 3 | | | | | | |
| | Ageing Management and Preparation for Long Term Operation | | | | | | | |
| | Parallel Session:4-1 Configuration and Modification ion Management for Safety Enhancement | Saint Claire 3B | | | | | | |
| 15:40-16:00 | Coffee Break | Forum 2 | | | | | | |
| 16:00-17:40 | Parallel Session: 1-2 Approaches to Plant Life Management | Saint Claire 2 | | | | | | |
| | Parallel Session: 2-2 Economics of Plant Life Management | Saint Claire 3A | | | | | | |
| | Parallel Session: 3-2 Ageing Management and Preparation for Long Term Operation | Forum 3 | | | | | | |
| | Parallel Session: 4-2 Configuration and Modification Management for Safety Enhancement | Saint Claire 3B | | | | | | |

| Tuesday, 24 Octo | ber 2017 | |
|------------------|--|--------------------|
| 09:00-10:30 | Plenary session | Forum 3 |
| 10:30-11:00 | Coffee Break | Forum 2 |
| 11:00-12:40 | Parallel Session: 1-3 Approaches to Plant Life Management | Saint Claire 2 |
| | Parallel Session: 3-3 | Forum 3 |
| | Ageing Management and Preparation for Long Term Operation | |
| | Parallel Session: 4-3 | Saint |
| | Configuration and Modification Management for Safety Enhancement | Claire 3B |
| | Parallel Session: 6-1 | Saint Claire 3A |
| | Regulatory Approaches to Ageing Management and Long Term Operation | Claire 3A |
| 12:40-14:00 | Lunch / Exhibition and Poster Session | Forum 2 |
| 14:00-15:40 | Parallel Session: 1-4 | Saint |
| | Approaches to Plant Life Management | Claire 2 |
| | Parallel Session: 3-4 | Forum 3 |
| | Ageing Management and Preparation for Long Term Operation | |
| | Parallel Session: 5-1 | Saint |
| | Human Factors and Management Aspects | Claire 3B |
| | Parallel Session: 6-2 | Saint |
| | Regulatory Approaches to Ageing Management and Long Term Operation | Claire 3A |
| 15:40-16:00 | Coffee Break | Forum 2 |
| | | |

| Tuesday, 24 Octo | ober 2017 (cont'd) | |
|------------------|---|--------------------|
| 16:00-17:40 | Parallel Session: 1-5 Approaches to Plant Life Management | Saint Claire 2 |
| | Parallel Session: 3-5 Ageing Management and Preparation for Long Term Operation | Forum 3 |
| | Parallel Session: 3-6 | Saint |
| | Ageing Management and Preparation for Long Term Operation | Claire 3B |
| | Parallel Session: 6-3 | Saint |
| | Regulatory approaches to Ageing Management and Long Term Operation | Claire 3A |
| Wednesday, 25 | October 2017 | |
| 09:00-10:30 | Plenary session | Forum 3 |
| 10:30-11:00 | Coffee Break | Forum 2 |
| 11:00-12:40 | Parallel Session:1-6 | Saint |
| | Approaches to Plant Life Management | Claire 2 |
| | Parallel Session: 3-7 Ageing Management and Preparation for Long Term Operation | Saint Claire 3B |
| | Parallel Session: 3-8 | Forum 3 |
| | Ageing Management and Preparation for Long Term Operation | r ordin o |
| | Parallel Session: 6-4 | Saint |
| | Regulatory Approaches to Ageing Management and Long Term Operation | Claire 3A |
| 12:40-16:00 | Lunch / Exhibition and Poster Session | Forum 2 |
| 14:00-15:40 | Parallel Session: 3-9 | Forum 3 |
| | Ageing Management and Preparation for Long Term Operation | |
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| Wednesday, 25 October 2017 (cont'd) | | | | | | | |
|--|--|-----------------------|--|--|--|--|--|
| 16:00-17:40 | Panel Discussion on Plant Life Management – Approaches, Economics and Safety Enhancements | Saint Claire 3A&3B | | | | | |
| | Panel Discussion on Ageing Management and Preparation for Long Term Operation | Forum 3 | | | | | |
| Thursday, 26 O | ctober 2017 | | | | | | |
| 09:00-10:30 | Panel discussion on Challenges and Needs For PLIM/LTO | Forum 3 | | | | | |
| 10:30-11:00 | Coffee Break | Forum 2 | | | | | |
| 11:00-12:40 | Closing Session Session Reports and Recommendations | Forum 3 | | | | | |
| Closing statements Friday, 27 October 2017 | | | | | | | |

Poster Exhibition (Forum 2)

08:00-17:00

Poster authors are kindly requested to mount their poster by Monday lunchtime. Posters will be on display throughout the conference. Poster authors are kindly requested to be at their posters during the Poster sessions at lunch times.

Technical Tours

Technical Exhibition (Forum 2)

The organizers invite all participants to visit the Technical Exhibition in Forum 2. The exhibition is open during conference working hours:

Opening: Monday 23 October at 10:30 Closing: Thursday 26 October at 12:30

| SUNDAY, 22 (| OCTOBER 2017 | | |
|------------------------------|--|--|--|
| 16:00-18:00 | Registration and D Material (Foyer) | istribution of Conference | |
| 17:30- 18:30 | Welcoming Recept (Foyer) | ion Hosted by the IAEA | |
| MONDAY, 23 | OCTOBER 2017 | • | |
| 08:00-09:00 | Registration (Foyer | •) | |
| 09:30-10:00 | Welcome Coffee (F | Forum 2) | |
| 10:00-11:40 | Opening Session (| Forum 3) | |
| | L. Wauquiez, Fran President Regional Council D. Miniere, France Senior Executive V | | |
| | M. Maschi, France President NUGENIA | eneral ment of Nuclear Energy | |
| Chairperson: | M. Maschi, France | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| KS-1 | P. Coic | France | Lessons Learned from the Fukushima Daiichi Accident That Are Relevant to Électricité de France's Long Term Operation Programme |
| KS-2 | S. Cadet-Mercier | France | French Licensing Approaches for Long Term Operation |
| KS-3 | K. Kang IAEA R. Krivanek | | IAEA Contributions to Plant Life Management and Long Term Operation |
| 11:40 -11:50 | Break | | |
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| MONDAY, 23 | OCTOBER 201 | 7 (cont'd) | |
|------------------------------|---|--|---|
| 11:50 – 12:40 | Plenary Session (Forum 3) | 1 | |
| Chairperson: | M. Maschi, Franc | ce | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| KS-4 KS-5 | A. Dementiev TBC | Russia Federation China | The Role and Importance of Plant Life Management Challenges and Opportunities in Construction Technology and Management for Advanced Nuclear Power Plants |
| 12:40-14:00 | Lunch / Exhibition | and Poster session | (Forum 2) |
| 14:00-15:40 | PARALLEL SES Approaches to F (Saint Claire 2) | SION 1-1: Plant Life Management | |
| Chairpersons: | T. R. Kim, Korea, C. Cuillandre, Fra | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 001 | T. R. Kim | Korea, Republic of | Stress Tests and Long Term Operation in Korea NPPs |
| 002 | D. Wood | USA | Component Asset Management with Ultra-High Pressure Cavitation Peening |
| 003 | H.A. BrossierV. CrépieuxT. Sambourg | France | Reassessing and Extending Equipment Qualified Life for the EDF 900 MW NPP Series |
| 004 | K.J. Leonard | USA | Science-Based Approaches to Solving Materials Challenges Associated with Long-Term Nuclear Power Plant Operations |
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| MONDAY, 23 | OCTOBER 201 | 7 (cont'd) | |
|------------------------------|---|--|--|
| 14:00-15:40 | PARALLEL SESSION 2-1: Economic of Plant Life Management (Saint Claire 3A) | | |
| Chairpersons: | J. Hanson, USA A. Despujols, Frai | nce | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 005 | Z. Tomsic | Croatia | Investment in LTO of NPP on Electricity Market from Market Uncertainty to Policy Uncertainty |
| 006 | Y. Minami H. Takai T. Ishikawa | Japan | Extension of Operating Period of NPPs Taking into Account Cost Efficiency and Activities for Long Term Operation |
| 007 | J. Lonchampt | France | EDF Suite of Tools to Support Economics Decision in Plant Life Management |
| 008 | D. Pluhař, O. Zlámal, M. Vilím | Czech Republic | Results and Conclusions of Technical-Economic Feasibility Study of LTO Dukovany NPP |
| 14:00-15:40 | PARALLEL SES Ageing Manage LTO (Forum 3) | SION 3-1: ment and Preparation of | |
| Chairpersons: | S. Ratkai, Hunga A. De Jong, Neth | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 009 | S. Ratkai | Hungary | The Role of the IAEA in the Extension of Operation Life of MVM PAKS NPP |
| 010 | M. Uesaka | Japan | Implementation of IGALL in Japanese NPPs |
| 011 | A. De Jong R. Bollen | Netherlands | Development of Ageing Management at NPP Borssele between 2009 and 2017 |
| 012 | A.B. Pérez- Cerdán U. Bäckström | Sweden | Scope Setting Process and Ageing Management Review for LTO at Ringhals NPP |
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| | PARALLEL SESS Configuration an Management for (Saint Claire 3B) | | |
|------------------------------|--|--|--|
| Chairpersons: | K.J. Leonard, USA | A | |
| | T. Seitz, Germany | <u>'</u> | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 013 | K.J. Leonard | USA | Weld Repair of Irradiated Materials |
| | Z. Feng, | | |
| | W. Tang, | | |
| | R.G Miller, | | |
| | B.T Gibson, | | |
| | J. Chen, | | |
| | S.R. Clark, | | |
| | J.T. Busby, | | |
| | G. Frederick, | | |
| | J. Tatman, | | |
| | A. Peterson, | | |
| | B. Sutton | | |
| 014 | J. Brom, | Czech Republic | Low Pressure Turbine Blades Lifetime Management – Complex |
| | P. Mares, | | Procedure for Monitoring and Evaluation of Blade Condition |
| | A. Kobzova, | | |
| | M. Krondak | | |
| 015 | Y. Miyoshi, | Japan | Replacement of Pressurizer Safe End Weld |
| | Y. Kobayashi, | | |
| | T. Ueda | | |
| 016 | T. Seitz | Germany | Maintenance Optimization – Predictive vs. Preventive |
| | A. Zander | | Maintenance |
| | G. Gloth | | |
| | P. Brückner | | |
| 15:40-16:00 | Coffee Break (For | rum 2) | |

| MONDAY, 23 | OCTOBER 201 | 7 (cont'd) | |
|------------------------------|--|--|---|
| 16:00-17:40 | PARALLEL SESSION 1-2: Approaches to Plant Life Management (Saint Claire 2) | | |
| Chairperson: | T. R. Kim, Korea, Re C. Cuillandre, Franc | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 017 | F. Zhang C. Cuillandre, | China France | Ageing Management Improvement of Open-cycle Cooling Water System for Operating License Extension in Qinshan Phase I Assystem's Approach to Plant Life Management for NPPs Long |
| | G. Desvergnes | | Term Operation |
| 019 | G.A. Wilson | USA | From 40 to 60 to 80 years – Lessons Learned and Approach to Subsequent License Renewal in the USA |
| 020 | U. Wildner | Germany | AREVA Software Platform for Aging Management and Long Term Operation |
| 021 | M. Álvaro, M. Colomer, M. Baladía | Spain | Tecnatom Activities within the Framework of the Long-Term Operation at the Almaraz Nuclear Power Plant |
| 16:00-17:40 | PARALLEL SESSIC Economic of Plant (Saint Claire 3A) | | |
| Chairpersons: | J. Hanson, USA A. Despujols, France | e | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 022 | J. Hanson | USA | Long Term Benefits of Life Extension for U.S. Nuclear Power Reactors |
| 023 | SB. Son JW. Lee SR. Shon KB. Seong CJ. Lim | Korea, Republic of | Hybrid Concept NPP Long-term Operation Strategy |
| 024 | L. Kupca | Slovakia | Long Term Operation of Bohunice NPP |
| 025 | N. Morris A. Margarit | France | Numerical Solutions: A Means to Analyse and Execute Safe, Cost- Effective Life Extension Projects of Operating Nuclear Power Plants |
| 025-1 | R. Szilard | USA | Applying RISMC Methods, Tools and Data to Enhance Safety and Economics through INDUSTRY Application Demonstrations |
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| MONDAY 23 | OCTOBER 20 | 117 (cont'd) | |
|------------------------------|---|--|---|
| 16:00-17:40 | PARALLEL SESSION 3-2: Ageing Management and Preparation of LTO (Forum 3) | | |
| Chairpersons: | S. Ratkai, Hungar A. De Jong, Nethe | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 026 | J. Borak | Slovakia | Ageing Management Program for Bohunice and Mochovce Nuclear Power Plants. |
| 027 | M.B. Bakirov G.M. Bakirova V.P. Povarov | Russian Federation | New Methodology Of Multiparameter Monitoring of Ageing Management of NPP Equipment. |
| 028 | M. De Smet | Belgium | Living Thermal Fatigue Management for Doel 1&2 and Tihange 1 NPP |
| 029 | J. Wandrol M. Žamboch | Czech Republic | Complex Condition Assessment of SSCs for LTO |
| 029-1 | P. D'Haeyer | Belgium | Use of a Virtual Collaboration Work Place during the LTO Study Phase of Tihange 1 NPP and Doel 1&2 NPP for the Involved Organizations of ENGIE Electrabel and Tractebel |
| 16:00-17:40 | PARALLEL SESS Configuration an Management for (Saint Claire 3B) | | |
| Chairpersons: | K.J. Leonard, USA T. Seitz, Germany | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 030 | A. Kryukov V. Rubtsov | Russian Federation | A Low temperature "Wet" Annealing as an Instrument to Mitigate Irradiation Embrittlement of Low Copper Reactor Pressure Vessel Steels |
| 031 | T. Inagaki M. Uesaka | Japan | Establishment of Systematic Design Control/ Configuration Management Processes for Safe Operation of TEPCO NPPs |
| 032 | N. Kasahara, T. Sato | Japan | New Structural Engineering Approach to Enhance Resilience against BDBE |
| 033 | M.B. Bakirov, G.M. Bakirova, S.S. Pakhomov, E.S. Krutko I.V. Frolov | Russian Federation | Application Experience for Determining the Ageing of In Service NPP Determining the Instrumented Indentation Hardness Test Evaluation |
| 034 | M. Takizawa, S. Koshizuka | Japan | Development of Safety Research Roadmap for Plant Life Cycle Management of LWR. |

| TUESDAY, 24 | OCTOBER 201 | 7 | |
|------------------------------|---|--|---|
| 09:00-10:30 | Plenary Session :Keynote Speakers (5,6,7) (Forum 3) | | |
| Chairperson: | M. Maschi, France | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| KS-5 | G. Pironet | Belgium | Economic Assessment of Plant Life Management and Long Term Operation |
| KS-6 | G.A. Wilson | USA | Licence Renewal and Second Licence Renewal |
| KS-7 | H. S. Jun | Korea, Republic of | Licensing Approaches Based on Intensive Periodic Safety Review |
| 10:30 -11:00 | Coffee Break (For | rum 2) | |
| 11:00-12:40 | PARALLEL SES Approaches to (Saint Claire 2) | SION 1-3 : Plant Life Management | |
| Chairperson: | Y. Dou, China M.B. Bakirov, Ru | ssian Federation | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 035 | Y. Dou | China | Study and Practice on EQ technology for Full Life Cycle of NPPs |
| 036 | M. Miklos, V. Placek | Czech Republic | Support of Lifetime Management and Equipment Qualification |
| 037 | M. Vlatkovic | Canada | Environmental Qualification Program Requirements for the Long Term Operation of Canadian Nuclear Power Plants |
| 038 | M. Mochizuki | Japan | Japanese Codes and Standards to Support Long Term Operation of Nuclear Power Plant |
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| TUESDAY, 2 | 4 OCTOBER 2017 | (cont'd) | |
|------------------------------|---|--|--|
| 11:00-12:40 | PARALLEL SESSION Ageing Management a (Forum3) | | |
| Chairpersons: | F. Blom, Netherlands N. Prompt, France | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 039 | N. Prompt, J.C. Le Roux, R. Verlet, T. Métais, M. Pillou, J. Berger, P. Genette | France | EDF Approach of Fatigue Failure Prevention : a Sound Basis for the LTO Perspective |
| 040 | F. J. Blom, M.H.C. Hannink, A. De Jong | Netherlands | Demonstration of Fatigue for LTO Borssele and Relation to IAEA IGALL Relevant TLAAS and AMPS |
| 041 042 | M. M. Gris Z. Han, Y. Dou | Mexico China | Fatigue Monitoring Program at Laguna Verde for LTO Technical Support Activities of SNERDI during the First Application of NPP Operational Licence Extension In China |
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| TUESDAY, 24 (| OCTOBER 2017(c | ont'd) | |
|------------------------------|---|--|---|
| 11:00-12:40 | PARALLEL SESSION 4-3: Configuration and Modification Management for Safety Enhancement (Saint Claire 3B) | | |
| Chairpersons: | B.P. Hallbert, USA L. Cretinon, France | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 043 | B.P. Hallbert, K. Thomas | USA | Enhancing Nuclear Power Plant Operation and Efficiency through Holistic I&C Modernization Efforts |
| 044 | A.A. Andrashov, K.P. Leontiiev, E.S. Bakhmach, V.S. Kharchenko, A.A. Kovalenko | Ukraine | NPP I&C Modernization Approaches Using FPGA-based RadICS Platform |
| 045 | L. Crétinon, V. Ballesio, G. Wattiez, PS. Ly, D. Talbourdet, M. Lair | France | EDF PWR I&C Ongoing Qualification |
| 046 | A. Shipsha, P. Dillström, J. Gunnars, O. Cronvall, A. Oinonen, R. Alzbutas, G. Dunduli, P. Calmon | Sweden | Reduction of Risk for Leakage and Rupture in Nuclear Piping – Work for European Guidelines on Planning of In-Service Inspection |
| 046-1 | A. Despujols M. Guivarch | France | Maintenance Optimization Process: AP913 Revision for EDF Nuclear Power Plants |
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| TUESDAY, 2 | 4 OCTOBER 2 | 2107 (cont'd) | |
|------------------------------|---|--|--|
| 11:00-12:40 | PARALLEL SESSION 6-1: Regulatory Approaches to AM and LTO (Saint Claire 3A) | | |
| Chairpersons: | F. Henry, Belgiun R. Vaucher, Fran | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 047 | V.S. Rubtsov | Russian Federation | Regulatory Approaches to Equipment's Life Time Management for Russian Nuclear Power Plants |
| 048 | K. Mansoor, G. Ali, | Pakistan | PNRA Regulatory Approaches for Ageing Management and Residual Life Assessment for Long-Term Operation of NPPs |
| 049 | TR. Kim, IS. Hwang | Korea, Republic of | Comparison of PSR and License Renewal for LTO Regulatory Process |
| 050 | J. Linder, D. Kjellin | Sweden | SSM Position on the Continued Operation of Nuclear Reactors beyond the Period of Time for which the Plants were Originally Designed and Analysed |
| 12:40-14:00 | Lunch / Exhibition and Poster session (Forum 2) | | , , , , , , , , , , , , , , , , , , , |
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TUESDAY, 24 OCTOBER 2017 (cont'd) 14:00-15:40 PARALLEL SESSION 1-4: Approaches to Plant Life Management (Saint Claire 2) J. Fröjd, Sweden Chairpersons: S. Vidard, France No. of Paper Designating Member Title of Paper Name IAEA-CN-246-State/Organization 051 Y. Minami, Japan Activities for Long Term Operation – Special Inspection and Technical Evaluation of Ageing Degradation H. Takai, T. Ishikawa 052 S. Vidard. EDF 3-Loop RPV Life Management Beyond 40 years of France N. Jardin. Operation A.-M. Donore 053 H. Huang China Methodology and Practice on Safety Evaluation for Application of Nuclear Power Plant Operating License Extension in China 054 Asset Management at Nuclear Power Plants - with J. Fröjd Sweden International Standards and Principles

| TUESDAY, 2 | 4 OCTOBER 2017 (d | cont'd) | |
|------------------------------|---|--|---|
| 14:00 -15:40 | PARALLEL SESSION 3 Ageing Management ar LTO (Forum 3) | | |
| Chairpersons: | H. Seki, Japan N. Rupa, France | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 055 | K.J. Leonard G.R. Odette, P. Wells, N. Almirall, T. Yamamoto, R.K. Nanstad, M.A. Sokolov, X. Chen, J.P. Robertson | USA | Embrittlement of Reactor Pressure Vessel Steels under Extended Service Conditions: The Status and Implications of the UCSB ATR-2 Experiment |
| 056 | M. Kolluri, H. Nolles, F.J. Frith, Z. Szaraz, O. Martin, P. Hähner, V. Petrosyan, A. Petrosyan, G. Sevikyan | Netherlands | Master Curve Testing of Long Term Thermally Aged VVER- 440 RPV Surveillance Specimens and Correlation with Charpy Impact test Results |
| 057 | E.E. Antonaccio M.F. Zeolla J.R. Zorrilla | Argentina | Development and Evaluation of Applicability of a Hot-Spot Detection Technique based in Impedance Spectroscopy for Cables used in Argentinean Nuclear Power Plants |
| 058 | A.L Medina-Almazán, N. Lopez-García, M. Marín-Almazo, G. Galicia-Aguilar, M. Gris-Cruz | Mexico | Evaluation at 290°C and 8 MPa of the Corrosion Resistance of Preoxidized 304L SS with Hydrothermal Ceramic Nanodeposits. |
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| TUESDAY, 2 | 4 OCTOBER 2017(| cont'd) | |
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| 14:00-15:40 | PARALLEL SESSION 5-1: Human factors and Managerial Aspects (Saint Claire 3B) | | |
| Chairpersons: | R. Beleznai, Hungary H. Tanaka, Japan | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 059 | N. Erkan, N. Sekimura, K. Okamoto, T. Itoi, S. Jagawa, M. Kanno | Japan | Human resource Development Activities at the University of Tokyo towards a Proactive Nuclear Regulatory |
| 060 | B. P. Hallbert, R. Boring, J. Joe, J. Oxstrand, K. Thomas | USA | Lessons Learned from Applying Human Factors Principles to Nuclear Power Plant Control Room Modernization |
| 061 | H. Tanaka | Japan | Knowledge Transfer for Long Term Operation |
| 062 | R. Beleznai, G. Dobos, S. Szávai | Hungary | Training Platform for NPPs using Virtual and Augmented Reality Technology |
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| TUESDAY, 24 | OCTOBER 2017 (d | cont'd) | |
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| 14:00-15:40 | PARALLEL SESSIO Regulatory Approac (Saint Claire 3A) | | |
| Chairpersons: | F. Henry, Belgium R. Vaucher, France | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 063 | S. Laxman, B. Carroll, J. Jin | Canada | Regulatory Perspectives on the Condition Assessment and Monitoring of Safety Significant Major Reactor Components for Long Term Operation |
| 064 | M. Nakano | Japan | Review for Operation Period Extension of NPPs in Japan |
| 065 | F. Henry | Belgium | Preparation of Belgian NPPs for Safe LTO: Safety Authority Review and Role of IAEA SALTO Peer Review Service |
| 066 | R. Vaucher | France | Regulatory Approach for Managing Ageing and Obsolescence in the Context of LTO in France |
| 15:40-16:00 | Coffee Break (Forum 2 | 2) | |
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| 16:00-17:40 | PARALLEL SESSION | ON 1-5: | |
|------------------------------|---------------------------------------|--|---|
| | | nt Life Management | |
| Chairpersons: | J. Fröjd, Sweden S. Vidard, France | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 067 | R.Isobe, | Japan | A Research Activity using Decommissioning HAMAOKA |
| | H.Yuya | | UNIT-1 |
| | H. Wada | | |
| 068 | A. Larsson, | Sweden | International Good Practice in Preparing for |
| | W. Inge | | Decommissioning and Performing Characterisation |
| 069 | A.V. Shutikov, | Russian Federation | Ensuring Integrity of Coolant Pipe Weld Joint Connection to |
| | A.A. Dementiev, | | SG PGV-1000 Bend Pipe of 1200 mm Diameter. |
| | Y.P. Teterin, | | |
| | V.N. Lovchev, | | |
| | A.F. Gromov, | | |
| | E.S. Khramova, | | |
| | A.E. Korneyev, | | |
| | A.G. Kazantsev, | | |
| | V.A. Sotskov, | | |
| | S.A. Khartchenko, | | |
| | A.V. Bogachev, | | |
| | M.E. Kurdin, | | |
| | R.Y. Zhukov | | |
| 070 | H. Wada, | Japan | Soundness Assessment Method for Concrete Structures |
| | K. Yokokura, | | Based on Date Obtained from Decommissioning HAMOKA |
| | Y. Tanaka, | | NPP |
| | O. Kontani, | | |
| | S. Sawada, | | |
| | I. Maruyama | | |
| 070-1 | S. Poirier | IAEA | Lessons Learned from Safeguards Implementation for |
| | J. Whitlock | | Facilities under Construction |
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| TUESDAY, 24 | OCTOBER 2017 | (cont'd) | |
|------------------------------|---|--|---|
| 16:00-17:40 | PARALLEL SESSION 3-5: Ageing Management and Preparation of LTO (Forum 3) | | |
| Chairpersons: | H. Seki, Japan N. Rupa, France | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 071 | H. Seki, H. Kobayashi | Japan | JANSI Guidelines for Inspection and Evaluation of Reactor Vessel Internals |
| 072 | V. Pištora, M. Žamboch, P. Král, L. Vyskočil | Czech Republic | PTS Re-evaluation Project for Czech NPPs |
| 073 | M. Yamamoto, N. Miura | Japan | Status of The Master Curve Fracture Toughness Evaluation Method using Miniature C(T) Specimens. |
| 074 | M. Berveiller G. Adjanor F. Latourte J. Vidal A. Gosset | France | Presentation of the SOTERIA Numerical Platform for the Assessment of Ageing Mechanisms in RPV and Internals |
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| TUESDAY, 2 | 4 OCTOBER 20 | 17 (cont'd) | |
|------------------------------|--|--|--|
| 16:00-17:40 | PARALLEL SESSION 3-6: Ageing Management and Preparation of LTO (Saint Claire 3B) | | |
| Chairpersons: | V. Plaček, Czech R C. Vare, France | epublic | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 075 | V. Plaček P. Kos | Czech Republic | Cable Ageing Management Program in Czech Republic |
| 076 | J.P. Mathieu B. Masson | France | The VERCORS Project: an Effort to Observe containment Building Ageing and an Opportunity to Develop Numerical Twins |
| 077 | T. Lian | EPRI | Effective Aging Management of Baffle-to-Former Bolts to Assure Long-Term Reliability of Reactor Vessel Internals |
| 078 | O. Grytsenko V. N. Bukanov, V. L. Diemokhin, V. V. Ilkovych, O. M. Pugach, S. M. Pugach, O. G. Vasylieva | Ukraine | Dosimetry of VVER-1000&440 Reactor Pressure Vessels, Internals, Supporting Elements and Surveillance Specimens as a Part of PLiM at Ukrainian NPPs |
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| | 24 OCTOBER 2017 (c | | | |
|------------------------------|--|---|----|--|
| 16:00-17:40 | PARALLEL SESSION 6- Regulatory Approaches (Saint Claire 3A) | | | |
| Chairpersons: | A. Hiser, Jr., USA M. Bamber, UK | | | |
| No. of Paper IAEA-CN-246- | Name | Designating Membe State/Organization | er | Title of Paper |
| 079 | A. I. Conde Arano E.L. de Arroyabe C. de la Fuente Pérez M. Albert | Spain | | Long Term Operation and Periodic Safety Review regulations in Spain |
| 080 | A. Chepurna O. Shugailo Y. Grebenyuk V. Klochko | Ukraine | | Regulatory Approaches to Long Term Operation activity and Ageing Management of Ukrainian NPP Units |
| 081 082 | H. Dlouhá A. Hiser, Jr. | Czech Republic USA | | Licencing Process of Dukovany NPP beyond designed lifetime Applying the United States License Renewal Approach to an International Environment |
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| WEDNESDA | Y, 25 OCTOBEI | R 2017 | |
|------------------------------|--|--|---|
| 9:00-10:30 | Plenary Session Keynote Speake (Forum 3) | | |
| Chairperson: | M. Maschi, Franc | e | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| KS-8 | N. Sekimura | Japan | Life Cycle Management, including Lessons Learned from the Fukushima Daiichi Accident |
| KS-9 | T. Taylor | EPRI | Management of Modifications for Safety Enhancement (Condition Based Maintenance and On-Line Monitoring) |
| KS-10 | A. Viktorov | Canada | Regulatory Approaches for Long Term Operation and Related Challenges |
| 10:30-11:00 | Coffee break (Fo | orum 2) | |
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| WEDNESDAY | , 25 OCTOBER | 2017 (cont'd) | |
|------------------------------|--|--|---|
| 11:00-12:40 | PARALLEL SESS Approaches to PI (Saint Claire 2) | ION 1-6: ant Life Management | |
| Chairpersons: | O. Martin, EC-JRC A. Zander, Germa | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 083 | A. Zander, M. Pernpeintner | Germany | AREVA – Obsolescence Management Concepts and Solutions |
| 084 | D. Dorobin V. Tikhonovsky | Russian Federation | Engineering Information Model for Support of Nuclear Power Units Construction, Operation, Maintenance, Radiation Safety and Decommissioning |
| 085 | K. Yoshikawa, M. Hayashi, Y. Mabuchi, D. Taniguchi | Japan | UK ABWR -New NPP design for UK- |
| 086 | O. Martin, O. Johansson, T. Zettervall, J. Fasham, A. Lejon, E. Martin | EC-JRC | Activities and future Trends of the ENIQ Network |
| | | | |

| WEDNESDA | Y, 25 OCTOBER 2 | 2017 (cont'd) | |
|------------------------------|--|--|---|
| 11:00-12:40 | PARALLEL SESSION 3-7: Ageing Management and Preparation of LTO (Saint Claire 3B) | | |
| Chairpersons: | V. Plaček, Czech Rep C. Vare, France | public | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 087 | A. Courtois, F. Coppel, E. Gallitre, F. Taillade | France | Ageing Management of Civil Structures: Some Aspects of EDF's In-Service Inspection Program and Risk Informed Approach |
| 088 | I. Cornish-Bowden, F. Mateo B. Gerard | France | Digitalization of the Engineering Programs: Ageing Civil Works and Electric Cables to increase the Safety of NPP |
| 089 | S. François, JM. Fageon, G. Marque | France | EDF PWR Units Electrical Cables Aging Management |
| 090 | A. Oryniak I. Orynyak O. Ishchenko | Ukraine | Numerical Calculation and Experimental Measurements of VVER-1000 Core Baffle Geometrical Distortion due to Irradiation Swelling |
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| WEDNESDAY | , 25 OCTOBER | 2017(cont'd) | |
|------------------------------|--|--|--|
| 11:00-12:40 | PARALLEL SESS Ageing Managem LTO (Forum 3) | ION 3-8: ent and Preparation of | |
| Chairpersons | S. Bernhoft, EPRI J.P. Massoud, Fran | nce | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 091 | S. C. Yoo, J.H. Kim, K.J. Choi, JS. Kim, BH. Choi, YJ. Kim, JS. Kim | Korea, Republic of | PWSCC Behavior of Alloy 600 under Long-term Thermal Aging and Triaxial Stress |
| 092 | O. Nevander J. Sievers | OECD-NEA | Recent WGIAGE Activities and Results |
| 093 | S. Bernhoft | EPRI | Main Challenges in Research for LTO – Cooperation Between EPRI and IAEA on the IGALL Programme |
| 094 | J.P. Massoud L. Grisy P. Le Delliou, P. Todeschini, S. Saillet | France | EDF Ageing Management: R&D Materials Programmes |
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| WEDNESDAY | , 25 OCTOBER | 2017 (cont'd) | |
|------------------------------|--|--|--|
| 11:00-12:40 | PARALLEL SESSION 6-4: Regulatory Approaches to AM and LTO) (Saint Claire 3A) | | |
| Chairpersons: | A. Hiser, USA M. Bamber, UK | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 095 | C. E. Moyer M. Sircar J. Philip J. E. Pires D. D. Murdock T. Koshy A. B. Hull | USA | Regulatory Research on the Aging Management of Structures, Systems and Components in Nuclear Power Plants Supporting License Renewal |
| 096 | S. Xu C. Cole | Canada | Screening of Structures, Systems and Components for Aging Management and Reliability Programs for Nuclear Power Plants in Canada, a Regulatory Perspective |
| 097 | A. Panchenko O. Shugailo | Ukraine | Licensing Activities for Long-Term Operation and Ageing Management in Ukraine (Regulatory Experience And Lessons Learnt) |
| 098 | H. Sun | China | Safety Regulation of NPP Operating License Extension In China |
| 099 | M. Bamber L. Poulter | UK | Regulation of Graphite Core Ageing and Degradation in the UK's Advanced Gas-Cooled Reactor Fleet |
| 12:40 -16:00 | Lunch / Exhibition (Forum 2) | and Poster Session | |
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| WEDNESDA | Y, 25 OCTOBER | 2017 (cont'd) | |
|------------------------------|---|--|---|
| 14:20-16:00 | PARALLEL SESSIC Ageing Managemer For Long Term Ope (Forum 3) | nt and Preparation | |
| Chairpersons: | S. Bernhoft, EPRI J.P. Massoud, Franc | ce | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 100 | J. C. Wagner, D. Williams, R.A. Reister, M. Farmer, B. Hallbert, K.J. Leonard, C. Smith | USA | Current and Future Research and Development Directions in the Light Water Reactor Sustainability (LWRS) Program |
| 101 | J. Moore | Canada | PHWR Fuel Channel Life Management Activities by the CANDU Owners Group |
| 102 | E. Deri A. Adobes F. David T. Prusek V. Lhuillier G. Leopold J. Vasseur | Italy/France | PWR Steam Generators: Multi-Field R&D for Long Term Operation |
| 103 | I. Maruyama, M. Takizawa, O. Sato, J. Etoh, O. Kontani, S. Sawada, S. Ishikawa | Japan | Post-Japanese NRA Research Project on Soundness Evaluation Criteria for Radiation-Induced Concrete Degradation |
| | | | |

WEDNESDAY, 25 OCTOBER 2017 (cont'd)

16:00-17:40 PANEL DISCUSSION:

Plant Life Management – Approaches, Economics and Safety Enhancements

(Saint Claire 3A & 3B)

Chairperson: J. Hanson, USA

Panel Members: U. Wildner Germany

J. P. Perrin France
Y. Dou China

M.B. Bakirov Russian Federation

K. S. Kang IAEA

16:00-17:40 PANEL DISCUSSION:

Ageing Management and Preparation

for Long Term Operation

(Forum 3)

Chairperson: G.A. Wilson, USA

Panel Members: S. Ratkai Hungary

S. Bernhoft EPRI
F. Henry Belgium
R. Krivanek IAEA

| THURSDAY, 26 09:00-10:30 | PANEL DISCUSSION: Challenges and Needs (Forum 3) | | |
|--------------------------------|---|--|--|
| Chairperson: Panel Members: | G. Young, USA G. Rzentkowski O. Martin I. S. Hwang H. M. Hashemian G. Pironet | IAEA EC-JRC Korea, Republic of USA Belgium | |
| 10:30-11:00 | Coffee Break (Forum 2 |) | |
| 11:00- 12:40 | Closing Session (Forum 3) | | |
| Chairperson: | M. Maschi, France | | |
| Session Reports a | nd Recommendations | | |
| Session 1-1~1-6: | TBD | | |
| Session 2-1~2-2: | TBD | | |
| Session 3-1~3-9: | TBD | | |
| Session 4-1~4-3: | TBD | | |
| Session 5-1: | TBD | | |
| Session 6-1~6-4: | TBD | | |
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| Closing of the Con | ference | | |
| | M. Maschi, France | | |
| | G. Rzentkowski, IAEA | | |
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| POSTERS | | | |
| Posters will be on display for the duration of the Conference in Forum 2 | | | |
| POSTER SESSI Approaches to I | ON 1: Plant Life Management | | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 1P01 | D. Tian J. Deng G. Vinod T. v.Santosh C. Gorse G. Colantuono | UK | Identification of Loss of Coolant Accidents of Nuclear Power Plants using Artificial Neural Networks |
| 1P02 | S. Poirier B. Boyer J. Whitlock | IAEA | Safeguards Considerations in the Design of Nuclear Facilities |
| 1P03 | K. Murakami | Japan | Studies on Ageing Mechanism Of Structural Materials using Ion Accelerator Facilities |
| 1P04 | Z.Zhaoxun C.Zhang | China | LCM Planning for AP1000 Passive SSCs in Haiyang NPP |
| 1P05 | H. Rong J. Li Y. Wang | China | Strategy for Spent Fuel Storage (On-Site) of Nuclear Power Plant In China |
| 1P06 | M. Thangamani N. Mainmaran G. Shanmugam A. Babu K.V.Suresh kumar | India | Life Extension & Plant Life Management Of Fast Breeder Reactor |
| 1P07 | M.A.M. Khasawneh A. Diab | Korea, Republic of | Analysis of Coping Strategies for Extended Station Blackout for APR1400 by the Variation of RCP Seal Leakage using MARS-KS Code |

| POSTER SESSION 2: Ageing management and Preparation of Long Term Operation | | | |
|--|---|---|---|
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 1P08 | K. Abdallah | Egypt | Inspection Methodology Development for Reactor Vessel Bottom |
| 1P09 | D. Lucan | Romania | Research Activities on INR Nuclear Materials and Corrosion Department in the Field of Ageing Management and Long Tel Operation (LTO) |
| 1P10 | K. Proskuryakov M.Zaporozhets V.Mukhin A.Fedorov | Russian Federation | Using an Interdisciplinary Approach to Determine the Sources of Standing Waves in the Primary Circuits of a Nuclear Power Plant with a Water Coolant |
| 1P11 | K. Proskuryakov | Russian Federation | Substantiation of Need of Research BWR as a Helmholtz Resonator |
| 1P12 | J. Eto I. Maruyama M. Takizawa O. Sato O. Kontani S. Sawada S. Ishikawa | Japan | Summary of Japanese NRA Research Project on Soundness Evaluation Procedures for Radiation Induced Concrete Degradation |
| 1P13 | M. De Smet | Belgium | Living Thermal Fatigue Management for Doel 1&2 and Tihang |
| 1P14 | Y. Hashimoto T. Kobayashi K. Nishida A. Nomoto | Japan | Current Status of the Revision of the Embrittlement Trend Cu in Japan |
| 1P15 | A. Nomoto Y. Hashimoto T. Koboayashi K. Nishida M. Yamamoto | Japan | Evaluation of the Neutron Irradiation Embrittlement of RPV Steels: Development of Embrittlement Trend Curve and Investigation of Through-wall Attenuation |
| 1P16 | M. Zarazovskii I. Oryniak | Ukraine | A Methodological Features Related with the Prediction of Embrittlement of WWER RPVs |
| 1P17 | S. Szavai Z. Bezi J. Dudra P. Rozsahegyi | Hungary | Material Characterization and Numerical Simulation of a Dissimilar Metal Weld to Support Phased Array Ultrasonic Inspection |

| POSTER SESSI Ageing manage Operation | ON 2 (cont'd): ment and Preparat | ion of Long Term | | |
|--|--|---|-------|--|
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title | of Paper |
| 1P18 | S. Sawada O. Kontani H. Wada K. Yokokura Y. Tanaka I. Maruyama | Japan | | Physical Properties of Concrete Obtained from the Reactor Building of Decommissioning Hamaoka NPP |
| 1P19 | I. Tutnov V. Tsarev G. Sarychev | Russian Federation | | Application of SALTO Methods for Planning Maintenance of PWR-1000 Automated Control System |

| POSTER SESSIC Configuration ar Enhancement | DN 3: nd Modification Manage | ment for Safety | |
|--|--|---|--|
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 1P20 | G. Colantuono D. Tian D. Jiamei G. Vinod T. v.Santosh C. Gorse | UK | Principal Components/Correlation-Based Decision Algorithm for fault Detection |
| 1P21 | A. Hossain A.Z.M. Salahuddin | Bangladesh | An Intelligent Approach for Thermal-Hydraulic Experimental Studies on Safety and Efficiency of NPP |
| 1P22 | T. Kinoshita I. Seki | Japan | Special Inspection for License Renewal of Nuclear Power Plants -Introduction of NDE Techniques- |
| 1P24 | C. Colin J. Pierre M.P. Ferroud-Plattet C. Gonnier G. Bignan M. Auclair F. Rozenblum | France | Test devices in Jules Horowitz Reactor Dedicated to the Material Studies in Support to the Current and Future Nuclear Power Plants |
| 1P26 | O. Kontani Y. Umeki H. Wada K. Takiguchi I. Maruyama S. Sawada | Japan | Guidelines for Maintenance and Management of Structures in Nuclear Facilities in Japan |
| POSTER SESSION | ON 4: nd Management Aspects | s | |
| No. of Paper IAEA-CN-246- | Name | Designating Member State/Organization | Title of Paper |
| 1P27 | M. Suzuki | Japan | Human Resources Development Focusing on the Nuclear System Safety in Reginal Cooperation with NPP Location Area |

