

IAPSAM HRAS Topical Conference on Human Reliability, Quantitative Human Factors, and Risk Management

Preliminary Program

(session content, day and times subject to change)

Wednesday June 7, 2017

09.30 - 10.15 h Welcome and Opening Session

10.15 - 11.05 h Session 1 - HRA Experience and New HRA			
18	Human errors of Loviisa NPP PRA; risk contribution and its development in (time)history with the focus on post-initiators and EOP changes	Rasmus Hotakainen	Fortum Power and Heat Oy, Finland
06	Methodology and Application of Human Reliability Analysis in CAP1400 Nuclear Power Plant	Yongping Qiu, Jiandong He, Juntao Hu, Yucheng Zhuo, Jie He	Shanghai Nuclear Engineering Research & Design Institute, China

11.05 - 11.20 h Coffee Break

11.20 – 12.50 h Session 2 - Addressing Novel Performance Issues			
30	An Approach to Assess the Likelihood of Timely Snow Removal from the Roofs of Safety Related Buildings in NPP Paks	Tamas Siklossy, Attila Bareith	NUBIKI Nuclear Safety Research Institute, Hungary
15	Study on Seismic Safety Assessment of Human Based on Shaking Table Boarding Tests	Takenori Hida, Seiyo Warita, Tatsuya Itoi, Tsuyoshi Takada	The University of Tokyo, Tokyo, Japan
21	Multi-Unit Considerations for Human Reliability Analysis	S. St. Germain ^a , Ronald Boring ^a , G. Banaseanu, Yolande Akl ^b , H. Chatri ^b , Michael Xu ^b	^a Idaho National Laboratory (INL), USA ^b Canadian Nuclear Safety Commission (CNSC), Canada
04	What's More Important – My Fire or Your Plant?" Human Actions under Conditions of a Large-Scale Disaster: Conflicts of Interest and Overlapping Areas of Authority	Dagmar Baumann, Lena Gaukel	TÜV SÜD Energietechnik GmbH, Germany

12.50 - 14.20 Lunch

Preliminary Program (session content, day and times subject to change)

14.20 - 15:50 h Session 3 - HRA Data Collection and Applications			
02	Human Error Probabilities from Operational Experience of German Nuclear Power Plants	Wolfgang Preischl ^a , Mario Hellmich ^b	^a Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH, Germany ^b Bundesamt für kerntechnische Entsorgungssicherheit (BfE), Germany
23	An Approach of Simulator Data Collection and Analysis to Generate Human Error Probability	Wondea Jung, Jinkyun Park, Yochan Kim, Sun Yeong Choi, and Seungwhan Kim	Korea Atomic Energy Research Institute (KAERI), Republic of Korea
47	Methods and Measures for Characterizing Operator Performance for Operator-in-the-Loop Studies	Bruce Hallbert ^a , Jinkyun Park ^b , Ronald Boring ^a , Wondea Jung ^b	^a Idaho National Laboratory, Idaho Falls, USA ^b Korea Atomic Energy Research Institute (KAERI), Republic of Korea
42	Simulator Data Collection in Support of the Safe Operation of Dukovany NPP	Jan Kubicek, Jaroslav Holy	UJV Rez, a. s., Czech Republic

15.50 – 16:10 Coffee Break

16.10 - 17.40 h Session 4 – Human Reliability in New and Modernized Control Rooms			
11	New Challenges for Performance Shaping Factors in Advanced Control Rooms	Markus Porthin, Terhi Kling, Marja Liinasuo	VTT Technical Research Centre of Finland Ltd., Espoo, Finland
17	A Comparison of conventional and computerized HMI in main control rooms from a human reliability standpoint	Gerben Dirksen , Asriel Eisinger	AREVA GmbH, Erlangen, Germany
26	Experimental Investigation on Correlation between Performance Shaping Factors in the Digital Main Control Room Inter-dependency of Performance Shaping Factors in Nuclear Power Plants [some specific aspects on digital main control rooms]	Jooyoung Park ^a , Jonghyun Kim ^a , Wondea Jung ^b	^a Chosun University, Republic of Korea ^b Korea Atomic Energy Research Institute, Republic of Korea
25	Comparing Operator Reliability in Analog and Digital Nuclear Control Rooms: Insights from Recent Halden Reactor Project's Empirical Studies	Salvatore Massaiu	Halden Reactor Project – Institute for Energy Technology, Norway

18.30 h Cocktail Reception

Preliminary Program (session content, day and times subject to change)

Thursday June 8, 2017

09.00 - 10.10 h Session 5 - HRA for Applications in Novel Domains			
09	Human Reliability and The Impact of Function Allocation of Control in the Design of Dynamic Positioning Systems	Sandra Hogenboom, Børge Rokseth, Jan Erik Vinnem, Ingrid Bouwer Utne	NTNU, Trondheim, Norway
28	Analysis of Autopilot Disengagement Data and Implications for Human-Machine Interactions	Francesca M. Favaro, Nazanin Nader	San Jose State University, USA
49	Impact of Floods on Natural gas network – Preliminary results for the recovery dynamics within the resilience context	Miltos Kyriakidisa , Peter Lustenberger ^a , Peter Burgherr ^b , Vinh N. Dang ^b , Stefan Hirschberg ^b	^a ETH Zurich, Future Resilient Systems, Singapore ETH Centre, Singapore ^b Paul Scherrer Institute (PSI), Switzerland

10.10 - 10.40 h Coffee Break

10.40 – 12.00 h Session 6 (Panel) Developing HRA for a New Domain – the Petro-HRA Project	
Background and status (introductory presentation)	
Panel discussion	

12.00 – 13.00 h Session 7 – Quantifying the Impact of Operator Aids			
12	Research of Confidence Rule Base for Fault Diagnosis of Rolling Bearing Based on Faulty Sample	Qian Hong, Feng Yu-Qing, Zhang Dong-Liang	Shanghai University of Electric Power, China
13	Research on the Early-warning System of Nuclear Power Station Oriented to Human Reliability	Ren Shuai, Qian Hong, Yang Ting	Shanghai University of Electric Power, China

13.00- 14.30 h Lunch

Preliminary Program (session content, day and times subject to change)

14.30 - 16.00 h Session 8 – Emerging Methods and Approaches			
29	HAMSTER: Human Action Modelling - Standardized Tool for Editing and Recording	Vincent Bonelli, Julien Lopez	EDF SEPTEN, France
07	Application of the HuREX Framework to Support Existing HRA Methods: Case Studies	Jinkyun Park, Yochan Kim, Wondea Jung	Korea Atomic Energy Research Institute (KAERI), Republic of Korea
19	Team Performance Comparison in Core-Melt Units of Fukushima Daiichi NPS Based on Dynamic Context Quantification of Accident	Gueorgui Petkov	Independent Consultant, Alkmaar, Netherlands
03	Human Reliability Analysis for Digitized Nuclear Power Plants: Monitoring Model	Li Zhang, Yanhua Zou	Institute of Human Factors Engineering and Safety Management, Hunan Institute of Technology, China

16.00 - 16.20 h Coffee Break

16.20 - 17.50 h Session 9 – HRA Fundamental Issues			
27	Dependencies in HRA – NPSAG Phase II Project	Xuhong He ^a , Cilla Andersson ^b	^a Lloyd's Register Consulting - Energy AB, Sweden ^b Ringhals AB, Väröbacka, Sweden
10	Dependence Assessment in Human Reliability Analysis based on Evidence Theory and ANP	Xiaoyan Su, Hong Qian, Dongliang Zhang, Ting Yang	Shanghai University of Electric Power, China
38	It's About Time: The Role of Time in Human Reliability Analysis	Martin Rasmussen ^a , Ronald L. Boring ^b , Karin Laumann ^c	^a NTNU Social Research, Norway ^b Idaho National Laboratory (INL), USA ^c Norwegian University of Science and Technology, Norway
	Can we Improve our Application of Quantitative Performance Shaping Factors?	Les Ainsworth	CRA

19.00 h Dinner Event

Preliminary Program (session content, day and times subject to change)

Friday June 9, 2017

09.00 - 10.30 h Session 10 – Advances in the HRA for Decision Taking			
33	Detailed Modelling of Failure to Take Proceduralised Actions	Attila Bareith, Zoltan Karsa, Tamas Siklossy,	NUBIKI Nuclear Safety Research Institute, Hungary
40	Predicting Errors of Commission in Nuclear Power Operations and Maintenance	Martin Reid	EDF Energy, UK
45	Investigating Command and Control Issues During Main Control Room Abandonment	Stacey Hendrickson ^a , John Wreathall ^b , Jeff Julius ^c , Susan Cooper ^d , Mary Presley ^e , Erin Collins ^f , Kaydee Kohlhepp Gunter ^c , Ashley Lindeman ^e , Paul Amico ^f , Tammie Rivera ^d	^a Sandia National Laboratories, Albuquerque, NM, USA ^b John Wreathall & Co, Inc., Dublin, OH, USA ^c Jensen Hughes, WA, USA ^d US Nuclear Regulatory Commission, Rockville, MD, USA ^e Electric Power Research Institute, Palo Alto, CA, USA ^f JENSEN HUGHES, Rockville, MD, USA
24	Analysis of Knowledge-based Behavior in Dynamic Situations – Method and Exemplary Application	Jörg Peschke, Wolfgang Preischl, Werner Faßmann	Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) gGmbH

10.30 - 10.50 h Coffee Break

10.50 - 12.00 h Session 11 – Bringing HRA into Design / V&V / Human Factors Engineering			
01	Integrating Human Reliability Analysis and Human Factors Engineering for Risk-Informed Plant Design and Improvement	Claire Taylor	Institute for Energy Technology, Halden, Norway
44	Some Insights from Human Reliability Analysis and Human Factor Engineering Integration Practices	Xiufeng Tian ^a , Xuhong He ^b , Jinggong Liu ^a , Kunxiu Liu ^a	^a China Nuclear Power Engineering Co., China ^b Lloyd's Register Consulting – Energy, Sweden
22	Human Reliability Analysis for Verification and Validation of New Designs	R. Boring, ^a R. Lew, ^b H. T. Ulrich, ^b H. Blackman ^c	^a Idaho National Laboratory (INL), USA ^b University of Idaho, USA ^c Boise State University, USA

12.00 – 13.00 h Session 12 (Moderated Closing Discussion) – Looking to the Future: Research Needs and Ways Forward	
Introduction by EPRI	
Discussion	

13.00 – 14.30 h Lunch and Farewell Ice Cream Social Reception