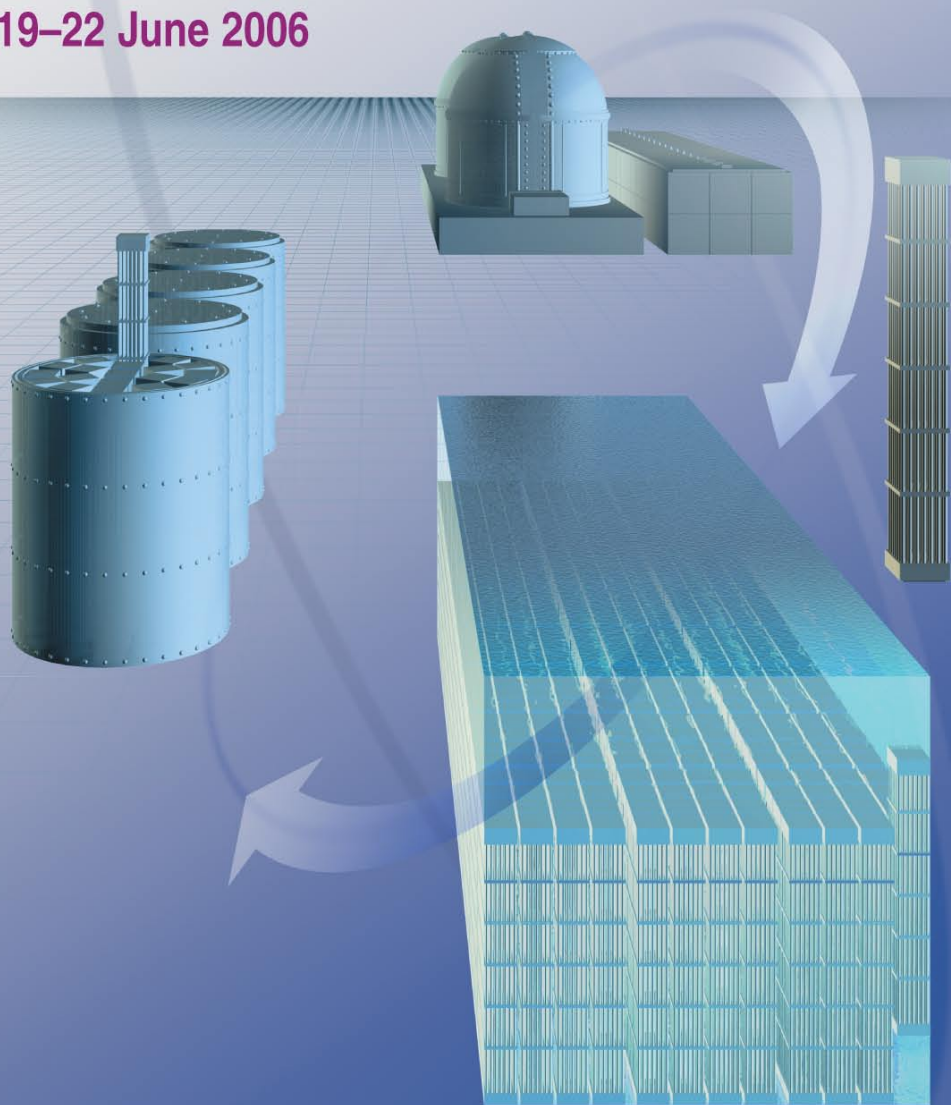


International Conference on Management of Spent Fuel from Nuclear Power Reactors

Vienna, Austria
19–22 June 2006



PROGRAMME

PRESIDENT OF THE CONFERENCE:

J. Bouchard, France

PROGRAMME COMMITTEE:

Members:	A. González	Argentina
	A. Marvy	France
	R. Asano	Japan
	T. Saegusa	Japan
	E. Kudryavtsev	Russia
	S. Baggett	USA
	W. Brach	USA
	W. Danker	IAEA
	E. Warnecke	IAEA
	C. Pescatore	OECD/NEA

CONFERENCE LOCATION:

International Atomic Energy Agency
 Vienna International Centre (VIC)
 IAEA Boardroom, Building C, 4th floor
 Wagramer Strasse 5
 A-1400, Vienna, Austria
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IAEA CONFERENCE SECRETARIAT:

Scientific Secretaries:	W. Danker
	E. Warnecke
Conference Coordinators:	H. Schmid
	K. Morrison
Records Officer:	M. Davies
Editor:	G. Linsley
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	I. Bollozos-Semaña

Conference website:

<http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=144>

Working Language: English

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

TIMETABLE

Monday, 19 June 2006

08:00 – 10:00	Registration
10:00 – 10:45	Opening Session
10:45 – 12:30	Session: Spent Fuel Management – Evolving International Scene
12:30 – 14:00	Lunch Break
14:00 – 15:30 (con't.)	Session: Spent Fuel Management – Evolving International Scene
15:30 – 16:00	Coffee Break
16:00 – 18:15	Session: Spent Fuel Management – Evolving International Scene (con't.)

Tuesday, 20 June 2006

09:00 – 10:30	Session I: International Safety Regime
10:30 – 11:00	Coffee Break
11:00 – 12:30	Session II: Criticality Safety
12:30 – 14:00	Lunch Break
14:00 – 16:00	Session III: Storage Term Limits
16:00 – 16:30	Coffee Break
16:30 – 17:30	Summary Panel I
17:30 – 19:00	Poster Session and Reception

Wednesday, 21 June 2006

09:00 – 10:30	Session IV: Storage Facilities
10:30 – 11:00	Coffee Break
11:00 – 12:00	Session V: Storage Containers
12:00 – 13:30	Lunch Break
13:30 – 14:45	Session VI: Fuel and Cladding Properties and Behavior
14:45 – 16:00	Poster Session / Coffee Break
16:00 – 17:00	Summary Panel II

Thursday, 22 June 2006

09:00 – 09:45	Session VII: Looking to the Future
09:45 – 11:45	Conclusions
09:45 – 10:25	Conclusions: Session Chairs
10:25 – 10:55	Coffee Break
10:55 – 11:35	Conclusions: Session Chairs (con't.)
11:35 – 11:50	Conclusions: President
11:50 – 12:00	Closing of the Conference

* - The authors of poster presentations will be in attendance at their poster during the poster reception on 20 June, 17:30-19:00 and the poster session on 21 June, 14:45-16:00.

Monday, 19 June 2006

- 08:00 – 10:00 Registration
- 10:00 – 10:45 Opening Session
- 10:00 – 10:15 Welcome Addresses:
Y. Sokolov, IAEA
T. Tanaka, OECD/NEA
- 10:15 – 10:45 President's Opening
J. Bouchard, France
- 10:45 – 18:15 Session: Spent Fuel Management –
Evolving International Scene
- Chairperson: J. Bouchard, France
Rapporteur: W. Brach, USA
- Presentations:
- 10:45 – 11:15 E. Amaral, K. Brockman, H. Forsström, IAEA
International Perspective on Spent Fuel Management
- 11:15 – 11:45 T. Tanaka, OECD/NEA
International Perspective on Spent Fuel Management
- 11:45 – 12:30 B. Pellaud, Switzerland
Multi-National Approaches relevant to
Spent Fuel Management
- 12:30 – 14:00 Lunch Break
- 14:00 – 14:45 L. Brown, USA
US Global Nuclear Energy Partnership Initiative
- 14:45 – 15:30 A. Zrodnikov, Russia
Russian President's Initiative
- 15:30 – 16:00 Coffee Break
- 16:00 – 16:45 F. Fouquet, France
Backend of the Nuclear Cycle: the French Choices
- 16:45 – 17:30 S. K. Jain, India
Evolving Policies in Expanding Economies
- 17:30 – 18:00 M. Gregoric, IAEA
Nuclear Security issues

Monday, 18 October 2004

- 18:00 – 18:15 W. Brach, USA
Report on posters: 2, 8, 10, 25, 37, 43, 48, 57, 58

Tuesday, 20 June 2006

- 09:00 – 10:30 Session I: International Safety Regime
Chairperson: A. González, Argentina
- Presentations:
- 09:00 – 09:40 A. Lacoste, France
Implementation of the Joint Convention
- 09:40 – 10:10 A. Lacoste, France
Establishing Safety Standards and Providing for their
Application
- 10:10 – 10:30 S. Whittingham, United Kingdom
Transport Issues
- 10:30 – 11:00 Coffee Break
- 11:00 – 12:30 Session II: Criticality Safety
Chairperson: J. Whang, Korea, Rep. of
- Presentations:
- 11:00 – 11:45 C. Neuber, Germany
Current Issues in Criticality Safety, including Burn-up Credit
- 11:45 – 12:00 G. Hordósy, Hungary
Potential Benefits of Burnup Credit in Hungary
- 12:00 – 12:15 S. Rokita, South Africa
The South African Experience in Spent Fuel
Management at the Koeberg Nuclear Power Station –
Perspectives from the National Nuclear Regulator (NNR)
- 12:15 – 12:30 Y. Kovbasenko, Ukraine
New Approach to Nuclear Safety Assessment of
VVER-440 Reactor Pool
Chair report on poster: 59
- 12:30 – 14:00 Lunch Break
- 14:00 – 16:00 Session III: Storage Term Limits
Chairperson: W. Brach, USA
- 14:00 – 14:30 Presentations:
P. Lietava, Czech Republic
Licensing Aspects of Spent Fuel Storage as a
Function of Timescales
- Chair report on posters: 7, 36
- 14:30 – 16:00 Panel Discussion: Term Related Licensing Issues
A. Lavrinovich, Russia
V. Khotylev, Canada
K. Shirai, Japan
P. Standing, United Kingdom
I. Pechera, Ukraine
- 16:00 – 16:30 Coffee Break
- 16:30 – 17:30 Summary Panel I
Summaries and Discussions with Chairpersons from
Sessions I, II, and III
- 17:30 – 19:00 Poster Session & Reception

Wednesday, 21 June 2006

- 09:00 – 10:30 Session IV: Storage Facilities
Chairperson: T. Saegusa, Japan
Rapporteur: E. Kudryavtsev, Russia
- 09:00 – 09:15 Presentations:
H. Nassini, Argentina
Conceptual Design of a Modular Facility for the
Long-term Dry Storage of PHWR Atucha Spent Fuels
- 09:15 – 09:30 H. Roman, Canada
Safety Philosophy at Ontario Power Generation
Used Fuel Dry Storage Facilities
- 09:30 – 09:45 Y. Solignac, France
The Spent Fuel Storage Solution in Armenia
- 09:45 – 10:00 N. Pronkin, Russia
Regulation Aspects of Building Dry Spent Fuel
Storage in Russia
- 10:00 – 10:15 W. Brach, USA
Regulators Experiences in Licensing and
Inspection of Dry Cask Storage Facilities
- 10:15 – 10:30 E. Kudryavtsev, Russia Russia
Report on posters: 11, 13, 16, 19, 21, 30, 45, 47, 51, 52
- 10:30 – 11:00 Coffee Break
- 11:00 – 12:00 Session V: Storage Containers
Chairperson: N. Tikhonov, Russia
Rapporteur: R. Asano, Japan
- 11:00 – 11:15 Presentations:
P. Lietava, Czech Republic
Licensing of CASTOR© 440/84M Cask for Transport and
Storage of Spent Fuel
- 11:15 – 11:30 H. Issard, France
R&D for Transport and Storage of Spent Fuel,
Anticipation of the Needs Linked with Evolutionary
Designs
- 11:30 – 11:45 K. Shirai, Japan
Demonstration Test Programme Using Full-Scale Metal
Casks and Concrete Casks
- 11:45 – 12:00 R. Asano, Japan
Report on posters: 14, 17, 20, 24, 27, 35, 46
- 12:00 – 13:30 Lunch Break
- 13:30 – 17:00 Session VI: Fuel and Cladding Properties and Behaviour
Chairperson: W. Goll, Germany

- Presentations:
- 13:30 – 14:00 R. Einziger, USA
Damage in Spent Nuclear Fuel Defined by Properties & Requirements
- 14:00 – 14:15 A. Novikov, Ukraine
Management Criteria for Damaged Spent Nuclear Fuel in Long-Term Storage
- 14:15 – 14:30 W. Goll, Germany
Trends in Dry Spent Fuel Storage and Transportation in Germany and the United States
- 14:30 – 14:45 M. Aomi, Japan
High Burnup Fuel Cladding Tube Property Test for Evaluation of Spent Fuel Integrity in Interim Dry Storage
Chair report on posters: 31, 38
- 14:45 – 16:00 Poster Session & Coffee Break
- 16:00 – 17:00 Summary Panel II
Summaries and Discussions with Chairpersons from Sessions IV, V, and VI

Thursday, 22 June 2006

- 09:00 – 09:45 Session VII: Looking to the Future
Chairperson: A. Marvy, France
- 09:00 – 09:45 Keynote Speaker: T. Saegusa, Japan
Chair report on posters: 39, 50
- 09:45 – 12:00 Conclusions
- 09:45 – 10:25 Conclusions: Session Chairs
- 10:25 – 10:55 Coffee Break
- 10:55 – 11:35 Conclusions: Session Chairs (con't.)
- 11:35 – 11:50 Conclusions: President (J. Bouchard)
- 11:50 – 12:00 Closing of the Conference
T. Taniguchi, IAEA

LIST OF CONTRIBUTED PAPERS			
No of Poster IAEA-CN-144/	Name	Designating Member State/ Organization	Title of poster
2p	M. Ceyhan	IAEA	IAEA Nuclear Fuel Cycle Databases: Relevance to Spent Fuel Management
7p	R. Versaci	Argentina	Life Management of Spent Fuel Storage
8p	A. Zulquarnain	Bangladesh	Management of Spent Fuel from the Reactor of Bangladesh
10p	G. Demazy	Belgium	Spent Fuel Management in Belgium
11p CANCELLED	V. Stanchev	Bulgaria	Management of Spent Fuel at Kozloduy NPP
13p	J. Coufal	Czech Republic	Preparative Works for the Spent Fuel Storage Facility at the Temelin NPP in Czech Republic
14p	J. Zymak	Czech Republic	FEM Transient Temperature Computer Analyses of CASTOR 440/84
16p	V. Duchacek	Czech Republic	License Procedure for Spent Fuel Storage Facilities in the Czech Republic from the Competent Authority Point of View
17p	P. Kotonour	Czech Republic	SKODA VPVR/M Cask for Spent Nuclear Fuel from Research Reactors
19p	S.D. Bedrose	Egypt	The System of Storage and Capsulation of Spent Fuel in the Egyptian Research Reactor (ET-RR-1)
20p	K. Ahmed	Egypt	Failure of Closure Lid Welds for the Nuclear Materials Waste Packages
21p CANCELLED	T. Kukkola	Finland	Capacity Extension Plans for TVO-KPA-STORE in Finland
24p	L. Wattez	France	Spent Fuel Transport and Storage System for NOK Nuclear Power Plants
25p	U. Alter	Germany	Onsite Storage Facilities for Spent Fuel from Nuclear Power Plants in Germany
27p	G. Hordósy	Hungary	Safety Analysis of C30 Cask for Advanced Fuel
30p	L. Y. Pandi	Indonesia	Licensing Framework of Storage for Spent Fuel Installation in Indonesia
31p CANCELLED	A-N.S. Dhaheer	Iraq	Fast Evaluation of $^{235}\text{U}/^{238}\text{U}$ Ratio in Nuclear Spent Fuel Safeguarded by Thermal Ionization Mass Spectrometry by Using Refractory Metal Oxides
35p	S. Itooka	Japan	Drop Accident Analyses of Dry Metal Cask without Impact Limiter and Evaluation of Leak Rate
36p	J-W. Choi	Korea, Rep. of	A Preliminary Evaluation of the Influence of a High Burnup Fuel on the Long-Term Management of Spent Nuclear Fuel in Korea
37p	K-J. Lee	Korea, Rep. of	A Study on the Management of Spent Fuel Storage Capacity in South Korea
38p	A. Smaizys	Lithuania	Modelling of the RBMK-1500 Spent Nuclear Fuel Characteristics and Comparison with available Experimental Data
39p	J.R. Ramirez-Sanchez	Mexico	Feasibility of Plutonium Use in BWR Reactors as a Way to Dispose of the Spent Fuel
43p	A. Lavrinovich	Russia	Regulation of Spent Nuclear Fuel Management in Russia
45p	S. Urusov Russia	Russia	Waterproofing Shielding for Concrete Under Radiation Load
46p	N. Shchigolev	Russia	Topics on Gamma-Ray Control of the Compound Metal and Concrete Protection Quality

47p	V. Chrapčiak	Slovakia	Spent Fuel from NPP in Slovakia
48p	J. Vaclav	Slovakia	Management of Spent Fuel in the Slovak Republic
50p	N. Chapman	Switzerland	The Role of Spent Fuel Storage in Multinational Approaches to the Backend of the Fuel Cycle
51p	E. Kam	Turkey	Selection Criteria for Spent Fuel Storage Technologies
52p	I. Pechera	Ukraine	Licensing of Zaporizhya NPP Spent Fuel Storage Facility. Implementation and Results
57p	P. Standring	United Kingdom	The Management of Spent Advanced Gas-Cooled Reactor (AGR) Fuel
58p	I. Rybalchenko	Russia	VNIPIET Projects and Design Related to Management of Spent Fuel from Power Reactors
59p	I. Pechera	Ukraine	Application of Burnup Credit for the Storage of Spent Fuel at the Zaporizhya NPP

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Governments of Member States and those organizations whose activities are relevant to the meeting subject matter are invited to designate participants in IAEA scientific conferences and symposia. In addition, the IAEA itself may invite a limited number of scientists as invited speakers. Only participants designated or invited in this way are entitled to present papers and take part in the discussions.

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PUBLICATIONS

Proceedings

The proceedings of the conference containing welcoming addresses, all papers presented, session summaries, discussion records and findings will be published by the Agency as soon as possible after the conference.

Orders

No registration fee is charged to participants but they are encouraged to order for themselves or on behalf of their supporting organization at least one copy of the proceedings. These can be obtained at the special price of Euro 47, representing half of the estimated sales price provided that they are ordered and paid for during the meeting at the Conference Desk.

Other IAEA Publications

A CD listing the publications overleaf will be made available to participants at the conference.

Hard copies of any IAEA publications may also be ordered at the Conference Desk or directly from

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AGENCY PUBLICATIONS RELATED TO THE SUBJECT OF THE CONFERENCE		
IAEA-TECDOC-556	1990	Decontamination of Transport Casks and Spent Fuel Storage Facilities
IAEA-TECDOC-559	1990	Methods for Expanding Capacity of Spent Fuel Storage Facilities
IAEA-TECDOC-580	1990	Spent Fuel Management: Current Status and Prospects
IAEA-TRS-321	1991	Management of Severely Damaged Nuclear Fuel and Related Waste
IAEA-TECDOC-627	1991	Catalogue of methods, tools and techniques for recovery from fuel damage events
IAEA-TECDOC-673	1992	Extended Storage of Spent Fuel (BEFAST II)
IAEA-TRS-240	1992	Guidebook on Spent Fuel Storage (2nd Edition)
IAEA-TECDOC-679	1992	Consolidation of spent fuel rods from LWRs
IAEA-TECDOC-686	1993	Improvement in materials reliability in the back end of the nuclear fuel cycle.
IAEA-TECDOC-697	1993	Fission gas release and fuel rod chemistry related to extended burnup
IAEA-TECDOC-732	1994	Spent Fuel Management: Current Status and Prospects 1993
IAEA-TECDOC-759	1994	Away-From-Reactor Storage Concepts and Their Implementation
IAEA-TRS-361	1994	Cost Analysis Methodology of Spent Fuel Storage
IAEA-STI/PUB/976	1994	Safety Guide on Design of Spent Fuel Storage Facilities
IAEA-STI/PUB/977	1994	Safety Guide on Operation of Spent Fuel Storage Facilities
IAEA-STI/PUB/981	1994	Safety Assessment for Spent Fuel Storage Facilities
IAEA-TECDOC-786	1995	Experience with spent fuel storage at research and test reactors
IAEA-TRS-378	1995	Options, Experience and Trends in Spent Nuclear Fuel Management
IAEA-STI/PUB/949	1995	Safety and Engineering Aspects of Spent Fuel Storage (October 1994 Symposium Proceedings)
IAEA-TECDOC-842	1995	Remote technology related to the handling, storage and disposal of spent fuel
IAEA-TECDOC-839	1995	Strategies for the back-end of the nuclear fuel cycle
IAEA-TECDOC-894	1996	Spent Fuel Management: Current Status and Prospects 1995
IAEA-TECDOC-900	1996	Management and storage of spent nuclear fuel at research and test reactors
IAEA-TECDOC-935	1997	Issues and Decisions for NPP Management After Fuel Damage Events
IAEA-TECDOC-944	1997	Further analysis of extended storage of spent fuel (BEFAST III)
IAEA-STI/PUB/1026	1997	Nuclear Fuel Cycle and Reactor Strategies: Adjusting to New Realities (June 1997 Conference Proceedings)
IAEA-TECDOC-1006	1998	Spent fuel management: Current status and prospects 1997
IAEA-TECDOC-1012	1998	Durability of spent nuclear fuels and facility components in wet storage
IAEA-TECDOC-1013	1998	Implementation of burn up credit in spent fuel management systems
IAEA-TECDOC-1061	1999	Remote technology in spent fuel management
IAEA-TECDOC-1080	1999	Procedures and techniques for the management of experimental fuels from research and test reactors
IAEA-TECDOC-1081	1999	Spent fuel storage and transport cask decontamination and modification
IAEA-TECDOC-1089	1999	Storage of spent fuel from power reactors; proceedings of the 1998 symposium

IAEA-TECDOC-1096	1999	Review of the factors affecting the selection and implementation of waste management technologies
IAEA-TECDOC-1100	1999	Survey of wet and dry spent fuel storage
IAEA-TECDOC-1103	1999	Status and trends in spent fuel reprocessing
IAEA-TECDOC-1192	2000	Multi-purpose container technologies for spent fuel management
IAEA-TECDOC-1241	2001	Implementation of Burnup Credit in Spent Fuel Management System
IAEA-TECDOC-1299	2002	Technical and economic limits to fuel burnup extension
IAEA-TECDOC-1293	2002	Long Term Storage of Spent Nuclear Fuel - Survey and Recommendations
IAEA-TECDOC-1316	2002	Effects of radiation and environmental factors on the durability of materials in spent fuel storage and disposal.
IAEA-TECDOC-1323	2002	Institutional framework for long term management of HLW and/or spent fuel
IAEA-TECDOC-1343	2003	Spent Fuel Performance Assessment and Research (SPAR)
IAEA-CSP-20	2003	Proceedings of 2003 Conference on Storage of Spent Fuel from Power Reactors.
IAEA-TECDOC-1378	2003	Practices and developments in spent fuel burnup credit applications.
IAEA-LTS/RW	2003	The Long Term Storage of Radioactive Waste: Safety and Sustainability
IAEA-STI/PUB/1156	2003	Safety Guide on Design of Fuel Handling and Storage Systems for Nuclear Power Plants (NS-G-1.4)
IAEA-TECDOC-1385	2004	WVER-440 fuel rod experiments under simulated dry storage conditions.
IAEA-TECDOC-1413	2004	Developing multinational radioactive waste repositories: Infrastructure framework and scenarios of cooperation
IAEA-TS-R-1	2005	Regulations for the Safe Transport of Radioactive Material, 2005 Edition
IAEA-MNA	2005	Multilateral Approaches to the Nuclear Fuel Cycle – Expert Group Report to the Director General of the IAEA
IAEA-TECDOC-1433	2005	Remote technology applications in spent fuel management
IAEA-TECDOC-1467	2005	Status and trends in spent fuel reprocessing
IAEA-TECDOC-1482	2005	Technical, economic, and institutional aspects of regional spent fuel storage facilities

FORTHCOMING SCIENTIFIC MEETINGS SCHEDULED BY THE IAEA**in 2006****Int'l Symposium on International Safeguards: Addressing Verification Challenges**

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Int'l Conf. on Quality Assurance and New Techniques in Radiation Medicine

13-15 November, Vienna, Austria

Int'l Conf. on Lessons Learned from Decommissioning of Nuclear Facilities and the Safe Termination of Nuclear Activities

11-15 December, Athens, Greece

in 2007**Int'l Conf. on the Challenges faced by Technical and Scientific Support Organizations in Enhancing Nuclear Safety**

23-27 April, Aix-en-Provence, France

Int'l Conf. on Environmental Radioactivity: From Measurement and Assessment to Regulation

23-27 April, Vienna, Austria

Int'l Symposium on Advances in Isotope Hydrology and its Role in Sustainable Water Resources Management

21-25 May, Vienna, Austria

International Conference on Non-Electric Applications of Nuclear Power: Seawater Desalination, Hydrogen Production and other Industrial Applications

10-14 June, Oarai, Japan

Int'l Conf. on Knowledge Management in Nuclear Facilities

18-22 June, Vienna, Austria

Int'l Conf. on Illicit Trafficking

July

Second International Symposium on Nuclear Power Plant Life Management

15-18 October, Shanghai, China

Int'l Conf. on Research Reactors: Safe and Effective Utilization

5-9 November, Sydney, Australia

Int'l Symposium on Clinical PET and Molecular Medicine

12-15 November, Bangkok, Thailand

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