



Federal Ministry for the  
Environment, Nature Conservation  
and Nuclear Safety



Free State of  
**SAXONY**

**Umwelt  
Bundes  
Amt**  
For our Environment



OECD Workshop

# **Natech Risk Management**

## **Natural Hazards Triggering Technological Accidents**

### **23<sup>rd</sup> to 25<sup>th</sup> May 2012**

at Dresden, Germany, International Congress Center



Refinery and Shipping Facilities at SENDAI, Japan (March 12<sup>th</sup>, 2011)

### **Workshop Proceedings**

**Draft by 14.05.12**

- Programme
- Natech Risk Reduction in OECD Member Countries
- Discussion Document
- Abstracts
- List of participants

Dessau-Roßlau, 2012



Dresden, Germany

Umweltbundesamt (Federal Environment Agency)

Division III 2.3 Safety of Installations

Wörlitzer Platz 1

D-06844 Dessau-Roßlau

Time	Room	Doc	
<b>Tuesday, 22<sup>th</sup> May 2012</b>			
14:00	~ 16:00	<b>Bus Departure:</b> Main Entrance Congress Center	<b>Excursion to the site of Flourchemie Dohna</b> (Natech Risk Management at a site threatened by flashfloods (presentation II.2))
16:00	20:00	Foyer Hall Level	<b>Registration and workshop documents</b> GFI Umwelt, Bonn, Germany
19:00	20:00	Seminar 5 & 6	<b>Meeting of the chairs, speakers, rapporteurs, consultant</b> <b>Roland FENDLER</b> (Federal Environment Agency (UBA), Germany)
<b>Wednesday, 23<sup>th</sup> May 2012</b>			
08:00	09:00	Foyer Hall Level	<b>Registration, distribution of badges and workshop documents</b> GFI Umwelt, Bonn, Germany
<b>09:00</b>	<b>10:00</b>	<b>Hall 5</b>	<b>OPENING SESSION: Welcome &amp; Introduction</b>
			<b>Ruth OLDENBRUCH</b> (Federal Ministry for the Environment, Germany)
			<b>State Secretary Dr. Fritz Jaeckel</b> (Ministry for the Environment and Agriculture, Free State of Saxony)
			<b>Marie-Chantal HUET</b> (OECD)
09:15	09:30		<b>QS</b> <b>Natech Risk Reduction in OECD Member Countries: Results of a Questionnaire Survey</b> Elisabeth KRAUSMANN (EC Joint Research Center)
09:30	10:00		<b>DD.</b> <b>Presentation of the Discussion Document</b> Karl-Erich KÖPPKE (Consultant, Dr. Köppke GmbH, Germany)
<b>10:00</b>	<b>13:30</b>	<b>Hall 5</b>	<b>SESSION I: Natural Hazards: Mapping and Warning Systems</b> <b>Chair: C1 Georg BÖHME-KORN</b> (Saxon State Ministry of the Environment and Agriculture) <b>Rapporteur: Daniel BONOMI</b> (Federal Office for the Environment (FOEN), Switzerland)
10:00	10:40		<b>I a Presentation 1.1 - 1.2: Natural Hazard Mapping</b>
		<b>I.1</b>	<b>P1.1 Hazard and Risk Maps as a Main Element of Flood Risk Management: Lessons Learnt after 2002 Flood in Saxony</b> <b>SP1.1</b> Martin SOCHER (Saxon State Ministry of the Environment and Agriculture)
		<b>I.2</b>	<b>P1.2 Principles of Risk Management for Natural Hazards: The Case of Switzerland</b> <b>SP1.2</b> Hans KIENHOLZ (KiNaRis, Switzerland)
10:40	11:00		<b>Discussion</b>
<b>11:00</b>	<b>11:30</b>	<b>Foyer</b>	<b>Coffee Break</b>

Time		Room	Doc	
11:30	12:10			<b>I b Presentation 1.3 - 1.4: Natech Risk Mapping</b>
			<b>I.3</b>	<b>P1.3 Use of GIS and Conceptual Mapping in Identification and Monitoring of Natech Risks</b> <b>SP1.3</b> Aleksandar JOVANOVIC (European Virtual Institute for Integrated Risk Management)
			<b>I.4</b>	<b>P1.4 RAPID-N: A Tool for Mapping Natech Risk Due to Earthquakes</b> <b>SP1.4</b> Serkan GIRGIN (Turkey)
12:10	12:30			<b>Discussion</b>
12:30	13:00			<b>I c Presentation 1.5: Warning Systems</b>
			<b>I.5</b>	<b>P1.5 SAFE. An Example of an Extreme Weather Hazard Warning System for Communities and Industries</b> <b>SP1.5</b> Ulrich MEISSEN (Fraunhofer Institute for Open Communication Systems, Germany)
13:00	13:30			<b>Discussion</b>
<b>13:30</b>	<b>14:30</b>	<b>Hall Level Restaurant</b>		<b>Lunch</b>
<b>14:30</b>	<b>19:00</b>	<b>Hall 5</b>		<b>SESSION II: Natech risk management (including emergency planning) - Best practices of industry and authorities</b> <b>Chair: C2 Christian JOCHUM</b> (European Process Safety Center) <b>Rapporteur: Elisabeth KRAUSMANN / Agnes VALLEE / Roland FENDLER</b> (EC, Joint Research Center/ INERIS, France/ Federal Environment Agency, Germany)
14:30	16:10			<b>II a Presentation 2.1 - 2.5.: Flood Risks</b>
			<b>II.1</b>	<b>P2.1 NATECH accidents in Czech Republic: Lessons learned and Related Research</b> <b>SP2.1</b> Pavel DANIHELKA (Technical University of Ostrava, Czech Republic)
			<b>II.2</b>	<b>P2.2 The Flood 2002 - Experiences of a Hydrofluoric Acid Producing Plant</b> <b>SP2.2</b> Christian WEISS (Fluorchemie Dohna GmbH, Germany)
			<b>II.3</b>	<b>P2.3 French Regulation for Integration of Natural Hazards in Industrial Safety Assessment - Choice of Reference Scenarios to Characterize these Natural Phenomena</b> <b>SP2.3</b> Cédric BOURILLET (French Ministry of Ecology, Sustainable Development, Transports and Housing)
			<b>II.4</b>	<b>P2.4 Methodology for Integration of Flood Hazard in Industrial Safety Assessment</b> <b>SP2.4</b> Agnes VALLEE (Institute on Industrial Risk - INERIS, France)
			<b>II.5</b>	<b>P2.5 The German Technical Rule for Process Safety: Prevention and Preparedness due to Hazards by Precipitation and Floods.</b> <b>SP2.5</b> Karl-Erich KOEPPKE (Dr. Köppke GmbH, Germany)
16:10	16:40			<b>Discussion</b>
<b>16:40</b>	<b>17:10</b>	<b>Foyer</b>		<b>Coffee Break</b>

Time		Room	Doc	
17:10	18:50			<b>II b Presentation 2.6 - 2.10: Earthquake Risks</b>
			<b>II.6</b>	<b>P2.6 Natech Accidents due to the 11 March 2011 Earthquake and Tsunami and Follow up</b> <b>SP2.6</b> Yuji WADA (National Institute of Advanced Industrial Science and Technology (AIST), Japan)
			<b>II.7</b>	<b>P2.7 Lessons from the Sendai Industrial Complex and Chiba's Cosmo Oil Refinery Fires Following the Great Eastern Japan Earthquake and Tsunami.</b> <b>SP2.7</b> Ana Maria CRUZ NARANJO (Consultant)
			<b>II.8</b>	<b>P2.8 Natech accidents happened during 12 May 1998 Wenchuan earthquake and risk prevention measures in China</b> <b>SP2.8</b> Qi Yanhong (Environmental Emergency & Accident Investigation Center (EEAIC), Peoples Republic of China)
			<b>II.9</b>	<b>P2.9 The Natech Events During the 17 August 1999 Kocaeli Earthquake: Aftermath and Lessons Learned</b> <b>SP2.8</b> Serkan GIRGIN (Turkey)
			<b>II.10</b>	<b>P2.10 New French Seismic Regulation for Hazardous Industrial Facilities</b> <b>SP2.10</b> Adrien WILLOT (Institute on Industrial Risk - INERIS, France)
18:50	19:30			<b>Discussion</b>
19:30		Conference Office 3.40		<b>Meeting of Consultant and Rapporteurs</b>
<b>20:00</b>	<b>22:00</b>	<b>Hotel Rest.</b>		<b>Dinner - Reception at the Conference Hotel</b>

Time	Room	Doc	
<b>Thursday, 24<sup>th</sup> May 2012</b>			
08:30	11:00	Hall 5	<b>SESSION II: Natech Risk Management (Including Emergency Planning) - Best Practices of Industry and Authorities</b> - continued -
08:30	08:50		<b>II c Presentation 2.10: other Hazards</b>
		II.10	<b>P2.11 Seveso Directive Plants Threatened by Bush Fires: Analysis on Several Reported Cases and Guidelines Proposal</b> <b>SP2.10.</b> Jean-Paul MONET (French Fire and Emergency Management Service)
08:50	09:00		<b>Discussion</b>
09:00	10:20		<b>II d Presentation 2.13 - 2.16: Methodology</b>
		II.11	<b>P2.12 Proposal of Methodology for Combined Natural and Technological Risks Identification and Assessment.</b> <b>SP2.11</b> Pavel DOBEŠ (Technical University of Ostrava, Czech Republic)
		II.12	<b>P2.13 A Bow-tie for Natech: Approaching the Quantitative Assessment of Risk Associated to Natech Scenarios.</b> <b>SP2.12</b> Valerio COZZANI (University of Bologna, Italy)
		II.13	<b>P2.14 The Challenge of Making 'Typical and Atypical' Major Hazard Szenarios in the Chemical Industry</b> <b>SP2.13</b> Richard GOWLAND (European Process Safety Center)
		II.14	<b>P2.15 Lessons Learnt from Natural Disasters</b> <b>SP2.14</b> Charles COWLEY (Center for Chemical Process Safety, USA)
10:20	11:00		<b>Discussion</b>
11:00	11:30	Foyer	<b>Coffee Break</b>
11:30	13:30	Hall 5	<b>SESSION III: Consideration of Climate Change in Natech Risk Management</b> <b>Chair: C3 Manfred STOCK</b> (Potsdam Institute for Climate Impact Research (PIK), Germany) <b>Rapporteur: Roland FENDLER / John BREWINGTON</b> (Federal Environment Agency, Germany / Environment Agency, UK)
11:30	12:50		<b>Presentation 3.1 - 3.4</b>
		III.1	<b>P3.1 New Results on Extreme Events</b> <b>SP3.1</b> Wilfried KUECHLER (Saxon Agency for Environment, Agriculture and Geology)
		III.2	<b>P3.2 Adaptation Measures of the Oil and Gas Industry</b> <b>SP3.2</b> Ana Maria CRUZ NARANJO (Consultant)
		III.3	<b>P3.3 Engagement of BASF in Adaptation to Climate Change</b> <b>SP3.3</b> Monika BAER (BASF AG)
		III.4	<b>P3.4 National Grid's Climate Change Adaptation Journey</b> <b>SP3.4</b> Gary THORNTON (National Grid, UK)
12:50	13:30		<b>Discussion</b>
13:30	14:30	Hall Level Restaurant	<b>Lunch</b>

Time		Room	Doc	
14:30	15:30	Hall 5		<b>SESSION IV: Application of the Polluter-Pays-Principle (PPP) to Natechs</b> <b>Chair: C4 Peter KEARNS (OECD)</b> <b>Rapporteur: Marie-Chantal HUET (OECD)</b>
14:30	15:10			<b>Presentation 4.1 - 4.2</b>
			IV.1	<b>P4.1 Polluter-Pays-Principle, Tort Law, Natural Catastrophes and Liability Insurance</b> <b>SP4.1</b> Christian LAHNSTEIN (Munich Re, Germany)
			IV.2	<b>P4.2 Role of Insurance When the Polluter Pays</b> <b>SP4.2</b> Judith GOLOVA (MARSH Insurers, UK)
15:10	15:30			<b>Discussion</b>
15:30	16:00	Foyer		<b>Coffee Break</b>
16:00	19:00	Hall 5		<b>SESSION V: International Co-operation on Natech Risk Management</b> <b>Chair: C5 Mark HAILWOOD (State Institute for Environment, Monitoring and Nature Conservation Baden-Württemberg)</b> <b>Rapporteur: René NIJENHUIS</b> (UNEP/OCHA Environmental Emergencies Section)
16:00	17:00			<b>V a Presentation 5.1 - 5.4 International Projects</b>
			V.1	<b>P5.1 Needs Assessment Study on Chemical Accidents Prevention and Preparedness in Region 8, Phillipines</b> <b>SP5.11</b> Jean C. BORROMEO (Philippine Department of Environment and Natural Resources)
			V.2	<b>P5.2 Apell Process in Sri Lanka: Preparation of Integrated Emergency Preparedness Plans for Two Selected Industrial Zones</b> <b>SP5.12</b> Jayavilal FERNANDO (Central Environmental Authority, Sri Lanka)
			V.3	<b>P 5.3 Projects of the UNECE Convention of the Transboundary Effects of Industrial Accidents to Support Prevention, Preparedness and Response to Natechs</b> <b>SP5.3</b> Chris DIJKENS / Viginia Fuse (UNECE Chair of the Conference of the Parties / UNECE)
17:00	17:30			<b>Discussion</b>
17:30	18:10			<b>V b Presentation 5.4 - 5.5 International Assistance</b>
			V.4	<b>P5.4 International Chemical Environment</b> <b>SP5.4</b> Jos VERLINDEN (cefic)
			V.5	<b>P5.5 The Hazard Identification Tool (HIT) - a Tool to Identify and Address Secondary Environmental Risks</b> <b>SP5.5</b> Dennis BRUHN (OCHA Environmental emergencies section)
18:10	18:30			<b>Discussion</b>
19:00		Conference Office 3.40		<b>Meeting of Consultant and Rapporteurs</b>
19:00	20:30			<b>Reception by the Government of Saxony</b> <b>(at the Sächsische Staatskanzlei Archivstr.1 see: 8)</b>



Time	Room	Doc	
<b>Friday, 25<sup>th</sup> May 2012</b>			
<b>09:00</b>	<b>13:30</b>	<b>Hall 5</b>	<b>Conclusions and Recommendations</b> <b>Chair: Roland FENDLER</b> (Federal Environment Agency, Germany) <b>Rapporteurs</b>
09:00	09:30		<b>S1 Presentation of C&amp;R from Session I</b> <b>Discussion</b>
09:30	10:30		<b>S2 Presentation of C&amp;R from Session II</b> <b>Discussion</b>
<b>10:30</b>	<b>11:00</b>	<b>Foyer</b>	<b>Coffee Break</b>
11:00	11:30		<b>S3 Presentation of C&amp;R from Session III</b> <b>Discussion</b>
11:30	12:15		<b>S4 Presentation of C&amp;R from Session IV</b> <b>Discussion</b>
12:15	13:00		<b>S5 Presentation of C&amp;R from Session V</b> <b>Discussion</b>
<b>13:00</b>		<b>F</b>	<b>Farewell</b>
13:00			<b>Transfer to Dresden Airport</b> (on request) GFI Umwelt, Bonn, Germany

- A. Sächsische Staatskanzlei  
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01097 Dresden

