Second Final Agenda
HySafe Research Priorities Workshop
Location: Energetics Offices Suite 100, 901 D Street SW, Washington DC
November 10-11, 2014

- **8:30: EST**: **Welcome and Opening Remarks (Andrei Tchouvelev MC) – 5 min**
- **8:35: FCTO Welcome (Sunita Satyapal) – 10 min**
- **8:45: Software Tools (1) (Chair – Andrei Tchouvelev) – 95 min**
  - Introduction (Andrei Tchouvelev) – 15 min
  - Integration Platforms – 80 min
    - HyRam (Katrina Groth) – 20 min
    - SAGE (Thomas Jordan) – 20 min
    - Cyber-Laboratory and its hydrogen safety engineering tools (www.h2fc.eu) – (James Keenan, Vladimir Molkov) – 20 min
    - Canadian Platform (Benjamin Angers) – 20 min
- **10:20: Break – 20 min**
- **10:40: Software Tools (2) (Chair – Jay Keller) – 100 min**
  - QRA Tools – 40 min
    - Gaps, Methods, Models Tools (Katrina Groth) – 20 min
    - Gaps, Methods, Models Tools (Julie Flynn / Katrina Groth) – 20 min
  - Reduced Model tools – 60 min
    - State of the Art for Gaseous Release Models (Ethan Hecht) – 20 min
    - Correlations for venting of localized and full volume deflagrations in low strength equipment and buildings (Boris Chernyavskiy, Dmirtiy Makarov, Vladimir Molkov) – 20 min
  - Deterministic separation distance from stationary & on-board hydrogen storage tank: calculation of blast wave decay (Sergii Kashkarov, Vladimir Molkov) – 20 min
- **12:20: Priorities and Gaps Discussion (Thomas Jordan) – 20 min**
- **12:40: California Station Rollout (Tyson Eckerle (via Webex) / Jennifer Hamilton) – 20 min**
- **13:00: Lunch - 60 min**
- **14:00: Indoor (Chair - Stuart Hawksworth) – 80 min**
  - Passive ventilation of enclosures with one vent, the uniformity criterion, and validation of pressure peaking phenomenon for unignited releases (Volodymyr Shentsov, Vladimir Molkov) – 20 min
  - Regimes of indoor hydrogen jet fire and pressure peaking phemonenon for jet fires (Volodymyr Shentsov, Vladimir Molkov) – 20 min
  - Hyindoor, passive ventilation (Stuart Hawksworth) – 20 min
  - Effect of wind on passive ventilation (Boris Chernyavskiy) – 20 min
- **15:20: Priorities and Gaps Discussion (Jennifer Wen) -- 20 min**
- **15:40: Break – 20 min**
- **16:00: Unintended Release – 60 min**
  - **Gas phase – (Chair – Ethan Hecht) – 60 min**
    - Delayed ignition (Dmitriy Makarov, Volodymyr Shentsov, Vladimir Molkov) – 20 min
    - Simulation of hydrogen release from TPRD under the vehicle (Zhiyong Li, Dmitriy Makarov) – 20 min
    - Combustion of inhomogeneous mixtures (Thomas Jordan) – 20 min
- **EOD @ 17:00 – HySafe Hosted Dinner @ 18:30 , McCormick & Schmick's 901 F St NW**

- **8:30 -- Unintended Release – 40 min**
  - **Liquid phase (Chair – Vladimir Molkov) – 40 min**
    - Knowledge gaps in liquid hydrogen safety (Jennifer Wen) – 20 min
    - Vision for Validating the LH_2 Plume Model @ T < 80K (Ethan Hecht) – 20 min
- **9:10: Priorities and Gaps Discussion (**TBD**) – 20 min**
- **9:30: Storage (Chair -- John Khalil) – 40 min**
  - Gaps in Safety of Storage in Solid-state-systems (Pietro Moretto) – 20 min
  - Effect of heat release rate and resin glassing temperature on fire resistance rating in bonfire test (Sergii Kashkarov, Dmitriy Makarov, Vladimir Molkov) – 20 min
- **10:10: Break – 20 min**
- **10:30: Hydrogen Safety Learnings and Training (Chair -- Steve Weiner) – 40 min**
  - Learnings and Direction – Hydrogen Safety Panel and First Responder Training (Nick Barilo) – 20 min
  - Hydrogen Emergency Response Training Program for First Responders – HyResponse (Franck Verbecke) – 20 min
- **11:10: Applications (Chair – Thomas Jordan) – 60 min**
  - HRS – fast filling (Pietro Moretto) – 20 min
  - Turbine (Stuart Hawksworth) – 20 min
  - ~~PEM Electrolizer (Withdrawn) – 20 min~~
- **11:50: Priorities and Gaps Discussion (Chair - Thomas Jordan) – 20 min**
- **12:10: Lunch – 60 min**
- **13:10: Country Safety Programs (Chair –Pietro Moretto) – 120 min**
  - ISO (Andrei Tchouvelev) – 15 min
  - US (Will James) – 15 min
  - Norway (Trygve Skjold) – 15 min
  - EU (Pietro Moretto) – 15 min
  - FCH-2-JU (Pietro Moretto) – 15 min
  - Japan (Aki Maruta-san) – 15 min
  - Germany (TBD) – 15 min
  - UK (Stuart Hawksworth) – 15 min
- **15:10: Break - 20 min**
- **15:30: Materials Compatibility / Sensors (Chair - Brian Somerday) – 80 min**
  - Materials (Brian Somerday, Bill Collins) – 40 min
  - Components (Rob Burgess) – 20 min
  - Sensors (Bill Buttner) – 20 min
- **16:50: Working Group Participation Gaps and Priorities Summary Discussion** (TBD) **–** 40 min
- **17:30: EOD -- No Host Happy Hour @ 18:30 – Location (a local watering hole)**

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