inFIRE
Karlstad, Monday June 19, 2006 Notes by Gwen Schagrin

Conferees gathered in the Karlstad Elite Hotel beginning at 11:30 for registration and informal greeting.

After a delicious lunch, the official meeting began. Susan Walker, inFIRE chair, and Mats Bornstrom, co-host from the Swedish Rescue Services Agency, introduced and welcomed the participants. Attendees introduced themselves. Tore Eriksson, Head of Section, of the Swedish Rescue Services Agency also welcomed us and described some of the services the agency provides, such as lessons learned reports, which are made available to municipal fire brigades and others. Tore is also chair of the CTIF (International Technical Committee for the Prevention and Extinction of Fire, the international association of fire and rescue services, 40 member countries) HazMat Commission.

The Swedish Rescue Services Agency (SRSA) was formed in 1986 by the national civil defense and national fire authority after new legislation was in place. The fire service was no longer part of the military but part of civil defense and was an alternative to military service. As a rescue agency, SRSA's goals are to reduce and help prevent accidents, including nuclear, chemical, and oil pollution. Training and certification of firefighters is another activity overseen by the agency, which also provides risk management and decision support tools, specifically RIB (the library is the center of work for this) to cities and towns. Four colleges (in the cities of Sandö, Skövde, Rosersberg, and Revinge) train firefighters. The SRSA also helps coordinate rescue efforts and aid with national, international and United Nations agencies for disasters in other parts of the world. The agency has 780 employees.

Tore then spoke about the Madrid train bombings of March 11, 2004, (Lessons Learned from the Madrid Accident 2004) which occurred 911 days after 9/11. Tore and a videographer from Karlstad were part of a team that was sent from SRSA to assist and learn from the Madrid situation. Tore described the bombing scenario and timeline in detail. Because four trains were bombed in a close time frame, it took rescuers a while to figure out what had occurred. While the authorities in Madrid were prepared for incidents, due to the separatist movement, problems ensued in the 2004 incident. Like 9/11, there were problems in the rescue due to collapse of communication systems and coordination snags. An integrated incident command system would have helped the response and would have treated it as one incident instead of four. All rescue work during the first hour of the response was improvised, even though there was a disaster plan. Citizens, however, were quick to respond to needs and there were so many blood donors responding within 90 minutes of the bombings that blood donor sites were set up in public buses. While services were quite good for the families of the victims, there was no counseling or stress management system available for the rescuers.

SRSA subsequently conducted a seminar in Sweden for cooperating agencies to address a similar Swedish scenario; several Spanish rescuers were part of the seminar. SRSA

produced a report on the Madrid bombing response which was distributed to the conference attendees the last day of the conference.

Mattias Strömgren from SRSA was the next presenter, giving a talk on learning from accidents (How can we handle learning from accidents?).He spoke about the different types of accidents (daily, yearly, catastrophic events) and the differing scales and perspectives (whether they impact individuals, groups, or a whole society). Because the world is changing so quickly, new types of accidents, especially those involving more complexity and interaction, are occurring. Mattias discussed some of the theories of Danish professor Jens Rasmussen on strategies of safety control (empiric, evolutic, and analytic) and Rasmussen's hierarchic model of how societies learn. Mattias's contention is that if an organization makes itself into a learning culture and uses accidents as opportunities for learning, then it is easier to prevent similar accidents in the future.

Mattias also discussed the bow tie model for learning from accidents and the Lundberg and Johansson model. Knowledge is created from studying accidents by participating in accident investigations, surveying injuries, and studying accident and injury records. Knowledge is stored and disseminated through tools such as case studies and accident reports, databases, statistics, websites, training courses, and seminars. If lessons are learned, they can help change attitudes, behavior, and improve the physical environment to prevent future accidents.

Sweden enacted legislation within the past several years requiring municipalities to make accident investigations after every fire and rescue. This system is not yet fully implemented, but should be within five years. However, the Swedish Rescue Services Agency's relatively new center, the NCO, the Swedish National Center for Learning from Incidents and Accidents, is serving as the coordinating agency for cross-sector cooperation in this area. Each Swedish authority has its own database for accident and injury statistics. The NCO will collect data from each to get an idea of the big picture.

The day's final presentation was by Isabel Pradaud, librarian at the INERIS Information Knowledge Center, outside of Paris, France (A proposal for an inFIRE networking activity aiming at consolidating fire and explosion accidents databases). INERIS is a public research body under the supervision of the French Ministry of the Environment and Sustainable Development, and as such studies, assesses, and looks at prevention in such areas as chemicals and pollutants, and hazardous materials transport.

Isabel introduced the INERIS proposal by first detailing the INERIS library's scope of information sources, which includes 30,000 books and reports, 300 periodical subscriptions, over 300 electronic journals, standards, and access to numerous databases. Electronic data management is enabled within INERIS by the GEIDE tool. INERIS has had significant research in three areas which raise significant fire safety issues: tunnels, ammonium nitrate-based fertilizers, and biofuels for automobiles.

INERIS was part of the 12 nation, 33 member European network FIT (Fire in Tunnels) which had an ongoing project 2001-2005 to distribute information on tunnel fire safety

(see http://www.etnfit.net), making major contributions to database #5 (there are 7) of this project. INERIS was involved with assessment reports on accidents in tunnels. As an example, Isabel briefly discussed the Daegu metro fire in Korea (2003), which resulted from an incendiary device on the first car of a train stopped in the station. Seats were engulfed in fire and then a second train arrived at the station. 192 were killed and 147 were injured. Areas that were found to be inadequate included fireproofing of train interior materials, flame detection systems, fire shutters, emergency response and the fact that the alert did not go off immediately. The FIT project contributed to the history of tunnel fire chapter in the 2005 book, The Handbook of Tunnel Fire Safety.

In discussing the area of ammonium nitrate-based fertilizers, Isabel also discussed several large incidents such as Nantes, France (1987 –large evacuation), Toulouse, France (2001 factory explosion killing 30) and others in France, Spain, Romania, and Sweden.

There are safety issues for both biodiesel (European Union largest producer) and bioethanol (US and Brazil), such as the 2006 evacuation and destruction of Bakersfield, California producing plant, and others in Australia.

Isabel's proposal on collaboration with inFIRE is to implement databases in the 3 areas (tunnel fires, ammonium nitrate-based fertilizer incidents, and biofuel incidents) that would be accessible to inFIRE members. The idea is that members would also input information on local incidents in these 3 accident areas, and that INERIS hopes that data would come from organizations such as NFPA, OSHA, CSB (the Chemical Safety Board), and could be transferred from NFIRS. One question was how some inFIRE members would be able to access the MARS database (This is a database to which all European factories using chemicals must report accidents.).

Sue Marsh replied that NFPA is thinking about making more of its historical incident reports available on the Internet. The question was raised about which organizations in the US have the type of information that would be useful for the proposed collaborative databases and which inFIRE members have access to such information to know what is already publicly available in these three areas. The membership agreed that the INERIS idea was worth further discussion and investigation.

After a brief break, the conference attendees reconvened in the hotel dining room for a wonderful supper buffet, attended also by many members of the host Swedish Rescue Services Agency.