

13 - 14 of September 2011

METRO SEMINAR

& observation of full-scale fire test

ENGgården, Brunskog, Sweden



METRO

- A joint safety
in infrastructure
project

PHOTO: METRO project

PHOTO: METRO project

PHOTO: Melker Larsson/SL

PHOTO: METRO project

METRO SEMINAR AND FULL-SCALE TESTS

METRO is a three year Swedish research project about infrastructure protection. The focus of the project is on the protection of underground rail mass transport systems, such as tunnels and subway stations. Both fire and explosion hazards are studied, and aspects such as evacuation, rescue operations and smoke control are important parts of the project.

As part of the project a series of small-scale, medium-scale and full-scale experiments will be performed. The full-scale test will be performed 13 September in the Brunsberg tunnel near Arvika, Sweden. The goal with these tests is to develop design fires for underground rail mass transport systems. In the full-scale fire experiments, commuter trains provided by Stockholm Public Transport (SL) will be used. The experiments will result in heat release rate curves for varying conditions (materials, ventilation, etc). These results, together with the developed mathematical models for gas temperatures, radiation, smoke spread, toxicity and extraordinary strain on construction, will be valuable tools when designing tunnels and planning rescue operations.



A total of nine partners take part in the project. METRO is funded by five organizations, namely Stockholm Public Transport (SL), Swedish Civil Contingencies Agency (MSB), the Swedish Transport Administration, the Swedish Fortifications Agency, and the Swedish Fire Research Board.

In conjunction with the full-scale tests, a seminar will be organized concerning the project and results to date. You are invited to participate in this METRO Seminar and visit the test site of the full-scale fire test 13 – 14 September 2011 at ENGgården, Brunskog, Sweden.

 www.metroproject.se



PHOTO: br0/sxc.hu



PHOTO: Thourstef/sxc.hu



PHOTO: METRO project



PHOTO: br0/sxc.hu

SEMINAR PROGRAM

DAY 1 – 13 SEPTEMBER 2011

- 08.00 Bus from hotels
-
- 08.30 Coffee and registration at ENGgården conference centre close to the test site
-
- 09.00 Welcome and opening of seminar – *Professor Haukur Ingason*
-
- 09.10 Information about the METRO project – *Lic of Eng. Mia Kumm and Dr Daniel Nilsson*
-
- 09.45 Safety instructions
-
- 10.00 Buses to test site and visit in tunnel and train
Robust clothing is recommended for the tunnel tour. Hi Vis (high visibility) vests can be borrowed on site.
-
- 11.45 Buses back to conference centre
-
- 12.00 Lunch
-
- 13.00 Tests on large screen at conference centre and short presentations of results from the METRO project and other Swedish fire in tunnel-research projects.
Some of the speakers are Anders Bergqvist (CEO Swedish Fire Protection Association), Gero Meyer (Mälardalen University) and Karl Fridolf (Lund University).
-
- 16.00 Closing remarks
-
- 16.30 Buses to hotels
-
- 19.00 Dinner
-

DAY 2 – 14 SEPTEMBER 2011

- 09.00 Buses from hotels
-
- 09.30 Opening of day 2
-
- 09.40 Critical underground infrastructure systems from a fire and rescue perspective - *Fire Chief Jan Wisén, Greater Stockholm Fire Brigade*
-
- 10.10 Terrorist threats to transport infrastructure - *Professor Magnus Ranstorp, Swedish National Defence College*
-
- 10.40 Coffee break
-
- 11.10 Fire safety in the London Underground – *Mr Martin Brown, Director of Safety, Health and Environment, Transport for London*
-
- 11.40 Fire safety design for tunnels and stations – *Fire Safety Engineer Bo Wahlström, Faveo Management*
-
- 12.10 Lunch
-
- 13.10 Evacuation from metro trains – *Dr Daniel Nilsson, Lund University*
-
- 13.40 Carried fire load in mass-transport systems – *Lic of Eng. Mia Kumm, Mälardalen University*
-
- 14.10 Coffee break
-
- 14.40 Summary of results from fire tests – *Dr Anders Lönnermark, SP*
-
- 15.10 Blast loading and response from explosions in metro systems – *Mr. Tobias Carlberg, FOI*
-
- 15.40 Panel debate: Tunnel Safety. Moderator Dr Daniel Nilsson.
-
- 16.15 Closing remarks – *Professor Haukur Ingason*
-

HOW TO REGISTER

Registrations should be made online by filling in the registration form at www.sp.se/en/training/Sidor/metro_seminar_2011.aspx. The registration is valid when the payment has reached SP Technical Research Institute of Sweden. Early bird fee is available until 1 August 2011.

! **Registration before 1 August 2011: €300**

! **Registration after 1 August 2011: €400**

! **Banquet dinner 13 September 2011: €50**

After your registration has been processed, you will receive a confirmation e-mail with payment details.

Cancellation of registration will be accepted until 15 August 2011, and the total amount will be refunded less a cancellation fee of €35. We regret that no refund can be made for cancellations received after 15 August 2011. If you cannot attend, it is possible to transfer the registration to another member in your organization, which we in that case need to be informed of prior to the event.

WHERE TO STAY

The METRO project has reserved rooms at the Scandic Hotel in Arvika (750 SEK/night including breakfast, 600 SEK/night in annex building including breakfast) or at the Comfort Hotel Bristol in Arvika (860 SEK/night including breakfast). All hotel prices including VAT. All reservations are made individually directly to the hotels. Please refer to "METRO seminar" when you contact the hotel.

H **SCANDIC ARVIKA +46 (0)570-197 50**

www.scandichotels.se/Hotels/Countries/Sverige/Arvika-/Hotels/Arvika/

H **COMFORT HOTEL BRISTOL +46 (0)570-132 80**

www.bristolhotel.com

HOW TO GET THERE

The seminar venue is ENGGården which is located in Brunskog (between the two cities of Arvika and Karlstad) and the recommended hotels are located in Arvika. Buses will take you from the hotels in Arvika to the venue in Brunskog.

To get to Arvika by car from Oslo (155 km) or Karlstad (73 km), take road 61. Flights operate on a daily basis to/from Oslo and Karlstad and there are trains between Oslo and Karlstad that stop in Arvika.

i **www.enggarden.se**

MORE INFORMATION

For any queries, changes or cancellations please contact Kaisa Kaukoranta at kaisa.kaukoranta@sp.se.



FÖRKÄRLIGHETS- OCH
FÖRKÄRLIGHETS- OCH

