

**Training session on 'Conventional Tunnelling'
12 & 13 September 2014, Thimphu - Bhutan**

Objective: Information for Tunnellers on the main principles of Conventional Tunnelling in Rock, including necessary site investigation, design, construction, monitoring and contractual aspects.

Programme

Friday 12 September 2014

Session 1: Introduction and Site investigation

- 09.00 – 09.15: Welcome and Opening: ITA and concerned country representatives
- 09.15 – 09.45: Introduction to General Tunnelling: S. Eskesen
- 09.45 – 10.30: Principles of Conventional Tunnelling: H. Wagner
- 10.30 – 11.00: Coffee break
- 11.00 – 11.45: Layout Parameters: R. Galler
- 11.45 – 12.30: Site investigation: R. Galler
- 12.30 – 14.00: Lunch

Session 2: Design aspects

- 14.00 – 14.45: Design Parameters: H. Wagner
- 14.45 – 15.30: Design Stages: H. Wagner
- 15.30 – 16.00: Coffee Break
- 16.00 – 16.45: Geotechnical and Structural Design steps: R. Galler
- 16.45 – 17.00: Questions and Answers

Saturday 13 September 2014

Session 3: Construction and Monitoring

- 09.00 – 09.45: Tunnel Site Organization: A. Poloni - Eiffage
- 09.45 – 10.30: Monitoring Schemes: R. Galler
- 10.30 – 11.00: Coffee break
- 11:00 – 11:45: Practical examples 1: Use of drilling equipment: N. Garg - Sandvik
- 11:45 – 12:30: Practical examples 2: Use of shortcreting equipment: M. Mukhopadhyay - Normet
- 12:30 – 14:00: Lunch

Session 4: Management and Examples

- 14.00 – 14.45: Practical examples 3: Methods for auxiliary works: H. Wagner
- 14.45 – 15.30: Contractual Aspects: R. Galler
- 15.30 – 16.00: Coffee Break
- 16.00 – 16.45: Risk and Safety Management: S. Eskesen
- 16.45 – 17.00: Questions and Closing Remarks