IMPLEMENTATION EU-DIRECTIVE IN THE NETHERLANDS

Ir. E.W. Worm
Safety Officer State owned Road Tunnels. The Netherlands
Considerations:

• Meeting Dutch rules implies meeting European rules.
• New rules as few as possible
• Not back in safety level
Dutch regulations

- EU directive 2004/54/EG
- Dutch regulations
  - Housing act
  - Building code
  - Road Tunnel Safety Regulations Act
  - Road Tunnel Safety Regulations Code
  - Road Tunnel Safety Regulations Regulation
Extra compared to the Directive

- Not only the TEN tunnels
- Mandatory for tunnels > 250 m
- Irrespective of the owner/manager
- Only unidirectional traffic
- Mandatory consult independent committee of (tunnel) experts
Extra compared to the Directive

• Control centre > 500 m (EU: > 3000m)
• Mech. ventilation > 500 m (EU: > 1000 m)
• Emergency exit < 250 m (EU: < 500 m)
• Fire extinguishing connections < 100 m (EU: < 250 m)
Roles:

• Tunnel manager: road manager
• The administrative authority: the city council (mayor and aldermen)
• The inspection entity: the municipal Building and Housing Inspection Department
Roles:

• Emergency services: *nothing special*

• Expert Committee:
  • designated knowledge centre for tunnel safety
  • advice when defining the route
  • Advice when submitting the request for the construction
Tunnel manager

- Council
- Private parties
- Provinces
- State
Tunnel manager

- Council
- Private parties
- Provinces
- State:

  state owned tunnels;

  (Ministry of Transport and public works)
Minister V&W

- Mobility
- Air & Sea
- Water
- Rijkswaterstaat
- Inspection
- Meteorology
Safety officer state owned tunnels
Safety officer RWS:

- Why not at the emergency services?
- In principle other professional group
- Too far from the object
- Too little direct contact with tunnels
- Knowledge difficult to build up and maintain
- Difficult to obtain national unity
Safety officer RWS decentral:

- **Advantages:**
  - Safety officer close to manager
  - Always knowing what’s going on
  - Directly approachable

- **Disadvantages:**
  - Knowledge and know how difficulties
  - Difficult to obtain national unity
  - Many safety officers
Safety officer RWS central:

- **Advantages:**
- Easier to obtain national unity
- Bundling knowledge and know how
- Integration benefits in terms of jobs
- A bit removed from the object
- Less influence of daily management
Safety officer RWS central:

- **disadvantages:**
- Further removed; less informed
- Not appreciated central “interference”
- Decentral first line representatives necessary
- Linking pin dependency
Safety officer RWS central:

- Small steady core of 6 ftes
  - The safety officer
  - The deputy
  - Safety expert on installations
  - Safety expert civil engineering, risk analysis
  - Safety expert organisational and legal aspects
  - Administrative support
Safety officer RWS central:

- Small steady core of 6 ftes
  - With own budget
  - Clearly identifiable within RWS
  - With the national specialist infrastructure service
  - Independently added to director (only “care boss”)
Safety officer RWS central:

- Small steady core of 6 ftes
  - Advices the directors of the regional services
  - With direct feedback to the director general
  - Strictly separated from the centre for tunnel safety
  - Decentral officials as linking pin
Safety officer RWS central:

- Small steady core of 6 ftes
  - Advises the directors of the regional services
  - With direct feedback to the director general
  - Strictly separated from the centre for tunnel safety
  - Decentral officials as linking pin

- Steady core handle work themselves
- Or hire additional market capacity
Safety officer state owned tunnels
Formal moments of advice:

• **The route is decided** (Environmental effects analysis)
• Advice based on a so called tunnel safety plan
• (guideline for the contents was developed)

• **Construction permit is requested**
• Advice based on a so called construction plan
• (guideline for the contents of this construction plan)
Formal moments of advice:

- New tunnel has to be commissioned
- Advice based on a so called safety management plan
- (guideline has been developed for the contents)

- Tunnel construction and/or use have been changed
- Advice based on modified sections of the safety management plan
Formal moments of advice:

Phase 1
- Planning phase
  - Defined tunnel safety plan
  - Planning decision

Phase 2: Design phase
- Defined construction plan
  - Construction permit

Phase 3: Construction phase
- Defined safety management plan
  - Final inspection and commissioning

Phase 4: Exploitation phase
Standards:

- Quantitative risk analysis
- Guideline for scenario analysis
- Guideline for incident entry and evaluation

*In development:*

- Guideline for training and exercises
Thank you for your attention
**OVERZICHT RWS TUNNELS IN HET TRANS-EUROPESE WEGENNET**

### TEN TUNNELS:

<table>
<thead>
<tr>
<th>Route</th>
<th>Tunnel Name</th>
<th>Length Year</th>
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</thead>
<tbody>
<tr>
<td>A4</td>
<td>Schipholtunnel</td>
<td>(1966) 537 m</td>
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<tr>
<td>A4</td>
<td>2° Schipholtunnel</td>
<td>(2000)</td>
</tr>
<tr>
<td>A4</td>
<td>Beneluxtunnel</td>
<td>(1967) 713 m</td>
</tr>
<tr>
<td>A4</td>
<td>2° Beneluxtunnel</td>
<td>(2002)</td>
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<tr>
<td>A29</td>
<td>Heinenoordtunnel</td>
<td>(1969) 605 m</td>
</tr>
<tr>
<td>A16</td>
<td>Drechttunnel</td>
<td>(1977) 553 m</td>
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<tr>
<td>A15</td>
<td>Botlektunnel</td>
<td>(1980) 541 m</td>
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<tr>
<td>A15</td>
<td>Noordtunnel</td>
<td>(1991) 553 m</td>
</tr>
<tr>
<td>A9</td>
<td>Wijkertunnel</td>
<td>(1996) 700 m</td>
</tr>
<tr>
<td>A15</td>
<td>Thomassentunnel</td>
<td>(2004) 1100 m</td>
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<tr>
<td>A73</td>
<td>Tunnel Swalmen</td>
<td>(2008) 400 m</td>
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<tr>
<td>A73</td>
<td>Roertunnel</td>
<td>(2008) 2050 m</td>
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<tr>
<td>A2</td>
<td>Tunnel Leidsche Rijn</td>
<td>(2009/10) 2 x 1650 m</td>
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<tr>
<td>A2</td>
<td>Traverse Maastricht</td>
<td>(2013) .. m</td>
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<tr>
<td>A6-A9</td>
<td>Keizer Kareltunnel +</td>
<td>(2015) 2 x 2000 m</td>
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<td>A6-A9</td>
<td>Gaasperdammertunnel</td>
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## OVERZICHT NIET TEN-TUNNELS IN HET RIJKSWEGENNET (RWS TUNNELS)

<table>
<thead>
<tr>
<th>Route</th>
<th>Tunnel Name</th>
<th>Year</th>
<th>Length</th>
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<tbody>
<tr>
<td>A22</td>
<td>Velsertunnel</td>
<td>1957</td>
<td>768 m</td>
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<td>Bevat ook spoortunnel</td>
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<tr>
<td>A10</td>
<td>Coentunnel</td>
<td>1966</td>
<td>587 m</td>
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<tr>
<td>A10</td>
<td>2e Coentunnel (Bouwfase)</td>
<td>2012</td>
<td>660 m</td>
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<td>A10</td>
<td>Zeeburgertunnel</td>
<td>1990</td>
<td>546 m</td>
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<td>N14</td>
<td>Vliettunnel</td>
<td>2003</td>
<td>1100 m</td>
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<td>Omvat ook tunnelbuis voor tram en light-rail.</td>
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<tr>
<td>N14</td>
<td>Parktunnel</td>
<td>2003</td>
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<tr>
<td>N14</td>
<td>Spoortunnel</td>
<td>2003</td>
<td>400 m</td>
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<td>N35</td>
<td>Tunnel Nijverdal (Ontwerpfase)</td>
<td>2012</td>
<td>500 m</td>
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<td>Heeft aanliggende spoortunnel.</td>
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<td>A4</td>
<td>Tunnel Delft – Schiedam</td>
<td>2014</td>
<td>2000 m</td>
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<td></td>
<td>(Ontwerpfase)</td>
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<tr>
<td>A58</td>
<td>Vlaketunnel</td>
<td>1967</td>
<td>376 m</td>
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