Winter Road Congress in Finland
Jyväskylä 2014-01-21

Expertise and skills of winter maintenance operators

Øystein Larsen
Senior Principal Engineer
Norwegian Public Roads Administration
oystein.larsen@vegvesen.no

Jan-Åke Karlsson
Specialist Maintenance
Swedish Transport Administration
jan-ake.karlsson@trafikverket.se
INTRODUCTION

Interregional cooperation project between Sweden and Norway called Scandinavian Infrastructure Competence
to improve competence in the infrastructure sector and make it easier for contractors to work across the border

Sub Project Winter road maintenance
Make common requirements for winter maintenance competence and system for examination of winter maintenance personnel in Sweden and Norway
SCANDINAVIAN INFRASTRUCTURE COMPETENCE

- Project managed by the Swedish Transport Administration, the Norwegian Public Roads Administration and the Norwegian Rail Administration and supported by the European Union
- Aim to take a step towards a joint Scandinavian set of competence requirements based on European Qualification Framework (EQF) and a model for verification and management of the requirements
- In cooperation with industry actors, a number of full-scale tests of the requirement models shall be carried out
- Priority areas for testing of the requirement models are
  - safety work
  - winter maintenance
SUB PROJECT WINTER MAINTENANCE COMPETENCE

Main tasks:

1. Describe and compare winter maintenance in Sweden and Norway
2. Identify critical tasks within winter maintenance
3. Develop and describe competence requirements
4. Develop a system for verification of individual competence of winter maintenance operators
COLLABORATION WITH INDUSTRY CONTRACTORS

Norway:
Mesta, Konsmo
NCC, Hamar
Peab, Berger

EBA
(Norwegian Association of Contractors)
MEF
(Norwegian Association of Heavy Equipment Contractors)

Sweden:
Mesta, Helsingborg
NCC, Borås
Peab, Kungälv
Svevia, Uddevalla
Skanska, Karlskrona

BI (Building Industry Sweden)
SEKO (Swedish Trade Union)
COMPARISON OF SWEDEN AND NORWAY

- Climate and nature
- Road and traffic
- Winter challenges
- Organization
- Maintenance Contracts
  - Winter 50%
- Competence requirements
- Sector responsibility roles

Need competent winter maintenance operators

Skandinavisk Infrastrukturkompetens
CRITICAL WORK TASKS – WINTER OPERATION MANAGERS

• Planning of winter maintenance routes, re-allocating of resources due to traffic congestion or equipment breakdown
• Monitoring and interpretation of road weather information
• Monitoring and interpretation of road condition information
• Decision on snow and ice control actions and time for action
• Actions during extraordinary weather conditions (heavy prolonged snowstorms)
• Best practices during difficult weather conditions (rain freezing on the ground, extremely cold periods, etc)
• Traffic information
• Inspection and documentation
CRITICAL WORK TASKS – WINTER OPERATION CREW

• Snow removal – snow plowing, snow and ice grading

• Friction improvement - use of salt (de-icing, anti-icing, anti-compacting) and sand (gritting)

• Operating winter maintenance equipment (connect, adjust, calibrate, daily maintenance)

Crew making decisions for operations:
• Monitoring and interpretation of road weather information
• Monitoring and interpretation of road condition information
• Decision of snow and ice control actions and time for action
Competence requirements will be described in the contracts.

Level of competence for most task should be **experienced**:

- able to make plans for his own field
- execute and identify resources for specialized tasks
- able to solve complex problems within his field

Some common descriptions, some national
VERIFICATION OF REQUIRED COMPETENCE

Questions should cover the different disciplines: decision making, meteorology, snow removal, salting, gritting, safety

Proposal:

• 40-50 questions with multiple choice answers
• 3-4 alternatives, all should seem reasonable, only one correct
• 70-80 % right answers to pass the test
• Oral examination if needed

A database with questions will be prepared

Some common questions, some national
Focus in the first phase of the project:

- Theoretical knowledge

The next step should be to describe and verify:

- Practical skills
- Attitude and behavior

May be the most important and most difficult part to describe and verify.
**IMPLEMENTATION**

**Sweden**: competence requirements are described in some maintenance contracts in 2014 and questions for examination will be prepared before new contracts start in autumn 2014.

From 2015 the new system may be included in all new contracts.

**Norway**: existing requirements for winter personnel participating in winter course organized by the road authorities including a practical demonstration and test will continue till the sector have established their own training system.

New and improved competence requirements and questions for verification will be included in future contracts.
BENEFIT OF COMMON COMPETENCE REQUIREMENTS

- Easier for contractors to compete and work across the border
- Easier to document required competence
- Easier for road authorities to control that personnel has the required level of competence
- Improved competence
- Get more value for money invested
- Safer work conditions and improved status for maintenance crew

Photo: Svante Harström
Thank you for your attention

Kiitos huomiota