

# DEVELOPMENT OF A NEW EUROPEAN STANDARD

## *HYDRAULIC PLACEMENT OF EXTRACTIVE WASTE*

Speaker: Elin Wormeester



# What is a standard?

- A standard (French: Norme, German: Norm) is a technical document designed to be used as a rule, guideline or definition. It is a consensus-built, repeatable way of doing something.
- Standards are created by bringing together all interested parties such as manufacturers, consumers and regulators of a particular material, product, process or service. All parties benefit from standardization through increased product safety and quality.
- A standard is not a law but is often referenced by authorities

## Standardization – how does it work?

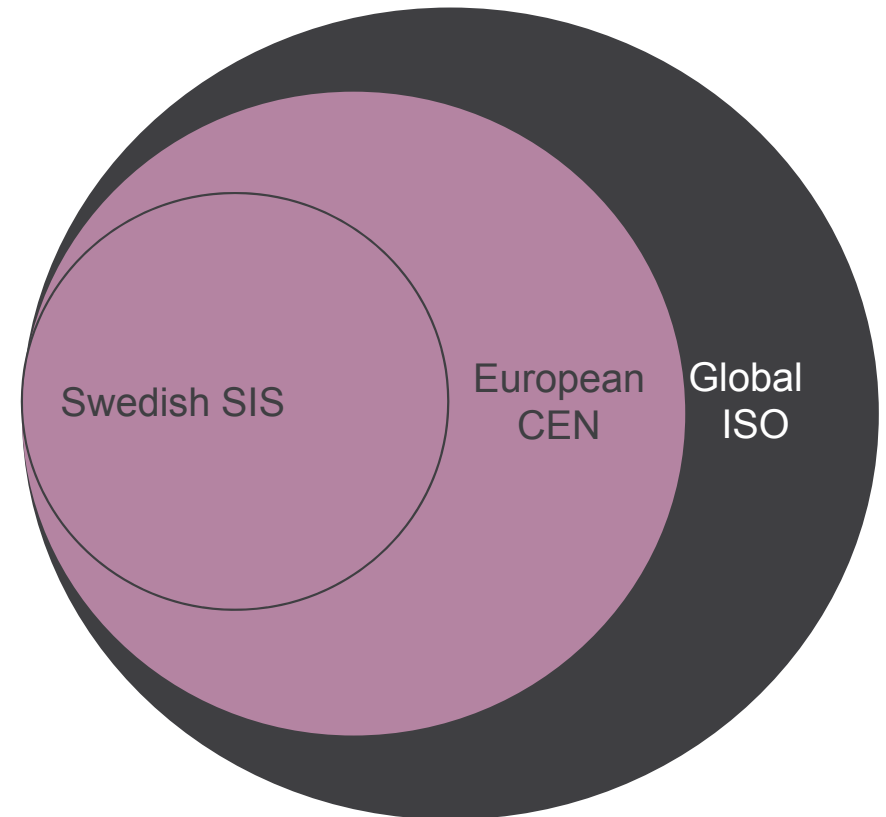
- ISO standard- Global Standard

*Every member (country) can decide if they want to use a ISO standard.*

- EN standard - European Standard

*EU gives mandate to CEN (European Committee of standardization) to produce a standard. The standard will apply to all CEN member states and becomes therefore automatically a :*

- SIS standard – Swedish Standard



## Member states within CEN (European Standardization Committee)

The current CEN member states are:

- All member states of the European Union
- three of the EFTA members: Iceland, Norway and Switzerland,
- other states: Macedonia and Turkey

All member states are given opportunity to participate actively or passively when a standard is being produced.



*CEN member states indicated in dark blue*

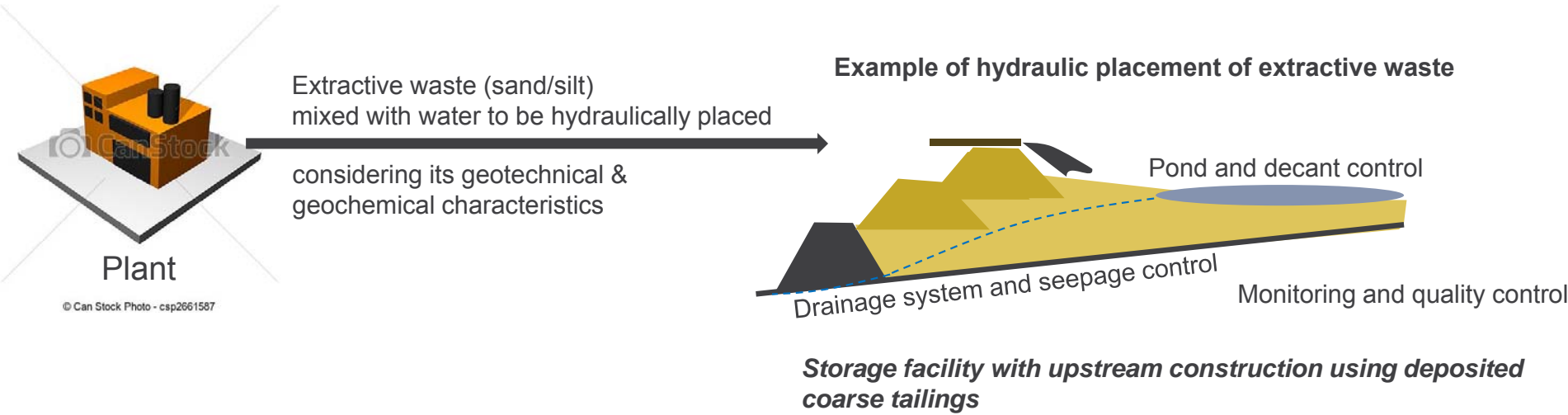
## Development of the new european standard

### Contents of European Standard EN 16907 Earthworks (Schakt och fyllning för anläggningsbyggande)

- Part 1: Organization, design and control of earthworks;*
- Part 2: Classification of materials;*
- Part 3: Construction procedures;*
- Part 4: Soil treatment with lime and/or hydraulic binders;*
- Part 5: Quality control;*
- Part 6: Land reclamation with dredged hydraulic fill;*
- Part 7: Hydraulic placement of extractive waste**



# Hydraulic placement of extractive waste (tailings)



## The standard is intended to:

- ✓ reduce any potential risks and increase the dam safety across Europe with respect to storage of hydraulically placed extractive waste (tailings)
- ✓ be a procedural document that can be used as a "check list"
- ✓ provide general principals on the design and execution of a hydraulic fill project through:



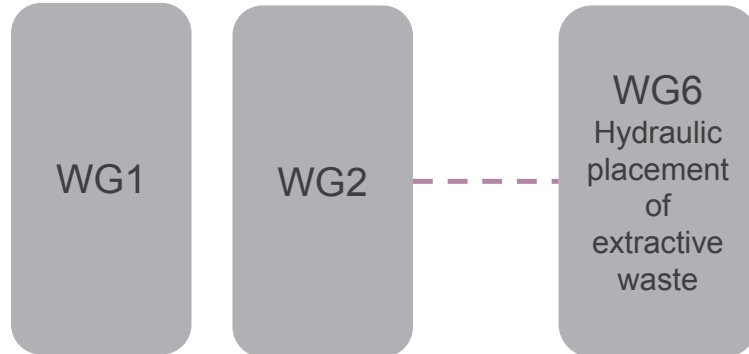
- ✓ provide guidance for all stakeholders with regards to geotechnical aspects of the investigation, design, monitoring and rehabilitation of tailings deposited using hydraulic filling techniques.
- ✓ provide guidelines for monitoring and quality control at all stages in order to ensure long term stability and regulatory compliance



# Organization

CEN Technical Committee TC396 "Earth works"

## EU Working Groups (WG)



Local mirror groups  
In Sweden: SIS/TK 539 Schakt och fyllning  
för anläggningsbyggande

## WG6

- Mike Cambridge, Cantab Consulting Ltd, UK (Convenor)
- Lou Areias, ESV Euridice GIE, Belgium
- Roberto Cudmani, Zentrum Geotechnik, Germany
- Mafalda Oliveira, Lundin Mining Ltd, Portugal
- Elin Wormeester, Sweco, Sweden
- Lars-Åke Lindahl, SveMin, Sweden
- Johannes Drielsma, Euromines, Belgium (Observer)

Specific members of the WG6 Sweden mirror group (registered so far)

- Sven Knutsson (LTU)
- Lars-Åke Lindahl (SveMin)
- Nils Isaksson (Svenska kraftnät)
- Fredrik Jonasson (Sweco)
- Elin Wormeester (Sweco)

## Schedule

- Standard required to be completed within 3 years of initiation
- Goal to complete the work with standard Part 7 by the end of 2017
- 3rd draft to be completed by the working group in December 2016
- Next meeting WG6 planned for January 2017

Anyone interested in the standardization work please, contact Lina Nordfors (SIS):  
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