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Orientation to Walkabout work

Purpose of today's session:

- In the introduction to give a brief overview of voluntary accreditation and about ECVET - "a credit system for professionals"
- Orient and assist you in preparing for the walkabout and to speed up the walkabout process: what is expected from you and what to do with the given post-it notes and handout during the walkabout and also afterwards

The walkabout is aimed to:

- Collect your multiple perspectives and to
- Contribute to the feasibility study of the voluntary accreditation scheme and related work by the CMET working group
 - by soliciting input of the IGD-TP participants and
 - ensuring that crucial expert views are not excluded from the study
 - assist in the on-going work of the current EFTS projects (European Fission Training Schemes)





About Competence Maintenance, Education and Training Working Group (CMET)

- We are a permanent working group set by the IGD-TP in 2012 resulting from the SRA's Cross-cutting Activities (JA14).
- Our terms of reference (v.2)were revised at the end of 2013.
- We are ~ 30 geological disposal professionals from 13 different countries, 27 organisations, and representing 6 different type of stakeholder organisations.
- The activity is now lead by Posiva Oy and it is supported by the Euratom FP7 SecIGD2 project grant.
- One CMET action includes the feasibility study of a voluntary accreditation scheme – aiming to contribute to the adoption of ECVET as a tool for improved borderless mobility, lifelong learning and quality of learning.





What is Accreditation and ECVET?

Accreditation is defined E.g by IAEA (2014, NG-T-6.4)¹: "the formal process of approval against established standards by an independent body"

Accreditation within the ECVET² context would be

- > about a third party recognising your knowledge, skills and competence (KSC) achieved non-formally or informally
 - \succ vs. a formal qualification that a national body/-ies recognises
- includes inherently an element of trust about the objectivity of the recognition of the units of learning, learning outcomes, KSCs

Such accreditation in geological disposal does not exist beyond:

agreement based accreditation in specific disciplines: E.g. basic radiation protection training, NDT, welding, shotcreting, work safety, ENEN Master's supplement





Why ECVET? It's Part of European Policy

The recent 2nd situation report on E&T in the Nuclear Energy field in EU³ highlights e.g.

- the challenge that human resources in the nuclear field could be at risk;
- therefore one main goal of Euratom actions to contribute to the sustainability of nuclear energy by three means and one of them is *"developing the required competences (training)."*

To improve European competitiveness, these Euratom actions aim

✓ to continuously improve knowledge transfer and competence building, in particular by fostering lifelong learning and borderless mobility, thereby improving the employability in the nuclear sector across the EU. " and

✓Euratom E&T actions are addressing primarily research and industry workers with higher education, i.e. levels 6 to 8 of the European Qualifications Framework – EQF (= bachelor, master and doctorate levels or equivalent, resp.). The focus [] is on Continuous Professional Development (CPD), taking advantage of the governance and best practices for E&T that are proposed in the EU higher education policy (DG EAC)".

³ EC 2014. Second Situation Report on Education and Training in the Nuclear Energy Field in the European Union. SWD(2014) 299 final, Commission Staff Working Document 3 October 2014.





And further about the why!

Another recent European report

The SET Plan E&T roadmap (2014) (<u>http://setis.ec.europa.eu/setis-</u> <u>deliverables/education-training-roadmap</u>) *) that is a collective roadmap on E&T formulated by stakeholders, **puts forward a structural approach, calling for large-scale E&T actions** and is designed with the **following three main** guiding **objectives**:

- 1. To address knowledge, skills and competences needs and gaps via building networks, pooling capacities and allowing quick and wide replication;
- 2. To reinforce the E&T system's link with the business and research environment;
- 3. To plan and enable skill **development and recognition**, at the same time facilitating the **dissemination** of new knowledge, techniques and tools.

European ECVET pilot is ending in 2014 and will be evaluated:

The future can be a permanent system of ECVET.

Also for the professionals with nuclear sector being the flagship.

^{*)} Extract from EC 2014. Second Situation Report on Education and Training in the Nuclear Energy Field in the European Union. SWD(2014) 299 final, Commission Staff Working Document 3 October 2014.





So what is ECVET?

ECVET – European Credit System for Vocational Training and Education is part of EU educational policy and **developed in the framework** of the Copenhagen 2002 process (vs. Bologna process for higher education)

- It starts from defining a job: a profile, function or task, which is
- is broken down to smaller units of learning and
- Each unit is defined by **learning outcomes (LO)** i.e. what is learned or mastered
- Each such unit of learning can then be recognised and exchanged between contexts
- The learning outcomes for each unit are targeted to a specific level of European qualification framework (EQF⁴), whose 8 levels act as a "translation tool " between different national qualifications, and
- Each LO is broken into three types of components: KSC i.e. Knowledge, Skills and Competence that are defined in a common language using a taxonomy (Bloom or sector specific) and
- The learning outcome/s and units can then be assessed and recognised irrespective of the way they have been acquired.

⁴ complies with the ISCED 2011 levels (Unesco 2012)





Source: ECVET brochure NC-80-09-607-EN-D, European Commission, DG EAC





Explaining Knowledge, Skills and Competence (KSC)

Knowledge, Skills and Competence for Learning Outcomes - Examples

Knowledge	Cognitive Ability	Know what (conceptual, abstract)
Example:	Mathematics/ Calculus	Calculate differential equations
Skill	Technical or Functional ability	Know how (to do, procedural)
Example:	Engineering/ Nuclear Safety	Produce a nuclear safety documentation
Competence	Attitude, behavioural or interpersonal ability	Know (how) to be, how to relate
Example:	Interpersonal	Capacity to mobilise people





Geological Disposal Example of Learning Outcomes

part of Unit	Coordination of safey analysis/case for geological disposal (some examples)	
LO	K	Understand and apply long-term safety requirements for achieving, demonstrating and presenting safety of geological disposal (including safety functions)
		Understand the concept of safety and the understand the impact of underlying physical and chemical processes.
		Understand probabilistic safety analysis principles and risk in the context of safety case
	S	Plan and structure a comprehensive safety case for a licensing stage
		Apply natural analogue information in a safety case in support of long-term safety arguments (complementarity)
		Able to steer and supervise the production of a safety case
		Able to coordinate interdisciplinary work in team

Source: Adopted from Petrus II (FP7) and ECVET seminar 2012





Why should this work be carried out for Geological Disposal?

Our state-of-the art of learning:

- Dedicated university education is available in some EU countries , but most learning and accumulation of experience is informally acquired (includes training, learning on projects, learning at work...).
- Informality is specific for learning in our community: either learning on the job and internal training. This includes professional development.
- Different learning outcome are needed at different stages of the repository development.
- The learning outcomes already achieved, they have not been collected or documented => Accreditation can act as a motivation to carry out such memory keeping work.
- With the long-timeframes of disposal knowledge preservation and transfer is needed already now as the demographics change in Europe.
- Work on identifying the Knowledge, Skills and Competence has started, but the results are far from complete and have not been brought together yet.

This is were your views are now needed:

Do we need to proceed and how to proceed!





Some Implementation Need Examples

- KSC from the various stages of geological disposal need to be collected and documented => they will also form
 - the assessment criteria or a standard for accreditation
- Standards/KSC defined need validation from the relevant stakeholders
- Accredited learning outcomes need recognitions from the relevant stakeholders/ the community . One needs a (broad) partnership/ partnerships (networks) like ENEN
- Transcripts are needed as a proof of recognition.





Recognition: Accreditation and ECVET Tool

Accreditation further requires for example

- an accreditation body/bodies professional, objective
- agreed accreditation criteria a preset standard/s
- target/object of accreditation unit of learning, learning outcomes – e.g. defined using ECVET

ECVET is also tool for setting up the criteria

- A tool for setting the standards for what an individual masters or e.g. what a training programme delivers, if implemented according to the standards leading to the validated and accepted learning outcomes
- ECVET enables assessment independently of the way the learning outcomes are acquired
- In this way it contributes to lifelong learning and efficiency directly by eliminating the need for overlapping training or education when the assessment standard is met.





ECVET Framework: Objectives, Contribution and its Technical Components





Figure from ECVET User's Group. 2011. Using ECVET to Support Lifelong Learning.



Assessment of Learning Outcomes within Geological

Disposal for Individuals and

ECVET TECHNICAL COMPONENTS need for:	Voluntary Accreditation of an individual's LOs	Voluntary Accreditation of an ECVET training provider
Assessment of LOs	Yes. Assessment criteria and demonstration of LOs needed See also validation.	Yes. Assessment criteria and demonstration of LOs needed.
Validation of LOs	Yes. An accreditation body needs to be set up or approved by the partners.	Yes. Done by an internal process, by MoU partners, or by an accreditation body.
Recognition of LOs	Yes.,By the industry and institutions in the community and/or by training providers by signing an MoU.	Yes (see MoU).
Partnerships (MoU)	Yes. Wide coverage of partners to engage themselves in a MoU for voluntary approval of the recognised LOs.	Yes. Basis for transfer of the recognized LOs between various providers (a criteria for voluntary accreditation, too).
Learning Agreement	No	Yes, needed for exchange in the formal exchange between training providers or between a provider and a workplace.
Learner's transcript of record (e.g. Europass)	Yes, A certificate needs to be provided of recognition of LO/s resulting from assessment => e.g. inclusion into Europass.	Yes, provided by the training provider to the home institute and later into the Learner's transcript (achievements). One example, the ENEN supplement to a diploma.

Training Providers/ Programmes





Your Input During the Walkabout

Reflecting on **a potential for accreditation** in geological disposal based on what has been presented and based on the questions

- write down your opinions and ideas related to 8 set of questions on the hand-out – write each idea on an individual post-it with print letters.
- identify where you consider benefits and constraints and identify what has already been implemented in your organisation/ country in geological disposal in the area of accreditation.
- identify **what would still be needed or not** needed?

After the reflection, start by taking your station related post-its to the station closest to you

- submit your post-it note for the relevant station (questions) on the flip chart and discuss your views with the station host and other participants on that station;
- after ~10-15 minutes move clock-wise to the next station and repeat until you have covered all stations – a clock/bell will ring an alarm as a sign.





Direction of Walkabout - Clockwise







Time to Start the Walkabout

- All views and inputs are most welcome, your own, your company, your neighbours, ... ⁽ⁱ⁾
- Now please take your post-its and move to the flipchart station closest to you.
- A bell will signal for you to change the station.
- A coffee break will be at 10:30-11:00 hrs, please come back on time for the remaining stations.
- We will conclude the session for the lunch and come back with the session report in the afternoon.





Is there a potential for a flagship action?

Now please take your post-its and move to the flipchart station closest to you for your inputs.





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