DOPAS Training workshop 14-18 September 2015 in Czech Republic				Final as implemented 18 September 2015	Version 4
DAY 1	Location: Prague CTU		Chair of the day: Jacques Wendling	Organisation and Tutor names	Activity type
14.9.2015	Time	Duration (min)			
Material no			Orientation to the Training Workshop (5.)		
DAY 1: 5.1.1; 5.1.2	09:00-09:30	30	Welcome; Introduction to the training workshop programme and CTU - CEG	CTU/Radek Vasicek	presentation
DAY 1: 5.2.1; 5.2.2	09:30-10:00	30	Introduction to DOPAS project and to Posiva	Posiva/Marjatta Palmu	presentation
DAY 1: 5.3	10:00-10:45	45	Icebreaker, course objectives and concept of time	Posiva/Marjatta Palmu and all	participant's objective setting and activity
	10:45-11:00	15	*Coffee break*		
Learning Unit 1: From Requirements to design basis of plugs and seals					
Material no			1.1 Understanding requirements management and their application for plugs and seals design basis		
DAY 1: 1.1.1a-b; 1.1.2	11:00-11:45	20+25	The role of plugs and seals. Different timelines, different host rocks (case of clay and crystalline repository concepts). Introduction to Andra and SKB.	Andra/Jacques Wendling incl. Nagra content, SKB/Pär Grahm	lecture/s
Material no			1.2 Requirements - understanding and applying them		
DAY 1: 1.2.1	11:45-12:00	15	Sources of requirements. Participants' reflection activity	Andra/Posiva/SKB	participant's reflection activity
	12:00-13:00	60	*Lunch break*		
DAY 1: 1.2.2	13:05-13:25	20	Generic introduction to requirements management (hierarchy in engineering, V-model)	Posiva/Marjatta Palmu	lecture
DAY 1: 1.2.3; 1.2.4	13:25-14:00	30	The Design Basis development work flow for Plugs and Seals	SKB/Pär Grahm	lecture
	14:00-14:20	20	*Coffee break*		
Material no			1.3 Developing a design basis for an experiment		
DAY 1: 1.3.1	14:20-14:50	30	Case example of EPSP experiment	SURAO/Marketa Dvorakova	presentation
DAY 1: 1.3.2	14:50-15:20	30	Scoping the DOMPLU experiment (case DOMPLU) to meet the requirements and challenges - a project management perspective. Moving from the initial design to an experiment in place.	SKB/Pär Grahm	Brief intro to DOMPLU and lecture
DAY 1: 1.3.3	15:20-16:25	15 + 50 incl. break	Exercise 1: Group work on WBS method in scoping an experiment or a technical development project	Students & Pär Grahm	Intro to exercise and partipants' work
	16:25-16:30	*5*	*Short break for presentation setup*		
DAY 1: 1.3.4	16:30-17:00	15+10	Presentation of Exercise 1 results on structuring a technical development project and feedback. Summary by tutor moved to DAY2	Student groups and SKB/Pär Grahm	exercise report and feedback to exercises
	17:00		*End of Day 1*		

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DAY 2	Location: Josef	Duration	Chair of the day: Jiri Svoboda , afternoon: Dean Gentles	Organisation and Tutor name (n = 4+1)	Activity type
15.9.2015	Time	min			
	7:45-9:00	75	*Transfer from Prague to Josef*	Cars leaving from hotels Krystal and Diplomat	
Material no			Orientation to Josef (6.)		
DAY 2: 6.1a, 6.1b	09:00-11:40	160	Practicalities and advice to studying and acting in Josef - Safety instructions	CTU/Radek Vasicek	instruction
DAY 2: 6.2a; 6.2b; 6.2c			Presentation of Josef, Josef Geology and the EPSP experiment in Josef	CTU/Radek Vasicek, Michal Roll & Jiri Svoboda	presentation and videos
DAY 2: 6.3			Visit to the EPSP experiment in Josef (90 min)	CTU/Radek Vasicek & Jiri Svoboda	site visit, participants' notes
			Coffee break (included in the above)		
DAY 2: 6.4	11.45-11:55	10	Introduction/division to groups for the week's student exercises and related reporting (2-5)	Posiva/Marjatta Palmu, CTU/Radek Vasicek	instruction
Learning Unit 2: Preparation of an in-situ or full-scale plug or sealing experiment					
Material no			2.1 How to come up with a coherent demonstrator program for plugs and seals?		
	12:00-13:00	60	*Lunch break (time fixed due to Josef)*		
DAY 2: 2.1	13:00-14:10	70	Theoretical basis to Andra's interative safety assessment process and the last iteration cycle	Andra/Jacques Wendling	Lecture and interaction with participants
DAY 2: 2.1			Cases from the safety assessment iteration cycle in Andra's demonstrator programme in clay. The role and implementation of FSS experiment in DOPAS project	Andra/Jacques Wendling	Comprehensive review of outcome and interaction with participants to find out Andra's approach during the last round of iteration of the S.A.
Material no			2.2 The role of instrumentation and monitoring in an experiment		
	14:10-14:25	15	*Coffee break*		
DAY 2: 2.2	14:25-15:25	60	The role of instrumentation and monitoring in an experiment	CTU/Svoboda	lecture, examples of sensors
DAY 2: 2.2.1	15:30-19:00	210	Two groups 1+2 : Exercise 2 Preparing and installing analogue and digital thermometers in Josef	CTU/Svoboda	Guided participant activities in Josef; reporting in two groups
DAY 2: 6.5	19:20-20:30	70	*Picnic at Josef*	CTU	
	20:30-22:00	60	*Return to Prague* *End of Day 2*		

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DAY 3	Location: REZ	Duration	Chair of the day: Morning: Marjatta Palmu, Afternoon: Andre Rübel	Organisation and Tutor name (n = 10+1)	Activity type
16.9.2015	Time Leave DIPLOMAT 7:15 and take train 7.48 Praha-Podbaba railway station	20	*7:48 Train from Prague to Rez*	400m walk from Diplomat hotel to Dejvicka tram stop (no 1 or 18), take 3 stops (final stop), duration 4min, every 5 min	Need your ID with you (preregistrations done by 1.9.2015)
	Learning Unit 3: Design of a seal for an experiment/demonstrator within the broader context of RD&D programmes; Safety assessment and Performance assessment of closure as design input				
Material no	3.1 How to move from initial design in an iterative manner to the final experiment design and construction (to as built) and assess the outcome. What is the state of the art in the demonstrator programs today? What questions still need to be addressed?				
DAY 3: 3.0.1	08:25-08:35	10	Safety instructions for working in UJV Rez and short introduction to UJV ReZ Chemistry of Fuel Cycle and Waste Management Department	UJV Rez/Vaclava Havlova	instruction and presentation
DAY 3: 3.1.1	08:30-9:20	45	Andra's scientific programme and the main questions to be replied for the next report (DAC) and after submission of DAC	Andra/Jacques Wendling	lecture
	9:20-9:40	20	*Coffee break*		
DAY 3: 3.1.2	9:40-10:30	50	Plugs as a part of the demonstration programmes in Nordic countries (YJH and FUD and stages in licencing) incl. alternative plugs	Posiva/Petri Koho (incl. SKB program points)	perpective lecture (crystalline rock environment, different management process)
Material no			3.2 Behavior of plug components and materials		
DAY 3: 3.2.1	10:30-10:50	20	The use of individual tests to complement existing material and process knowledge (case of REM metric experiment)	Case by Andra/Jacques Wendling	lecture on a case example
		10	*Short break*		
DAY 3: 3.2.4	11:00-11:40	40	The role of pH in the Czech plug system and a summary on the use of the work in the Czech safety assessment/case - influence of pH	UJV/Petr Vecernik	lecture and demonstration
DAY 3: 3.2.2	11:40-11:50	20	Group division and instructions for Exercises 3-4	UJV/Petr Vecernik	instruction
	12:00-13:00	60	*Lunch break*		
DAY 3: 3.2.3	13:10-15:20	40	Exercise 3: Stress test of concrete and	UJV/Petr Vecernik	guided exercise
DAY 3: 3.2.5		90	Exercise 4: Interaction of concrete with bentonite in parallel (incl. coffee)	Participants and UJV/ Katerina Videnska & Dagmar Trpkosova	guided exercise
	15:20-15:40	20	Group discussion on the exercise 3-4 results	Participants and UJV/Petr Vecernik	participants' activity
	15:50		Departure from UJV Rez to station		
	16.22-16:50	20	*16:22 Train to Prague to SURAO info centre (Dlazdena 6, 110 00 Prague)*		
DAY 3: 7.2	17:00-17:50	20	Presentation of SURAO public involvement and information activities	SURAO/Lucie Steinerova	presentation

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DAY 3: 7.1		30	Presentation of the Czech siting programme	SURAO/Lukas Vondrovic	presentation
DAY 3: 8	18:00 - until 20:20	76+60	*Movie night in Prague at SURAO with related discussions*	Movie - Into eternity (Marjatta - discussion moderation)	SURAO info center
			End of Day 3		

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DAY 4	Location: Josef	Duration	Chair of the day: Pär Grahm and Petri Koho	Organisation and Tutor name (n=6+1)	Activity type
17.9.2015	Time				
	7:45-8:50	60	*Transfer from Prague to Josef*	Cars leaving from hotels Diplomat & Krystal	3 cars reserved
Material no	3. 3 Introduction to Safety Assessment and the role of Safety case (Learning Unit 3)				
DAY 4: 3.3	9:00-10:40	90+10 coffee break	Integration of experimental work and process modelling in safety assessment and safety case; Time perspective considerations; summarising the current theoretical and iterative approach. Modelling vs. technical testing and demonstrating. About GRS.	GRS/Andre Rübel	lecture providing SA basis, repeating and reflecting on the previous day: tests and cases, time visualisation
4. Learning Unit 4: Construction feasibility of a plugging experiment					
Material no	4.1 Practical underground work concerns in setting up an in-situ or full-scale experiment				
DAY 4: 4.1.1	10:50-11:10	20	Risk management for large-scale experiments and work underground	SKB/Pär Grahm	lecture
DAY 4: 4.1.2	11:10-11:55	40	Case example of POPLU experiment (start slot location + RSC and design; moving into real repository construction, as built vs. design)	Posiva/Petri Koho	lecture/presentation
	12:00-13:00	60	*Lunch break*		
DAY 4: 4.1.3	13:10-14:00	50	Exercise 5 Two groups: Identifying and prioritizing risks for full-scale experiments G1: DOMPLU and G2: POPLU	Participants and tutors Pelle and Petri	group exercise, presentation last day
DAY 4: 4.1.4	14:00-14:40	40	Feasibility of a seal in a clay rich host environment. How to adapt the technological process including alternative concept/s (Risk identification and management perspective incl.)	Andra/ Regis Foin	lecture
	14:40-15:00	20	*Coffee break*		
Material no	3.4 Monitoring for performance assessment of experiment components (Thermal processes) - Learning Unit 3				
DAY 4: 2.2.1/3.4	15:00-16:45	105	Exercise 2 continues: EPSP data and its handling/calculations from the underground thermal sensor monitoring	CTU/Svoboda	guided exercise, potential time for reports
DAY 4: 9	*17:20-19:00*	60	*Culture at the Cathedral*	CTU/Svoboda	
	19:00-20:00	60	*Return to Prague*	CTU	to hotels with minibuses
	20:00 =>		*Dinner at own cost at Kulatak restaurant*		
			End of Day 4		

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DAY 5	Location: Prague CTU	Duration	Chair of the day: Radek Vasicek	Organisation and Tutor name (n =10+1)	Activity type
18.9.2015	Time				
Material no	4.3 How to further apply the lessons learned for the future (Learning Unit 4)				
DAY 5: 4.3.2	8:35-9:25	50	Preparing for ELSA experiment (not yet an in-situ experiment)	GRS/Andre Rübel	lecture/ presentation with link and summary view
	9:25-9:50	20	*Coffee break*		
DAY 5: 4.3.1	9:50-10:45	55	How the lessons learned can be applied to programmes not yet in demonstration stage - Case of RWM incl. co present.	RWM/Dean Gentles	lecture with summary view, too
	10:45-10:50	5	*Short layout arrangement break*		
4.2 Working methods underground and for experiments (Learning Unit 4)					
DAY 5: 4.2.1	10:50-12:05	40 min + 35 min	Panel on experiences, constraints and lessons learned (5 -10 min intro by each, Q&A, discussions)	SKB/Pär Grahm + Posiva/Petri Koho; CTU/J.S. SURAO/Marketa D.; GRS/Andre, RWM/Dean; Andra/ Regis Foin, + moderator & chair Marjatta & Radek	interactive panel
	12:10-13:10		*Lunch break*		
DAY 5: 10.1	13:10-14:30	80	Reporting of exercises 2-5 by participants	6 group presentation of participants. Exercise 2, both groups each 15 min with commenting; for Exercise 3 only one and Exercise 4 only one, each 10 min including commenting, Exercise 5 both groups 10 min each (Tutors: UJV, CTU, Posiva including commenting)	participants' activity, interactive feedback
	14:30-14:40		*Coffee break*		
DAY 5: 10.2	14:40-14:45	5	Instructions for returning exercise reports	Posiva/Marjatta Palmu	instruction
DAY 5: 11	14:45-15:45	60	Summary, assessment and feedback discussion	Posiva/Marjatta Palmu, CTU/Radek Vasicek	teaching and assessment discussion
Closing of Training Workshop					
DAY 5: 12	16:10-16.40	30	Tutors' summary feedback discussion after closing (max. 30 min)	Radek, Petri, Marjatta, Dean	review of implementation
			Permission for Into Eternity movie screening: provided by Magicfilms DK via email		
			Permissions to publish photos from all participants/tutors given.		
			Feedbacks on exercise reports given and tutors' feedback meeting held late September.		