

A	B	C	D	E	F	G	H	I
1		Version 0.2.2	http://www.ing-goebel.de					
2	<b>Calculation 8x DBHD nuclear repository south of Kröpelin</b>							
3	Last edit: 27. January 2020 / Dipl.-Ing. Volker Goebel DE / Nuclear Repository Planner ww							
4	<b>Capacity : 2.047 HLW Containers Germany / plus 577 HLW Containers from Switzerland</b>							
5	<b>Repository-Storage-Depth : from -2.650 Meters down to -3.350 Meters</b>							
6	Based on : Draft-Planning from 2014 - 2020 actually in Version 1.4.0 with Time Table							
7								
8								
9	<b>Type of invest</b>	<b>Amount</b>	<b>Offer / Quote</b>	<b>Factor</b>	<b>Total</b>	<b>Comment</b>	<b>dwg</b>	
10			or hint from :					
11	Repository Plans	2014-2020 (6 yrs)	Ing. V. Goebel+T.	850'000 €	5'100'000 €	Draft-Plans, B-Plans	yes	
12	Probe-Drillings	16 x	Prof. Dr. M. Reich	8'500'000 €	136'000'000 €	Cores > -3.800 m		
13	8x Land Purchase	7,7 km2	from local owners		88'000'000 €	8 x 110.000 m2	yes	
14	Shaft-Boring-Ma.	2 x SBM	Herrenknecht AG	60'000'000 €	120'000'000 €	2 yrs. delivery time	yes	
15	External streets	54 km	make-over		16'000'000 €	new / enhance		
16	DB Rail Connection	4 x	only last meters		24'000'000 €	4 of 8 locations		
17	E-powerconnection	8 x	local Vattenfall		20'000'000 €	10 kV med. voltage		
18	Water-connection	8 x	incl. water		24'000'000 €	10 bar with DN 200		
19	Internal Logistics		anticipation		40'000'000 €	8 building sites	yes	
20	Drill platform core	8 x	43.000 m3	1'000 €	344'000'000 €	floors and walls	yes	
21	Mat. storage ring	7 x	70.000 m3	900 €	504'000'000 €	floors and walls	yes	
22	Conveyor Belts	4 x			80'000'000 €	diverse types		
23	Heavy load trucks				12'000'000 €	MB Dump trucks		
24	Compensations	20.000 Shares DE	direct local people	30'000 €	600'000'000 €	payment not bribe	yes	
25	Compensations	<b>5.667 Shares CH</b>	direct local people	30'000 €	170'000'000 €	payment not bribe	yes	
26	Planning Offices	Scientific expertise	many disciplines		164'000'000 €	over 14 years		
27	Approval Fees		many agencies		66'000'000 €	to Gov. Agencies		
28	Startfound. SBM	8 x	Thyssen Schachtbau	3'000'000 €	24'000'000 €	temp. Structures		
29	Shaft Drills D=12 m	8 x	Thyssen Schachtbau	50'000'000 €	400'000'000 €	autom. Maschine		
30	Spray-concr.-wall	9,3 m2 x 3.350 m	31.155 m3 x 8	600 €/m3	150'000'000 €	steel-fibre-amored	yes	
31	Shaft completion	4 sets	Siemag Tecberg	46'000'000 €	184'000'000 €	Vent., Transport		
32	Air-Conditioning	2 x	CFT GmbH	25'000'000 €	50'000'000 €	cold air + 8 °C IN	yes	
33	Air-Cooling Power	80 x 4,5 Mio. kWh	local suppliers	800'000 €	64'000'000 €	8 x 10 years		
34	Watercooling tubes	2 Sets DN 100 PN 340	Steelbuilders	6'900'000 €	13'800'000 €	16.000 Elements		
35	Watercooling Sets	2x9x2 ESO 9702AHF-ze	Stulz Hamburg	6'500'000 €	13'000'000 €	151 m3 / h - 10 °C	yes	
36	Watercooling Power	80 x 4,5 Mio. kWh	local suppliers	800'000 €	64'000'000 €	8 x 10 years		
37	Cable-Drum-Houses	8 x	140.000 m3 S.T.	1'000 €	1'120'000'000 €	Drum-Diam.=14 m		
38	Work-Over Rigs	3 x	Steelbuilders	3'200'000 €	9'600'000 €	with return pulley		
39	Dyneema Ropes	13 x	Gleistein DE	4.600.000	58'800'000 €	D = 80 mm	yes	
40	Transition Cone	8 x	concrete constr.	1'000'000 €	8'000'000 €	12 m. to 21 m.		
41	Hole-opening	8 x	to Diam. = <b>21 m.</b>	9'000'000 €	72'000'000 €	with chain-saws		
42	<b>Staff 80 years</b>	50 Man&Woman	4 h. shifts down t.		<b>457'000'000 €</b>	Work & Safety		
43	Rocksalt-Salt-Sale	8 x 500.000 m3	rough quality	50 €/m3	-200'000'000 €	Asse/M./Gorleben	K+S	
44	Concr. Mixing Plant	2 x	Stetter DE	600'000 €	1'200'000 €	2x 110 m3/h	yes	
45	Concrete-Pellets	41 Pellets	5.280 m2 x 41 x 8	70 €/m3	121'228'800 €	Quality-Concrete	yes	
46	Sand/fine gravel	<b>41 Layers 2m</b>	692 m3 x 41 x 8	70 €/m3	15'888'320 €	D = max. 3 mm		
47	Magnetit powder	41 Portions	264 m3 x 41 x 8	680 €/m3	59'000'000 €	Rio Tinto, Billiton		
48	Closure works	8 x	own Salt grain		80'000'000 €	Salt + M. Pressure		
49	building back	8 x			16'000'000 €	farmland again		
50	Unforseeables	3%			155'838'514 €	not BER airport		
51	<b>Total</b>	<b>January 2020</b>	<b>Version 22</b>		<b>5'350'455'634 €</b>			
52								
53								
54	plus HLW containers, plus rail-transports, plus law-cases					<b>5,4 Mrd. EUR</b>		
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57								