



|    | A                                                                                       | B                                                                                 | C                   | D                    | E                                                                                                                                 | F                      | G                    | H                                                                                     | I |  |
|----|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------|---------------------------------------------------------------------------------------|---|--|
| 1  |                                                                                         |  | Version 0.1.5       |                      | <a href="https://www.dbhd-hlw.de/">https://www.dbhd-hlw.de/</a> + <a href="http://www.ing-goebel.de">http://www.ing-goebel.de</a> |                        |                      |                                                                                       |   |  |
| 2  | <b>Calculation 7x DBHD nuclear repository south of Kröpelin</b>                         |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 3  | Last edit: 12. May 2018 / Dipl.-Ing. Volker Goebel DE / Nuclear Repository Planner ww   |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 4  | <b>Capacity : 2.047 HLW Containers DE / plus 473 HLW Containers from Switzerland</b>    |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 5  | <b>Repository-Storage-Depth : from -2.650 Meters down to -3.350 Meters</b>              |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 6  | Base : Draft-Plans, Pre-Building-Site-Plans / Planning 2014 - 2018 actually Version 1.3 |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 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                                                                  | 2014-2018 (3,5 y.)  | Ing. V. Goebel+      | 350'000 €                                                                                                                         | 1'225'000 €            | Draft-Plans, B-Plans | yes                                                                                   |   |  |
| 12 |                                                                                         | Probe-Drillings                                                                   | 14 x                | Prof. Dr. Reich      | 9'000'000 €                                                                                                                       | 126'000'000 €          | Cores > -3.800 m     |                                                                                       |   |  |
| 13 |                                                                                         | Land Purchase                                                                     | 7,7 km2             | from local owners    |                                                                                                                                   | 77'000'000 €           | 7 x 110.000 m2       | yes                                                                                   |   |  |
| 14 |                                                                                         | Shaft-Boring-Ma.                                                                  | 2 x                 | Herrenknecht AG      | 60'000'000 €                                                                                                                      | 120'000'000 €          | 2 yrs. delivery time | yes                                                                                   |   |  |
| 15 |                                                                                         | External streets                                                                  | 47 km               | make-over            |                                                                                                                                   | 14'000'000 €           | New / enhance        |                                                                                       |   |  |
| 16 |                                                                                         | DB Rail Connection                                                                | 3 x                 | only last meters     |                                                                                                                                   | 18'000'000 €           | 3 of 6 locations     |                                                                                       |   |  |
| 17 |                                                                                         | E-powerconnection                                                                 | 7 x                 | local Vattenfall     |                                                                                                                                   | 17'500'000 €           | 10 kV med. voltage   |                                                                                       |   |  |
| 18 |                                                                                         | Water-connection                                                                  | 7 x                 | incl. water          |                                                                                                                                   | 21'000'000 €           | 10 bar with DN 200   |                                                                                       |   |  |
| 19 |                                                                                         | Internal Logistics                                                                |                     | anticipation         |                                                                                                                                   | 35'000'000 €           | 7 building sites     | yes                                                                                   |   |  |
| 20 |                                                                                         | Drill platform core                                                               | 7 x                 | 43.000 m3            | 1'000 €                                                                                                                           | 301'000'000 €          | floors and walls     | yes                                                                                   |   |  |
| 21 |                                                                                         | Mat. storage ring                                                                 | 7 x                 | 70.000 m3            | 900 €                                                                                                                             | 441'000'000 €          | floors and walls     | yes                                                                                   |   |  |
| 22 |                                                                                         | Conveyor Belts                                                                    | 3 x                 |                      |                                                                                                                                   | 60'000'000 €           | diverse types        |                                                                                       |   |  |
| 23 |                                                                                         | Heavy load trucks                                                                 |                     |                      |                                                                                                                                   | 8'000'000 €            |                      |                                                                                       |   |  |
| 24 |                                                                                         | Compensations                                                                     | 20.000 Shares       | direct local people  | 30'000 €                                                                                                                          | 600'000'000 €          | payment not bribe    | yes                                                                                   |   |  |
| 25 |                                                                                         | Planning Offices                                                                  | diverse             | many disciplines     |                                                                                                                                   | 117'000'000 €          | over 10 years        |                                                                                       |   |  |
| 26 |                                                                                         | Approval Fees                                                                     |                     | many agencies        |                                                                                                                                   | 58'000'000 €           | to Gov. Agencies     |                                                                                       |   |  |
| 27 |                                                                                         | Startfound. SBM                                                                   | 7 x                 |                      | 3'000'000 €                                                                                                                       | 21'000'000 €           | temp. Structures     |                                                                                       |   |  |
| 28 |                                                                                         | Shaft Drills D=12 m                                                               | 7 x                 |                      | 50'000'000 €                                                                                                                      | 350'000'000 €          | autom. Maschine      |                                                                                       |   |  |
| 29 |                                                                                         | Spray-concr.-wall                                                                 | 9,3 m2 x 3.350 m    | 31.155m3 x 7         | 600 €/m3                                                                                                                          | 131'000'000 €          | steel-fibre-amored   | yes                                                                                   |   |  |
| 30 |                                                                                         | Shaft completion                                                                  | 3 sets              | 4 companies          | 46'000'000 €                                                                                                                      | 138'000'000 €          | Vent., Transport     |                                                                                       |   |  |
| 31 |                                                                                         | Air-Conditioning                                                                  | 8 x                 |                      | 10'000'000 €                                                                                                                      | 80'000'000 €           | cold air IN          |                                                                                       |   |  |
| 32 |                                                                                         | Cable-Drum-Houses                                                                 | 7 x                 | 140.000 m3           | 1'000 €                                                                                                                           | 980'000'000 €          | Drum-Diam.=24 m      |                                                                                       |   |  |
| 33 |                                                                                         | Work-Over Rigs                                                                    | 2 x                 | Steelbuilders        | 3'200'000 €                                                                                                                       | 6'400'000 €            | with return pulley   |                                                                                       |   |  |
| 34 |                                                                                         | Steel-Cables CH                                                                   | 11 x                | Fatzer               | 4.600.000                                                                                                                         | 50'600'000 €           | D = 60 mm            |                                                                                       |   |  |
| 35 |                                                                                         | Transition Cone                                                                   | 7 x                 | concrete constr.     | 1'100'000 €                                                                                                                       | 7'700'000 €            | 12 m. to 23,3 m.     |                                                                                       |   |  |
| 36 |                                                                                         | Hole-opening                                                                      | 7 x                 | to Diam.=23,3 m.     | 12'000'000 €                                                                                                                      | 84'000'000 €           | with chain-saws      |                                                                                       |   |  |
| 37 |                                                                                         | Staff 11,6 years                                                                  |                     |                      |                                                                                                                                   | 64'000'000 €           | Work & Safety        |                                                                                       |   |  |
| 38 |                                                                                         | Rocksalt-Salt-Sale                                                                | 7 x 500.000 m3      | rough quality        | 50 €/m3                                                                                                                           | -175'000'000 €         | Asse/M./Gorleben     | K+S                                                                                   |   |  |
| 39 |                                                                                         | Concrete-Pellets                                                                  | 315 x               | 6.634 m2 x 315       | 600 €/m3                                                                                                                          | 1'254'000'000 €        | Quality-Concrete     | yes                                                                                   |   |  |
| 40 |                                                                                         | Closure works                                                                     | 7 x                 |                      |                                                                                                                                   | 70'000'000 €           | Salt + M. Pressure   |                                                                                       |   |  |
| 41 |                                                                                         | building back                                                                     | 7 x                 |                      |                                                                                                                                   | 14'000'000 €           | farmland again       |                                                                                       |   |  |
| 42 |                                                                                         | Unforseeables                                                                     | 11%                 |                      |                                                                                                                                   | 559'946'750 €          | not BER airport      |                                                                                       |   |  |
| 43 |                                                                                         | <b>Total</b>                                                                      | <b>in July 2018</b> |                      |                                                                                                                                   | <b>5'650'371'750 €</b> |                      |                                                                                       |   |  |
| 44 |                                                                                         |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 45 |                                                                                         |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 46 |                                                                                         | plus HLW containers, plus rail-transport, plus law-cases                          |                     |                      |                                                                                                                                   |                        | <b>5,65 Mrd. EUR</b> |  |   |  |
| 47 |                                                                                         |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 48 |                                                                                         |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |
| 49 |                                                                                         |                                                                                   |                     |                      |                                                                                                                                   |                        |                      |                                                                                       |   |  |