1. **Bedford dam (upper reservoir)**
   - **1.1 Full Supply Level**: 1738.6 m.a.s.l.
   - **1.2 Minimum level for all machines operating**: 1720.0 m.a.s.l.
   - **1.3 Live volume**: 19.2 million m$^3$
   - **1.4 Maximum storage volume**: 22.43 million m$^3$
   - **1.5 Minimum storage volume (dead volume)**: 3.23 million m$^3$
   - **1.6 Type of dam wall**: Concrete Faced Rockfill

2. **Bramhoek dam (lower reservoir)**
   - **2.1 Full Supply Level**: 1270 m.a.s.l.
   - **2.2 Minimum level for 4 machines operating**: 1258 m.a.s.l.
   - **2.3 Live volume**: 19.2 million m$^3$
   - **2.4 Volume allowance for evaporation over and above active volume**: 2.72 million m$^3$
   - **2.5 Maximum storage volume**: 26.26 million m$^3$
   - **2.6 Minimum storage volume (dead volume)**: 4.34 million m$^3$
   - **2.7 Type of dam wall**: Roller Compacted Concrete

3. **Intake canal**
   - **3.1 Number**: 1
   - **3.2 Profile**: Trapezoidal
   - **3.3 Base width**: From 25 m to 49.27 m
   - **3.4 Depth**: From 5 m to 15.45 m
   - **3.5 Length**: 840 m

4. **Headrace tunnels**
   - **4.1 Number**: 2
   - **4.2 Internal diameter**: 6.60 m concrete-lined and 5.10 m steel lined
   - **4.3 Length up to surge shaft**: 1061 m for tunnel 1-2 and 1058 m for tunnel 3-4
   - **4.4 Type of construction**: Concrete-lined for 873 m for tunnel 1-2 and 873 m for tunnel 3-4, thereafter steel-lined
   - **4.5 Maximum flow velocity in concrete-lined section**: 5.0 m/s at rated generating flow
   - **4.6 Maximum flow velocity in steel-lined section**: 8.3 m/s at rated generating flow

5. **Headrace surge shafts**
   - **4.1 Number**: 2
   - **4.2 Type**: Cylindrical
   - **4.3 Internal diameter**: 16.50 m
   - **4.4 Height**: 191 m

6. **Pressure inclined shafts and tunnels**
   - **6.1 Number**: 2
   - **6.2 Internal diameter**: 5.10 m to bifurcation, then 3.60 m to reducer, thereafter 2.50 m to spiral
   - **6.3 Length (from surge shaft up to spiral)**: 1081 m
6.4 Type of construction
Steel lined

6.5 Maximum flow velocity
Rated generating flow from 8,3 m/s to 17,3 m/s

7. Underground power station

7.1 Number of machines
4

7.2 Continuous rating of each machine for generation
333 MW

7.3 Maximum power for pumping per machine
360 MW

7.4 Range of net head for generation
433,6 m to 465,8 m

7.5 Head range for pumping
462,0 m to 489,7 m

7.6 Rated generating flow per machine
84,9 m³/s

7.7 Maximum permissible pressure in penstocks
7,22 MPa

7.8 Type of pump-turbine
Single stage reversible Francis

7.9 Rated speed for both directions of rotation
428,6 r.p.m.

7.10 Method of pump starting
Static Frequency Converter

7.11 Type of control
Local and remote

8. Tailrace surge chambers

8.1 Number
2

8.2 Type
Cylindrical

8.3 Internal diameter
20 m

8.4 Height
109.3m

9. Tailrace tunnel

9.1 Number
1

9.2 Internal diameter
9,4 m

9.3 Length
2340m

9.4 Type of construction
Concrete-lined

9.5 Maximum flow velocity
4,9 m/s at rated generating flow
7,7 m/s at generating start-up (transient)

10. Operating data

10.1 Maximum energy storage capacity
21 GWh

10.2 Time required to pump live volume from lower to upper reservoir
20 hours

10.3 Type of cycle for operation
Weekly

10.4 Cycle efficiency
78%

11. Key abbreviations

m.a.s.l. = metres above sea level
MW = Megawatt
GWh = Gigawatt hours
(1GW=1000MW)
MPa = Megapascals
m³ = cubic metres
r.p.m. = revolution per minute