

## NATIONAL ASSEMBLY QUESTION: 1376

### Mrs C Dudley (ACDP) to ask the Minister of Energy:

- 1) In the light of the commitment to a nuclear fleet, what are the cost implications of the entire nuclear cycle of (a)(i) uranium mining, (ii) processing, (iii) nuclear enrichment and (iv) fuel fabrication, (b)(i) constructing six reactors at the coast and (ii) operating the specified reactors for 30 years, (c) constructing (i) transmission lines and (ii) transport infrastructure, (d) waste (i) handling and (ii) management and (e) decommissioning;
- (2) whether she intends releasing a reconsideration report containing the aforementioned statistics; if not, why not; if so, when? NW1523E

### REPLY

- 1) (a) The cost of uranium mining, processing, enrichment and fuel fabrication amounts to about ZAR67/MWh. More details are available in the Electric Power Research Institute report that was used for the IRP. This compares well with estimates in the OECD studies. Both of these are reliable sources of data. Current estimates show that the cost of acquiring these facilities to enable beneficiation through local industry development, from mining to fuel fabrication, amounts to around R20billion, which includes the capacity to export. It must be noted that this does not impact the levelised cost of nuclear electricity by more than 1% for the 10GWe case.  
  
(b) The cost of building all the nuclear power plants are documented in the IRP report and supporting documents, together with a detailed breakdown of all aspects.  
  
(i) Constructing reactors at the coast – ZAR 250 to 350 billion or 53 to 63 c/kWh  
(ii) Operation and Maintenance for 60 years ZAR 95 to 118 per MWh or 10 to 12 c/kWh

(iii) Fuel cost ZAR67/MWh or 6.7c/kWh – Which includes cost of waste management.

(c) (i) Transmission lines are not included as this is assumed comparable with all other technology options.

(ii) Transport infrastructure – It is safe to assume that this would not be a significant cost as compared to the major costs above.

(d) Waste management and handling ( included in fuel cost above – 17c/kWh)

(e) Decommissioning and dismantling ZAR 38 to 53 billion, or 1 to 2c/kWh

2) These figures are in the IPR 2010 as gazetted.