

# Dawn of a competitive electricity sector for South Africa: The Independent System and Market Operator Bill B 9-2012 – Context, content and comment

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## OPSOMMING

### **Aanvang van 'n Mededingende Elektrisiteits-sektor in Suid-Afrika: *The Independent System and Market Operator Bill B9-2012* – Konteks, Inhoud en Kommentaar**

Die *Independent System and Market Operator Bill B9-2012* ("ISMO-Wetsontwerp") wat tans voor die Parlement dien, is 'n kardinale stap in die ontwikkeling van mededinging in die Suid-Afrikaanse elektrisiteitsektor. Die Wetsontwerp word hier krities beskou in die konteks van mededingingsverwikkelinge in die sektor en enkele vergelykings word getref met die Ontario Independent Electricity System Operator (IESO) ten einde voorstelle ter verstewiging van die Wetsontwerp aan die hand te doen. Hierdie het hoofsaaklik betrekking op die korporatiewe vorm van ISMO; ISMO se drievoudige rol met betrekking tot die elektrisiteitbeplanningsfunksie, stelselontwikkeling en as stelsel- en markoperateur; en die eienaarskap van die transmissiebates. 'n Deurtastende beskouing van mededinging in die elektrisiteitsektor toon aan dat velerlei ondernemings in dié verband gemaak is deur die owerhede sedert 1998, maar dat daar weinig van gekom het tot dusver, met die resulterende kapasiteitskrisis wat weer in die winter van 2012 gelei het tot kragonderbrekings en beurtkrag. Daar word voorgestel dat ISMO 'n groter rol te speel het as wat tans in die Wetsontwerp beoog word in verband met elektrisiteitsbeplanning, die toewysing van nuwe opwekkingsgeleenthede, die ontwikkeling en uitbreiding van die nasionale transmissiestelsel en die kontraktering vir nuwe opwekking. Dit word ook beklemtoon dat die eienaarskap van die transmissiebates 'n deurslaggewende faktor kan wees in die uiteindelijke sukses aldan nie van ISMO. Die belang van 'n onafhanklike, neutrale mark- en stelseloperateur kan nie oorbeklemtoon word met verwysing na die Renewable Energy Independent Producer Procurement Programme wat einde 2011 deur die Departement van Energie van stapel gestuur is nie. Dit is 'n voorvereiste vir 'n suksesvolle belegging deur 'n onafhanklike kragprodusent dat hy onbelemmerde toegang tot die transmissienetwerk moet kry en dat hy van 'n afset verseker is vir sy produk. ISMO vervul juis hierdie rol.

## 1 Introduction

South Africa has a vertically integrated power utility in the form of Eskom Holdings Ltd ("Eskom"). It is for all intents and purposes a total

monopoly, controlling generation,<sup>1</sup> transmission<sup>2</sup> and distribution<sup>3</sup> of electricity throughout the Republic. Generation, transmission and distribution represent the three levels at which competition might present itself, given an enabling regulatory framework. Unbundling and deregulation of the electricity market thus typically involves the “splitting up” of utilities such as Eskom into separate Generation, Transmission and Distribution companies and the introduction of an Independent System Operator entity that functions autonomously from these companies, typically to operate the national grid and to fulfil a planning and procurement function in respect of new generation capacity. This ensures that in a system where a generator (upstream) such as Eskom also owns transmission assets such as the national grid and distributes electricity to retail customers (downstream), new private sector participants in the generation sector are ensured fair access to the national grid as well as an offtaker for the electricity generated by them. Without guarantees of equal access to the national grid and offtake for electricity generated, Independent Power Producers (IPPs) would find it close to impossible to have a bankable project for development.

Access to the national grid could be frustrated in several ways by the generator-owner: It could refuse the IPP a connection to the grid; it could delay the IPP’s connection in favour of its own new developments; or it could charge the IPP prohibitive connection and/or wheeling charges – the latter refers to a charge for the conveyance of electricity over the grid for offtake elsewhere by a customer. Thus, for instance, if the IPP is a wind farm generator and its customer is an industrial steel plant some 100 km away, the IPP would upload electricity onto the national grid at point A, “wheel it” over the grid and the customer would download an equivalent quantity of electricity from the national grid at point B. The offtake issue arises by virtue of the fact that the generator-owner of the grid typically has lower sunk costs than the IPP by reason of its existing infrastructure (it can finance new developments with cross-subsidisations from existing generation facilities) and can afford to sell electricity at lower tariffs than the IPP, meaning that the playing ground is not level. It is clear, therefore, that an independent system operator is pretty much a prerequisite for the introduction of competition into an electricity market, preferably accompanied by the unbundling of the incumbent vertically integrated monopoly utility.

Although the Government indicated its intention to introduce competition in the electricity sector as long ago as 1998,<sup>4</sup> it was only in 2006 that the framework for private sector participation in electricity generation was created with the enactment of the Electricity Regulation

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1 The production of electricity by any means.

2 The conveyance of electricity through a power network above a nominal voltage level of 132 kV.

3 The conveyance of electricity through a power network at or below a nominal voltage level of 132 kV.

4 See s 2 below.

Act<sup>5</sup> (ERA). Yet, despite the provisions of the ERA which enable the Minister of Energy to promulgate regulations pertaining to new generation capacity, private sector participation, the procurement process and the cost recovery mechanism to be utilised, the present monopolistic structure of the electricity sector still does not provide for the independent purchase of power from the private sector.<sup>6</sup> That is due to first, the fact that unbundling of Eskom into different generation, transmission and distribution entities has not been seen through, and second, the absence of an independent system operator entity in the South African electricity market. It is a major stumbling block to the introduction of competitive private sector participation in the South African power sector: predictably, barriers such as impeded access to the transmission system, delayed connections to the transmission system and unequal bargaining power for the sale of electricity where the buyer also generates, arise.<sup>7</sup>

The Department of Energy (DoE) has recognised that a conflict of interest in the current regulatory framework is inevitable for the reasons cited above<sup>8</sup> and has accordingly put forward the Independent System and Market Operator Bill<sup>9</sup> (“the ISMO Bill”) that was introduced in the National Assembly as a proposed section 75 bill in March 2012. The stated intention with the ISMO Bill is to create a market and system operator that will be independent from activities related to electricity generation, to avoid a conflict of interest, and thereby to ensure the equal treatment of all generators.<sup>10</sup>

The concept of an independent system operator has never been more topical, as the DoE has already embarked on an extensive procurement drive for IPPs in the renewable energy generation sector, with the Minister of Energy declaring her intention to procure 3,725 MW of investment in renewable energy projects from the private sector. She has so far awarded projects amounting to 2,455 MW in the first two rounds of bidding. To date some R50 billion has reportedly been pledged by the private sector in what has been described as an “energy success story that could spark a chain reaction across Africa.”<sup>11</sup>

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5 4 of 2006.

6 See par 1.2 *Memorandum on the Objects of the Independent System and Market Operator Bill, 2012*.

7 In a Departmental Briefing to the Parliamentary Portfolio Committee on 2011-07-07, the DoE ascribed the fact that IPPs had until then not been forthcoming in significant volumes, to four factors: “[The p]erception of conflict of interests in vertically integrated Eskom; [the p]erception that Government is not serious about industry reform; [p]erceptions about long-term viability of present ESI structure; [and the l]ack of enabling legal/regulatory framework to facilitate IPPs.”

8 Departmental Briefing to Parliamentary Portfolio Committee 2011-07-07

9 B 9-2012.

10 Par 3.1 *Memorandum on the Objects of the Independent System and Market Operator Bill, 2012*.

11 Nott “Werksmans Africa Legal Brief Series” March 2012.

This article will place the development of the ISMO Bill in historical context, consider the content of the ISMO Bill, and suggest improvements against the background of the experience of a similar entity in North America. Due to its limited scope it is not intended to be exhaustive.

## 2 Context – Competition and the South African Electricity Sector

Modern-day electricity industry regulation in South Africa commenced with the establishment of the National Electricity Regulator (NER) in 1995 following the publication of an amendment to the Electricity Act<sup>12</sup> by the Electricity Amendment Act,<sup>13</sup> with the objective of introducing efficient and effective regulation of the Electricity Supply Industry (ESI) in line with Government policy and law. This entity continued in existence until 2006, when it was replaced by the National Energy Regulator of South Africa (NERSA),<sup>14</sup> the body that remains responsible for electricity regulation to this day.

The first steps towards encouragement of competition in the ESI are to be found in the *White Paper on the Energy Policy of the Republic of South Africa*, gazetted in 1998.<sup>15</sup> Two of the policy objectives of the White Paper are (1) “stimulating economic development through the encouragement of competition in energy markets, encouragement of cost-reflective tariffs and creation of investor-friendly climate”; and (2) “securing supply through diversity, given increased opportunities for energy trade.”<sup>16</sup> The White Paper furthermore prescribes that the Integrated Resource Planning (IRP) methodology is to be followed for energy planning purposes<sup>17</sup> – this would play a big role later on, as it essentially prescribes what is permissible in terms of new capacity to be sourced, both in terms of energy diversity and private sector participation. It provides for the introduction of IPPs into the generation market;<sup>18</sup> the restructuring of Eskom through the unbundling of its generation and transmission groups;<sup>19</sup> and for improved electricity sector governance, *inter alia* to introduce and maintain effective competition within the electricity industry.<sup>20</sup>

In April 2001 Cabinet took a formal decision to restructure the ESI. The strategy included three important aspects for present purposes: (1) the

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12 41 of 1987.

13 46 of 1994.

14 In terms of the National Energy Regulator Act, 40 of 2004 read with GN 666 GG 28996 of 2006-07-07.

15 GG 19606 of 1998-12-17 (the “White Paper”).

16 *Idem* 6.

17 *Idem* 18.

18 *Idem* 20.

19 *Idem* 20.

20 *Idem* 21.

unbundling of Eskom; (2) the selling of 30% of electricity generation; and (3) gradually increasing private sector participation by ensuring that all new generation capacity is built by the private sector.<sup>21</sup>

This was in line with Government's goals for State Owned Enterprises (SOEs) at the time, which included: the mobilisation of private sector capital and foreign direct investment; enhanced competitiveness of SOEs; the promotion of fair competition; and the financing of growth and requirements for competitiveness.<sup>22</sup> The NER accordingly advocated a three-phased approach to reform to a competitive ESI sector: first, Eskom corporatisation; second, the corporatisation of generation and independent transmission; and third, private sector involvement and competition.<sup>23</sup>

Eskom's own proposals at the time are instructive. It warned that a cautionary approach had to be followed as the implications of restructuring errors would be severe and difficult to reverse.<sup>24</sup> Therefore it also foresaw a phased process, in terms of which over the course of 2001-2002 Eskom would be converted into a company and a new board of directors appointed. Generation, transmission and Distribution would be set up as operating divisions of the company, with the option of establishing the three entities as subsidiaries of Eskom to be investigated. The period 2002-2003 would then see the possible incorporation of Generation, Transmission and Distribution as wholly-owned subsidiaries of Eskom (in line with the investigation to be performed). Generation restructuring would be conducted against the principle that Eskom would progressively reduce its local market share whilst expanding internationally: 2001-2002 would see the introduction of internal competition (clusters) and the finalisation of planning for Black Economic Empowerment (BEE) and private participation and/or the gradual sale of some generation assets; and 2003-2006 would see the implementation of plans for BEE and private participation and/or the gradual sale of some generation assets.<sup>25</sup>

Transmission restructuring would first entail the ringfencing of Transmission into two entities, a wireless/system operator business and a market operator (power exchange) (2001-2002); next Eskom would consider establishing Transmission as a subsidiary to establish independence and create "Chinese Walls" to avoid Generation being able to influence the market operator (2002-2003); and ultimately a separate power exchange would be created from Eskom and set up as an independent entity in synchronisation with the gradual introduction of a

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21 *Energy Security Master Plan – Electricity 2007-2025* (2007) 7 (the "Energy Master Plan").

22 NER briefing to Standing Parliamentary Committee on Minerals & Energy "On ESI and EDI Restructuring" 2001-09-19.

23 *Ibid.*

24 Eskom briefing to Standing Parliamentary Committee on Minerals & Energy "Eskom Strategic Intent and Restructuring" 2001-10-09.

25 *Ibid.*

market and the sale of some Generation assets (subject to regulatory and market rules being in place), the transmission wires and system operator business remaining with Eskom and longer-term positioning of Transmission to be determined (2003).<sup>26</sup>

Distribution restructuring would be conducted largely in line with the Electricity Distribution Industry (EDI) restructuring process of DME, with Eskom retaining some wholesale and retail customer services capability.<sup>27</sup>

Eskom was indeed converted into a public company with effect from 1 July 2002 and it created the three divisions as detailed above.<sup>28</sup> However, nothing came of the mooted potential incorporation of the various divisions into separate subsidiaries and thus the introduction of “Chinese walls”. When faced with the impending reality of an independent system operator entity in the South African market, Eskom responded by creating such an entity within one of its subsidiaries, Eskom Enterprises Ltd, and it has consistently argued against the incorporation of a new entity as provided for in the ISMO Bill, proposing instead that the Eskom unit should be utilised.<sup>29</sup> That creates obvious problems of independence and neutrality, as will be discussed in further detail below.

In 2003 Cabinet approved private-sector participation in the electricity industry and resolved that future power generation capacity would be divided between Eskom (70 %) and the IPPs (30 %). The then Department of Minerals and Energy (DME) was mandated to ensure private-sector participation in power generation through a competitive bidding process that would diversify primary energy sources and be developed within the electricity sector.<sup>30</sup> However, it would take until the promulgation of the ERA in 2006 before any legislative framework for the procurement of generation from IPPs would come into existence.

The first mention of an Independent System Operator (ISO) is to be found in the draft *Electricity Pricing Policy of the South African Electricity Supply Industry*, gazetted for public comment in May 2004.<sup>31</sup> It proposed the ESI to operate on the principles of a “multi-market model with a number of generation clusters, IPPs, and independent Transmission Company and a Transmission Systems Operator.”<sup>32</sup> This draft policy was never adopted.

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<sup>26</sup> *Ibid.*

<sup>27</sup> *Ibid.*

<sup>28</sup> S 3(1) Eskom Conversion Act 13 of 2001, read with Proc 56 GG 23561 of 2002-06-28.

<sup>29</sup> Eskom Presentation to the Portfolio Committee on Energy “Eskom’s Comments on the ISMO Bill” 2012-05-16.

<sup>30</sup> 2007 National Energy Summit hosted by DME Notice 504 GG 32230 of (20070925–27) 53 (the “Energy Summit”).

<sup>31</sup> GG 2004-05-28.

<sup>32</sup> *Idem* 10.

In 2006 the Electricity Act<sup>33</sup> was replaced by the ERA. It was the culmination of nearly two years' worth of draft bills, sometimes vigorously contested. One such area of disagreement pertained to the introduction of private sector generation: Cosatu was strongly opposed to this and argued that the proposed section 46 dealing with it in the draft Bill<sup>34</sup> should be scrapped in its entirety. The DME rejected this and commented that "[p]rivate participation in generation is policy."<sup>35</sup> This was confirmed by the Minister of Minerals and Energy, Lindiwe Hendricks, in her submission to the Parliamentary Portfolio Committee when she cited the policy requirements of the *White Paper* for private sector participation, saying:

The Bill provides for non-discriminatory access to the electricity networks. This is to ensure participation of IPPs, including renewable energy producers. Government's strategy to create jobs includes the facilitation of Foreign Direct Investment (FDI) and Black Economic Empowerment (BEE). The introduction of IPPs has been identified as an opportunity that is in line with that strategy within the electricity sector.<sup>36</sup>

The process envisaged in section 34<sup>37</sup> of the ERA calls for a Ministerial determination that additional generation capacity is required to ensure the continued uninterrupted supply of electricity,<sup>38</sup> in terms of which the Minister may also require that new generation capacity must be established through a tendering procedure which is fair, equitable, transparent, competitive and cost-effective;<sup>39</sup> and which may provide for private sector generation.<sup>40</sup> This apparently open-ended approach was somewhat tempered by a 2007 Cabinet decision in terms of which Eskom was to be designated as the single buyer of power from IPPs in South Africa – a policy that was motivated with reference to "government's position that the security of supply was a national priority which took precedence over all other key elements, including a competitive market."<sup>41</sup>

The shift in Government policy was confirmed with the publication of the *Energy Security Master Plan – Electricity 2007-2025* by the DME later that year. With reference to the objectives of introduction of competition in the generation sector, the permission of open, non-discriminatory access to the transmission system and the encouragement of private sector participation in the electricity industry, the Master Plan states that

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33 41 of 1987.

34 B 25 of 2005.

35 Parliamentary Portfolio Committee "Comments on the Electricity Regulation Bill" (2005-11-05) 6 1920.

36 Presentation by Minister of Minerals & Energy Lindiwe Hendricks to the Parliamentary Portfolio Committee on "Electricity Regulation Bill" (2005-11-07) 3.

37 Originally s 46, renumbered as s 34 by the *Electricity Regulation Amendment Act*, 28 of 2007.

38 S 34(1)(a).

39 S 46(1)(e)(i).

40 S 46(1)(e)(ii).

41 *Energy Summit* 55.

various international events had impacted significantly on electricity markets worldwide<sup>42</sup> and that this meant that a different strategy to the planning and procurement of new generation capacity had to be adopted – the *raison d'être* of the *Master Plan* itself. In terms of the *Master Plan* Eskom would continue to provide 70% of new capacity and IPPs would provide the balance, confirming the 70%-30% Cabinet policy decision of 2003.<sup>43</sup> It notes that there is:

[a] very weak case for full competition on a merchant basis, ie it is anticipated that any private participation in the electricity industry will be via the IPP mechanism with a power purchase agreement with Eskom (single buyer model)<sup>44</sup>

thus also giving effect to the 2007 Cabinet decision.

The next mention of the System Operator is to be found in the Draft Regulations on Electricity Regulation published by the Minister of Minerals and Energy for public comment in terms of the ERA in February 2009:<sup>45</sup> these were ultimately absorbed into the final Electricity Regulations on New Generation Capacity (ERNGC) gazetted in August of 2009.<sup>46</sup>

The ERNGC applied to all types of generation technology including renewable generation and cogeneration, but excluding nuclear generation technology<sup>47</sup> and the objectives included the regulation of entry by a buyer and an IPP into a power purchase agreement and the facilitation of the fair treatment and the non-discrimination between IPP generators and the buyer.<sup>48</sup> The System Operator was to be responsible for the entire development process of the Integrated Resource Plan (IRP), except for its approval and gazetting, which was to be the responsibility of the DoE. This it would have to conduct in consultation with the Department and the Regulator.<sup>49</sup> The Regulations furthermore provided that the System Operator would primarily be responsible for procurement.<sup>50</sup> As there was no System Operator in place at this time, these provisions were largely academic in ambit.

Despite the fact that President Jacob Zuma announced in his State of the Nation address on 11 February 2010 that an Independent System and Market Operator would be established, the ERNGC were replaced by a new set of similarly named regulations in May 2011<sup>51</sup> from which all

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42 Said to include, *inter alia*, “the collapse of energy markets in Ontario in 2002” (*Energy Master Plan 7*). As appears from 4.1 below, the Ontario energy markets have actually thrived since 2002.

43 11-12, 56.

44 55.

45 Notice 139 GG 31891 of 2009-02-13.

46 GN R 721 GG 32378 of 2009-08-05.

47 Reg 1.

48 Reg 2.

49 Reg 3(1), (2).

50 Regs 6, 7.

51 GN R 399 GG 34262 of 2011-05-04.

mention of System Operator had been expunged: the development of the IRP is now the responsibility of the Minister of Energy after consultation with the Regulator<sup>52</sup> and the procurement process no longer provides for processes conducted by the System Operator but rather for an “IPP procurement programme” which shall take the form determined by the “procurer”, who may also be the buyer thereof.<sup>53</sup> The concept of “procurer” is not defined in the new regulations.

Rather incongruously, the next document to be gazetted by the Department of Energy was the publication of the draft ISMO Bill exactly nine days later on 13 May 2011.<sup>54</sup>

Final developments included the gazetting of two other draft Bills for public comment by the DoE in December 2011: the draft National Energy Regulator Amendment Bill<sup>55</sup> and the draft Second Electricity Regulation Amendment Bill,<sup>56</sup> as well as the introduction of the revised ISMO Bill in the National Assembly in March 2012.<sup>57</sup> These three Bills are being treated by the DoE as something of a triad, with the text of the revised ISMO Bill being drafted to reflect references to the ERA as proposed to be amended in the draft Second Electricity Regulation Amendment Bill, rather than the ERA in its present format.

### **3 The Independent System and Market Operator Bill**

The stated object of the Bill is to provide for an ISMO as a company that is financially viable and responsible for the planning of supply of electricity by generators through the national transmission system, for electricity dispatch and aggregation in respect of sale of electricity by generators, to act as the buyer of electricity from generators and to sell electricity to ISMO customers.<sup>58</sup>

The structure of ISMO as proposed is contentious. The Bill foresees the incorporation of a for-profit company with the State as its sole shareholder.<sup>59</sup> Eskom has argued that the Bill should either allow for the ISMO to be established through the take-over by the State of the subsidiary created by Eskom for that purpose in Eskom Enterprises, or alternatively, it should allow for the transfer of the subsidiary from Eskom to a company established by the State.<sup>60</sup> Organisations such as

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52 Reg 4(1).

53 Reg 7.

54 Notice 290 GG 34289 of 2011-05-13.

55 Notice 890 GG 34825 of 2011-12-08.

56 Notice 905 GG 34870 of 2011-12-19.

57 B9-2012.

58 S 2.

59 S 3.

60 Eskom Presentation to the Portfolio Committee on Energy “Eskom’s Comments on the ISMO Bill” 2012-05-16.

Earthlife Africa, SAFCEI and NUMSA have taken issue with ISMO profit-making, essentially arguing that it would cause unnecessary increases in the electricity tariff and cause ISMO to make a profit in the performance of a public good.<sup>61</sup>

ISMO's functions are threefold: planning, system operation and expansion, and market operation. However, much criticism has been levied against the Bill by reason of the fact that the planning function is limited to the modelling of scenarios for purposes of developing the IRP and the provision of inputs to the transmitter for the development of the expansion plan in accordance with anticipated electricity demand as per the IRP. It has been argued that the Minister of Energy, and indeed the DoE, does not possess the necessary manpower and resources for the compilation of the IRP and that this should instead be the responsibility of ISMO itself as it will have both the data and resources at hand.<sup>62</sup> It is worth pointing out that the development of the IRP 2010,<sup>63</sup> which is currently in force, was largely conducted by Eskom at the behest of the DoE. The IRP itself is of cardinal importance for purposes of the present discussion, as a Ministerial determination in terms of section 34 of the ERA is required that new generation capacity is needed before an IPP procurement process may be embarked upon – and it is intended that in making such a determination the Minister will need to have regard to the content of the IRP.<sup>64</sup> It contains strict prescriptions regarding the energy mix and energy sources to be employed for new generation – and indeed, the section 34 determination must include provisions dealing with *inter alia* the types of energy sources from which electricity must be generated, and the percentages of electricity that must be generated from such sources.<sup>65</sup>

As market operator, ISMO is responsible for the procurement function and acts as buyer of electricity generated. The intention of DoE is to “level the playing field” so that Eskom does not act as both buyer and generator.<sup>66</sup> This would appear to tie in with the single buyer-model thus far mooted by Government, but industry players have expressed the

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61 See Taylor “Sustainable Energy & Climate Change Project: Comments on the draft Independent System and Operator Bill – B9-2012” (2012-04-13); McDaid “SAFCEI Response to Publication of Draft Legislation – Independent System and Market Operator Bill – B9-2012” (2012-04-12); NUMSA “Submission Independent System & Market Operator Bill (ISMO Bill) – Additional Comments” (2012-05-23).

62 See Eberhard & Kapika “Independent System and Market Operator Bill – Comments to Parliamentary Committee on Energy” (2012-05-19); Pickering “Meridian Economics: Comments on the Independent System and Market Operator Establishment Bill” (2012-04-13) 3-5.

63 *Integrated Resource Plan for Electricity 2010-2030* Rev 2 Final Report (2011-03-25).

64 S 34(5) Electricity Regulation Second Amendment Bill. One concern with the Renewable Energy Procurement Programme is that no such announcement has been made to date in respect of the 3,275 MW that is apparently being procured from IPPs.

65 S 34(1)(b) ERA.

66 Departmental Briefing to Parliamentary Portfolio Committee (2011-07-07).

hope that there would be scope for bilateral agreements<sup>67</sup> in view of the fact that the Electricity Regulation Second Amendment Bill provides a Ministerial exemption from the single buyer obligation<sup>68</sup> and the ISMO Bill itself refers to “generation licensees exempted by licence from selling to ISMO in terms of the Electricity Regulation Act”.<sup>69</sup> There would accordingly appear to be the potential for ISMO as a non-exclusive central purchaser, which means that some competition in the wholesale power market may be possible, with attendant efficiencies to be gained.

In this regard, there is a lack of clarity regarding the identity of ISMO customers.<sup>70</sup> The Bill defines it broadly as “the customers to whom ISMO may sell electricity; from whom ISMO may buy electricity; and who provide ancillary services.” Predictably, submissions to the Parliamentary Portfolio Committee reflect the underlying market philosophy of the commentator in question, ranging from NUMSA who believes that all customers should be ISMO customers,<sup>71</sup> to the Free Market Foundation, who believes that there should be free competition,<sup>72</sup> to the extent that “government should pave the way for the entry of competing suppliers of every possible service involved in the process, from generation to distribution”.<sup>73</sup>

With regards to the national grid, it is unclear from the Bill whether ISMO will own or will simply operate the transmission network system. The Bill provides for a procedure whereby Eskom must compile a list of all assets, rights, liabilities and obligations to be transferred to ISMO, together with the value thereof.<sup>74</sup> This includes a provision for the transfer of employees who perform functions pertaining to ISMO.<sup>75</sup> It is not clear what the extent of these assets is, but arguably it could include the transmission system. This is an issue of great importance, as it determines to a large extent the balance sheet of ISMO – which will

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67 Kruger “Chamber of Mines of South Africa: Comment on Independent System and Market Operator Bill – B9 2012” (2012-04-16); Pickering *op cit*; Energy Intensive Users Group (EIUG) “Independent System and Market Operator Establishment Bill [B8-2012]: Parliamentary Submission” (2012-04-18); Eberhard & Kapika *op cit*.

68 See s 34(2)(c).

69 S 4(3)(d)(i). Note that the ISMO Bill is written throughout as though the Electricity Regulation Second Amendment Bill has already been enacted – the present ERA does not provide for such exemption by license.

70 See eg SALGA “Presentation to the Portfolio Committee on Energy: Independent Systems and Market Operator Bill Public Hearings” 15 and 16 May (2012-05-15–16).

71 See NUMSA *op cit*.

72 Free Market Foundation “ISMO Bill Submission” (2012-05-22).

73 Free Market Foundation “Comment on the ISMO Draft Bill” available at <http://eepublishers.co.za/article/free-market-foundation-103.html> (accessed 2012-05-24).

74 S 40. NERSA has pointed out that Eskom’s current transmission licence will need to be amended in order to separate the system operator part: “NERSA Presentation to Portfolio Committee on Energy” (2012-05-16).

75 See in this regard Eskom Presentation to the Parliamentary Portfolio Committee *op cit*; NUMSA *op cit*; and Nedlac “Nedlac Report to the National Assembly Portfolio Committee on Energy on the ISMO Bill” (2012-05-22).

impact on the bankability of power purchase contracts entered into with IPPs. The PPAs would otherwise require a government guarantee to support the agreement and make it bankable.<sup>76</sup> Not having a bankable project in this sense then becomes a further barrier to IPP generation and thus the introduction of competitive private sector participation in the South African electricity market. Eberhard and Kapika also argue that the transfer of the transmission assets to ISMO would create a level playing field between Eskom and the IPPs<sup>77</sup> and point out that the argument that this will ruin Eskom's credit rating is fallacious, since the value of Eskom transmission assets is minute compared to the remainder.<sup>78</sup> This is borne out by a referral to Eskom's 2012 Integrated Report, in terms of which the carrying value of Transmission Assets amounts to R15.8 billion of the total Property, Plant and Equipment portfolio of R290.6 billion – some 3.8%.<sup>79</sup>

Finally, there is a provision for ISMO to contract with Eskom for the execution of ISMO functions, presumably to ensure the seamless transition between the *status quo* and the implementation of ISMO. It is unclear from the wording of the clause whether this is intended to be just an interim measure until ISMO is up and running or whether Eskom may continue to do so indefinitely. It goes without saying that there are grave objections to the latter scenario,<sup>80</sup> as the very *raison d'être* of ISMO is to create an entity that is "independent from all activities related to electricity generation to ensure equal treatment of all generators."<sup>81</sup>

## 4 Comparison: Ontario Independent Electricity System Operator

### 4.1 Background

The Ontario Independent Electricity System Operator (IESO) provides an interesting basis for comparison. As is the situation with Eskom in Southern Africa,<sup>82</sup> Ontario is a net exporter of electricity in North America – in 2011, for example, it exported a net balance of 8.9 TWh of electricity, to a value of CAD 277.1 million.<sup>83</sup>

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76 Free Market Foundation *op cit*.

77 Also see Kruger *op cit*.

78 *Ibid*.

79 Statement of Financial Position available at [http://financialresults.co.za/2012/eskom\\_ar2012/financial-statements/fin-position.php](http://financialresults.co.za/2012/eskom_ar2012/financial-statements/fin-position.php) (accessed 2012-07-23).

80 See eg EIUG *op cit* 8-9.

81 Par 2.3 *Memorandum on the Objects of the Independent System and Market Operator Bill*, 2012.

82 Eskom generates approximately 95% of the electricity used in South Africa and 45% of the electricity used in Africa: see <http://www.eskom.co.za/c/40/company-information/> (accessed 2012-07-23).

83 See [http://www.ieso.ca/imoweb/siteShared/imports\\_exports.asp?sid=ic](http://www.ieso.ca/imoweb/siteShared/imports_exports.asp?sid=ic) (accessed 2012-06-22).

In 1998, for purposes of creating a competitive electricity market, the former Ontario Hydro's monopoly in the electricity market was replaced with several business entities, including two distinct commercial companies: Ontario Power Generation Inc. (OPG)<sup>84</sup> and Ontario Hydro Services Company Inc. (Hydro One),<sup>85</sup> as well as one Crown corporation, the Independent Electricity Market Operator (now IESO).<sup>86</sup> OPG is responsible for the generation of electricity, while Hydro One owns and maintains transmission and distribution wires.<sup>87</sup> IESO manages the province's power system and is responsible for the wholesale electricity market. The Ontario Energy Board (OEB) regulates the province's electricity and gas sectors and has varying degrees of regulatory authority over the three entities, as well as the province's municipal electric utilities.

These structural changes were the precursor to the opening of the Ontario electricity market on 1 May 2002, which functions as a completely open but regulated competitive market.

December 2004 saw the creation of a new agency, the Ontario Power Authority (OPA), to ensure an adequate, reliable and secure supply of electricity in Ontario for the medium and long term.<sup>88</sup> The OPA is licensed by the OEB and the OEB approves its fees and its Integrated Power System Plan and procurement process.

## 4 2 Corporate Entity

The IESO is a not-for-profit company vested in the Crown but is not a Crown agency company.<sup>89</sup>

For South African purposes, it would appear correct to incorporate ISMO as an SOE (profit company) and to do so *de novo*, despite Eskom's objections in this regard.<sup>90</sup> Although there is much to be said for the argument that ISMO should be a not-for-profit company as is the case with IESO, the structure of SOE's in South Africa demands that it be treated congruently.<sup>91</sup> It appears dubious, however, whether ISMO could as an SOE fall under the jurisdiction of the Minister of Energy rather than the Minister of Public Enterprises, as envisaged by the Bill.<sup>92</sup> The argument against talking over an existing division of Eskom is one of

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84 Incorporated under the Business Corporations Act, 1990 on 1998-12-01.

85 *Ibid.*

86 Ie corporation without a share capital: s 4(1) Electricity Act, 1998 as amended by s 23 Sched A s 4(1) Electricity Restructuring Act, 2004.

87 See s 48(1) Electricity Act.

88 The OPA is a not-for-profit Crown corporation without share capital, established in terms of s 25.1(1) Electricity Act.

89 S 5(2), read with s 5(4), (6). It is also expressly excluded from the ambit of the Business Corporations Act, 1990: s 24 Electricity Act.

90 See s 3 and *supra* n 58.

91 NUMSA *op cit* has argued that SOEs need to be "resocialised" by "change[ing] their mandates from the current profit orientation to service provision." That would provide one way out of the current conundrum.

92 Also see McDaid *op cit*.

neutrality, which is core to the function that ISMO is to fulfil in the market.

### **4 3 Objectives**

IESO's statutory objectives include entering into agreements with transmitters giving IESO authority to direct the operation of their transmission systems; directing the operation and maintaining the reliability of the IESO-controlled grid; participating in the development of standards and criteria relating to the reliability of transmission systems; working with the responsible authorities outside Ontario to co-ordinate the IESO's activities with their activities; collecting and providing to the OPA and the public information relating to the current and short term electricity needs of Ontario and the adequacy and reliability of the integrated power system to meet those needs; and operating the IESO-administered markets.<sup>95</sup> It is clear from the above that the ambit of ISMO's objectives goes wider than those of IESO. The objectives of OPA are therefore also considered for purposes of this discussion.

### **4 4 Functions**

#### ***4 4 1 Planning***

It is important to note that both the planning function and the procurement function in Ontario vest in the OPA and not in IESO.<sup>94</sup> This includes the development of an Integrated Power System Plan on a periodical basis that will enable the Ontario Government to achieve its goals relating to the adequacy and reliability of electricity supply.<sup>95</sup> It is also responsible for a periodical assessment of the adequacy and reliability of electricity resources with reference to anticipated electricity supply, capacity, reliability and demand for the period in question, for purposes of which it must consider both generation and transmission capacities and technologies, as well as conservation measures.<sup>96</sup>

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<sup>93</sup> S 5(1).

<sup>94</sup> OPA may, subject to OEB approval, set fees and charges to recover the cost of anything that it is permitted to do under the Electricity Act, and IESO is responsible to collect such fees and charges and pay them over to OPA. The charges in question expressly include those relating to procurement costs, which are deemed to have OEB approval: s 25.20 Electricity Act. As is the case with IESA, OPA may not set, change or eliminate charges without the approval of the OEB.

<sup>95</sup> S 25.30 Electricity Act. The Minister of Energy may issue directives that OPA must take into account when developing the Integrated Power System Plan, including goals relating to the production of electricity from particular combinations of energy sources and generation technologies; increases in generation capacity from alternative energy sources, renewable energy sources or other energy sources; the phasing-out of coal-fired generation facilities; and the development and implementation of conservation measures, programs and targets on a system-wide basis or in particular service areas.

<sup>96</sup> S 25.29.

This planning methodology is similar to the South African IRP process, but is more extensive, in that it provides not only for generation expansion but also investigates transmission expansion and the implementation of electricity conservation measures. It is submitted that the South African IRP planning process could only benefit from such an approach as increased generation capacity without appropriate transmission (ie conveyance) capacity serves no purpose.<sup>97</sup> It is also noteworthy that while IESO itself is not responsible for the IRP planning process, it is in the hands of a specialist agency and is not left generally to the devices to the Minister of Energy or his Department,<sup>98</sup> as in the South African context: section 4(1) of the ISMO Bill should thus be amended so that ISMO is not merely responsible for the modelling function but that it has full responsibility for Integrated Resource Planning as such.

#### **4 4 2 System Expansions**

The OPA must develop appropriate procurement processes for managing electricity supply, capacity and demand in accordance with its approved Integrated Power System Plans. These processes are subject to OEB approval, after which the OPA is free to enter into procurement contracts provided that it follows those processes as approved. No amendment can be made to the processes without OEB approval.<sup>99</sup> There is an obligation on the parties to a procurement contract to ensure that the contract provides a mechanism to resolve any disputes between them with respect to the contract.<sup>100</sup>

With reference to South Africa, it is clear that the allocation of new build opportunities (as identified in IRP planning) needs to be handled by an independent, neutral entity so as to ensure a level playing field. ISMO, under guidance of the Minister of Energy, should accordingly develop clear and transparent criteria for the allocation of new build opportunities to either Eskom or IPPs<sup>101</sup> and it has been suggested that a more robust approach such as the use of competitive bidding between Eskom and IPPs may be preferable.<sup>102</sup> It is quite apparent that Eskom is unable to undertake all investment needed for required new generation capacity – in fact, it has failed to add sufficient new capacity to adequately meet demand, as could be seen from the blackouts and load-shedding that faced the country in 2008, leading to the declaration of a national

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97 See EIUG *op cit* 6.

98 Eberhard & Kapika argue that Energy Ministries rarely have adequate capacity to undertake detailed generation expansion planning and “Master Plans” either suffer from being too general or quickly become out of date. *Cf* McDaid *op cit*.

99 S 25.31.

100 S 25.32(3).

101 Eberhard & Kapika *op cit*.

102 Pickering *op cit* 4.

electricity emergency<sup>103</sup> – and also that it cannot necessarily deliver it more cheaply.<sup>104</sup>

IRP planning should furthermore be linked to timely initiation of appropriate generation procurement processes, preferably in the form of international competitive bidding processes.<sup>105</sup> Building long-term capacity for this within ISMO would be beneficial, and it would mean that generation procurement can be more easily linked to planning. Eberhard and Kapika submit that “procurement” in the Bill refers simply to buying and that the actual sourcing of power still vests in the Minister of Energy in terms of the ERA.<sup>106</sup> Although the ISMO Bill is congruent in this regard with the ERNGC promulgated in May 2011,<sup>107</sup> regulations can easily be substituted and it would be preferable that this be clarified in the ISMO Bill itself. The ERA would need to be amended accordingly.

#### 4 4 3 System and Market Operator

The IESO may make rules governing the IESO-controlled grid; establishing and governing markets related to electricity and ancillary services; and establishing and enforcing standards and criteria relating to the reliability of electricity service or the IESO-controlled grid, including standards and criteria relating to electricity supply generated from sources connected to a distribution system that alone or in aggregate could impact the reliability of electricity service or the IESO-controlled grid.<sup>108</sup> The market rules may include provisions *inter alia* governing the conveying of electricity into, through or out of the IESO-controlled grid and the provision of ancillary services; authorising and governing the

103 See Eskom Briefing to Parliamentary Portfolio Committee on Minerals & Energy on “Current Electricity Crisis and Pricing” (2008-05-28). The Cape Town Regional Chamber of Commerce estimated a loss of R5.6 billion incurred by business in direct and consequential costs in respect of the Cape Town power disruption incidents that took place between Nov 2005 and Feb 2006, which resulted in the shut-down of Koeberg and subsequent load shedding due to insufficient reserve capacity: see *Energy Master Plan 27* and Eskom Briefing to Parliamentary Portfolio Committee on Minerals & Energy on “Eskom’s Response to Recent Cape Supply Interruption Incidents and Eskom’s Build Programme” (2006-03-04). More recently, Eskom has been load shedding its larger customers due to the cold spell which saw eg peak demand forecasted at 36,258 MW with an available supply of 36,580 on 2012-06-16: see <http://www.iol.co.za/business/business-news/eskom-cuts-power-demand-due-to-cold-spell-1.1343585> (accessed 2012-07-23), leaving a reserve margin of less than 1% – the 2007 *Energy Master Plan 31* set a target of 19% consistent with the 1 day in 10 year standard used in the US and many other industrialised countries.

104 See Eberhard & Kapika *op cit*.

105 *Ibid*.

106 *Ibid*. Pickering *op cit* 4 points out that “despite government’s explicit 2001 policy to promote private investment into the sector a full six years have passed [since commencement of the Electricity Regulation Act] without the Minister making a single determination to allow private investment in generation capacity.”

107 See 2 above.

108 S 32(1).

giving of directions by the IESO including, for the purpose of maintaining the reliability of electricity service or the IESO-controlled grid, such as to synchronise, desynchronise, increase, decrease or maintain electrical output, to take such other action as may be specified in the direction; authorising and governing the making of orders by the IESO, including orders imposing financial penalties on market participants, authorising a person to participate in the IESO-administered markets or to cause or permit electricity to be conveyed into, through or out of the IESO-controlled grid, or terminating, suspending or restricting a person's rights to participate in the IESO-administered markets or to cause or permit electricity to be conveyed into, through or out of the IESO-controlled grid.<sup>109</sup> The IESO may only make a market rule after first giving to the OEB an assessment of the impact of the rule on the interests of consumers with respect to prices and the reliability and quality of electricity service<sup>110</sup> and the OEB may also revoke any proposed amendment of a rule and refer it back to the IESO for its consideration.<sup>111</sup>

S 4(3) of the ISMO Bill is headed "Market Operator" but is mostly concerned with the contracting of new power. The making of any market rules would fall within the domain of NERSA. Buying of electricity generated is not a function of IESO, as Ontario has an open market system. As noted previously, OPA can contract for the procurement of new capacity – but there is no general rule that all new capacity has to be sold to OPA as in the single buyer South African model. Given that South Africa has no entity equivalent to OPA the ISMO Bill has rightly allocated the task to ISMO, who will sign long-term PPAs with IPPs. However, ISMO should not have the exclusive single-buyer function – there should be scope for IPPs to contract directly with eligible customers such as mines, industries and large municipalities, including non-exclusive cross-border trading.<sup>112</sup> This would give effect to Government's oft-repeated *dicta* in favour of introducing competition into the electricity supply industry in South Africa while at the same time providing IPPs with appropriate offtake guarantees to make their projects bankable.

#### 4 5 Ownership of the Transmission Assets

As noted in 4 1 above, subsequent to the unbundling of Ontario Hydro the ownership and maintenance of the Ontario grid vests in Hydro One while OPG is responsible for generation. IESO therefore operates the grid but does not own it. Importantly, however, the grid is also not owned by an electricity generator but rather by a neutral entity.

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109 S 32(2).

110 S 32(6).

111 S 33(3).

112 See Kruger *op cit*; Pickering *op cit*; EIUG *op cit*; Eberhard & Kapika *op cit*.

It was argued in section 3 above that it is vital that ownership of the transmission assets vests in ISMO, both for purposes of strengthening its balance sheet and to level the playing field between Eskom and the IPPs.<sup>113</sup> The position of the system operator would furthermore be difficult if the owner and maintainer of the national transmission grid is also an electricity generator<sup>114</sup> and it has therefore been suggested that neutrality requires that if the system does not belong to ISMO, it at least be sold off to some other independent, neutral entity, which could also present Eskom with a much needed capital injection.<sup>115</sup> With regards to renewable generation, Pickering argues that the location of primary renewable energy sources is often remote from existing infrastructure, which necessitates major investments in grid extension and strengthening. This, he cautions, would lead to a clear conflict of interest in Eskom's hands, as it is an active player in the generation sector and would therefore be strongly incentivised to favour its own projects at the cost of private projects.<sup>116</sup>

## 5 Conclusion

The ISMO Bill is an important step on the road to the introduction of competition in the South African electricity industry. It is urgent that the Bill be finalised so that industry players will have the necessary confidence to not only pledge, but actually invest the funds needed to get the Renewable Energy Procurement Programme underway. However, in the process of doing so, there exist serious areas of concern that need to be addressed in order to ensure a level playing field for the participants and also in the interests of securing the electricity capacity needed for medium and long term sustained growth and the development of a strong economy.

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113 Also see EIUG *op cit* 7.

114 Kruger *op cit*.

115 See Free Market Institute *op cit*.

116 *Op cit* 7. Eskom has created the "Eskom Renewables Business" expressly for purposes of competing in the renewable energy sector: see Davenport "Eskom sets up Renewable Energy Unit" *Engineering News* (2011-03-15) available at <http://www.engineeringnews.co.za/article/eskom-sets-up-renewable-energy-unit-2011-03-15> (accessed 2012-07-23).