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Mr S.J. Njikelana, MP: PC on Energy

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Honourable S.J. Njikelana MP

### **Comments on the Independent System and Market Operator Establishment Bill**

We are pleased to submit comments on the draft Independent System and Market Operator Establishment Bill (The "ISMO Bill").

Meridian Economics is a partnership that provides specialist advice on the development and regulation of infrastructure, particularly in regard to the energy sector. The partners have advised the South African government, parastatals, regulators, lenders and investors on a wide variety of power sector-related matters over the past 20 years. We have also been actively involved in the commercial development of power projects over the past six years and are keenly aware of the needs of investors when evaluating new generation opportunities.

We have previously submitted comments to the Department of Energy on the May 2011 version of the ISMO Bill, the December 2011 Energy Regulation Second Amendment Bill and the December 2011 National Energy Regulator Amendment Bill, all of which are attached for your convenience.

### **Overview of comments**

We welcome government's policy decision to restructure Eskom through the establishment of the ISMO. We believe that this is a critical step towards ensuring a stable and effective electricity supply system for the country. The load shedding incidents of recent years clearly demonstrated how critical the performance of the electricity sector is for the health of the country's economy. This performance depends, in general, on how well the sector is governed and, in particular, on the long-term processes which facilitate investment in new generation capacity.

Power sector investments are massive investments by anyone's scale. The World Bank's Africa Infrastructure Country Diagnostic report concluded that sub-Saharan African needs to spend US\$ 42.6 billion per year on capital improvement and operations and maintenance of power sector infrastructure – which amount comprised 56% of the total required annual expenditure for all infrastructure sectors, including ICT, irrigation, transport, water and sanitation.<sup>1</sup> The picture is similar in South Africa, with Eskom's capacity expansion programme far outstripping the scale of other large infrastructure projects. Careful attention must therefore be paid to the design of the governance arrangements that

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<sup>1</sup> World Bank. September 2008. Overhauling the Engine of Growth: Infrastructure in Africa. P8.

will guide and regulate these investment decisions. The ISMO will be central to these decisions and Parliament must therefore take special care to ensure that the institution will be stable and effective in the long term.

### **What problem is government seeking to address through the establishment of the ISMO?**

Government has yet to publish a policy document or white paper setting out its intended strategy for reforming the country's power sector. We presume that the central policy problems that government is attempting to address through the establishment of the ISMO are:

- The urgent need to restore a healthy supply/demand balance within the power sector in order to sustain economic and social development within the country; and
- The need to place the sector on more sustainable and less carbon intensive path.

We believe that these problems have arisen due to inadequate levels of investment by both the public and private sectors in new generation capacity, inadequate utilization of demand side resources, and a failure to create and promote a vibrant market for low/no-carbon renewable energy resources.

### **Is the ISMO an appropriate response?**

All countries face the challenge of balancing supply and demand for power. Various institutional models have been applied in an effort to optimize the balance. During the past three decades many countries have moved away from the traditional model of a large, vertically integrated state-owned entity towards a more open approach with increasing levels of market competition. Academics have termed this evolution the 'standard model', although there is general recognition that the standard model is necessarily the best solution in all cases.

We would characterize government's proposed approach as a '*hybrid model*', whereby Eskom's existing generation interests will be left intact and both Eskom and independent power producers (IPPs) will be permitted to build new generation capacity in future. To achieve this outcome certain functions have to be removed from Eskom in order to avoid a conflict of interest for the utility and instead allocated to one or more independent entities.

Whilst we would agree that the adoption of the hybrid model is a reasonable choice for the country at this stage we would caution that this model is more difficult to implement than it may first appear. Since 2001 government has been on record that it intended that 30% of new generation capacity should be constructed by IPPs. But during the past eleven years we have seen investment decisions by Eskom accounting for some 16,000 MW of new capacity<sup>2</sup> while investment by IPPs has amounted to less than 300 MW of new capacity<sup>3</sup>. This outcome convincingly demonstrates that private sector power investment cannot be taken for granted. Explicit mechanisms must be put in place to overcome the many hurdles that the incumbent is capable of mounting to prevent the entry of competitors into its traditional domain.

### **Six key functions that need to be considered**

If significant private investment is to become a feature of South Africa's power generation industry then we believe the legislative process needs to give careful consideration to the six key functions described below:

**Planning:** being the process of developing an integrated resource plan for the power sector that takes future demand, supply options and demand management options into account;

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<sup>2</sup> Since 2001 Eskom has taken investment decisions to refurbish 3,762 MW of mothballed plant, build 2,067 MW of liquid fuelled open cycle gas turbines, build 8,670 MW of coal fired power stations, and build 1,332 MW of pumped storage plant.

<sup>3</sup> Since 2001 Eskom has signed up 273 MW under the MTPPP programme with five new-build privately owned power stations. A further 410 MW of capacity was contracted under the same programme with existing municipal plant, but this cannot be considered as new-build.

**Allocation:** being the process or mechanisms whereby opportunities to build new capacity are allocated between Eskom, other state owned entities and independent power producers (IPPs);

**Procurement:** being the processes whereby new generation and ancillary capacity is procured from IPPs, and potentially also from Eskom, and dispatchable demand-side resources are procured from consumers;

**Wholesale market operations (The Buyer):** Being the market mechanisms for wholesale power purchase and price aggregation, the facilitation and settlement of bi-lateral and other power trades, and the import and export of power;

**System operations:** Being the function which ensures short-term security of supply through the dispatch of generation and dispatchable load, and the operation of the transmission network; and

**Transmission:** Being the function which plans, builds, owns and maintains the national and cross-border transmission infrastructure.

We acknowledge that these six functions are to some extent a simplification and that there are potential overlaps between them – for instance whether transmission planning is a planning function or a transmission function. Nonetheless, we see them as a useful framework for our comments on the Bill.

#### **Proposed allocation of the functions**

The ISMO Bill, taken together with the Electricity Regulation Act Second Amendment Bill (the “ERA Bill”), provides for three of these six functions to be allocated to the ISMO – namely Procurement, the Buyer function and System Operations. The ERA Bill effectively allocated the functions of Planning and Allocation to the Minister of Energy, whilst the function of Transmission remains with Eskom.

The three functions allocated to the ISMO are in fact the least contentious of the six functions, since they are largely concerned with the implementation of decisions that stem from the first two functions.

We strongly disagree with this proposed allocation and recommend that all six of these functions should be allocated to the ISMO. We believe that this would be the best approach to address the problems described above.

#### **Comments on the proposed assignment of the Planning and Allocation functions**

Section 33A of the ERA Bill explicitly assigns the Planning function to the Minister of Energy. Section 4 of the ISMO Bill empowers the ISMO to ‘provide input’ to the Minister’s planning process.

Section 34 of the ERA Bill explicitly assigns the Allocation function to the Minister of Energy. The ISMO Bill does not empower the ISMO to play any role in Allocation decisions.

Taken together these two functions, Planning and Allocation, are absolutely central to the governance of investment decisions on new generation capacity.

Before commenting on the functions it is worth reflecting on the nature of the investment decisions under consideration. An investment decision can only be taken once a power project has been developed to a stage where the technology, commercial, environmental and legal factors have been understood to an adequate degree. Whereas public and private investors can to some extent understand and control the risks relating to the former three factors the legal factor is largely outside their control. South Africa’s regulatory environment simply does not permit investment into IPP projects without government’s explicit consent.

The development of power projects is a long and costly business. Primary energy supplies must be proven and secured. Sites must be selected, secured and subject to lengthy environmental assessments. Grid access must be proven. Financial viability must be determined. These processes require tens of millions of Rands for even the smallest power station and between three and ten years to complete, depending on the technology under consideration. Private and indeed even public appetite to undertake these processes is naturally dependant on the level of confidence in the regulatory environment. Without clear comfort as to government's intentions in the legal domain private investors have little incentive to invest in project development activities to address the other uncertainties.

Section 34 of the Electricity Regulation Act has been in force since the Act was last amended in 2006. Despite government's explicit 2001 policy to promote private investment into the sector a full six years have passed without the Minister making a single determination to allow private investment in generation capacity. The Minister has indicated her intention to make a determination to allow the private sector to invest in 3,725 MW of renewable energy projects, to be procured via the Renewable Energy IPP Programme (REIPPPP), but this determination has yet to be gazetted. Despite this uncertainty the private sector has demonstrated an overwhelmingly positive response to the REIPPPP initiative, as evidenced by the number of bids submitted during Rounds One and Two of the REIPPPP process. It is a great pity that the Minister has not exercised this power during the past six years to provide similar opportunities for other forms of generation. Perhaps South Africa would not face the capacity constraints that Eskom advertises on national television on a nightly basis?

It is worth noting that government adopted a policy position in the 1998 Energy White Paper that Government would "require the use of integrated resource planning methodologies in evaluating further electricity supply investments and the decommissioning of older power stations".<sup>4</sup> Despite the very evident problems in the sector during the last decade the Minister too until August 2009 to finally publish regulations to govern the IRP process – only to substantially amend these in November 2010. The resulting twenty-year IRP 2010 was finally gazetted in May 2011.

It is important to note that the IRP is not a firm implementation plan for the twenty year period. It is subject to review and is very likely to change. For instance, the National Planning Commission has already argued for a review of the IRP's nuclear-heavy strategy and a greater reliance on gas-based generation.<sup>5</sup> Whilst the IRP may provides some direction for public and private investors it fails to provide any legal certainty.

Legal certainty requires the Allocation function to be performed. The New Generation Regulations of November 2010 empower the Minister to determine whether new generation capacity should be built by the public or the private sector.<sup>6</sup> Before making this determination the regulations require the Minister to undertake or commission a set of 'feasibility studies'. The Newgen regulations specify a set of criteria that each feasibility study must take into account. The ERA Bill proposes to do away with the requirement for feasibility studies and instead simply empowers the Minister to make such determinations, subject only to NERSA's concurrence on the matter.

In our view feasibility studies are a weak method for performing the Allocation function. It is very easy to bias a feasibility study through its terms of reference, the choice of inputs or the process followed. We would prefer to see a more robust approach, such as the use of competitive bidding between Eskom and IPPs.

From the above discussion it should be evident to even the casual observer that the performance of the Allocation function is absolutely crucial to the working of the hybrid model. Having removed

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<sup>4</sup> See section 7.1.5.6.

<sup>5</sup> National Planning Commission. 11 November, 211. National Development Plan, Vision for 2030.

<sup>6</sup> See section (5) of the New Generation Regulations of 30 November, 2010.

responsibility for ensuring security of supply from Eskom, and having chosen not to entrust this outcome to market forces, government has taken on a profound duty to ensure that the Planning and Allocation functions are performed effectively and in good time. The current regulations and the ERA Bill render the Minister the sole gatekeeper in these processes. It is simply not legally possible for any other agency, public or private, to initiate, accelerate or bypass these processes. We do not believe this situation to be healthy or appropriate. We would far prefer the Planning and Allocation functions to be assigned to the ISMO for the following reasons:

**Capacity and expertise will reside in the ISMO:** The ISMO will have the human capacity and expertise to perform these functions. Power sector planning is a highly specialized and technical function which requires a significant amount of human capacity. The Department of Energy (DOE) does not have this capacity and has been completely reliant on Eskom to produce the Integrated Resource Plan for 2010-2030. It is highly unlikely that the DOE will ever develop this capacity, whereas the ISMO will naturally take on the capacity to be transferred out of Eskom to form the ISMO.

**The ISMO will hold demand side and supply side data:** Planning is heavily dependent on the availability of quality data regarding demand and supply-side options. This data will naturally be collected by the ISMO since it will be operating the power system on a day to day basis. Effective planning should take place on a continuous basis with regular updates as conditions change – rather than on an irregular basis depending on the Minister’s interest. Since the ISMO will be responsible for running competitive procurement programmes it will be uniquely qualified to make decisions as to the Allocation of future new generation opportunities between public and private investors.

**Accountability for results should be clearly allocated:** The reality is that the Minister will be highly dependent on the ISMO to undertake the Planning and Allocation functions anyway. This creates a risk that neither party will consider itself fully accountable for performing these critical functions. It should also be kept in mind that Ministers have a limited period in office and are often rotated. Each incoming Minister will naturally want to review past plans and allocation decisions and put his or her own stamp on the sector. This will create massive uncertainty for investors.

**Planning and procurement need to be strongly linked:** Procurement of new generation capacity is a complex process with uncertain outcomes. South Africa has initiated nine IPP procurement processes since 2006, of which only the medium term power procurement programme (the “MTPPP”) has led to private investment decisions, and a very small proportion at that. The DOE commenced a procurement for 1,000 MW of OCGT peaking capacity following a cabinet decision in December 2003. But after more than eight years of effort this process has yet to achieve an investment decision. These experiences demonstrate the need for strong linkages between the Planning and Procurement functions. Plans must take the possibility of procurement failure into account. At present the two Bills allocate responsibility for Planning to the Minister and Procurement to the ISMO. This may lead to sub-optimal outcomes. Procurement needs to be closely linked to Planning and Allocation.

We do not believe that responsibility for the Planning and Allocation functions should be assigned to the Minister for the following reasons:

**Lacks of capacity:** As pointed out earlier, the Minister does not have the human capacity or ready access to critical data to perform these functions. This capacity and data resides within Eskom and can be transferred to the ISMO. It is simply not practical to transfer this capacity into the Department of Energy.

***The Minister can exert sufficient influence over Planning and Allocation:*** The Minister does not need to hold responsibility for exercising the Planning and Allocation functions in order to exercise influence over the outcomes of these functions. The Minister is already empowered to issue regulations which the ISMO would have to take into account when performing the Planning and Allocation functions. For instance, the Minister could issue a regulation stating that 30% of new generation capacity must be allocated to IPPs. By 'making rules in the sunshine' the Minister would help foster a fair, objective and predictable regulatory climate for public and private investors.

***The Minister should avoid conflicts of interest:*** Section 34(6) and (7) of the Electricity Regulation Second Amendment Bill provide for the Minister to invest considerable public resources in the development of power generation projects in anticipation of a procurement process where after a private investor will complete the project. Such public investment may indeed be sensible and necessary to provide clear direction to private investors as to the nature and scope of the desired new capacity. However, in our view it is not appropriate for the Minister to be the party making these investments. Firstly, the Minister and the Department of Energy do not have the technical competence to develop power projects. The Peaker project is to our knowledge the only case in which this has been attempted, and in that case the DOE was heavily dependent on external consultants. By contrast either Eskom or the ISMO would have the capacity to develop project sites as a basis for a competitive procurement from private investors. Secondly, there is the risk that the Minister and/or the DOE may become overly attached to a power project that they have developed and thereby lose their sense of objectivity on the matter. No Minister or official wants to report to Parliament that they have incurred fruitless expenditure on a project that, for whatever reason, has ceased to be necessary, valid or viable. The Minister should avoid this potential conflict of interest by remaining above such activities in order to be able to take objective decisions and intervene when necessary.

***All governance processes need checks and balances:*** Clause 34(8) of the ERA Bill provides that NERSA is bound by any determination made by the Minister in terms of subsection (1) of that clause. This provision effectively eliminates the only real check and balance in the governance of the Allocation function. We do not believe this to be healthy. It is generally recognized in theory and in law that there are processes of review required to guard against executive decisions that were erroneous or which have become incorrect or inappropriate over time. We recognize that an outstanding NERSA license decision may represent a significant regulatory risk to an investor at the time that a bid is submitted or a PPA is awarded, and we agree that ways should be found to mediate this risk. For instance, the Electricity Regulation Act could be amended to provide for NERSA to issue a conditional generation license at the time of PPA award. This license would automatically come into force once the conditions are met – rather than being subject to a further and unpredictable round of regulatory engagement. We certainly do not agree with the current Bill which grants the Minister the unfettered power to push through sweetheart projects for reasons that he or she need not even declare or defend.

To summarise, we believe that the evidence of the past six years clearly demonstrates that the Planning and Allocation functions should not be performed by the Minister but should rather be assigned to a stable, professional and competent body. We believe there is considerable advantage in integrating these functions into the same body that is responsible for the functions of Procurement, Buyer and System Operations – being the ISMO. We do not believe that this assignment would unduly emasculate the Minister. The various Acts will empower the Minister to issue regulations to guide the ISMO when performing these functions, and at the end of the day the ISMO board will be appointed and will report to the self-same Minister.

## The Transmission function

Turning to the last of the six functions, we note that the Bill makes no provision for the ISMO to take over the Transmission function. We believe that this is a serious oversight which needs to be addressed.

As the IRP 2010-2030 clearly demonstrates, South Africa's future generation mix will be substantially different from the present arrangements. The grid will have to accommodate much greater diversity in the geographic location and technical character of the new sources of power. Renewable energy generators are particularly challenging for the network provider, since the location of primary renewable energy sources is often remote from existing infrastructure which necessitates major investments in grid extension and strengthening. If the planning and execution of grid extension is left in Eskom's hands then there is a clear conflict of interest, since Eskom will be an active player in the generation sector and will therefore be strongly incentivized to favour its own projects at the cost of private projects.

The 2011 version of the ISMO Bill provided for the ISMO to 'make recommendations' into the transmission planning process. At the time we commented to DOE that this was a particularly weak mandate which would do little to address Eskom's conflict of interest. By contrast the current Bill does not even go this far and provides the ISMO with no mandate whatsoever to impact on transmission planning or to ever assume responsibility for the full Transmission function.

We believe that the Transmission function and its associated assets should be allocated to the ISMO for the following reasons:

**Responsibility for ensuring access to the grid:** A generation project is only viable if it has access to the grid. Timelines for grid access can be a bigger constraint than the time required to permit, finance and construct a new generation facility. For example Eskom has suggested that transmission facilities for the proposed 5 GW Upington solar park will take 12 years to realize – whereas the plant itself could probably be built in half that time. The experience of wind and solar developers during the REFIT/REIPPPP process has shown that Eskom is slow to respond to their needs. For instance it took years for Eskom to release GIS data showing the location of the national grid. The Grid Code for wind plants was only finalized in April 2011 and the code for solar plants has yet to be released. The national grid is a natural monopoly. IPPs have no option but to deal with the entity that owns and operates this infrastructure. We believe that Eskom's inherent conflict of interest will always compromise its ability to respond to IPP interests. We therefore believe that the Bill should empower the ISMO to take responsibility for the planning, ownership and operation of the Transmission system. This will ensure that one body has integrated responsibility for Planning and for delivering the Transmission infrastructure necessary to execute the national generation capacity expansion plan.

**Strengthened ISMO balance sheet:** The ISMO will enter into power purchase agreements (PPAs) with Eskom and IPPs. The credit-worthiness of the ISMO will therefore be a critical factor to the lenders who stand behind both Eskom and IPPs. Government guarantees can be provided to support the ISMO while it establishes its own credit rating. In the long run though it would be preferable for the ISMO to stand on its own two feet. The addition of Transmission to the ISMO's suite of functions would substantially increase its asset base, thereby improving its credit rating and reducing its drag on government's balance sheet.

**Balanced approach to supply-side and demand-side solutions:** Transmission system operators (TSOs) and independent system operators (ISOs) the world over are increasingly realizing the value of demand-side initiatives to achieve security of supply – rather than focusing on investment in inflexible and expensive supply-side solutions. The so-called smart grid

revolution is enabling demand-side initiatives through advanced technology and communication systems. These investments tend to be more complex and uncertain than traditional supply-side solutions. Traditional utilities are therefore cautious about demand-side options and show a bias towards supply-side solutions. We believe that the ISMO, as an independent player with no commercial interest in either supply or demand-side solutions, is less likely to demonstrate this bias and more likely to facilitate innovation on the demand-side.

Besides these reasons we wish to point to the global trend to vertically disaggregate electricity supply industries. Eskom stands out as one of the very few remaining large, vertically integrated, public utilities. Most countries have long recognized the benefit that disaggregation brings through transparent, clear interfaces, and well defined accountability for separate functions. Creating the ISMO but leaving Eskom intact would effectively hobble the new entity from the outset. The ISMO (or more correctly the TSO) will face an uphill struggle anyway if it is to effectively challenge Eskom's dominance and market power. It needs to be given a real chance in the many battles that lie ahead.

### **Conclusion**

As stated at the outset, we believe that the establishment of the ISMO as an independent state-owned entity is a welcome development which has significant potential to address the country's power sector challenges. We believe that the present industry structure is to a large degree responsible for the problems we face and long overdue for transformation.

We do not believe it is necessary or sensible to retain the key functions of Planning and Allocation in the hands of the Minister, or to retain the function of Transmission in the hands of Eskom. These choices will simply hobble the ISMO and obstruct important processes that are best performed within a single entity. We therefore recommend that Parliament consider revising the two Bills before it to fully empower the ISMO to manage the evolution of this important sector.

We trust that these comments will assist the Portfolio Committee in its important task and assure you of our ongoing support.

Yours sincerely



Mark Pickering

**Partner: Meridian Economics**