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## **Comment on the Independent System and Market Operator Draft Bill**

### **ISMO DRAFT BILL**

#### **The Free Market Foundation**

The Free Market Foundation is an independent non-profit public benefit organisation founded in 1975 to promote and foster an open society, the rule of law, personal liberty, and economic and press freedom as fundamental components of its advocacy of human rights and democracy based on classical liberal principles. It is financed by membership subscriptions, donations and sponsorships

This comment is submitted as a contribution to government's attempt to find a solution to the precarious position in which the country finds itself as a result of an inadequate supply of electricity to meet the needs of the nation.

#### **Provision of electricity in South Africa**

The generation, transmission, and a large percentage of the distribution of electricity in SA, currently, is carried out by Eskom, which is a vertically integrated Public Enterprise. Local authorities carry out the balance of the operation of distributing electricity. The actual and persistent threat of power shortages and the abrupt termination of power to certain areas (blackouts) demonstrate that to maintain the state electricity monopoly in its current form is not in the best interests of electricity consumers, the employees of Eskom, or the government - in fact, the entire nation. A method has to be swiftly found to terminate these threats and build in a safety margin between minimum expected electricity supply capacity over potential maximum electricity consumption.

#### **The Independent System and Market Operator Draft Bill (ISMO Bill)**

On 13 May 2011 the ISMO Bill was published by the Department of Energy in which its purpose is described as follows:

The objects of this Act are to provide for an Independent System and Market Operator (ISMO) as a company that is financially viable and responsible for the planning of supply of electricity by generators through the national transmission system, electricity dispatch and aggregation in respect of sale of electricity by generators, act as the buyer of electricity from generators for the Republic of

South Africa and sell electricity to ISMO Customers, in a manner that will minimize the overall costs of electricity to customers and to provide for matters incidental thereto.

While the objects include responsibility for planning and supply of electricity, the Bill does not mention taking responsibility for ensuring that there are no electricity shortages. It also says nothing about ownership and maintenance of the electricity grid and how its independence from Eskom (as the dominant supplier) and from political interference will be ensured. The Bill therefore leaves many crucial questions unanswered. This deficiency must be remedied.

### **Matters that should be dealt with in the ISMO Bill**

#### ***– Ownership of the grid***

If the ISMO is not to be the owner and maintainer of the transmission grid, this should be clearly stated. If shifting the operation of the grid to ISMO, without the transfer of ownership and control, is intended to resolve the ‘conflicted grid problem’ as it is described in the trade, it is bound to fail. In attempts to find ways to eliminate the electricity shortage, the main obstacle has been that independent private electricity producers have not been able to gain access to the grid.

In 1998/9 Eskom was preparing for the institution of a trading system in order to accommodate Independent Power Producers (IPPs) on the grid, including power stations sold by government to international power producers, which would have gone a long way towards resolving the inadequate power supply problem in the country. The necessary system was developed at the National Control Centre at Simmerpan and the pricing process tested through simulations carried out at the Eskom College.

For some inexplicable reason this excellent solution to South Africa’s power supply problems was shelved and the country went on to experience load shedding (blackouts), industry power cuts, no sales of power stations to international power companies, and no access to the grid for IPPs. An appalling economic loss has consequently been suffered by the country.

What this experience has clearly demonstrated is that the grid must be ‘unconflicted’, which means that the grid must be neutrally managed in a way that does not impede the access or operations of power producers and purchasers.

IPPs seek ‘bankable’ power purchase agreements which they can use to persuade bankers to lend them the money they need to build power stations. If the grid is merely operated and not owned by the ISMO, a power purchase agreement (PPA) between the operator with no assets and the IPP will not be ‘bankable’. A government guarantee of the PPA would be required to support the agreement and make it bankable.

Various options are available for the solution to the problem of bankable purchase agreements:

1. Ownership of the grid could be transferred to the ISMO, which would mean the transfer of assets from one state owned enterprise to another, a change that would not impair the assets of the state but would significantly reduce the assets of Eskom.
2. An interest in the grid could be sold to private shareholders (say 40%), the proceeds of which could go towards funding Eskom’s new Medupi and Kusile power stations and other projects, and the balance of the interest transferred to ISMO.
3. The entire grid could be sold to private owners, a single company in the same way as the National Grid company owns the England and Wales electricity grids and operates other grids across Great Britain and the north eastern United States, or a company specially created to own the SA grid.

The problem of a single monopoly grid owner is generally resolved by strict regulation that prevents the grid owner from denying power producers and purchasers access to the grid for any reason other than the

integrity of the grid, and ensuring that charges for access to the grid are equitable and uniformly applied. NERSA has published a consultation paper with the title ‘Regulatory rules on network charges for third-party transportation of energy’, which addresses the issue of access to the grid.

Option 3 (above), the outright sale of the grid to an experienced grid operating company, has certain attractive aspects that deserve closer scrutiny. In the thrust to resolve the problem of the current dangerous power deficiencies as rapidly as possible, the necessity of having an independent and unconflicted grid is a feature that stands out as being widely recognised and accepted, including by government. What has not received attention is the potential advantages of selling the grid to a grid owner and operator. The immediate advantages are:

- The immediate, clean, separation of the grid from generation and distribution.
- A dedicated grid operator with the sole responsibility of efficiently operating the grid, subject to strict regulatory requirements.
- A cash injection into the coffers of Eskom to help pay for its new generation capacity (while the carrying value of the grid in the financial statements of Eskom is R10.5bn it is probable that the selling price could be substantially greater).
- Immediate access to any power generating company that meets the technical and other requirements for connection to the grid.

There is a view that ideology could influence decision-makers against adopting this course but this view cannot summarily be assumed to be correct. Ideology must eventually make way for tried and tested policies that have proved to be successful wherever they have been properly applied.

#### – *Access to the grid*

From world experience, it has become abundantly clear that the ownership and control of electricity generation plants must be completely separated from the ownership and control of the electricity transmission grid to allow for a range of solutions to be found to the current SA supply problems, including the absence of barriers to entry (other than uniform technical standards) for new suppliers and purchasers of electricity.

The Department of Energy (DOE) currently considers the prices that IPPs will need to charge to be profitable or break even as a major stumbling block for granting access to the grid. The reason for this concern is the view that Eskom will have to act as the single buyer of electricity until the electricity system has been reformed and that the dominant electricity supplier will not be prepared to pay a price that will be acceptable to an IPP. This assumption is correct so far as electricity purchased by Eskom for resale to its customers is concerned. The assumption is not correct in respect of wheeling across the grid from IPPs to power purchasers in the carrying out of bilateral agreements.

DOE is further concerned about who will supply the additional capacity required for balancing the grid if an IPP should ‘go down’ and what contribution IPPs will make towards the safety margin between maximum potential supply and demand for electricity. None of these considerations provide reasons for denying IPPs access to the grid:

### **1. Pricing of access to the grid (wheeling charges)**

There is no need to delay access to the grid to IPPs over assumed limits to what they can charge their customers for electricity. While it is true that the current cost of electricity to Eskom, based on the historical cost of its plant, is lower than the cost that will face new IPP plants, there is no way of knowing what electricity costs or charges are likely to be in a fully competitive market for electricity. Government need only concentrate its attention on the wheeling charges, except when Eskom is to be the purchaser of electricity.

When an IPP wishes to obtain access to the grid from Eskom for purposes of supplying electricity across the grid to a power purchaser in terms of a bilateral contract, the appropriate arm of government (probably NERSA) needs to act as referee to ensure that access to the grid is not unreasonably denied and that the wheeling charge is not unreasonably high, for instance, if IPPs were to supply the 10 per cent of electricity by which large users have been asked to reduce their off-take. Another example would be cases where IPPs are able to supply electricity to those property developers that have been denied the right to proceed with developments because of Eskom's inability to supply them.

Such potential electricity customers, at the top end of the market-demand for electricity, are likely to be prepared to pay premium rates to ensure supply. Eskom might object to such contracts on the grounds that as the supplier of first instance any such higher price paid should be paid to them, that the supply by an IPP of all or part of the requirements of its own existing best customers amounts to cherry-picking. Such an argument is unfounded. If Eskom has the electricity to supply such customers, they should do so, if not they should step aside gracefully and facilitate the wheeling of the electricity that is in such high demand from IPPs to the short-supplied or power-starved customers. The health of the economy and availability of jobs is at stake.

## **2. Balancing the grid and reserve capacity**

IPPs will be subject to the same disciplines as Eskom regarding the balancing of the grid. A group of IPPs could be formed to ensure that in the event of a problem with one of them, the others will have sufficient reserve capacity to fill the void. Another solution would be to have an agreement with their customers to immediately stop drawing power off the grid in the event that the IPP has a supply failure. Also, the IPP could have an agreement with Eskom that in the event of a power failure, the major supplier would cover the shortfall at a punitive rate, if not, the customer would be compelled to cease drawing power.

All these arrangements could be dealt with using smart technology. Both the balancing and the making up of shortfalls could be dealt with in co-operation with the transmission system operator but on a self-correcting basis that is, first and foremost, designed to avoid disrupting the operation of the grid.

### **– System Operator**

The system operator need not necessarily own or maintain the grid but will be in an invidious position if the owner and maintainer is also an electricity generator. If the system operator is not the owner and maintainer of the grid, the operator can be truly independent only if the grid ownership and maintenance is in the hands of an organisation or body that is itself independent of electricity generation companies.

Carrying out the December 1998 objectives as outlined in government's White Paper would resolve the issue of independence. The White paper provided that:

To ensure non-discriminatory and open access to transmission lines, and taking into consideration the financial stability of Eskom, government, in the medium term, is to establish a separate state-owned transmission company.

### **– Board of Directors**

The Board of Directors, if appointed by government, must be independent and seen to be independent of political interference, as far as possible, to ensure that the system operations are carried out strictly in accordance with prudent business principles. The fact that the ISMO Bill requires nominees to the Board

to have technical skills that ‘would add value to ISMO in performing its functions’ augurs well for the efficient functioning of the Board and the ISMO.

– *Economics of an independent grid*

**1. Governments and delivery of electricity**

**1.1 Projects that are too big for governments to handle**

In the mid-20<sup>th</sup> Century there was a widespread belief that some projects and industries were the ‘natural preserve’ of government because they were ‘too big’ for the private sector to handle. This belief has been proved by experience in many countries to be not only wrong in principle but that government attempts to finance and manage very large projects are strategically imprudent. Now, in the most economically free countries, and in the less free countries with astute governments, the largest projects are privately financed, owned and managed, because they are either too large for governments to handle or governments correctly consider the field of competitive enterprise, profit and loss, to be an area of activity best left to private enterprise.

**1.2 Government monopolies**

Also in the middle of the last century, the notion of natural government monopolies was widely accepted. Governments decided to embark on projects that were considered to be in the public interest but which the private sector ‘was incapable of doing or was not prepared to do’. As events have unfolded since then, resources in private hands internationally have increased considerably, and it has become clear that:

- **No project is too big for the private sector**  
There are no projects that can be carried out by government that are beyond the capability of the private sector. The ‘private sector’ encompasses all private firms worldwide.
- **Governments should generally not do what the private sector considers to be economically unjustifiable**  
If the private sector is not prepared to carry out a project it is probable that it is not economically viable.
- **The National Party government adopted ‘siege economy’ and collectivist/socialist policies**  
The ‘commanding heights’ of the economy ( including electricity production and distribution) in South Africa, were monopolised by the National Party government as part of its ‘siege economy’ attempts to become independent from the rest of the world but also as a result of its collectivist/socialist philosophy.
- **Significant government economic errors are imposed on private taxpayers**  
Governments tend at times to make more serious and larger errors than private sector decision-makers on matters relating to enterprise management because politics unfortunately often takes precedence over economics in their decision-making processes. Another typical phenomenon is that political decision-makers are seldom held personally responsible for seriously negative financial and economic errors. One of the reasons for large errors is that politicians invariably do not have the information required to make crucial decisions relating to large enterprises. In such cases taxpayers foot the bill, whereas private company shareholders pay for losses, and directors and managers lose their jobs, a recent international example being the forced resignation of BP Chief Executive Tony Howard over the major oil spill in the Gulf of Mexico.

- **Political pressures cause governments to remain ‘locked in’ to methods of providing services that are politically problematic**  
Even when services provided by public enterprises deteriorate badly, or they show large losses, and it becomes patently obvious that their monopoly status is harming the economy; some governments remain ‘locked in’ and find it difficult or politically impossible to remedy the situation. Such governments generally face criticisms from their citizens for squandering taxpayers’ money on bailouts of loss-making public enterprises, or for deteriorating service delivery. Notwithstanding such criticisms, their ability to institute reforms is typically hampered by strong ideological opposition from their political supporters to allowing the private sector to compete with, or take over, struggling public enterprises.

### **1.3 Government gains from the existence of competing providers of essential services such as electricity**

- Government, instead of attempting to be the generator, transmitter and distributor of electricity (vertically integrated), should pave the way for the entry of competing suppliers of every possible service involved in the process, from generation to distribution to end users of electricity.
- Even while the large power stations within Eskom continue to be owned by the utility, they should, in order to increase efficiency, be operated and managed independently. All these stations, together with independent power producers should compete with each other in a trading system for the business of consumers. The trading system should be operated by the Independent System and Market Operator (ISMO), which should function on a strictly business basis in the interests of electricity consumers, which means ensuring stability of supply and competitive delivery.
- The generation, transmission and distribution systems incorporated in Eskom constitute substantial state-owned assets that have been largely paid for by past taxpayers. This is also the case with all state-owned enterprises. Instead of looking to current taxpayers to pay for new plant for electricity generation, transmission and distribution, government should consider halting its investment in public enterprises and turning to competing private investors to take over the role of providing capital for expansion.

### **1.4 European experience**

The best structure is not a single government monopoly such as Eskom, with centrally controlled oversight and direction. Much better structures are those that have evolved and continue to evolve in the European Union countries, based on the UK example, and the structure that has developed in North America.

An economics or business-driven structure for the delivery of electric power consists of an electricity grid made up of inter-connected high voltage transmission lines supplied by a multiplicity of electricity generating entities that feed electricity into the grid. An even greater multiplicity of distributors purchase electricity from the generating companies or from wholesale intermediaries, draw it from the grid, transform it from high to a lower voltage, and distribute and sell it to end users. For all or most of these functions to be carried out by a single organisation such as Eskom is not a good idea, especially when that organisation’s very existence depends on a legislated monopoly that prohibits competitors from entering the business of generation, transmission and supply of electricity.

There is ample evidence that SA’s electricity generation and supply structure needs to change. For instance, the Ignalina Nuclear Power Plant in Lithuania observes on its website that: ‘Until the late 1980s, the structure of the electric sector in most countries was based on the idea that the most efficient way to provide electricity was to have a national electricity company which was a natural

monopoly and so needed to be state owned to protect consumers. However, now experience shows it is possible to divide electricity companies into those parts which are still natural monopolies (for example, high voltage and low voltage networks) and those parts where it is possible to have competition (for example, power stations) and to create a market for electricity. This experience is now being used all over the world to create cheaper electricity by means of competition among power stations and among companies that are in the business of purchasing and reselling electricity. Western Europe has shown that prices to consumers can fall by up to 20% when the market is fully operational.’

According to the website, a May 2000 European Commission report revealed marked decreases in the price of electricity from 1996 to 1999 in Finland -19.6%, Sweden - 17.6%, and Germany - 9.6%, all countries with 100% market opening. Spain - 16.2%, Portugal - 14.0% and France - 12.7% also experienced significant price reductions with a reduced level of market opening (between 30% and 45%). At the time of the report Lithuania was in the process of meeting the conditions for its 1 May 2004 entry into the EU, one of the conditions being the opening of its electricity market to alternative suppliers, a condition that applies to all EU members.

### – *Conclusion*

Changing a large structure that has been in existence for many years is extremely difficult. It is understandable that government has approached the task with considerable trepidation and that there have been several changes of direction. However, while it is prudent to take care in making changes, a time arrives when to delay further becomes imprudent. Such a time has arrived in dealing with electricity generation, transmission and distribution. Making transmission independent and as neutral as possible has now become essential to save the South African economy from serious harm and the country’s people from unnecessary deprivation. The time has come for government to take determined and fundamental action to solve the problem of electricity shortages and potential regular blackouts.

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