Office of Utilities Regulation

DEVELOPING THE COMPETITIVE GENERATION MARKET

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Introduction

In April 2001 the Government of Jamaica sold 80% of its shares in the Jamaica Public Service Company (JPS) to Mirant Corporation of Atlanta, Georgia whilst retaining 20%.

Concurrently the company was issued with a new license, the All-Island Electric License 2001. Condition 2 (4) of the License provides as follows:

> "The Licensee shall have the exclusive right to provide service within the framework of an All-Island Electric License and the All-Island Electric System. The exclusive right specified herein shall be as follows:
>
> (a) In the first three years from the effective date of this License, the Licensee shall have the exclusive right to develop new generation capacity. Upon the expiry this period, the Licensee shall have the right together with other outside person(s) to compete for the right to develop new generation capacity.
>
> (b) The Licensee shall have the exclusive right to transmit, distribute and supply electricity throughout Jamaica for a period of 20 years. Provided that no firm or corporation or the Government of Jamaica or other utility or person shall be prevented from providing a service for its or its own exclusive use."

The Office recognizes that the introduction of the competitive environment for Generation will require policy initiatives on the part of the government as well as regulatory initiatives on its own part, to define the market arrangements, the rules for the competition and to establish an appropriate regulatory environment to facilitate timely additions of capacity to ensure security of supply.

As a first step, the Office contracted the services of the British consulting organization Power Planning Associates to carry out a "Generation Market Study", to advise on a number of issues including:

1. to recommend a market structure for the generation aspect of the electricity sub-sector which would –

   (i) provide competition in the sub-sector and attract both foreign and local private capital;

(ii) provide an efficient and reliable supply of electricity at least cost;

(iii) provide environmentally acceptable operating practices in the operation of the sub-sector.

2. to identify the institutional changes that would be required to support the recommended market structure.

3. to prepare rules for the governance of the recommended market structure

Since the conclusion of the study, developments in the oil markets have seen a steep increase in prices which have emphasized Jamaica's vulnerability to economic and financial shocks precipitated by the volatility of that market. It therefore heightens the importance and critical nature of an energy policy which –

(a) diversifies Jamaica's fuel mix thus reducing its dependence on oil;

(b) sets objectives for the development and addition of alternate and renewable energy into the energy mix of installed generation capacity.

The Office understands that Government has made a commitment to secure production of 10% of all its requirements from renewable sources by 2010. The objectives for energy production from renewables are understood to be:

- 6% by 2006
- 8% by 2010
- 12% by 2020

As a consequence and to support this policy objective, the Office must devise rules to allow for the orderly and efficient introduction of energy from renewable sources.

This document attempts to set out the Office's thinking consistent with its functions under S.4 of the OUR Act in terms of (1) providing advice to the Minister which it considers as important issues to be considered in the development of the policy framework, and (2) developing the regulatory environment which is its purview to establish.

POLICY ADVICE - RECOMMENDATIONS FOR GENERATION MARKET

The recommendations arising from the report and which the Office has adopted as and which now forms the basis for policy advice to the Minister are summarized hereunder:

Competitive Market Model

Of the several options available, given the size of the Jamaican electric power system, the projected growth and the limitations imposed by the All Island Electric License 2001 (the Licence) , the following are recommended:

1. Initially, development and introduction of the Single Buyer model, including accounting separation by JPS.

2. A long term objective of introducing a bilateral trading market as soon as legal, contractual and licensing obligations allow.

3. In the short term, activating simple open access arrangements in compliance with Condition 12 of the All-Island Electricity License 2001.

The Single Buyer Model

For clarity, the Single Buyer Model is the arrangement where there is only one buyer (monopsony) of electricity in the whole sale market for subsequent distribution to the retail (supply) market. Hence, in Jamaica's case, all generators (in this case Independent Power Producers and JPS generation) will sell power (capacity and energy) to the single buyer, JPS, for distribution across the network. In a sense, the adoption of the Single Buyer Model is already an element of policy in that the Licence contemplates that, after March 2004, new capacity will be added on the basis of competitive tendering, a process in which JPS will be allowed to participate.

The Single Buyer Model is a relatively simply and inexpensive model to operate and is considered appropriate for a small country such as Jamaica. It also offers some benefits which include, for example (i) serving as a useful instrument for implementing policy for example on fuel diversification, renewables (ii) shielding financiers from market risk, which has an impact on the cost of money. Certain regulatory interventions are however critical to ensuring transparency and confidence in the market arrangements. These include accounting separation between the JPS businesses (i.e. separating generation accounting wise from transmission, distribution and supply) and the implementation of "virtual PPAs" by JPS to ensure that JPS does not favour of its own plant in generator dispatch.

The arrangements for managing the competition is perhaps the single most important activity in the Single Buyer Model as it is through this process that one expects to secure the least cost addition for capacity. There are a number of amendments to be made to the process for competitive tendering, as set out in the Licence, to secure transparency, fairness and the confidence of investors.

Bilateral Trading Market and Open Access

The bilateral trading market is an arrangement where generators are allowed to sell power directly to large consumers. The licence, however, restricts this arrangement as it provides exclusivity for JPS in the "supply" of electricity. The Office is of the view though that this should be a long term policy objective and that the regulator should remain sensitized to take advantage of any opportunities that might arise that would permit an earlier implementation of this policy objective.

In the meantime, the Licence provides for third party (open) access to the grid in order to allow large customers to wheel power over the grid for their own use. The development of rules to facilitate this arrangement has been on the Office agenda and has been scheduled for action during the current year. The existence of these rules will provide a ready framework for a seamless transition from the Single Buyer Model to the Bilateral trading Model.

Immediate policy issues

Capacity additions

The Office has recently submitted it recommendations for generation expansion to the Minister which essentially recommends capacity additions as follows

Table 1
Schedule for Capacity additions
Growth rate 3.5%

2006	2008	2011	TOTAL
40 MW	120 MW	120 MW	280 MW

It also suggests that if coal is the fuel technology chosen it may be necessary to commission an interim 40 MW in 2007. This will be largely dependent on the timeliness of the decision making in terms of the technology to be introduced.

The Office is of the view that there is an opportunity to leverage the present contract between JPS and Jamaica Energy Partners (JEP) and obtain a more favourable arrangement for the Jamaican consumers. In this regard the Office wishes to authorize JPS to enter into negotiations with JEP for the 40MW due in 2006 on condition that they can secure significant improvements to the commercial arrangements. The Office has every reason to believe that significant gains can be realized but would have to insist that any terms agreed be subject to regulatory oversight. The advantage is that (i) the JEP infrastructure has the space and is already configured to accept additional plant, (ii) JPS would have to agree to give up its right to participate as an investor in this procurement which would send useful signals to the market (ii) the nature of the technology offered by JEP is such that the early 2006 in service objective can be met.

With regard to the capacity needs for 2008 and beyond, the decisions on the feasibility of Liquefied Natural Gas (LNG) are now critical because these will inform the specific procurement rules for addition of capacity. There are a number of options that could be considered as appropriate to secure the desired technology and investor interest in the Jamaican generation sector, but these cannot be reasonably developed or even proffered until there is clear direction as to the fuel option to be exercised bearing in mind that the Expansion Plan suggests that coal would be the preferred fuel choice should LNG not prove to be feasible.

<u>Energy policy</u>

The Office understands that the Government has committed to CARICOM to produce 10% of all its energy requirements from renewable sources by 2010 and has established the following targets:

Electricity?

- 6% by 2006
- 8% by 2010
- 12% by 2020

On this basis, the contribution from renewable sources during the planning period is shown in Table 2.

<u>Table 2</u>
Minimum Contribution from Renewable Energy Sources

	Total		**Contribution from Renewables**
Year	**Capacity (MW)**	**Energy (MW)**	**Energy (GWhrs)**
2006	846	4097.8	245.9
2010	1046	4702.3	282.2

The Office is of the view that the addition of renewables should be handled in two ways (i) for firm capacity the Office will issue a call for a competition, specifying the capacity required, and would adopt the same procedure as that for the other type of plant, and (ii) for energy only, simple rules are to be designed that would require JPS to accept non firm capacity based on specified criteria. The caution ~~that is necessary here is to~~ ensure that the mix of capacity and energy derived from renewable sources does not unduly burden consumers by an overall disproportionate increase in electricity costs.

Required Ministerial Action

The Office is seeking:

1) a direction to proceed with the initiative to secure the first tranche of generation capacity through a negotiation with JEP to expand capacity of their facility from 74 MW to 114 MW with a view to securing improved commercial terms that will accrue to the benefit of consumers.

2) a direction to proceed with initiatives to secure license changes (Condition 18) regarding the procedure for handling competition for new capacity

3) approval of the Generation expansion plan

4) confirmation of the Policy relating to renewable and alternate energy

5) **critically**, conclusion of the feasibility study on LNG and a decision on the way forward.

REGULATORY INITIATIVES – STATUS

Arising out of the study the Office has already adopted specific recommendations and the internal action plan towards implementing the market arrangement, developing the rules and strengthening the institutional capacity of the Office to deal with the market environment.

A high level summary of these initiatives are:

Competitive Market Design

1. Designing and implementing market transparency rules regarding future generation requirements.

OUR Institutional Arrangement

2. Strengthening OUR capacity for review and approval of Least Cost Expansion Plans prepared by JPS.

   The Office to take steps to ensure –

   (i) More aggressive regulatory scrutiny over JPS' compliance with Conditions 19 and 20 of the License (economic purchasing obligations).

(ii) Optimization of JPS' fuel management portfolio.

(iii) Introduction of Demand Side initiatives, where appropriate.

Preparation of Rules and Regulatory Framework

4. Introduction of the competitive tendering process for new generation. Rules to include appointment of an independent evaluator by the Office.

5. Separate competitive arrangements to be introduced for procurement of capacity/energy provided through Renewables.

6. Introduction of a new format for Power Purchase Agreements which would include obligations for future market change and incentives to manage fuel costs.

Additionally, the Office will have to take initiatives in reviewing the existing PPAs or through legislative changes to bring the pre 1997 IPPs under Regulatory supervision of the OUR. This is important to secure (1) compliance with the Generation Code and other instruments that are essential to the efficiency of the market and (2) to create opportunities for improved management of fuel.

A competitive arrangement or acceptable proxy has to be developed for adding new renewable capacity.

As an additional factor, the Office is committed to develop rules, encourage cogeneration, and net metering arrangements for connection to the grid as a means to providing additional energy to the system.

Perhaps it would be useful to explain that the consultation leading to the development of rules for the competitive market will address issues related to, inter alia:

1) the methodology and rules for adding blocks of capacity per the Expansion Plan

2) the methodology and rule for adding renewables

3) the rules for adding cogeneration plant

4) rules relating to net-metering

These rules will be important to preserve the integrity of the competitive market whilst ensuring that consumers' needs are met by creating a downward trend to generation prices.

ROAD MAP

The consultants have recommended, in conformity with the Terms of Reference, a road map charting the course for implementing the recommendations of the Study.

The relevant pages from the Report are reproduced as Appendix 1.

In summary, the road map highlights actions to be taken to achieve the following policy and regulatory objectives. The Office has committed to this road map which has been adopted and integrated into the OUR's work programme.

0-3 months

i. Approve Least Cost Plan – as per License provisions

ii. Complete arrangements for a transparent process for competitive tendering for new capacity

iii. Complete the planning framework to entrench Government's objectives regarding renewables

iv. Decide on modality for introducing first tranche of capacity due 2005.

The important objective of completing the policy initiatives regarding fuel diversity cannot be over emphasized. A clear direction will be required by July/August/September 2004 if capacity requirements are to be met in 2007 and real gains achieved through the introduction of genuine base load generation technology.

3-12 Months

i. Start the process for introducing rules for open access to the JPS system by third parties for own use.

ii. Publish approved Lest Cost Expansion Plan.

iii. Start Tender process for new capacity due 2007.

iv. Completion of a consultation on the rules to govern the competitive market arrangements.

12-24 Months

i. Complete and introduce fuel management incentive schemes. Against the background of the volatility of the oil market in April/May 2004, this may have to be treated as a high priority matter.

ii. Introduce accounting separation to JPS.

iii. Review existing IPP contracts, identifying opportunities to leverage contracts in order to secure amendments relating to fuel management incentives, compatibility with new regulatory frameworks and competitive environment.

24 Months – 5 Years

i. Continual review of incentive schemes, introduce JPS to the idea of bilateral trading.

5 Years – 20 Years

ii. Develop plans for bilateral trading arrangements.

iii. Prepare amendments to legal framework.

From the Office's perspective, the objectives for 0 – 24 months are firm while the period beyond that can only be treated as indicative.

APPENDIX 1

Extract from PPA Report – Jamaica generation Market Study - March 2004

1.1 Roadmap

Turning now to the specifics of implementing the recommendations from this Study, the following roadmap should be applied:

1.1.1 0 to 3 months:

- Consult with relevant parties on the Generation Market Study recommendations.

- Finalise and agree the Generation Market Study recommendations.

- JPS to be asked to specifically identify the renewables element of the total 2006 generation requirement in its Least Cost Expansion Plan currently with the OUR for its consideration plus to address any other issues that the OUR raises. This renewables element should form part of a wider plan agreed between the OUR and JPS as to how Jamaica will meet its renewables obligation for at least 8% of its electricity generation requirement by 2010 to be from renewable energy.

- OUR to approve the current Least Cost Expansion Plan.

- OUR to make the Least Cost Expansion Plan publicly available and invite views (not a full consultation).

- OUR to determine which of the 3 potential options for tendering the next tranche of new generation capacity is preferred

    - No competitive tender (JPS single bid); or

    - Limited competitive tender (invited bidders only); or

    - Full competitive tender (with an open pre-qualification process).

- OUR to get a definitive legal view on whether the proposed clarification of the competitive tender process for new generation capacity requires an amendment to the Licence (namely, Condition 18) or whether it remains consistent with Condition 18. If amendment to the Licence is required (essentially to promote the role of the independent evaluator), this will require JPS' agreement and that of the Minister, as per Condition 30(1).

- OUR to appoint an Independent Evaluator to run the competitive tender process for new generation capacity.

- OUR to initiate the tender process for the new capacity additions in 2006, based upon the LCP and its preferred option for tendering this next tranche (i.e. closed; limited; or open).

- OUR to determine whether to run a single tendering process for the 2006 capacity, or whether to also run a second tender for renewables.

- OUR in conjunction with the Independent Evaluator and JPS, to develop tender documentation – Invitation to Tender, outline PPAs and any Pre-Qualification Questionnaire that is required.

- OUR should determine costs of competitive tender and establish a scale of fees to be charged to all bidders to recover costs. We believe these should be published up front (with the tender documentation), rather than be dependent on who bids – to create certainty and encourage bidding.

- OUR to check that its new price control formula (price cap) places appropriate incentives on JPS generation.

- OUR should request that JPS introduces accounting separation by 1 January 2006 and to ask JPS to come back by 31 December 2004 with proposals for how this is to be done.

- OUR to complete the recruitment of an electrical engineer and/or the use of specialised consultants to assist in reviewing the LCP and monitoring the JPS Single Buyer/dispatch function.

- Consideration should be given by the OUR as to how to regulate JPS applying its right under Condition 2, Paragraph 5 of its Licence, which states that the Licensee has the right to purchase electricity in bulk from private suppliers. We suggest that guidelines should be drawn up which exclude JPS using Condition 2(5) in the case of new or planned generation capacity, but which do allow for JPS under the OUR's regulatory scrutiny to contract with existing capacity. At this time, we would not recommend being too prescriptive as to the terms and/or price(s) at which such capacity is contracted, but allow each case to be negotiated on its merits. The OUR's role will be to facilitate such negotiations where required and to approve all such deals by applying both an economic purchase test and also seeking to balance this by ensuring that JPS has not abused its monopoly power in negotiating price/terms.

- OUR to finalise its requirements for open access (exclusive use basis).

1.1.2 3 to 12 months:

- OUR to oversee tender process for new generation capacity.

- Independent Evaluator to manage tender process for new generation process.

- Closing date for new capacity tenders to be [1 July] 2004.

- New capacity tenders (including renewables if a separate process is agreed on this latest tranche of new capacity) are to be evaluated by [31 August] 2004 and the preferred bidder(s) appointed.

- Negotiations with preferred bidder(s) to be concluded by 1 October 2004 and appointment made.

- OUR should consider whether the existing Licence conditions and regulatory arrangements are sufficient to ensure that JPS in its role as the Single Buyer does not discriminate. If necessary, the OUR should propose additional regulatory procedures.

- JPS to come back with firm proposals for discussion with the OUR on how accounting separation will be implemented from 1 January 2006 (i.e. the first set of separate accounts will be those for the calendar year ending 31 December 2006 and presented in 2007).

- OUR should request that JPS comes back by 31 December 2004 with proposals for an open access arrangement which meets the OUR's requirements.

- OUR should review JPS' open access proposals early in 2005 and working with JPS should discuss, modify, finalise and approve the open access arrangements. Note: The OUR may decide that it needs a wider consultation, in which case this activity would be put back by three months.

- OUR should conduct a discussion with JPS about the form a top-up and spill arrangement might take. In particular, this discussion needs to consider what level of metering needs to be mandated and, in order to have an informed discussion, the OUR needs to request that JPS produces some cost estimates for a range of metering solutions.

- OUR in consultation with JPS, to agree the level of mandatory metering.

- JPS should be asked to come back by 31 December 2004 with simple top-up and spill pricing proposals which are transparent and equitable to all parties and reflect the discussions held earlier with the OUR on both the pricing arrangements and the level of metering mandated.

- OUR to ask JPS to prepare the next annual Least Cost Expansion Plan (i.e. 2004 – 2013 Expansion Plan) identifying new capacity requirements for 2007 onwards, for submission to the OUR by 1 October 2004.

- OUR to impose sanctions on JPS if the LCP is not submitted by 1 October 2004.

- OUR to carry out an independent review of the draft 2004 - 2013 Least Cost Expansion Plan during 3 months ending 31 December 2004.

- OUR and JPS to agree 2004 - 2013 Least Cost Expansion Plan by 31 January 2005 and determine whether another tender process needs to be initiated during 2005 based on this latest LCP.

- OUR to publish 2004 - 2103 Least Cost Expansion Plan during February 2005 (and annually thereafter) to all interested parties and invite views (not a full consultation).

- Discussions should be held between the OUR and JPS regarding a new fuel cost management scheme, whereby JPS is incentivised to manage its fuel purchase costs as part of a profit sharing scheme. Note: ideally this should come into effect in 2006 when the current JPS contract with Petrojam expires.

1.1.3 12 to 24 months:

- New fuel cost management scheme to be agreed with JPS by 30 June 2005, for implementation from 2006, once the current contract with Petrojam expires.

- Accounting separation implemented by JPS on or before 1 January 2006.

- OUR to hold exploratory discussions with JPS regarding the long-term transition path to a competitive bilateral trading model.

- Exploratory discussions should be initiated with existing IPPs about whether they would be prepared to re-negotiate existing PPAs and if so, at what cost?

- Operation of the agreed fuel cost management scheme by JPS from 2006 after the current contract with Petrojam expires.

- Top-up and spill arrangements; mandatory metering; and open access arrangements to be implemented by JPS from 1 July 2005 (exclusive use basis only).

1.1.4 24 months to 5 years:

- Review operation of fuel cost management scheme after first year of operation with a view to further refinement and agreement on the cost sharing factors to apply during the next year.

- Cost sharing factors to be reviewed and revised every 2-3 years thereafter.

1.1.5 5 years to 20 years:

- Work on the detailed design for the bilateral trading market should be initiated 4 years before the April 2021 date (i.e. April 2017), or at the earliest opportunity if events dictate that the timetable for market opening can be brought forward. This should include a full market definition; an operational framework; the detailed design; and a full Implementation Programme.

- Governance arrangements for bilateral trading market to be consulted on and agreed.

- Organisational requirements for new market to be determined.

- By April 2021, implement a bilateral trading market in Jamaica.

- As per Condition 3(1) of the JPS Licence, negotiations for a new Licence should commence not later than the seventeenth year of the said term. That is, by April 2018. By this stage the market definition should have been agreed (started one year earlier), thereby enabling negotiations on the new Licence to progress in parallel with the programme to define and implement the new bilateral trading market.