

**Minutes of a Meeting of the Environmental Authority  
Held on Tuesday, 26 October 2021  
At the Department of Environment and Natural Resources, Botanical Gardens, Paget  
and Remotely using WebEx Teleconference**

**PRESENT:** Ms. Davida Morris, Chair, (by remote access)  
Mr. Andrew Barnes, Member, (by remote access)  
Mr. Willie Ferguson, Member (by remote access)  
Mr. James Morrison, Member (by remote access)  
Mr. Eugene Saunders, Member  
Mr. Jonathan Starling, Member, (by remote access)

**ADVISORS:** Dr. Geoff Smith, Environmental Engineer, DENR  
Dr. Shaun Lavis, Hydrogeologist, DENR  
Mr. Tarik Christopher, Principal Engineer (Water & Sewage), Acting Chief Engineer, Public Works (by remote access)  
Mr. Kirk Outerbridge, Chief Engineer, Public Works (by remote access)  
Mr. Paul McDonald, Acting Senior Planner, Dept. of Planning  
Ms. Patricia Hollis, Environmental Officer, DENR, Recording Secretary

**ABSENT:** Mrs. Susan Armstrong, Member  
Mr. Armell Thomas, Senior Environmental Health Officer  
Mr. Tom Crossan, Chief Environmental Health Officer

**IN ATTENDANCE:** Regulatory Authority Representatives (by remote access)  
Mr. Denton Williams, Chief Executive  
Mr. Nigel Burgess, Head of Regulation

**1. Confirmation of Minutes**

The Minutes of the meeting held on 28 September 2021 were reviewed and accepted. Minutes of Meetings No 348 through to Meeting No. 356 were confirmed as approved and signed by the Deputy Chair, Mr. Eugene Saunders.

**2. Corporation of Hamilton – Upgrades to Sewer and Treatment Plant**

There was nothing to report.

**3. Elbow Beach Waste Water Treatment Plant**

There was nothing to report.

**4. BELCO Water Quality Monitoring –update**

There was nothing to report.

**5. Strategy for Future Request for Importation of Refrigerants**

There was nothing to report.

**6. BELCO Application for Annual Operating Licence**

The Environmental Authority **DEFERRED:**

BELCO's operating licence application and requested recommended changes to the conditions be presented in writing at their next meeting.

**7. Presentation by the Regulatory Authority in the Integrated Resource Plan update (IRP)**

Mr. Williams and Mr. Burgess were welcomed to the meeting.

Mr. Burgess gave a short presentation on the IRP process and guidance. He said that the IRP must be credible and comprehensive in its treatment of available resources, auditable and robust to identifiable sources of uncertainty. This will enable the Regulatory Authority (RA) to approve the most appropriate electricity capacity expansion plan, assess the economic, environmental and social implications of adopting alternative capacity expansion plans, and evaluate the merits of applications by prospective independent power producers or other licencees.

The expectations of the IRP process are to facilitate engagement with consumers and other stakeholders to ensure all facts and considerations are included in the IRP process; to identify Bermuda's electricity requirements and expected costs of available investment alternatives; to provide the technical and economic information necessary to enable decisions on policies and regulations to meet the requirements of the Electricity Act; and to acknowledge that all practical alternatives involve costs and trade-offs.

Mr. Burgess outlined the IRP process: from the solicitation of input on IRP guidance document from BELCO, Government and Public (Q3 2021), to requesting IRP Proposal (Q3 2021), followed by submission and public consultation on the IRPs. This will be followed by submission and consultation of alternative proposals and subsequent revisions as necessary to finalize the IRP.

The IRP Guidance includes the assumptions of:

- 20-year time frame 2021 – 2041
- 100% energy from renewables
- 100% elimination of heavy fuel oil
- Nominal supply of diesel or propane or similar light fuel for backup power
- 2021 RA desktop wind study data to be included

Prohibited energy sources are: Nuclear energy; Heavy Fuel Oil (except during the transition); Natural Gas; and Ethane

Supply side energy sources are: fixed-mount wind turbines, floating wind turbines; utility scale land-based and floating solar PV; fuel cells, bio-mass, wave power, ocean thermal, battery energy storage systems, hydrogen (proton exchange membrane electrolysis or alternatives); reversible fuel cells (proton exchange membrane, solid oxide or alternatives); grid improvements (loss reductions and other); higher operating voltages, Voltage/VAR management; and other resources.

The IRP Outputs are: 20-year demand projections; 20-year generation projection including reserve capacity; 20-year transmission capital plan and alternate topologies; 20-year distribution capital plan; alternatives and substitutes (e.g. electric vehicles for internal combustion engine vehicles); electric vehicle uptake programme (RA target to have 60% of the necessary infrastructure for EV charging in place by 2030); timelines; benefits; risks; potential obstacles; and proposed procurement plan.

The non-utility scale resources under development (sandbox) include wave, floating solar; and other proposals.

Following the presentation, there was discussion of the present IRP where 60 MW was from wind, 21 MW from solar, and 50 MW from biomass (i.e. incineration of wood chips from North Carolina). It was agreed that the present IRP requires revision and more detailed planning to take into account the costs of importing wood chips, construction of the infrastructure, and disposal of ash.

Mr. Burgess noted that the aim is to have 85% renewables by 2035, however, the time frame may be delayed due to unforeseen issues, such as what has happened with the solar installation at the Finger, near the airport. This plant should be online soon, after a significant delay.

Mr. Williams agreed to send the first draft of the IRP to the Environmental Authority for their comment.

Mr. Williams and Mr. Burgess were thanked for their presentation.

## **8. Applications for Construction Permits and Operating Licences (New)**

### **8.1 CP-702, OL-1106 Colin Hames**

The Authority **APPROVED:**

the application for a 22 kW LPG generator at 3 Mill Point Road, Pembroke, subject to standard conditions and providing the generator is enclosed and that noise-attenuating barriers are in place as per the application.

### **8.2 CP-730, OL-1148 E.E.E. Ingham**

The Authority **APPROVED:**

the application for a 30 kW LPG generator at 18 Spring Benny Road, Sandys, subject to standard conditions and that a 3 sided sound barrier is used during operating using sound absorbing blankets.

**8.3 CP-735, OL-1160 K Edwards**

The Authority **TOOK NOTE:**

that an application for a 20 kW generator at 11 Kent Avenue, Devonshire was withdrawn.

**8.4 CP-736, OL-1161 Invisible Trenching**

The Authority **APPROVED:**

the application for a rock crusher at 12 Marsh Lane, Devonshire, subject to standard conditions and providing no objections are received during the advertised period.

**8.5 CP-557, OL-916 N. Smith**

The Authority **APPROVED:**

the application for a 16 kW LPG generator at 22 Scott's Hill Road, Sandys, subject to standard conditions.

**8.2 CP-737, OL-1162 Horizon Communications**

The Authority **APPROVED:**

the application for a 250 kW diesel generator at 41 Cedar Avenue, Hamilton, subject to standard conditions, and providing no objections are received during the advertised period.

**9. Applications for Operating Licences (Reissue)**

The Authority **APPROVED:**

the reissue of operating licences on the two-page printout, subject to standard conditions.

**10. Applications for Water Rights (New)**

The Authority **APPROVED:**

**10.1 WR 5710, 5711 BLDC/ROCON**, 300 Stocks Road, St. George's. Two commercial water rights for the abstraction of 421,000 Igpd saline ground water, to supply an RO plant, subject to standard conditions. The abstraction wells shall be cased to 40 feet below sea level.

**10.2 WR 5712 BLDC/ROCON**, 300 Stocks Road, St. George's. One commercial water right for the disposal of 253,000 IGPd R.O. reject water, treated sewage effluent, subject to standard conditions and providing the borehole is sealed at least **100** feet below sea level.

**10.3 WR 5709 Mr. T. Stowe**, 9 Stowe Court, Pembroke. Domestic water right for the supply to two households, subject to standard conditions

**11. Applications for Water Rights (Reissue)**

The Authority **APPROVED** the reissuance of Water Rights on the one-page printout, subject to standard conditions.

**12. Establishment of a framework for a Water Authority: Request for Environmental Authority to be Consulted**

There was nothing to report.

**13. Date of the Next Meeting**

The date of the next meeting was set for 8:30 am, Tuesday, 30 November 2021.

  
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CHAIRMAN

  
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DATE

