PREPARATION AND PROMULGATION OF ELECTRICITY SECTOR CODES

Generation Code

Work Shop 2

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Contents

BACKGROUND

Requirement for the Codes
Electricity Act 2015

  A. To implement 5 Grid Codes by August 27, 2016.

  B. Development task delegated to OUR by the Electricity Act, Part IX,

The issue is therefore not whether the 5 Codes are to be developed, or by what entity or when, as this is mandated by the Act.

The issue is how to develop the Codes.

Generation Code Development Approach

a. Stakeholders consultations and inputs.

b. Recognize need to minimize level of disruption to system operations.

c. Recognize Existing Agreements and Contracts.

d. Allow for the increasing penetration of variable renewable resources power plants.

e. Recognizing potential compliance issues.

Comparison of Generation Codes Structure

Existing Generation Code

1 Connection Conditions
2 Operational Metering
3 Scheduling and Dispatch
4 Load Shedding and Power Restoration
5 Generator Maintenance Planning
6 Testing and Monitoring
7 General Provisions

Draft New Generation Code

GC 2 Connection Conditions
GC 3 Operational Metering
GC 4 Merit Order
GC 5 Generator Maintenance Planning
GC 6 Testing and Monitoring
GC 7 Monitoring and Control
GC 8 Generation Interconnection Studies
GC 9 General Provisions

Generation Code - Content Migration

Original September 9, 2011 Generation Code

New Draft July 13, 2016 Jamaica Electric Utility Sector Grid Code Chapters

Generation Glossary, Definitions &,Acronyms

Preface

Introduction to Book of Codes

System Scheduling

SCADA Interfacing
Generator Scheduling & Dispatch
Real time Dispatch
Load Shedding & Power Restoration

Dispatch Code (DSC)

Variable Renewable Power Plant

Photo Voltaic Solar & Wind Farm

GC 6.5 Additional Tests

- Wind Speed
- Wind Direction
- Air Temperature
- Air Pressure
- Solar Irradiance

Photo Voltaic Solar & Wind Farm

GC 6.5.2 Voltage Flicker
Measurement

GC 6.5.3 Harmonic Distortion
Measurement

Monitoring and Control

GC 7 Monitoring and Control (New)

GC 7.1   Remote Monitoring

GC 7.2   Remote Control

GC 7.2.1   Communications Equipment

GC 7.2.2   Governor System

GC 7.2.3   Voltage Support

GC 7.2.4   LVRT/HVRT

GC 7.2.5   Generation Dispatch and Shutdown Signal

GC 7.2.6   Additional Monitoring and Control Requirements for VRPPs

Generation Interconnection Studies

GC 9 Generation Interconnection Studies (New)

- Load Flow Studies
- Short Circuit Studies
- Transient Stability Studies
- Steady-State Stability Analysis
- Voltage Stability Analysis

Addition for VRPP

- Voltage Flicker
- Harmonic Analysis
- Phase Imbalance
- Medium and Long Term Stability Study or quasi dynamic study

Issues to Resolve

1. Composition of Code review panel or committee

2. Compliance issues and requirement for transition period(s)

3. Treatment of existing Contracts, PPA

4. MSET to address Long term planning activities and responsibilities.

5. MSET to address Procedures for implementing power wheeling, net billing and auxiliary supply

Next Steps

1. Ensure all Stakeholders coordinate to complete development of the Codes.

2. Continue with Document Formatting and Review of Code documents

Takeaways

- The proposed Generation Code:

    – Does not introduce any new guidelines or operating requirements that will disrupt the performance of the System

    – Make accommodations for increased Renewable Energy generation penetration.