

RULES CHANGE COMMITTEE

Proposed General Amendments to the WESM Rules and Various WESM Manuals on the Enhancements to Market Operator and System Operator Procedures

Effective Date : 21 October 2021
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WHEREAS, the DOE on 23 October 2015 adopted¹ enhancements to WESM design and operations which include among others the change from a 1-hour dispatch interval to a 5-minute dispatch interval;

WHEREAS, the Market Operator was tasked² to propose changes to the WESM Rules and Market Manuals, and ensure upgrading of the Market Management System and other systems which are necessary for the implementation of the enhancements to WESM design and operations;

WHEREAS, among the preparations made for the implementation of the enhanced market design were the conduct, since 26 June 2017, of the Parallel Operations Program (POP) for the New Market Management System (NMMS) by the Market Operator, System Operator and WESM Members, and the market readiness assessment by the Market Readiness Steering Committee since 26 April 2019 to, among others, evaluate the capability of the NMMS to implement the scheduling and dispatch processes in a 5-minute dispatch;

WHEREAS, based on the results of the POP and the findings of the market readiness assessment, the Market Operator and System Operator have noted possible enhancements to the processes for scheduling and dispatch that needed to be incorporated in the WESM Manual on Dispatch Protocol Issue 13.2 (“Dispatch Protocol Manual”) and other relevant Market Manuals;

WHEREAS, the Market Operator (Independent Electricity Market Operator of the Philippines or IEMOP) submitted to the Rules Change Committee (RCC) on 23 March 2021 proposed urgent amendments to various WESM Manuals in view of the implementation of the enhanced WESM design and operations on 26 June 2021 (“Go-Live Date”);

WHEREAS, the IEMOP clarified that the proposal was submitted as urgent because the changes were intended to guide WESM stakeholders during the preparatory activities prior the Go-Live Date (i.e., POP and Limited Live Dispatch Operations), and to establish the rules and procedures upon the Go-Live Date;

WHEREAS, in accordance with the procedures for processing proposed urgent amendments³, the RCC immediately convened for a special meeting on 26 March 2021⁴ and determined that the proposal satisfies the criteria for urgent proposals set forth in Clause 8.4.1.1 of the WESM Rules.⁵ The RCC then proceeded to deliberate on the urgent proposal, and approved to endorse the same, as amended, to the PEM Board as embodied in RCC Resolution 2021-02 dated 30 March 2021;

WHEREAS, the PEM Board subsequently deliberated and approved the urgent proposal on 31 March 2021 per PEM Board Resolution No. 2021-34-09, as submitted, after which the revised WESM Rules and WESM Manuals reflecting the urgent amendments were posted in the PEMC website on 01 April 2021 for

¹ DOE Department Circular No. 2015-10-0015 dated 23 October 2015.

² DC No. 2015-10-0015, 3.

³ Section 7.2 of the WESM Manual on Procedures for Changes to the WESM and Retail Rules and Market Manuals

⁴ 176th RCC (Special) Meeting

⁵ Also in Section 3.1 of the WESM Manual on Procedures for Changes to the WESM and Retail Rules and Market Manuals

provisional implementation within a period of no more than six (6) months. The Dispatch Protocol Manual Issue 16.0 took effect on the commencement date of the enhanced market design and operations on 26 June 2021;

WHEREAS, following the process for urgent proposals, the IEMOP on 22 April 2021 re-submitted to the RCC the PEM Board-approved urgent proposed amendments as a general proposal to be processed as such, for final approval and promulgation of the DOE;

WHEREAS, as with the original urgent proposal, the general proposed amendments aim to enhance the processes between the Market Operator, System Operator, and Trading Participants and establish a framework where all WESM stakeholders are enjoined to independently perform their duties and responsibilities to ensure grid security and reliability upon the implementation of the 5-minute dispatch interval;

WHEREAS, the following summarizes the proposed changes to the WESM Rules and WESM Manuals on (a) Dispatch Protocol, (b) Registration, (c) Market Network Model (MNM), and (d) Information Disclosure and Confidentiality:

- 1) Use nomenclature for reserves types (i.e. regulation, contingency, and dispatchable) as provided under DOE Department Circular No. DC2019-12-0018;
- 2) Replace the term 'system snapshot' with 'real-time data', including the reference to the Market Network Modelling Criteria and Procedures (MNMCP) Manual concerning the required type of information for these data;
- 3) Clarify the process for updating SO constraints data in the NMMS;
- 4) Submission of day-ahead projected output from must dispatch generating units to the System Operator;
- 5) Enhancements on the creation of the Merit Order Table (MOT), specifically on the exclusion of scheduled reserve capacities and outages, and on the MO's provision of MOT to the SO
- 6) Process enhancements on dispatch implementation;
- 7) Provide definition of automatic generation control (AGC) aligned with the Philippine Grid Code and include guidelines on dispatch via AGC;
- 8) Improvements in post-dispatch reporting;
- 9) Registration of option for generator availability for WESM scheduling;
- 10) Improve process on MNM Development and Deployment;
- 11) Allow urgent updates to the MNM; and
- 12) Improve documentation and reporting;

WHEREAS, the RCC took up the general proposal during its 179th meeting on 21 May 2021 and approved to post the proposal in the PEMC website, as submitted, to solicit comments from WESM Members and stakeholders;

WHEREAS, following the 30-working day commenting period from 25 May to 06 July 2021, the RCC considered during its series of deliberations the comments received from the Philippine Electricity Market Corporation (PEMC), the Technical Committee, SPC Island Power Corp. and Aboitiz Power Corp., together with the IEMOP's responses to said comments;

WHEREAS, the RCC deliberated on the proposal over four (4) meetings, from its 181st to 184th meetings, during which the body agreed to reflect the following salient revisions:

Document / Provision	Salient Revisions
1) WESM Rules Clause 3.2.1.5	Revised to clarify that the basis providing the procedures for implementing changes in the Market Network Model (MNM) is no longer the MO’s Information and Communications Technology Change Management Process (ICMP) but rather its internal business process. Except for the integration of new networks, changes to the MNM shall no longer be approved by the PEM Board, as specified in the ICMP, since the new MMS is capable of changing or updating the MNM as near-to-real-time as possible. The RCC considered IEMOP’s justification that changes to the MNM are not changes to the market system or software, rather, are changes to the NMMS inputs, i.e. the MNM.
2) WESM Manual on Dispatch Protocol Sections 11.1.3 and 11.1.4	Did not adopt the proposed revision to Section 11.1.3 and proposed new Section 11.1.4, both of which provisions describe the responsibility of the System Operator to issue dispatch instructions to Trading Participants on automatic generation control (AGC), and of the Trading Participant on AGC to comply. The RCC accepted the System Operator’s comment that dispatch instructions should no longer be necessary if the Trading Participant is on AGC since the commands are already automated, and that the 5-minute dispatch interval no longer give the System Operator the opportunity to make calls to the Trading Participant.
3) WESM Manual on Dispatch Protocol Section 14.4.9	Agreed with the proponent’s suggested revision to shorten the timeline, from two (2) weeks to seven (7) working days, for the System Operator to validate and reconcile with the Trading Participant the discrepancy in the Dispatch Instruction Report raised by the latter, for consistency with DOE Department Circular No. 2021-03-0006.
4) WESM Manual on Dispatch Protocol Section 11.4.2 (e)	<p>Agreed to delete the proposed Section 11.4.2 (e), which reads:</p> <p><u>For generating units operating on AGC, the following shall be observed:</u></p> <p><u>xxx</u></p> <p><u>e. For an aggregated generating unit, the Generation Company shall pro-rate the AGC command to the individual generating units based on each unit’s MW capability at that time.</u></p> <p>The deletion was in consideration of the System Operator being not yet capable of performing AGC over aggregated generating units. It was noted that the System Operator may be able to eventually do so once it switches to cloud-based data.</p>
5) WESM Manual on Market Network Model	Replaced “power system topology” with “breaker-oriented single line diagram” as the information to be provided by the System Operator



Document / Provision	Salient Revisions
Development and Maintenance - Criteria and Procedures Section 4.5.6 (Table 1. MNM Development Timeline)	before updating the MNM to model new load facilities or there are changes to the grid. The latter term is deemed more accurate and specific considering the kind of information that the System Operator shall provide.
6) WESM Manual on Market Operator Information Disclosure and Confidentiality Appendix A - Market Information Catalogue	Added timeline for the Market Operator to publish the revised Dispatch Instruction Report resulting from the Trading Participant's reconciliation of data in the Report with the System Operator.

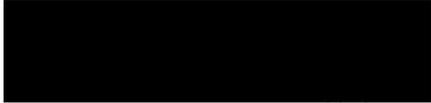
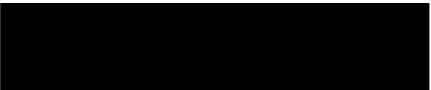
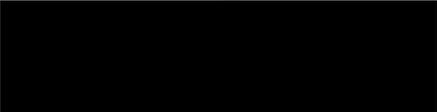
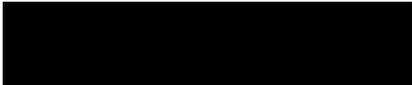
WHEREAS, during its 185th meeting on 15 October and further on 21 October 2021 the RCC finalized the proposal and approved its endorsement to the PEM Board;

NOW THEREFORE, we, the undersigned, on behalf of the sectors we represent, hereby resolve via electronic communication platforms, as follows:

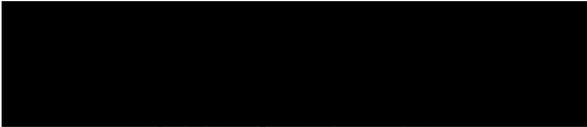
RESOLVED, that the RCC approves as amended the Proposed General Amendments to the WESM Rules and Various WESM Manuals on the Enhancements to Market Operator and System Operator Procedures attached as Annexes A to E;

RESOLVED FURTHER, that the said Proposed General Amendments to the WESM Rules and Various WESM Manuals on the Enhancements to Market Operator and System Operator Procedures, are hereby endorsed to the PEM Board for approval;

Done this **21st** day of **October 2021**, via Microsoft Teams.

Approved by: THE RULES CHANGE COMMITTEE	
Independent Members:	
 MAILA LOURDES G. DE CASTRO Chairperson	 FRANCISCO L.R. CASTRO, JR.
 ALLAN C. NERVES	 CONCEPCION I. TANGLAO
Generation Sector Members:	
 DIXIE ANTHONY R. BANZON Masinloc Power Partners Co. Ltd. (MPPCL)	 CHERRY A. JAVIER Aboitiz Power Corp. (APC)
 CARLITO C. CLAUDIO Millennium Energy, Inc./ Pansia Energy, Inc. (MEI/PEI)	 MARK D. HABANA Vivant Corporation - Philippines (Vivant)
Distribution Sector Members:	
 VIRGILIO C. FORTICH, JR. Cebu III Electric Cooperative, Inc. (CEBECO III)	 RYAN S. MORALES Manila Electric Company (MERALCO)
 RICARDO G. GUMALAL Iligan Light and Power, Inc. (ILPI)	 NELSON M. DELA CRUZ Nueva Ecija II Area 1 Electric Cooperative, Inc. (NEECO II – Area 1)



Supply Sector Member:
 LORRETO H. RIVERA TeaM (Philippines) Energy Corporation (TPEC)
Market Operator Member:
 ISIDRO E. CACHO, JR. Independent Electricity Market Operator of the Philippines (IEMOP)
System Operator Member:
 AMBROCIO R. ROSALES National Grid Corporation of the Philippines (NGCP)



Proposed General Amendments to the WESM Rules and Various WESM Manuals on the Enhancements to Market Operator and System Operator Procedures

A. WESM Rules

WESM Rules				
Title	Clause	Provision	Proposed Amendment	Rationale
Market Network Model	3.2.1.5	Any alteration under Clause 3.2.1.4 shall be implemented in accordance with the established <i>Information and Communications Technology Change Management Process (ICMP)</i> of the <i>Market Operator</i> . The <i>Market Operator</i> shall regularly inform the <i>PEM Board</i> of any changes made to the <i>Market Network Model</i> .	<u>Except for integration of new network, other</u> alteration under Clause 3.2.1.4 shall be implemented in accordance with the established <u>business processes</u> Information and Communications Technology Change Management Process (ICMP) of the <i>Market Operator</i> . The <i>Market Operator</i> shall regularly inform the <i>PEM Board</i> of any changes made to the <i>Market Network Model</i> .	To clarify that the basis providing the procedures for implementing changes in the Market Network Model (MNM) is no longer the MO's Information and Communications Technology Change Management Process (ICMP) but rather its internal business process. Except for the integration of new networks, changes to the MNM shall no longer be approved by the PEM Board, as specified in the ICMP, since the new MMS is capable of changing or updating the MNM as near-to-real-time as possible. Further, changes to the MNM are not changes to the market system or software, rather, are changes to the NMMS inputs, i.e. the MNM.
Overriding Constraints	3.5.13.1	xxx The <i>System Operator</i> shall advise the <i>Market Operator</i> of the actions it has taken in relation to the foregoing, including but not limited to information necessary for the proper	xxx The <i>System Operator</i> shall advise the <i>Market Operator</i> of the actions it has taken in relation to the foregoing, including but not limited to information necessary for the proper	<ul style="list-style-type: none"> To reinforce responsibility of Trading Participants (TP) in reporting their limitations if unable to follow RTD schedule and to encourage TP's active review of



WESM Rules				
Title	Clause	Provision	Proposed Amendment	Rationale
		settlement of affected <i>generating units</i> , and the <i>Market Operator</i> shall publish the said information no later than one (1) week from the relevant trading day. For proper settlement of must-run units, <i>Trading Participants</i> shall review the information and notify the <i>Market Operator</i> of any discrepancies no later than two (2) weeks from the date of publication, otherwise the information contained in the report shall be deemed final for use in the settlement of <i>must-run units</i> .	settlement of affected <i>generating units</i> , and the <i>Market Operator</i> shall publish the said information no later than one (1) week from the relevant trading day. For proper settlement of must-run units, <i>Trading Participants</i> shall review the information and notify the <i>Market Operator</i> of any discrepancies no later than two (2) weeks from the date of publication, otherwise the information contained in the report shall be deemed final, for use in the settlement of <i>must-run units</i>.	SO reports as part of their responsibilities. <ul style="list-style-type: none"> To be consistent with the proposed change of SO's reporting of their dispatch instructions, containing all dispatch instructions from the System Operator (e.g. dispatch of must-run units), instead of dispatch deviations of generating units. Further, per proposed changes in DP Section 14.4.7, the SO Report will be named as "Dispatch Instruction Report".
Responsibilities of the System Operator	3.8.2	3.8.2.2 After each one (1) hour interval, in accordance with the <i>timetable</i> , the <i>System Operator</i> shall advise the <i>Market Operator</i> of: a. xxx xxx The <i>System Operator</i> shall likewise provide a <i>dispatch</i> deviation report to the <i>Market Operator</i> , in accordance with the <i>timetable</i> , detailing among others the circumstances and <i>dispatch</i> levels of units that were <i>constrained-</i>	3.8.2.2 After each one (1) hour interval, in accordance with the <i>timetable</i> , the <i>System Operator</i> shall advise the <i>Market Operator</i> of: a. xxx xxx The <i>System Operator</i> shall likewise provide a <i>dispatch</i> deviation <i>instruction</i> report to the <i>Market Operator</i> , in accordance with the <i>timetable</i> , detailing among others the circumstances and <i>dispatch</i> levels of units that	To change of report name to Dispatch Instruction Report consistent with proposed changes to WESM DP



WESM Rules				
Title	Clause	Provision	Proposed Amendment	Rationale
		<i>on or constrained-off or put on must-run during that one (1) hour interval.</i>	were <i>constrained-on or constrained-off or put on must-run during that one (1) hour interval.</i>	
System Operator Implementation of Real-Time Dispatch	3.8.3.4	Subject to Clause 3.8.3.4, if, in real-time, the available <i>generation</i> from a <i>must dispatch generating unit</i> differs from the available <i>generation</i> assumed in the <i>dispatch schedule</i> provided to the <i>System Operator</i> , the <i>System Operator</i> shall allow the <i>must dispatch generating unit</i> to generate at its <i>maximum available output</i> , and, if all available <i>frequency</i> regulation is exhausted during a <i>dispatch interval</i> , shall adjust the <i>dispatch</i> of other <i>generating units</i> , to compensate as required in accordance with relevant <i>Market Manuals</i> .	Subject to Clause 3.8.3.4 3 , if, in real-time, the available <i>generation</i> from a <i>must dispatch generating unit</i> differs from the available <i>generation</i> assumed in the <i>dispatch schedule</i> provided to the <i>System Operator</i> , the <i>System Operator</i> shall allow the <i>must dispatch generating unit</i> to generate at its <i>maximum available output</i> , and, if all available frequency regulation is <u>regulating reserves are</u> exhausted during a <i>dispatch interval</i> , shall adjust the <i>dispatch</i> of other <i>generating units</i> , to compensate as required in accordance with relevant <i>Market Manuals</i> .	Revised reference clause to 3.8.3.3. To be consistent with the proposed changes in the WESM Manual on Dispatch Protocol Section 11.5.2.
Dispatch Conformance Standards	3.8.5	3.8.5.6 In cases when a <i>generating unit</i> was identified as a <i>Must-Stop Unit</i> , the <i>System Operator</i> shall include such in the Dispatch Deviation Report.	3.8.5.6 In cases when a <i>generating unit</i> was identified as a <i>Must-Stop Unit</i> , the <i>System Operator</i> shall include such in the Dispatch Deviation <u>Instruction</u> Report.	To change report name to Dispatch Instruction Report consistent with proposed changes to the WESM Manual on Dispatch Protocol.
Glossary		xxxx Contingency Reserve. The ability to respond so as to arrest a significant drop in system frequency such as would arise as a result of a credible contingency affecting one (or more)	xxxx Contingency Reserve. The ability to respond so as to arrest a significant drop in system frequency such as would arise as a result of a credible contingency affecting one (or more)	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable).



WESM Rules				
Title	Clause	Provision	Proposed Amendment	Rationale
		<p><i>generating units</i> within a region, or transmission flows into a region.</p> <p>xxxx</p> <p>Dispatchable Reserve. The ability to respond to a re-dispatch performed by the <i>System operator</i> during a <i>trading interval</i>, on either a regular or an ad hoc basis.</p> <p>xxxx</p>	<p><i>generating units</i> within a region, or transmission flows into a region.</p> <p><u>Synchronized generation capacity from qualified <i>generating units</i> and qualified <i>interruptible loads</i> allocated to cover the loss or failure of a synchronized <i>generating unit</i> or a transmission element or the power import from a circuit interconnection.</u></p> <p>xxxx</p> <p>Dispatchable Reserve. The ability to respond to a re-dispatch performed by the <i>System operator</i> during a <i>trading interval</i>, on either a regular or an ad hoc basis. <u>Generating capacity that is not scheduled for regular energy supply, <i>regulating reserve</i>, <i>contingency reserve</i>, or <i>interruptible loads</i> not scheduled for <i>contingency reserve</i>, and that are readily available for dispatch in order to replenish the <i>contingency reserve</i> service whenever a <i>generating unit</i> trips or a loss of a single transmission interconnection occurs.</u></p> <p>xxxx</p>	

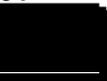


WESM Rules				
Title	Clause	Provision	Proposed Amendment	Rationale
		Regulating Reserve. The ability to adjust generation continuously in response to small frequency changes, so a so as to cover load fluctuations or minor breakdowns, defined as an <i>ancillary service</i> in clause 3.3.4.2 (a).	Regulating Reserve. The ability to adjust generation continuously in response to small frequency changes, so a so as to cover load fluctuations or minor breakdowns, defined as an <i>ancillary service</i> in clause 3.3.4.2 (a). <u>Readily available and dispatchable generating capacity that is allocated exclusively to correct deviations from the acceptable nominal <i>frequency</i> caused by unpredicted variations in demand or <i>generation</i> output.</u>	



B. WESM Manual on Dispatch Protocol Issue 13.2

WESM Manual on Dispatch Protocol Issue 13.2				
Title	Section	Provision	Proposed Amendment	Rationale
DEFINITIONS	2.1.2	(New terms)	<p>The following words and phrases as used in this <i>Market Manual</i> shall have the following meaning:</p> <p>a. <u>Ancillary Service Procurement Agreement. A contractual agreement under which a WESM Member, registered as an Ancillary Service Provider, agrees with the System Operator to provide ancillary services.</u></p> <p>b. <u>Automatic Generation Control. The automatic regulation of the power output of generating units to respond to a change in system frequency or tie-line loading, as defined in the Grid Code, or to meet its target loading level.</u></p> <p>a- c. Automatic Load Dropping (ALD). xxx b- d. Availability. xxx c- e. Bid. xxx d- f. Capability. xxx e- g. Cascading Outages. xxx f- h. Contingency. xxx</p>	<ul style="list-style-type: none"> To add definition of an ancillary service procurement agreement, which will be referred to in later sections. To add definition of automatic generation control, which will be referred to in later sections.



WESM Manual on Dispatch Protocol Issue 13.2

Title	Section	Provision	Proposed Amendment	Rationale
DEFINITIONS	2.1.2	<p>XXX</p> <p>u. Primary Reserve. Synchronized generating capacity that is allocated to stabilize the system <i>frequency</i> and to cover the loss or failure of a synchronized <i>generating unit</i> or a <i>transmission line</i> or the power import from a single circuit interconnection, as defined in the <i>Grid Code</i>. Also referred to as <i>contingency reserves</i>.</p> <p>XXX</p> <p>w. Red Alert. An alert issued by the <i>System Operator</i> when the <i>Primary Reserve</i> is zero, a <i>generation</i> deficiency exists, or there is critical loading or imminent overloading of <i>transmission lines</i> or equipment.</p> <p>XXX</p> <p>x. Secondary Reserve. Synchronized generating capacity that is allocated to restore the system frequency to the nominal <i>frequency</i> of 60Hz, as defined on the <i>Grid Code</i>. Also referred to as <i>regulating reserves</i>.</p>	<p>xxx</p> <p>u. <u>i. Primary Contingency Reserve.</u> Synchronized generating capacity that is allocated to stabilize the system <i>frequency</i> and to cover the loss or failure of a <i>synchronized generating unit</i> or a <i>transmission line</i> or the power import from a single circuit interconnection, as defined in the <i>Grid Code</i>. Also referred to as <i>contingency reserves</i>. <u>Synchronized generation capacity from qualified generating units and qualified interruptible loads allocated to cover the loss or failure of a synchronized generating unit or a transmission element or the power import from a circuit interconnection.</u></p> <p>g. <u>j.</u> Demand Control. xxx</p> <p>h. <u>k.</u> Demand Control Imminent Warning. xxx</p> <p>hh. <u>l. Tertiary Dispatchable Reserve.</u> Capacity used in order to replenish the <i>Secondary Reserve</i> and for such other cases, as defined in the <i>Grid Code</i>. <u>Generating capacity that is not scheduled for regular energy supply.</u></p>	<ul style="list-style-type: none"> To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable). This is the definition of Contingency reserve in said DOE DC. To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable). This is the definition



WESM Manual on Dispatch Protocol Issue 13.2

Title	Section	Provision	Proposed Amendment	Rationale
		<p>XXX</p> <p>ff. System Snapshot. Otherwise known as EMS Snapshot. The <i>system snapshot</i> contains MW loadings of <i>generators</i> and <i>loads</i>. The <i>system snapshot</i> also indicates connection status of the power system.</p> <p>XXX</p> <p>hh. Tertiary Reserve. Capacity used in order to replenish the <i>Secondary Reserve</i> and for such other cases, as defined in the <i>Grid Code</i>.</p>	<p><u>regulating reserve, contingency reserve, or interruptible loads not scheduled for contingency reserve, and that are readily available for dispatch in order to replenish the Contingency Reserve service whenever a generating unit trips or a loss of a single transmission interconnection occurs.</u></p> <p>i. <u>m.</u> Disturbance. xxx j. <u>n.</u> Frequency control. xxx k. <u>o.</u> Generator. xxx l. <u>p.</u> Load shedding. xxx m. <u>q.</u> Manual Load Dropping. xxx n. <u>r.</u> Market Management System (MMS). xxx o. <u>s.</u> Maximum available capacity. xxx p. <u>t.</u> MMS-Market Participant Interface (MPI). xxx q. <u>u.</u> Multiple Outage Contingency. xxx r. <u>v.</u> Offer. xxx s. <u>w.</u> Operating margin. xxx t. <u>x.</u> Preferential Dispatch Units. xxx ff. <u>y.</u> System Snapshot Real-Time Data. Otherwise known as EMS Snapshot. The <i>system snapshot</i> contains analog measurements (MW loadings and MVAR) of <i>generators</i> and <i>loads</i>. The <i>system</i></p>	<p>of Dispatchable reserve in said DOE DC.</p>



WESM Manual on Dispatch Protocol Issue 13.2

Title	Section	Provision	Proposed Amendment	Rationale
			<p>snapshot also indicates and the connection status of power system breakers and disconnect switches.</p> <p>v. z. Real-Time Dispatch. xxx</p> <p>w. aa. Red Alert. An alert issued by the <i>System Operator</i> when the <i>Primary Contingency Reserve</i> is zero, a <i>generation</i> deficiency exists, or there is critical loading or imminent overloading of <i>transmission lines</i> or equipment.</p> <p>x. bb. <u>Secondary Regulating Reserve.</u> Synchronized generating capacity that is allocated to restore the system frequency to the nominal <i>frequency</i> of 60Hz, as defined on the Grid Code. Also referred to as <i>regulating reserves</i>. Readily available and dispatchable generating capacity that is allocated exclusively to correct deviations from the acceptable nominal frequency caused by unpredicted variations in demand or generation output.</p> <p>y. cc. Security. xxx</p> <p>z. dd. Self-scheduled nomination. xxx</p> <p>aa. ee. Shutdown. xxx</p>	<ul style="list-style-type: none"> • To reflect change in type of data received with the use of Inter-Control Centre Communications Protocol (ICCP) of the NMMS. • To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable). This is the definition of Regulating reserve in said DOE DC.



WESM Manual on Dispatch Protocol Issue 13.2

Title	Section	Provision	Proposed Amendment	Rationale																		
			bb. ff. Stability. xxx ee. gg. Start-up. xxx dd. hh. System Integrity Protection Scheme (SIPS). xxx ee. ii. System Operator System Advisories. xxx ff. System Snapshot. xxx gg. jj. Technical Constraint. xxx hh. Tertiary Reserve. xxx ii. kk. Voltage Control. xxx jj. ll. Voltage Instability. xxx kk. mm. Voltage Sag. xxx																			
WESM TIMETABLE	4.4	Table 2. DAP Timeline <table border="1" data-bbox="747 987 1335 1414"> <thead> <tr> <th>Time</th> <th>Activity</th> <th>Responsible Party</th> </tr> </thead> <tbody> <tr> <td>XXX</td> <td>XXX</td> <td>XXX</td> </tr> <tr> <td>Before [STPH1 + 1 minute]</td> <td>Provide updates on the following, if any: a. XXX b. XXX c. XXX d. XXX</td> <td>System Operator</td> </tr> </tbody> </table>	Time	Activity	Responsible Party	XXX	XXX	XXX	Before [STPH1 + 1 minute]	Provide updates on the following, if any: a. XXX b. XXX c. XXX d. XXX	System Operator	Table 2. DAP Timeline <table border="1" data-bbox="1389 987 1978 1406"> <thead> <tr> <th>Time</th> <th>Activity</th> <th>Responsible Party</th> </tr> </thead> <tbody> <tr> <td>XXX</td> <td>XXX</td> <td>XXX</td> </tr> <tr> <td>Before [STPH1 + 1 minute]</td> <td>Provide updates on the following, if any: a. XXX b. XXX c. XXX</td> <td>System Operator</td> </tr> </tbody> </table>	Time	Activity	Responsible Party	XXX	XXX	XXX	Before [STPH1 + 1 minute]	Provide updates on the following, if any: a. XXX b. XXX c. XXX	System Operator	To reflect change in type of data received with the use of ICCP of the NMMS
Time	Activity	Responsible Party																				
XXX	XXX	XXX																				
Before [STPH1 + 1 minute]	Provide updates on the following, if any: a. XXX b. XXX c. XXX d. XXX	System Operator																				
Time	Activity	Responsible Party																				
XXX	XXX	XXX																				
Before [STPH1 + 1 minute]	Provide updates on the following, if any: a. XXX b. XXX c. XXX	System Operator																				



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Title	Section	Provision			Proposed Amendment			Rationale
			e. <i>Real-time system snapshot</i> f. XXX g. XXX			d. XXX e. <i>Real-time system snapshot data</i> f. XXX g. XXX		
		XXX	XXX	XXX	XXX	XXX	XXX	
		XXX	XXX	XXX	XXX	XXX	XXX	
		XXX	XXX	XXX	XXX	XXX	XXX	
		XXX	XXX	XXX	XXX	XXX	XXX	
WESM TIMETABLE	4.5	Table 4. HAP Timeline			Table 4. HAP Timeline			To reflect change in type of data received with the use of ICCP of the NMMS
	Before [STDI1 – 7 minutes]	Provide updates on the following, if any: <ul style="list-style-type: none"> • XXX • XXX • XXX • XXX • XXX • <i>Real-time system snapshot</i> 	System Operator	Before [STDI1 – 7 minutes]	Provide updates on the following, if any: <ul style="list-style-type: none"> • XXX • XXX • XXX • XXX • <i>Real-time system snapshot data</i> 	System Operator		



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Title	Section	Provision			Proposed Amendment			Rationale
		XXX	XXX	XXX	XXX	XXX	XXX	
		XXX	XXX	XXX	XXX	XXX	XXX	
		XXX	XXX	XXX	XXX	XXX	XXX	
			XXX	XXX		XXX	XXX	
WESM TIMETABLE	4.6	Table 5. RTD Timeline			Table 5. RTD Timeline			To reflect change in type of data received with the use of ICCP of the NMMS
		Time	Activity	Responsible Party	Time	Activity	Responsible Party	
		XXX	XXX	XXX	XXX	XXX	XXX	
		Before [STDI – 7 minutes]	Provide updates on the following, if any: <ul style="list-style-type: none"> • XXX • XXX • XXX • XXX • <i>Real-time system snapshot</i> 	<i>System Operator</i>	Before [STDI – 7 minutes]	Provide updates on the following, if any: <ul style="list-style-type: none"> • XXX • XXX • XXX • XXX • <i>Real-time system snapshot <u>data</u></i> 	<i>System Operator</i>	
		XXX	XXX	XXX	XXX	XXX	XXX	
		XXX	XXX	XXX	XXX	XXX	XXX	



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Title	Section	Provision	Proposed Amendment	Rationale															
		<table border="1"> <tr> <td data-bbox="747 334 897 391">XXX</td> <td data-bbox="897 334 1131 391">XXX</td> <td data-bbox="1131 334 1335 391">XXX</td> </tr> <tr> <td data-bbox="747 391 897 448"></td> <td data-bbox="897 391 1131 448">XXX</td> <td data-bbox="1131 391 1335 448">XXX</td> </tr> </table>	XXX	XXX	XXX		XXX	XXX	<table border="1"> <tr> <td data-bbox="1389 334 1540 391">XXX</td> <td data-bbox="1540 334 1774 391">XXX</td> <td data-bbox="1774 334 1978 391">XXX</td> </tr> <tr> <td data-bbox="1389 391 1540 448">XXX</td> <td data-bbox="1540 391 1774 448">XXX</td> <td data-bbox="1774 391 1978 448">XXX</td> </tr> <tr> <td data-bbox="1389 448 1540 505"></td> <td data-bbox="1540 448 1774 505">XXX</td> <td data-bbox="1774 448 1978 505">XXX</td> </tr> </table>	XXX	XXX	XXX	XXX	XXX	XXX		XXX	XXX	
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	XXX	XXX																	
SYSTEM OPERATOR INPUT DATA AND REPORTS	7.4.1	<p>Market run data Inputs. For each dispatch interval, the System Operator shall provide and update data, if necessary, which shall be used in the pre-dispatch projections and real-time dispatch market runs:</p> <ul style="list-style-type: none"> a. <i>Outage schedules</i> b. <i>Contingency lists</i> c. <i>Over-riding constraints</i> d. <i>Reserve requirements</i> 	<p>Market run data Inputs. For each dispatch interval, the System Operator shall provide and or update the data, if necessary, which shall be used in the pre-dispatch projections and real-time dispatch market runs:</p> <ul style="list-style-type: none"> a. <i>Outage schedules</i> b. <i>Contingency lists</i> c. <i>Over-riding constraints</i> d. <i>Reserve requirements</i> 	Minor clerical amendment to clarify the provision															
SYSTEM OPERATOR INPUT DATA AND REPORTS	7.6.4	(New)	<p><u>Generating units undergoing regulatory and commercial tests shall submit to the System Operator the MW profile that details the MW target for each dispatch interval during its requested test period at least two (2) working days prior to the start of its testing.</u></p>	To provide that generator Trading Participants on testing and commissioning shall submit test profiles for each dispatch interval during the test period. The test profile will be the reference of the SO in its submission of overriding constraints.															
SYSTEM STATUS	7.9.1	7.9.1 System Snapshot. The <i>system snapshot</i> depicts the status of individual power facilities in the grid. The <i>system snapshot</i> is	7.9.1 System Snapshot Real-Time Data. The system snapshot real-time data represents depicts the analog measurements, and	To reflect change in type of data received with the use of ICCP of the NMMS															



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Title	Section	Provision	Proposed Amendment	Rationale
		<p>collected by the <i>Market Operator</i> from the <i>System Operator's</i> EMS/SCADA.</p> <p>a. The <i>system snapshot</i> contains the following information:</p> <ul style="list-style-type: none"> • <i>Generator</i> Unit MW and MVAR (analog measurements) • Load MW and MVAR (analog measurements) and • Breaker Status • Bus Voltages • Frequency <p>b. The system snapshot is an input to the MDOM which calculates the WAP, DAP, HAP, and RTD schedules. Specifically, the system snapshot data is used for the network configuration and nodal demand forecasting processes.</p>	<p>connection status of breakers and disconnect switches status of individual power facilities in the <i>grid</i>. The system snapshot <i>It</i> is collected by the <i>Market Operator</i> from the <i>System Operator's</i> EMS/SCADA.</p> <p>a. The <i>system snapshot</i> <u>real-time data shall</u> contains the following information <u>as prescribed in the WESM Market Manual on Market Network Model Development and Maintenance - Criteria and Procedure.</u>:</p> <ul style="list-style-type: none"> • <i>Generator</i> Unit MW and MVAR (analog measurements) • <i>Load MW and MVAR</i> (analog measurements) and • <i>Breaker</i> Status • <i>Bus</i> Voltages • <i>Frequency</i> <p>b. The <i>system snapshot</i> <u>real-time data</u> is an input to the MDOM which calculates the WAP, DAP, HAP, and RTD schedules. Specifically, the system snapshot <u>real-time</u> data is used for the network configuration and nodal demand forecasting processes.</p>	



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Title	Section	Provision	Proposed Amendment	Rationale
SYSTEM STATUS	7.9.2	7.9.2 System Operator System Advisories. The <i>System Operator system advisories</i> contain other information not included in the submission of <i>system snapshots</i> . Further to the information provided in Section 7.4.2, these are messages issued by the <i>System Operator</i> depicting particular events or incidents that would transpire prior, during or after real time condition.	7.9.2 System Operator System Advisories. The <i>System Operator system advisories</i> contain other information not included in the submission of <i>system snapshots</i> . Further to the information provided in Section 7.4.2, these are messages issued by the <i>System Operator</i> depicting particular events or incidents that would transpire prior, during or after real time condition.	To reflect change in type of data received with the use of ICCP of the NMMS
SYSTEM STATUS	7.10.2	7.10.2 The <i>System Operator</i> shall provide the information contained in this Section in accordance with the <i>timetable</i> set in Section 4.	7.10.2 The <i>System Operator</i> shall update provide the information contained in this Section in accordance with considering the <i>timetable</i> set in Section 4.	To clarify the responsibility of SO to update system status
MARKET PROJECTIONS - Responsibilities	8.3.3	<p><i>Trading Participants</i> shall be responsible for:</p> <ul style="list-style-type: none"> Ensuring submission of <i>self-scheduled nominations, bids, and offers</i> as set out in the <i>WESM Rules</i> and in accordance with the <i>WESM timetable</i> and the procedures and requirements set forth in this Dispatch Protocol; and Maintaining their respective infrastructure to ensure access to the <i>MPI</i> of the <i>MMS</i>. 	<p><i>Trading Participants</i> shall be responsible for:</p> <ul style="list-style-type: none"> Ensuring submission of <i>self-scheduled nominations, bids, and offers</i> as set out in the <i>WESM Rules</i> and in accordance with the <i>WESM timetable</i> and the procedures and requirements set forth in this Dispatch Protocol; and <u>Submission of day-ahead self-scheduled nominations of its must dispatch generating units to the System Operator by 1300H; and</u> 	To provide that Must Dispatch generating units must provide SO day-ahead forecasts for planning purposes as also provided under PGC SD 8.3.2.6



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Title	Section	Provision	Proposed Amendment	Rationale
			<p>b)-c) Maintaining their respective infrastructure to ensure access to the <i>MPI</i> of the <i>MMS</i>.</p>	
Data Inputs/Information Requirements	8.4.2	<p>The data inputs for the market projections are as follows:</p> <ul style="list-style-type: none"> a. XXX b. XXX c. <i>System snapshot</i> d. XXX e. XXX f. XXX g. XXX h. XXX i. XXX 	<p>The data inputs for the market projections are as follows:</p> <ul style="list-style-type: none"> a. XXX b. XXX c. System snapshot <u>Real-time data</u> d. XXX e. XXX f. XXX g. XXX h. XXX i. XXX 	To reflect change in type of data received with the use of ICCP of the NMMS



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Title	Section	Provision	Proposed Amendment	Rationale																																				
REAL-TIME DISPATCH SCHEDULING	9.5	<p>Table 6. Summary of Inputs and Sources for the <i>Real-time dispatch</i></p> <table border="1" data-bbox="809 448 1274 846"> <thead> <tr> <th>INPUTS</th> <th>SOURCE</th> </tr> </thead> <tbody> <tr> <td>XXX</td> <td>XXX</td> </tr> <tr> <td>XXX</td> <td>XXX</td> </tr> <tr> <td>System Snapshot</td> <td>System Operator</td> </tr> <tr> <td>XXX</td> <td>XXX</td> </tr> </tbody> </table>	INPUTS	SOURCE	XXX	XXX	XXX	XXX	System Snapshot	System Operator	XXX	<p>Table 6. Summary of Inputs and Sources for the <i>Real-time dispatch</i></p> <table border="1" data-bbox="1451 448 1916 886"> <thead> <tr> <th>INPUTS</th> <th>SOURCE</th> </tr> </thead> <tbody> <tr> <td>XXX</td> <td>XXX</td> </tr> <tr> <td>XXX</td> <td>XXX</td> </tr> <tr> <td>System Snapshot <u>Real-Time Data</u></td> <td>System Operator</td> </tr> <tr> <td>XXX</td> <td>XXX</td> </tr> </tbody> </table>	INPUTS	SOURCE	XXX	XXX	XXX	XXX	System Snapshot <u>Real-Time Data</u>	System Operator	XXX	To reflect change in type of data received with the use of ICCP of the NMMS																		
INPUTS	SOURCE																																							
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PREPARATION OF THE WESM MERIT ORDER TABLE	10.1.2	<p>The <i>WMOT</i> is generated by stacking in an unconstrained manner of scheduled and unscheduled capacities, excluding negative quantities through the <i>market offers</i> submitted for the <i>real-time dispatch</i> runs. <i>Energy offer</i> blocks submitted by <i>generator Trading Participants</i> for a particular dispatch interval are arranged from lowest to the highest priced offer block, without considering any <i>constraints</i>. The <i>WMOT</i> stacks <i>energy offers</i> into two, namely, the energy offers that were scheduled (or “Offers Dispatched”) and <i>energy</i></p>	<p>The <i>WMOT</i> is generated by stacking, in an unconstrained manner, of scheduled and unscheduled capacities, excluding negative quantities, <u>reserve schedules, and generators on outage</u> through the <i>market offers</i> submitted for the <i>real-time dispatch</i> runs. <i>Energy offer</i> blocks submitted by <i>generator Trading Participants</i> for a particular dispatch interval are arranged from lowest to the highest priced offer block, without considering any <i>constraints</i>. The <i>WMOT</i> stacks <i>energy offers</i> into two, namely, the energy offers that were scheduled (or “Offers Dispatched”) and <i>energy</i></p>	To reflect more accurate presentation of available capacities for re-dispatch																																				



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Title	Section	Provision	Proposed Amendment	Rationale
		<i>offers</i> that were not scheduled (or “Offers Not Dispatched”).	<i>offers</i> that were not scheduled (or “Offers Not Dispatched”).	
PREPARATION OF THE WESM MERIT ORDER TABLE	10.3.2	Consistent with its obligations set out in this Dispatch Protocol in respect to the issuance of dispatch instructions, the System Operator shall be responsible for ensuring the application of the information provided in the WMOT in the real-time operation of the grid. The System Operator shall also be responsible for identifying the generating units designated as must-run units through the dispatch deviation report and report on must-run units prepared in accordance with Sections 14.4.2 and 14.4.5.	Consistent with its obligations set out in this Dispatch Protocol in respect to the issuance of dispatch instructions, the System Operator shall be responsible for ensuring the application of the information provided in the WMOT in the real-time operation of the grid. The System Operator shall also be responsible for identifying the generating units <u>that were issued dispatch instructions</u> designated as must-run units through the dispatch deviation <u>instruction</u> report and report on must-run units prepared in accordance with Sections 14.4.2 and 14.4.5.	To be consistent with the renaming of SO’s reports to Dispatch Instruction Report from the current Dispatch Deviation Report. Also, MRU reports will be integrated in the dispatch instruction report per proposed revisions in Section 14.4.5.
Preparation of WMOT	10.4.1	10.4.1 The <i>WMOT</i> shall be prepared using the <i>offers</i> , excluding negative quantities, and the <i>real-time dispatch schedule</i> of each <i>generating system</i> for which <i>offers</i> were submitted for the relevant <i>dispatch interval</i> . The specific information that will be used is as follows: XXX	10.4.1 The <i>WMOT</i> shall be prepared using <u>the real-time dispatch schedules, and the offers</u> , excluding negative quantities, <u>reserve schedules, and generators on outage</u> , and the <i>real-time dispatch schedule</i> of each <i>generating system</i> for which <i>offers</i> were submitted for the relevant <i>dispatch interval</i> . The specific information that will be used is as follows: XXX	To reflect more accurate presentation of available capacities for re-dispatch



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Title	Section	Provision	Proposed Amendment	Rationale
Preparation of WMOT	10.4.5 10.4.6	<p>XXX</p> <p>10.4.5 The “Offers Dispatched” consists of the <i>energy offer</i> blocks which have been scheduled in the RTD schedule for the <i>dispatch interval</i>. To the extent possible, the <i>dispatch schedule</i> of each <i>generating unit</i> will be split into corresponding <i>offer</i> blocks. The scheduled <i>offer</i> blocks will then be sorted and listed from the lowest-priced to the highest-priced scheduled <i>offer</i> block, with the lowest-priced scheduled <i>offer</i> block at the bottom of the list and the highest-priced at the top of the list. The <i>generating units</i> for which no <i>offers</i> are submitted but were scheduled are considered as price takers. Their respective schedules, MW, are included in this list and are placed at the bottom of the list with <i>must dispatch generating units</i> at the bottom and followed by <i>priority dispatch generating units</i> and <i>non-scheduled generating units</i> in that order.</p> <p>10.4.6 The “Offers Not Dispatched” consists of the remaining <i>energy offers</i> of each <i>generating unit</i> that are not scheduled or included in the RTD schedule for the <i>dispatch interval</i>. To the extent possible, the remaining <i>offers</i> will be</p>	<p>XXX</p> <p>10.4.5 The “Offers Dispatched” consists of the <i>energy offer</i> blocks, <u>excluding reserve schedules</u>, which have been scheduled in the RTD schedule for the <i>dispatch interval</i>. To the extent possible, the <i>dispatch schedule</i> of each <i>generating unit</i> will be split into corresponding <i>offer</i> blocks. The scheduled <i>offer</i> blocks will then be sorted and listed from the lowest-priced to the highest-priced scheduled <i>offer</i> block, with the lowest-priced scheduled <i>offer</i> block at the bottom of the list and the highest-priced at the top of the list. The <i>generating units</i> for which no <i>offers</i> are submitted but were scheduled are considered as price takers. Their respective MW schedules, MW, are included in this list and are placed at the bottom of the list with <i>must dispatch generating units</i> at the bottom and followed by <i>priority dispatch generating units</i> and <i>non-scheduled generating units</i> in that order.</p> <p>10.4.6 The “Offers Not Dispatched” consists of the remaining <i>energy offers</i> of each <u>available generating unit</u> that are not scheduled or included in the RTD schedule for the <i>dispatch interval</i>. To the extent possible, the remaining</p>	To reflect more accurate presentation of available capacities for re-dispatch



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		sorted by <i>offer</i> blocks. The <i>offer</i> blocks not dispatched will then be sorted and listed from the lowest-priced to the highest-priced scheduled <i>offer</i> block, with the lowest-priced scheduled offer block at the bottom of the list and the highest-priced at the top of the list. Capacities that were not dispatched through their <i>energy offers</i> but have <i>reserve dispatch</i> targets shall be excluded from the list.	<i>offers</i> will be sorted by <i>offer</i> blocks. The <i>offer</i> blocks not dispatched will then be sorted and listed from the lowest-priced to the highest-priced scheduled <i>offer</i> block, with the lowest-priced scheduled offer block at the bottom of the list and the highest-priced at the top of the list. Capacities that were not dispatched through their <i>energy offers</i> but have <i>reserve dispatch</i> targets shall be excluded from the list.	
Use of WMOT	10.6.2	As far as practicable, and when <i>secondary reserves</i> have been exhausted, the <i>System Operator</i> shall issue re-dispatch instructions based on the <i>WMOT</i> . However, the <i>System Operator</i> may resort in an <i>out of merit dispatch</i> whenever the quality of the <i>grid frequency</i> is affected or the <i>security</i> of the <i>grid</i> is at risk.	As far as practicable, and when <i>secondary</i> <i>regulating</i> reserves have been exhausted, the <i>System Operator</i> shall issue re-dispatch instructions based on the <i>WMOT</i> . However, the <i>System Operator</i> may resort in an <i>out of merit dispatch</i> whenever the quality of the <i>grid frequency</i> is affected or the <i>security</i> of the <i>grid</i> is at risk.	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)
DISPATCH IMPLEMENTATION	(New)	(New)	11.1.4 xxx <u>11.1.5 The <i>System Operator</i> shall make use of the first <i>WMOT</i> available for the hour as reference for its re-dispatch instruction at any <i>dispatch interval</i> for that hour (e.g. 1005H <i>WMOT</i> shall be used for all <i>dispatch intervals</i> from 1005H to 1100H).</u>	To specify that the first WMOT shall be used as reference for the rest of the hour in SO re-dispatch in consideration of the SO's operational issues in relying on multiple 5-minute WMOTs in a one-hour interval.



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Title	Section	Provision	Proposed Amendment	Rationale
RESPONSIBILITIES	11.3.1	<p>11.3.1 The <i>System Operator</i>, in coordination with the <i>Market Operator</i>, shall be responsible for the following:</p> <ul style="list-style-type: none"> a. XXX b. Implementing the <i>WMOT</i> provided by the <i>Market Operator</i>; c. Assuring the <i>security</i> and reliability of the grid at all times in compliance with the provisions of the System Security and Reliability Guidelines and <i>Grid Code</i>; d. Dispatching <i>generators as constrain-on or constrain-off</i>, or as <i>must-run unit</i> if all available <i>reserves</i> are exhausted during a <i>dispatch interval</i>; and e. Reporting events and actions made during <i>dispatch intervals</i> <p>11.3.2 XXX</p>	<p>11.3.1 The <i>System Operator</i>, in coordination with the <i>Market Operator</i>, shall be responsible for the following:</p> <ul style="list-style-type: none"> a. XXX <u>b. Directly issuing <i>dispatch instructions to generating units operating on AGC</i>;</u> b.c. Implementing the <i>WMOT</i> provided by the <i>Market Operator</i>; e.d. Assuring the <i>security</i> and reliability of the grid at all times in compliance with the provisions of the System Security and Reliability Guidelines and <i>Grid Code</i>; d.e. Dispatching <i>generators as constrain-on or constrain-off</i>, or as <i>must-run unit</i> if all available <i>reserves</i> are exhausted during a <i>dispatch interval</i>; and e.f. Reporting events and actions made during <i>dispatch intervals</i> <p>11.3.2 XXX</p>	To provide option for automated dispatching consistent with revisions in Section 11.1.3.
RESPONSIBILITIES	11.3.3	<p>11.3.3 All <i>Trading Participants</i> shall comply with their respective <i>dispatch schedules</i> issued by the <i>Market Operator</i> and the re-dispatch instructions issued to them</p>	<p>11.3.3 All <i>Trading Participants</i> shall comply with their respective <i>dispatch schedules</i> issued by the <i>Market Operator</i>, <u>the <i>dispatch instructions</i> issued by the</u></p>	To provide option for automated dispatching consistent with revisions in Section 11.1.3.



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		<p>by the <i>System Operator</i>, if any. For this purpose, they shall ensure that their respective internal processes, systems and infrastructure, as well as their protocols with their counterparties, shall enable strict compliance with this Section</p>	<p><u>System Operator to their facilities operating on AGC mode</u>, and the re-dispatch instructions issued to them by the <i>System Operator</i>, if any. For this purpose, they shall ensure that their respective internal processes, systems and infrastructure, as well as their protocols with their counterparties, shall enable strict compliance with this Section.</p>	
ISSUANCE AND COVERAGE OF DISPATCH INSTRUCTIONS	11.4.1	<p>11.4.1 <i>Dispatch instructions</i> shall include the following:</p> <ul style="list-style-type: none"> • XXX • XXX <p>11.4.2 XXX</p>	<p>11.4.1 <u>Except for generating units operating on AGC, Dispatch instructions</u> shall include the following:</p> <ul style="list-style-type: none"> • XXX • XXX <p>11.4.23 XXX</p>	To provide option for automated dispatching consistent with revisions in Section 11.1.3.
ISSUANCE AND COVERAGE OF DISPATCH INSTRUCTIONS	(New)	(New)	<p><u>11.4.2 For generating units operating on AGC, the following shall be observed:</u></p> <p><u>a. The System Operator shall send AGC commands based on a linear ramp rate specified by the Generation Company.</u></p>	To provide option for automated dispatching consistent with revisions in Section 11.1.3.



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			<p><u>b. The Generation Company shall communicate to the System Operator the status of the AGC operations from start, during, and end of AGC remote control mode, as necessary.</u></p> <p><u>c. The Generation Company shall seek clearance from the System Operator to change from remote to local AGC mode in cases of technical constraints.</u></p> <p><u>d. When the Generation Company observes AGC-related issues that affect its operations, the Generation Company shall immediately communicate such issues to the System Operator prior to changing its mode of dispatch.</u></p>	
ISSUANCE AND COVERAGE OF DISPATCH INSTRUCTIONS	11.4.3	11.4.3 System Operator Clearance. When the <i>grid frequency</i> is not within the normal threshold, the <i>Trading Participants</i> shall seek clearance from the <i>System Operator</i> before ramping up or down to their respective <i>target loading levels</i> . The <i>System Operator</i> shall provide	11.4.3 <u>4 System Operator Clearance-Generator Dispatch Compliance Beyond Normal Grid Frequency Threshold.</u> <u>a. When the grid frequency is not within the normal threshold reaches 59.7Hz or lower,</u>	To ensure reliability of the grid by providing standard initial reaction from generation companies



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		clearance and issue <i>dispatch instructions</i> as it deems appropriate.	<p>the <i>Trading Participants</i> shall <u>operate based on the following conditions:</u> seek clearance from the <i>System Operator</i> before ramping up or down to their respective <i>target loading levels</i>. The <i>System Operator</i> shall provide clearance and issue <i>dispatch instructions</i> as it deems appropriate.</p> <table border="1" data-bbox="1400 643 1967 1421"> <thead> <tr> <th data-bbox="1400 643 1591 758"><u>Condition</u></th> <th data-bbox="1591 643 1782 758"><u>Status of Actual Dispatch</u></th> <th data-bbox="1782 643 1967 758"><u>Expected Response</u></th> </tr> </thead> <tbody> <tr> <td data-bbox="1400 758 1591 1341"><u>Frequency is 59.7 Hz or lower</u></td> <td data-bbox="1591 758 1782 1341"><u>If ramping down, or current actual loading is higher than <i>dispatch schedule</i></u></td> <td data-bbox="1782 758 1967 1341"><u><i>Generating unit</i> should stop ramping down and maintain current actual loading unless otherwise instructed by the <i>System Operator</i></u></td> </tr> <tr> <td></td> <td data-bbox="1591 1341 1782 1421"><u>If ramping up, or</u></td> <td data-bbox="1782 1341 1967 1421"><u><i>Generating unit</i> should</u></td> </tr> </tbody> </table>	<u>Condition</u>	<u>Status of Actual Dispatch</u>	<u>Expected Response</u>	<u>Frequency is 59.7 Hz or lower</u>	<u>If ramping down, or current actual loading is higher than <i>dispatch schedule</i></u>	<u><i>Generating unit</i> should stop ramping down and maintain current actual loading unless otherwise instructed by the <i>System Operator</i></u>		<u>If ramping up, or</u>	<u><i>Generating unit</i> should</u>	
<u>Condition</u>	<u>Status of Actual Dispatch</u>	<u>Expected Response</u>											
<u>Frequency is 59.7 Hz or lower</u>	<u>If ramping down, or current actual loading is higher than <i>dispatch schedule</i></u>	<u><i>Generating unit</i> should stop ramping down and maintain current actual loading unless otherwise instructed by the <i>System Operator</i></u>											
	<u>If ramping up, or</u>	<u><i>Generating unit</i> should</u>											



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Title	Section	Provision	Proposed Amendment		Rationale
				<p><u>current actual loading is lower than dispatch schedule</u></p> <p><u>continue to ramp up to its dispatch schedule unless otherwise instructed by the System Operator</u></p>	
			<p><u>b. Once the grid frequency goes up to 60 Hz after coming off from a state in Section 11.4.4 (a), then the Trading Participants shall resume to dispatch its generating units to meet its dispatch schedule.</u></p> <p><u>c. When the grid frequency reaches 60.3 Hz or higher, the Trading Participants shall operate based on the following conditions:</u></p>		



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Title	Section	Provision	Proposed Amendment			Rationale
			<u>Condition</u>	<u>Status of Actual Dispatch</u>	<u>Expected Response</u>	
			<u>Frequency is 60.3 Hz or higher</u>	<u>If ramping down, or current actual loading is higher than <i>dispatch schedule</i></u>	<u>Generating unit should continue to ramp down to its <i>dispatch schedule</i> unless otherwise instructed by the <i>System Operator</i></u>	
				<u>If ramping up, or current actual loading is lower than <i>dispatch schedule</i></u>	<u>Generator should stop ramping up and maintain current actual loading unless</u>	



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Title	Section	Provision	Proposed Amendment	Rationale			
			<table border="1" data-bbox="1408 334 1959 529"> <tr> <td data-bbox="1408 334 1591 529"></td> <td data-bbox="1591 334 1776 529"></td> <td data-bbox="1776 334 1959 529"> <p><u>otherwise instructed by the System Operator</u></p> </td> </tr> </table> <p><u>d. Once the grid frequency comes down to 60 Hz after coming off from a state in Section 11.4.4 (c), then the Trading Participants shall resume to dispatch its generating units to meet its dispatch schedule.</u></p>			<p><u>otherwise instructed by the System Operator</u></p>	
		<p><u>otherwise instructed by the System Operator</u></p>					
DISPATCH OF MUST AND PRIORITY DISPATCH GENERATING UNITS	11.5.2	11.5.2 If, in real-time, the available <i>generation</i> from a <i>Must dispatch generating unit</i> differs from the available <i>generation</i> assumed in the <i>dispatch schedule</i> provided to the <i>System Operator</i> , the <i>System Operator</i> shall allow the <i>Must dispatch generating unit</i> to generate at its <i>maximum available output</i> , and, if all available <i>secondary reserves</i> are exhausted during a <i>dispatch interval</i> , shall adjust the <i>dispatch</i> of other <i>generating units</i> to compensate as required in accordance with re-dispatch process in this Section.	11.5.2 If, in real-time, the available <i>generation</i> from a <i>Must dispatch generating unit</i> differs from the available <i>generation</i> assumed in the <i>dispatch schedule</i> provided to the <i>System Operator</i> , the <i>System Operator</i> shall allow the <i>Must dispatch generating unit</i> to generate at its <i>maximum available output</i> , and, if all available <i>secondary regulating reserves</i> are exhausted during a <i>dispatch interval</i> , shall adjust the <i>dispatch</i> of other <i>generating units</i> to compensate as required in accordance with re-dispatch process in this Section.	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)			
COMMUNICATING AND REPORTING OF	11.8.1	11.8.1 The <i>real-time dispatch</i> targets shall be communicated by the <i>Market Operator</i> to the	11.8.1 The <i>real-time dispatch</i> targets shall be communicated by the <i>Market Operator</i> to the	To provide option for automated dispatching.			



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Title	Section	Provision	Proposed Amendment	Rationale
DISPATCH SCHEDULES AND INSTRUCTIONS		Trading Participants through the MPI. The WMOT generated for a <i>dispatch interval</i> shall be published in accordance with Section 10.7.2 of this Dispatch Protocol. Redispatch instructions shall be communicated by the System Operator to the Trading Participants through their respective power plant operators.	Trading Participants through the MPI. The WMOT generated for a <i>dispatch interval</i> shall be published in accordance with Section 10.7.2 of this Dispatch Protocol. <u>Dispatch instructions through the AGC facilities shall be communicated by the System Operator through the available communication link with the power plant operator.</u> Redispatch instructions shall be communicated by the System Operator to the Trading Participants through their respective power plant operators.	
COMMUNICATING AND REPORTING OF DISPATCH SCHEDULES AND INSTRUCTIONS	11.8.2	11.8.2 The System Operator shall maintain the communication facilities it needs for communicating with Trading Participants which may include telephones, fax, email, web pages and other means of communications. 11.8.3 XXX	11.8.2 The System Operator shall maintain the communication facilities it needs for communicating with Trading Participants which may include telephones, fax, email, web pages, <u>facilities for AGC,</u> and other means of communications. 11.8.3 XXX	To provide option for automated dispatching.
COMMUNICATING AND REPORTING OF DISPATCH SCHEDULES AND INSTRUCTIONS	11.8.4	11.8.4 All <i>dispatch instructions</i> issued by the System Operator to Trading Participants shall be recorded through operator logs. The System Operator shall include this information in the dispatch deviation report, in accordance with Section 14.4.	11.8.4 All <i>dispatch instructions</i> issued by the System Operator, <u>including those provided through the facilities for AGC,</u> to Trading Participants shall be recorded through operator logs. The System Operator shall include this information in the dispatch	To provide option for automated dispatching. Also revised dispatch deviation reports to dispatch instruction reports.



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Title	Section	Provision	Proposed Amendment	Rationale
			<p>deviation <u>instruction</u> report, in accordance with Section 14.4.</p>	
<p>COMMUNICATING AND REPORTING OF DISPATCH SCHEDULES AND INSTRUCTIONS</p>	<p>11.8.5</p>	<p>11.8.5 Dispatch deviation reports submitted by the System Operator to the Market Operator shall be used for purposes of surveillance, audit, and market settlements.</p>	<p>11.8.5 Dispatch deviation <u>instruction</u> reports submitted by the System Operator to the Market Operator shall be used for purposes of surveillance, audit, and market settlements.</p>	<p>To be consistent with the re-naming of dispatch deviation reports to dispatch instruction reports.</p>
<p>START-UP AND SHUTDOWN OF GENERATING UNITS</p>	<p>13.2.2</p>	<p>Consistent with its obligations pertaining to real-time dispatch scheduling and implementation, the <i>System Operator</i> shall ensure:</p> <ul style="list-style-type: none"> a. Continuous and timely submission and updating of the outage schedules, <i>overriding constraint</i> limits of generating units to the <i>Market Operator</i>; b. XXX c. XXX 	<p>Consistent with its obligations pertaining to real-time dispatch scheduling and implementation, the <i>System Operator</i> shall ensure:</p> <ul style="list-style-type: none"> a. Continuous and timely submission and updating of the outage schedules, <i>overriding constraint</i> limits of generating units to the <i>Market Operator</i>; b. XXX c. XXX 	<p>To be consistent with self-commitment and dispatch principles under the enhanced WESM design and operations</p>
<p>General Procedures</p>	<p>13.3.4</p>	<p>13.3.4 The <i>dispatch scheduling</i> of the <i>generating unit</i> that will <i>start-up</i> or <i>shutdown</i> shall be managed through its <i>market offers</i> submitted within the <i>WESM timetable</i>. The <i>Trading Participant</i> shall submit <i>offers</i> for the <i>dispatch interval</i> during which the unit is to <i>startup</i> or <i>shutdown</i> and make adjustments to its <i>offers</i>, as appropriate.</p>	<p>13.3.4 The <i>dispatch scheduling</i> of the <i>generating unit</i> that will <i>start-up</i> or <i>shutdown</i> shall be managed through its <i>market offers</i> submitted within the <i>WESM timetable</i>. The <i>Trading Participant</i> shall submit <u><i>market offers or nominations</i></u> for the <i>dispatch interval</i> during which the unit is to <i>startup</i> or <i>shutdown</i> and make adjustments to its <u><i>market offers or nominations</i></u>, as appropriate.</p>	<p>To be consistent with self-commitment and dispatch principles under the enhanced WESM design and operations, and provide options especially applicable to generating units with fast-start capability</p>



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Title	Section	Provision	Proposed Amendment	Rationale
General Procedures	(New)	(New)	<u>13.3.5 Consistent with the provisions in the WESM Manual on the Market Network Model Development and Maintenance - Criteria and Procedure, the status of generating units shall be based on their registered availability in the market network model.</u>	To be consistent with self-commitment and dispatch principles under the enhanced WESM design and operations
Start-up of a Generating Unit	13.4.1	13.4.1 Off-line units will not be included in the <i>dispatch scheduling</i> process. Thus, the <i>generating unit</i> must then be synchronized to the <i>grid</i> prior to the execution of the <i>real-time dispatch</i> run consistent with the <i>WESM timetable</i> .	13.4.1 Off-line units will not be included in the <i>dispatch scheduling</i> process. Thus, the <u>A generating unit</u> must then be synchronized to the <i>grid</i> <u>have market offers or nominations</u> prior to the execution of the <i>real-time dispatch</i> run consistent with the <i>WESM timetable</i> .	To be consistent with self-commitment and dispatch principles under the enhanced WESM design and operations
Start-up of a Generating Unit	13.4.2	13.4.2 The <i>System Operator</i> shall update the <i>outage schedule</i> of <i>generators</i> to remove the <i>generating unit</i> cleared to <i>start-up</i> from the <i>outage list</i> . Submission shall be in accordance with the <i>WESM timetable</i> . If the <i>start-up</i> will be deferred, the <i>System Operator</i> shall update the <i>outage schedule</i> accordingly and in accordance with the <i>WESM timetable</i> for submission of <i>outage schedules</i> .	13.4.2 The <i>System Operator</i> shall update the outage schedule of generators to remove the generating unit cleared to start-up from the outage list. Submission shall be in accordance with the <i>WESM timetable</i> . If the <i>start-up</i> will be deferred, the <i>System Operator</i> shall update the <i>outage schedule</i> accordingly and in accordance with the <i>WESM timetable</i> for submission of <i>outage schedules</i> .	To be consistent with self-commitment and dispatch principles under the enhanced WESM design and operations
Start-up of a Generating Unit	(New)	(New)	<u>13.4.3 If the start-up will be deferred, the System Operator shall update the outage schedule accordingly and in accordance</u>	To be consistent with self-commitment and dispatch principles under the enhanced WESM design and operations



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Title	Section	Provision	Proposed Amendment	Rationale
			<u>with the <i>WESM timetable for submission of outage schedules.</i></u>	
Start-up of a Generating Unit		13.4.3 XXX 13.4.4 XXX	13.4.34 XXX 13.4.45 XXX	Re-numbered
Shutdown of a Generating Unit	13.5.3	13.5.3 The <i>Trading Participant</i> shall update its <i>offers</i> for the <i>dispatch intervals</i> covered in the <i>shutdown</i> sequence.	13.5.3 The <i>Trading Participant</i> shall update its <i>market offers or nominations</i> for the <i>dispatch intervals</i> covered in the <i>shutdown</i> sequence.	To clarify that Trading Participants are also required to update their nominations
Shutdown of a Generating Unit	13.5.4	13.5.4 Once the <i>generating unit</i> has completely <i>shut down</i> , the relevant <i>Trading Participant</i> shall cancel its daily <i>offer</i> profile for the affected <i>trading day</i> .	13.5.4 Once the <i>generating unit</i> has completely <i>shut down</i> , the relevant <i>Trading Participant</i> shall cancel its daily <i>market offer or nomination</i> profile for the affected <i>trading day</i> .	To clarify that Trading Participants are also required to update their nominations
Post-dispatch Data and Operation Reports	14.1	Background After each dispatch interval, the System Operator is required under WESM Rules Clause 3.8.2 to advise the Market Operator of the occurrence of, among other information, dispatch deviations, load shedding, network constraints, binding security constraints and operational irregularities.	Background After each dispatch interval, the System Operator is required under WESM Rules Clause 3.8.2 to advise the Market Operator of the occurrence of, among other information, dispatch deviations <i>instructions</i> , load shedding, network constraints, binding security constraints and operational irregularities.	To reflect proposed change to Dispatch Instruction Report to cover all instructions issued by SO instead of deviations only
Post-dispatch Reports and Information	14.4.2	Dispatch Deviation Report. For each trading day, the System Operator shall submit a report	Dispatch Deviation Instruction Report. <u>On a weekly basis,</u> For each trading day, the	To reflect re-naming to Dispatch Instruction Report to only cover



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Title	Section	Provision	Proposed Amendment	Rationale
		<p>to the Market Operator, on a weekly basis, containing deviation to actual dispatch from the RTD schedule. The Dispatch Deviation Report shall contain, among others, the following information:</p> <p>a. Covered period (start time and end time)</p> <p>b. Resource name</p> <p>c. Reason for Deviation:</p> <ul style="list-style-type: none"> • Utilized for ancillary services • Testing Requirement • Re-dispatch of constrain-on and constrain-off generating units • Designation of must-run units <p>d. Short description of the issue being addressed (e.g. frequency breached x Hz)</p>	<p>System Operator shall submit a report to the Market Operator, on a weekly basis, containing <u>their <i>dispatch instructions that includes, but are not limited to, generator re-dispatch (e.g. constrain-on generation, constrain-off generation, must-run generation), MW output schedule during market intervention or market suspension, and, as necessary, commands via the automatic generation control,</i></u> deviation to actual dispatch from the RTD schedule. The Dispatch Deviation <u>Instruction</u> Report shall contain, among others, the following information:</p> <p>a. Covered period (start time and end time) <u>Date and Time of Incident</u></p> <p>b. Resource name</p> <p>c. Reason for Deviation <u>Dispatch Instruction:</u></p> <ul style="list-style-type: none"> • Utilized for ancillary services • Testing Requirement • Re-dispatch of constrain-on and constrain-off generating units • Designation of must-run units • <u>Limitation on must dispatch generating units</u> • <u>Market Intervention or Market Suspension</u> <p>d. Short description of the issue being addressed (e.g. frequency breached x Hz)</p>	<p>instructions issued by SO. Added proposed changes to format also.</p>



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Title	Section	Provision	Proposed Amendment	Rationale
			<p><u>e. Type of <i>Dispatch Instruction</i></u> <u>f. Target MW value instructed</u></p>	
Post-dispatch Reports and Information	14.4.5	Report on Must-run Units. In accordance with WESM Rules Clause 3.5.13.1, the System Operator shall submit a report to the Market Operator identifying all the generating units designated as must-run units within the trading day, as well as information necessary for the proper settlement of such generating units.	Report on Must-run Units. In accordance with WESM Rules Clause 3.5.13.1, the System Operator shall submit a report <u>information</u> to the Market Operator identifying all the generating units designated as must-run units within the trading day, as well as information necessary for the proper settlement of such generating units. <u>Such information shall be included in the Dispatch Instruction Report.</u>	To indicate that information on designation of MRUs shall be included in the Dispatch Instruction Report
Post-dispatch Reports and Information	14.4.7	(New)	<p><u>14.4.7 Each <i>generation company</i> shall validate all the data in the Dispatch Instruction Report as published by the Market Operator in the market information website. Any discrepancy in these reports shall be reported by the generation company to the Market Operator within two (2) weeks after the Market Operator's publication of these reports. Failure by the generation company to report to the Market Operator any discrepancy within the period defined herein shall render the data in the report as final.</u></p>	To include provision that discrepancies should be reported within two weeks.



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Title	Section	Provision	Proposed Amendment	Rationale
Post-dispatch Reports and Information	14.4.8	(New)	<u>14.4.8 Within two (2) working days from receipt of a report, the Market Operator shall request the System Operator to validate a reported discrepancy by a generator.</u>	To provide the Market Operator time to consolidate and transmit discrepancy report to the SO
Post-dispatch Reports and Information	14.4.9	(New)	<u>14.4.9 The System Operator shall perform reconciliation with the generation company and provide the results of its validation of the reported discrepancies within seven (7) working days from the receipt of the request from the Market Operator. If the Market Operator has not received any validation within the prescribed timeline, the published data from the Dispatch Instruction Report shall be maintained. If the generation company claims additional compensation related to the reported discrepancies that were not validated within the prescribed timeline, the generation company may subject the said claim under the WESM dispute resolution process.</u>	To include ERC directive* on SO reconciliation timeline and impact of non-submission by SO of validation within the prescribed timeline. * Section 4.4.1.1.3 of ERC Decision dated 29 August 2020 on ERC Case No. 2017-042RC
Determination of Reserve Requirements	15.4.2	The level of <i>reserve</i> requirement for secondary <i>reserve</i> service shall be based on the latest issuances on the procurement of <i>ancillary services</i> by the <i>ERC</i> , and shall be used as reference by the <i>Market Operator</i> for the	The level of <i>reserve</i> requirement for secondary <u>regulating</u> <i>reserve</i> service shall be based on the latest issuances on the procurement of <i>ancillary services</i> by the <i>ERC</i> , and shall be used as reference by the <i>Market Operator</i> for	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)



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Title	Section	Provision	Proposed Amendment	Rationale
		<i>market projections and real-time dispatch schedule.</i>	the <i>market projections and real-time dispatch schedule.</i>	
Determination of Reserve Requirements	15.4.3	For <i>primary reserve</i> service and <i>tertiary reserve</i> , the <i>System Operator</i> shall determine the level of <i>reserve</i> requirement in accordance with the latest issuances on the procurement of <i>ancillary services</i> by the <i>ERC</i> .	For <i>primary</i> <i>contingency</i> <i>reserve</i> service and <i>tertiary dispatchable</i> <i>reserve</i> , the <i>System Operator</i> shall determine the level of <i>reserve</i> requirement in accordance with the latest issuances on the procurement of <i>ancillary services</i> by the <i>ERC</i> .	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)
Management of Must-Run Units	17.5.1	<p>17.5 Reporting and Publication</p> <p>Each generator shall validate all the data related to MRU contained in the Dispatch Deviation Report as published by the Market Operator in the Market information website. Any discrepancy in these reports shall be reported by the Generator to the Market Operator within two weeks after the Market Operator’s publication of these reports. Failure by the Generator to report to the Market Operator any discrepancy within the period defined herein shall render the MRU data relative to the Generator final.</p>	<p>17.5 Reporting and Publication</p> <p>Each generator shall validate all the data related to MRU contained in the Dispatch Deviation Report as published by the Market Operator in the Market information website. Any discrepancy in these reports shall be reported by the Generator to the Market Operator within two weeks after the Market Operator’s publication of these reports. Failure by the Generator to report to the Market Operator any discrepancy within the period defined herein shall render the MRU data relative to the Generator final.</p>	To be consistent with the integration of MRU reporting in the Dispatch Instruction Report.
Managing Excess Generation for the Next Day	18.3.1	18.3.1 There is an impending <i>excess generation</i> when the resulting price in the <i>day-ahead projection</i> run is equivalent to the offer floor price and the aggregate unscheduled Technical Pmin of generating units with floor price	18.3.1 There is an impending <i>excess generation</i> when the resulting price in the <i>day-ahead projection</i> run is equivalent to the offer floor price and the aggregate unscheduled Technical Pmin of generating units with floor price	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)



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Title	Section	Provision	Proposed Amendment	Rationale																
		offers is greater than or equal to the <i>secondary reserve</i> requirement.	offers is greater than or equal to the <i>secondary regulating reserve</i> requirement.																	
Emergency Procedures	20.4	Emergency Procedures during Overload	<i>[See Attachment A for changes to Emergency Procedures during Overload flowchart]</i>	To refine the process flow from SO																
Content Structure of <i>Real-time dispatch</i> Results for the System Operator	Appendix D	<p>XXX</p> <table border="1" data-bbox="736 683 1346 1412"> <thead> <tr> <th colspan="2" data-bbox="736 683 1346 724">a. Real-time dispatch schedules</th> </tr> <tr> <th data-bbox="736 724 948 802">Column Name</th> <th data-bbox="948 724 1346 802">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="736 802 948 842">END_TIME</td> <td data-bbox="948 802 1346 842">XXX</td> </tr> <tr> <td data-bbox="736 842 948 1412">REFERENCE_NAME</td> <td data-bbox="948 842 1346 1412"> Concatenates the Resource Name and the market product. The following lists the market products available. <ul style="list-style-type: none"> • “EN” for energy • “RU” for Regulation raise/upward • “RD” for Regulation lower/downward • “FR” for Fast Contingency Raise • “FL” for Fast Contingency Lower </td> </tr> </tbody> </table>	a. Real-time dispatch schedules		Column Name	Description	END_TIME	XXX	REFERENCE_NAME	Concatenates the Resource Name and the market product. The following lists the market products available. <ul style="list-style-type: none"> • “EN” for energy • “RU” for Regulation raise/upward • “RD” for Regulation lower/downward • “FR” for Fast Contingency Raise • “FL” for Fast Contingency Lower 	<p>XXX</p> <table border="1" data-bbox="1378 683 1989 1412"> <thead> <tr> <th colspan="2" data-bbox="1378 683 1989 724">a. Real-time dispatch schedules</th> </tr> <tr> <th data-bbox="1378 724 1591 802">Column Name</th> <th data-bbox="1591 724 1989 802">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="1378 802 1591 842">END_TIME</td> <td data-bbox="1591 802 1989 842">XXX</td> </tr> <tr> <td data-bbox="1378 842 1591 1412">REFERENCE_NAME</td> <td data-bbox="1591 842 1989 1412"> Concatenates the Resource Name and the market product. The following lists the market products available. <ul style="list-style-type: none"> • “EN” for energy • “RU” for Regulation raise/upward • “RD” for Regulation lower/downward • “FR” for Fast Contingency Raise • “FL” for Fast Contingency Raise (Contingency Reserve) </td> </tr> </tbody> </table>	a. Real-time dispatch schedules		Column Name	Description	END_TIME	XXX	REFERENCE_NAME	Concatenates the Resource Name and the market product. The following lists the market products available. <ul style="list-style-type: none"> • “EN” for energy • “RU” for Regulation raise/upward • “RD” for Regulation lower/downward • “FR” for Fast Contingency Raise • “FL” for Fast Contingency Raise (Contingency Reserve) 	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)
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Title	Section	Provision		Proposed Amendment		Rationale
			<ul style="list-style-type: none"> • “SR” for Slow Contingency Raise • “SL” for Slow Contingency Lower • “DR” for Delayed Contingency Raise • “DL” for Delayed Contingency Lower 		<ul style="list-style-type: none"> • “FL” for Fast Contingency Lower • “SR” for Slow Contingency Raise • “SL” for Slow Contingency Lower • “DR” for Delayed Contingency Raise (Dispatchable Reserve) • “DL” for Delayed Contingency Lower 	
		MW	XXX		XXX	
		b. Market Requirements		b. Market Requirements		
		Column Name	Description	Column Name	Description	
		START_TIME	Start Time of the Dispatch interval	START_TIME	Start Time of the Dispatch interval	
		END_TIME	End/Target Time of the Dispatch interval	END_TIME	End/Target Time of the Dispatch interval	
		RUN_TYPE	Describes the type of market run, which is RTD	RUN_TYPE	Describes the type of market run, which is RTD	
		MKT_PRODUCT	Describes type of requirement <ul style="list-style-type: none"> • “EN” for energy 			



WESM Manual on Dispatch Protocol Issue 13.2

Title	Section	Provision		Proposed Amendment		Rationale
			<ul style="list-style-type: none"> • “RU” for Regulation raise/upward • “RD” for Regulation lower/downward • “FR” for Fast Contingency Raise • “FL” for Fast Contingency Lower • “SR” for Slow Contingency Raise • “SL” for Slow Contingency Lower • “DR” for Delayed Contingency Raise • “DL” for Delayed Contingency Lower 	<p>MKT_PRODUCT</p>	<p>Describes type of requirement</p> <ul style="list-style-type: none"> • “EN” for energy • “RU” for Regulation raise/upward • “RD” for Regulation lower/downward • “FR” for Fast Contingency Raise • <u>(Contingency Reserve)</u> • “FL” for Fast Contingency Lower • “SR” for Slow Contingency Raise • “SL” for Slow Contingency Lower • “DR” for Delayed Contingency Raise • <u>(Dispatchable Reserve)</u> • “DL” for Delayed Contingency Lower 	
		REGION_ID	XXX			
		REQ_MW	XXX			
		XXX				
				REGION_ID	XXX	
				REQ_MW	XXX	
				XXX		



WESM Manual on Dispatch Protocol Issue 13.2

Title	Section	Provision	Proposed Amendment	Rationale												
Content Structure of SO Inputs to the <i>Market Projections</i> and <i>Real-time dispatch</i>	Appendix E	XXX <table border="1" data-bbox="739 410 1341 1377"> <thead> <tr> <th colspan="2" data-bbox="739 410 1341 451">f. Reserve Requirement</th> </tr> <tr> <th data-bbox="739 451 1040 492">Column Name</th> <th data-bbox="1040 451 1341 492">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="739 492 1040 1377">SCHEDULE_TYPE</td> <td data-bbox="1040 492 1341 1377"> Refers to the MMS' COP Schedule Type for Reserve Requirement. The following are the available schedule types for reserves. <ul style="list-style-type: none"> • RegulationLower Reserve • RegulationRaise Reserve • FastContingencyLowerReserve • FastContingencyRaiseReserve • SlowContingencyLowerReserve • SlowContingencyRaiseReserve • DelayedContingencyLowerReserve </td> </tr> </tbody> </table>	f. Reserve Requirement		Column Name	Description	SCHEDULE_TYPE	Refers to the MMS' COP Schedule Type for Reserve Requirement. The following are the available schedule types for reserves. <ul style="list-style-type: none"> • RegulationLower Reserve • RegulationRaise Reserve • FastContingencyLowerReserve • FastContingencyRaiseReserve • SlowContingencyLowerReserve • SlowContingencyRaiseReserve • DelayedContingencyLowerReserve 	XXX <table border="1" data-bbox="1381 410 1983 1412"> <thead> <tr> <th colspan="2" data-bbox="1381 410 1983 451">f. Reserve Requirement</th> </tr> <tr> <th data-bbox="1381 451 1682 492">Column Name</th> <th data-bbox="1682 451 1983 492">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="1381 492 1682 1412">SCHEDULE_TYPE</td> <td data-bbox="1682 492 1983 1412"> Refers to the MMS' COP Schedule Type for Reserve Requirement. The following are the available schedule types for reserves. <ul style="list-style-type: none"> • RegulationLowerReserve • RegulationRaiseReserve • FastContingencyLowerReserve • FastContingencyRaiseReserve • <u>(Contingency Reserve)</u> • SlowContingencyLowerReserve • SlowContingencyRaiseReserve • DelayedContingencyLowerReserve </td> </tr> </tbody> </table>	f. Reserve Requirement		Column Name	Description	SCHEDULE_TYPE	Refers to the MMS' COP Schedule Type for Reserve Requirement. The following are the available schedule types for reserves. <ul style="list-style-type: none"> • RegulationLowerReserve • RegulationRaiseReserve • FastContingencyLowerReserve • FastContingencyRaiseReserve • <u>(Contingency Reserve)</u> • SlowContingencyLowerReserve • SlowContingencyRaiseReserve • DelayedContingencyLowerReserve 	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)
f. Reserve Requirement																
Column Name	Description															
SCHEDULE_TYPE	Refers to the MMS' COP Schedule Type for Reserve Requirement. The following are the available schedule types for reserves. <ul style="list-style-type: none"> • RegulationLower Reserve • RegulationRaise Reserve • FastContingencyLowerReserve • FastContingencyRaiseReserve • SlowContingencyLowerReserve • SlowContingencyRaiseReserve • DelayedContingencyLowerReserve 															
f. Reserve Requirement																
Column Name	Description															
SCHEDULE_TYPE	Refers to the MMS' COP Schedule Type for Reserve Requirement. The following are the available schedule types for reserves. <ul style="list-style-type: none"> • RegulationLowerReserve • RegulationRaiseReserve • FastContingencyLowerReserve • FastContingencyRaiseReserve • <u>(Contingency Reserve)</u> • SlowContingencyLowerReserve • SlowContingencyRaiseReserve • DelayedContingencyLowerReserve 															



WESM Manual on Dispatch Protocol Issue 13.2

Title	Section	Provision		Proposed Amendment		Rationale
			<ul style="list-style-type: none"> DelayedContingencyRaiseReserve 		<ul style="list-style-type: none"> DelayedContingencyRaiseReserve <u>(Dispatchable Reserve)</u> 	
		VERSION	XXX	VERSION	XXX	
		OBJECT_ID	XXX	OBJECT_ID	XXX	
		TARGET_TIME	XXX	TARGET_TIME	XXX	
		MW	XXX	MW	XXX	
		(New)		<p><u>Appendix G. Details of Dispatch Instructions Using Automatic Generation Control</u></p> <p><i>[See Attachment B]</i></p>		To provide option for automated dispatching

Note: Please underline and put in bold letters the proposed changes to the Market Rules or Manual.



Attachment A

Provision	Proposed Amendment
<p>20.4.1 Emergency Procedures During Overload</p>	<p>20.4.1 Emergency Procedures During Overload</p>

Attachment B

Appendix G. Details of Dispatch Instructions Using Automatic Generation Control

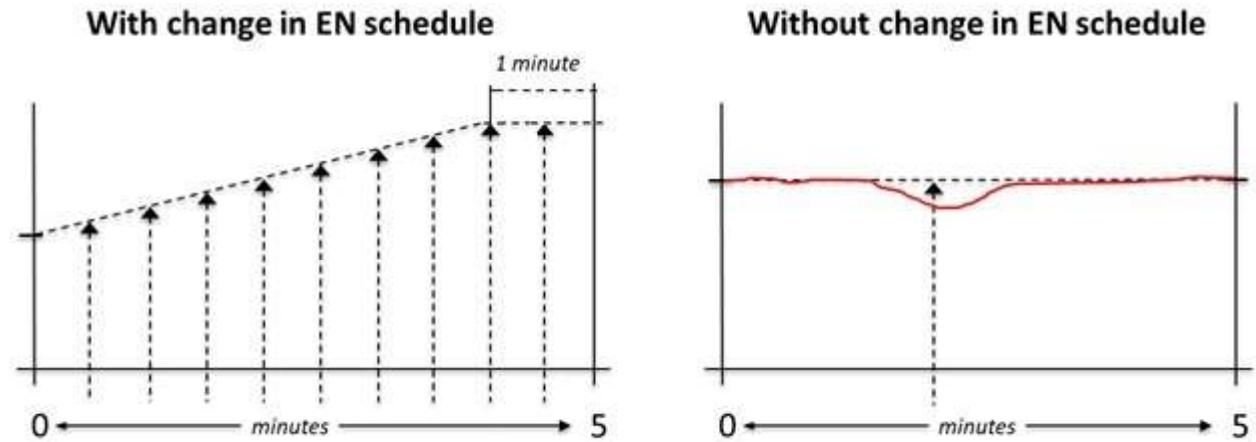
Enhanced AGC System Command Modes

<u>No.</u>	<u>RTD Schedules</u>	<u>Command Mode</u>	<u>Remarks</u>	<u>Lower Limit</u>	<u>Upper Limit</u>
<u>1</u>	<u>Energy Only</u>	<u>SCHED – O</u>	<u>Energy only</u>	<u>None</u>	
<u>2</u>	<u>Contingency Reserve (CR) Only</u>	<u>AUTO – E</u>	<u>Scheduled for Contingency Reserve only</u>	<u>Pmin</u>	<u>Pmin + CR</u>
<u>3</u>	<u>Energy + Contingency Reserve</u>	<u>SCHED – E</u>	<u>Has energy and contingency reserve schedule</u>	<u>EN</u>	<u>EN + CR</u>
<u>4</u>	<u>Regulating Reserve (RR)</u>	<u>AUTO – R</u>	<u>Scheduled for regulating reserve only</u>	<u>EN – RR Downward</u>	<u>EN + RR Upward</u>
<u>5</u>	<u>Energy + Regulating Reserve</u>	<u>SCHED – R</u>	<u>It has energy and regulating reserve schedules. It also has same energy schedules in previous and current dispatch intervals.</u>		
		<u>AUTO – R</u>	<u>It has energy and regulating reserve schedules. It also has different energy schedules in previous and current dispatch intervals.</u>		
<u>6</u>	<u>Dispatchable Reserve (DR) Only</u>	<u>MANUAL</u>	<u>Scheduled for Dispatchable Reserve only</u>	<u>EN – DR Lower</u>	<u>EN + DR Raise</u>



<u>No.</u>	<u>RTD Schedules</u>	<u>Command Mode</u>	<u>Remarks</u>	<u>Lower Limit</u>	<u>Upper Limit</u>
7	<u>Energy + Dispatchable Reserve</u>	<u>SCHED-O</u>	<u>Has energy and dispatchable reserve schedule</u>		

Illustrating AGC Commands Within the 5-minute Dispatch Interval



Command Mode: **SCHED-O**



C. WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures Issue 5.3

WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures Issue 5.3				
Title	Clause	Provision	Proposed Amendment	Rationale
Other Considerations	(New)	(New)	<p><u>2.5.4.7 Modelling of the Generating Unit's Availability</u></p> <p><u>Upon registration, Trading Participants shall specify if the availability of its generating unit shall be based on the real-time status of its generator breaker, or on the availability of its market offers.</u></p>	To require TPs to specify if generator availability is based entirely on its generator breakers, or on the availability of its market offers, for generator modelling purposes.



D. WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2

WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	Section	Provision	Proposed Amendment	Rationale
Definitions	2.1.5	(NEW)	<u>2.1.5 Market Resource refers to the objects defined in the Market Network Model to represent generators, battery energy storage systems, pumped-storage units, and loads.</u>	To provide general term used in the MNM for all objects representing generators, BESS, pumped-storage units, and loads
MNM Components and Modeling	4.4.12	(NEW)	<p><u>4.4.12 Real-Time Data</u></p> <p><u>The System Operator shall provide the following real-time data, each having its respective real-time data quality, to the Market Operator:</u></p> <ul style="list-style-type: none"> • <u>Analog measurements (MW/MVAR) to represent gross generation output and generation net of the station use;</u> • <u>Analog measurements (MW/MVAR) to represent consumption at least at the connection point;</u> • <u>Analog measurements (MW/MVAR) measuring loading at the high-side and low-side of the transformer;</u> • <u>Analog measurements (MW/MVAR) measuring the loading at both ends of an AC line or HVDC link;</u> • <u>Breaker Status;</u> • <u>Calculated MW Demand per region; and</u> • <u>Power System Frequency per grid (Hz).</u> 	To document provision of real-time data for the MNM.



WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	Section	Provision	Proposed Amendment	Rationale
MNM Development Timetable	4.5.4	After the receipt of the official notification from the System Operator, the Market Operator shall initiate the approval process for the MNM uploading to facilitate the implementation of the notified change. Minor changes (such as but not limited to, change in equipment/resources naming conventions, additional bays for future expansions) to the transmission network that has no impact to the market operations may be implemented at a later time.	After the receipt of the official notification from the System Operator, the Market Operator shall start the preparations initiate the approval process for the MNM uploading update to facilitate the implementation of the notified change. Minor changes (such as but not limited to, change in equipment/resources naming conventions, additional bays for future expansions) to the transmission network that has no impact to the market operations may be implemented at a later time.	To clarify existing process
MNM Development Timetable	4.5.6	The table below describes the timeline of activities involved in updating the MNM. The variable “D” stands for the target date of uploading of the new MNM. This date is set by the Market Operator upon its assessment, and is based on energization date or commissioning date of a new or upgraded facility or equipment. Table 1. MNM Development Timetable	The table below describes the timeline of activities involved in updating the MNM. The variable “D” stands for the target date of uploading deployment of the new MNM update . This date is set by the Market Operator upon its assessment, and is based on in consideration of the energization date or commissioning date of a new or upgraded facility or equipment. Table 1. MNM Development Timetable <i>[See Attachment C for proposed revised Table 1. MNM Development Timetable. Existing Table 1 to be deleted]</i>	To update MNM Development Timetable for more clarity and introduce process improvements



WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	Section	Provision	Proposed Amendment	Rationale
MNM Development Timetable	4.5.7	All MNM revisions uploaded to the production system should be ratified by the PEM Board. Ratification of the said network model shall be done upon completion of the seven-day consistency monitoring.	<p>All MNM revisions uploaded to the production system should be ratified by the PEM Board. Ratification of the said network model shall be done upon completion of the seven-day consistency monitoring.</p> <p><u>The Market Operator shall prepare a monthly report containing all MNM updates deployed in the production system. This report shall be provided to the DOE, ERC, and the PEM Board, and shall be similarly published in the market information website ten (10) working days after the end of the billing period.</u></p> <p><u>The Market Operator shall seek the approval of the PEM Board prior to integration of new network, as described in WESM Rules Clauses 3.2.1.2 and 3.2.1.5, to the MNM. The result of functional and technical testing for such integration shall also be submitted to the PEM Board, within three (3) calendar days after completion.</u></p>	<p>To provide that instead of a PEM Board Ratification, monthly MNM updates shall instead be provided.</p> <p>Currently with the Existing MMS, IEMOP updates the MNM by grouping network changes in batches. But given the new features of the New MMS, IEMOP intends to update the MNM per network change, and as near-to-real-time as possible. Given the possible volume of such updates, it is proposed that all of them just be collated for a month, then be provided to the DOE, ERC, and PEM Board as the official summary report of MNM updates.</p>
MNM Development Timetable	4.5.8	<p>Additional Considerations in the MNM Development are as follows:</p> <p>a) Network Service Providers shall ensure that they provide ample information regarding their planned activities to the System Operator</p>	<p>Additional Considerations in the MNM Development are as follows:</p> <p>a) Network Service Providers shall ensure that they provide ample information regarding their planned activities to the System Operator</p>	<ul style="list-style-type: none"> • To replace “uploading” with “deployment” for clarity. • To allow and provide procedures for urgent MNM updates.



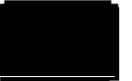
WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	Section	Provision	Proposed Amendment	Rationale
		<p>b) All planned activities should involve proper coordination between the Market Operator and the System Operator (including affected Trading Participants if necessary).</p> <p>c) The target date of uploading (Day 'D') by the Market Operator may be moved further depending on justifiable reasons from either the Market Operator or the System Operator. In such cases, the Market Operator in coordination with the System Operator should decide on the new target date of uploading.</p> <p>d) Should the target uploading of a new MNM issue be cancelled, and then other changes to the MNM were put into effect after its cancellation, the System Operator shall notify the Market Operator of its new scheduled energization date seven days prior.</p>	<p>b) All planned activities should involve proper coordination between the Market Operator and the System Operator (including affected Trading Participants if necessary).</p> <p>c) The target date of uploading deployment (Day 'D') by the Market Operator may be moved further depending on justifiable reasons from either the Market Operator or the System Operator. In such cases, the Market Operator in coordination with the System Operator should decide on the new target date of uploading deployment.</p> <p>d) Should the target uploading deployment of a new MNM update issue be cancelled, and then other changes updates to the MNM were put into effect after its cancellation, the System Operator shall notify the Market Operator of its new scheduled energization date seven days prior.</p> <p><u>e) In cases where urgent updates to the MNM are necessary, the Network Service Provider or the System Operator shall provide the necessary technical requirements to update the MNM at least two (2) working days prior to the target energization. Urgent updates do not include new market resources.</u></p>	
Alterations to the Market Network Model	5.1	REAL-TIME MNM CONFIGURATION	REAL-TIME MNM CONFIGURATION <u>DYNAMISM OF MNM USING REAL-TIME DATA</u>	To revise for clarity



WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	Section	Provision	Proposed Amendment	Rationale
Alterations to the Market Network Model	5.1.1	Real time reconfiguration refers to any changes in the MNM reconfiguration of any part of the transmission system that may affect the dispatch within any trading interval. These revisions shall be made automatically to the MNM based on the inputs and data provided by the System Operator through the EMS. This shall include, but may not be limited to, the following: a) Change in Transmission and Sub-transmission Network topology; b) Line, Generator and Customer Load outage; and c) Reconfiguration as initiated by the System Operator or the Network Service Providers to maintain system security and reliability.	Real time reconfiguration refers to any changes in the MNM reconfiguration of any part of the transmission system that may affect the dispatch within any trading interval. <u>The static power system model of the MNM</u> These revisions shall be made automatically <u>constantly updated</u> to the MNM based on the inputs and data provided by the System Operator through the EMS. This shall include, but may not be limited to, the following: a) Change in Transmission and Sub-transmission Network topology <u>with reference to real-time status of breakers and disconnect switches;</u> <u>and</u> b) <u>Scheduled outages of power system equipment (e.g. Lines, Power Transformers, HVDC Links, Generators, and Customer Loads</u> outage); <u>and</u> c) Reconfiguration as initiated by the System Operator or the Network Service Providers to maintain system security and reliability.	To revise for clarity. Also removed source of “EMS” since inputs from SO are provided through their different platforms. Item (c) is also not part of the real-time update.
Alterations to the Market Network Model	5.2	NETWORK DEVELOPMENT	NETWORK DEVELOPMENT <u>OF THE MNM</u>	To revise for clarity
Network Development	5.2.1	Network development is any reconfiguration of any part of the transmission or sub-transmission system. The Market Operator should be notified as the network development may affect the	<u>The Market Operator shall develop the market network model and power system model in view of</u> Network development is any reconfiguration of any part of the transmission or sub-transmission system. The Market Operator should be notified as the	To revise for clarity



WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	Section	Provision	Proposed Amendment	Rationale
		dispatch and are permanent in nature. This shall include the following: xxxx	network development may affect the dispatch and are permanent in nature. This shall include the following: xxxx	
MNM	--	MARKET NETWORK MODEL MAINTENANCE AND PUBLICATION	MARKET NETWORK MODEL MAINTENANCE AND PUBLICATION	Not necessary. Clerical edit.
Market Network Model Maintenance	5.4.2	The Market Operator shall maintain an electronic copy of the following for all market network model revisions: a) Bus Oriented Single Line Diagram; and b) Breaker Oriented Single Line Diagram c) Network Parameters	The Market Operator shall maintain an electronic copy of the following for all market network model revisions updates : a) Bus-Oriented Single Line Diagram; and b) Breaker-Oriented Single Line Diagram c) Network Technical Parameters	To revise for clarity on how IEMOP maintains the repository for the MNM.
Alterations to the Market Network Model	5.5	Manner of Publication	Manner of Publication Reporting of MNM Updates	To replace 'Publication' with 'Reporting' which better describes the succeeding procedures
Manner of Publication	5.5.1	Any changes or revision initiated by the Market Operator or System Operator shall trigger the publication of the revised and approved MNM.	Any changes or revision initiated by the Market Operator or System Operator shall trigger the publication of the revised and approved MNM. <u>Within two (2) working days from deployment, the Market Operator shall publish advisory on the MNM updates deployed in the production system.</u>	To revise how IEMOP will report MNM updates. Immediate information shall be published after deployment. Then a summary of the changes will be provided every month.
Manner of Publication	5.5.2	The Market Operator shall regularly publish the relevant updated MNM documents within seven days after the completion of the MNM consistency monitoring in the MMS' production system.	The Market Operator shall regularly publish the relevant updated MNM documents within seven days after the completion of the MNM consistency monitoring in the MMS' production system. Every revision of the MNM shall have the following	



WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	Section	Provision	Proposed Amendment	Rationale
		<p>Every revision of the MNM shall have the following associated documents published in the Market Information Website:</p> <p>a) MNM Revisions Manual; b) Bus-Oriented Single Line Diagram; and c) Information brief</p>	<p>associated documents published in the Market Information Website: a) MNM Revisions Manual; b) Bus-Oriented Single Line Diagram; and c) Information brief</p> <p><u>Consistent with the provisions of Clause 4.5.7 of this Market Manual, the Market Operator shall prepare a monthly report containing all MNM updates deployed in the production system. This report shall be provided to the DOE, ERC, and the PEM Board, and shall be similarly published in the market information website ten (10) working days after the end of the billing period. At the least, it shall contain the following.</u></p> <ul style="list-style-type: none"> <u>Summary of MNM Updates during the month</u> <u>Latest Bus-Oriented Single Line Diagram</u> 	
Generator MTN	6.5.4	(NEW)	<u>During the registration of the generator resource, Trading Participants shall specify if its availability shall be based on the real-time status of its generator breaker, or on the availability of its market offers.</u>	To provide that during the generator modelling, TPs need to specify if generator availability is based entirely on its generator breakers, or on the availability of its market offers, for consideration in WESM scheduling.
Battery Energy Storage System	6.7.4	(NEW)	<u>During the registration of the battery energy storage system resource, Trading Participants shall specify if its availability shall be based on</u>	To provide that during the BESS modelling, TPs need to specify if generator availability is based entirely on its connecting breakers,



WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	Section	Provision	Proposed Amendment	Rationale
			<u>the real-time status of its connecting breaker, or on the availability of its <i>market offers</i>.</u>	or on the availability of its market offers, for consideration in WESM scheduling.
Pumped-Storage Unit	6.8.3	(NEW)	<u>During the registration of the <i>pumped-storage unit resource, Trading Participants shall specify if its availability shall be based on the real-time status of its connecting breaker, or on the availability of its <i>market offers</i>.</i></u>	To provide that during the pumped-storage unit modelling, TPs need to specify if generator availability is based entirely on its connecting breakers, or on the availability of its market offers, for consideration in WESM scheduling.



Attachment C

Table 1. MNM Development Timetable

<u>ITEM</u>	<u>TIMELINE</u>	<u>ACTIVITY</u>	<u>DESCRIPTION</u>	<u>RESPONSIBLE PARTY</u>
<u>1</u>	<u>Before D – 9</u>	<u>Generator Trading Participants should provide technical specifications of its facility to the Market Operator</u>	<p><u>At the very least, the technical requirements indicated in the WESM Market Manual on Registration, Suspension and De-Registration Criteria and Procedures for new generators, battery energy storage systems, or pumped-storage units should be provided.</u></p> <p><u>The same requirements are also required when requesting for the re-modelling of facilities (i.e. aggregation of disaggregation of resources).</u></p>	<u>Generator Trading Participant</u>
<u>2</u>	<u>Before D – 9</u>	<u>The System Operator should provide technical specifications to the Market Operator for new load facilities</u>	<u>The System Operator should provide the breaker-oriented single line diagram that reflects the connection of the new load facility.</u>	<u>System Operator</u>
<u>3</u>	<u>Before D – 8</u>	<u>Network Service Providers should provide notice of changes in the Distribution Network</u>	<u>Applicable only for Network Service Providers whose equipment should be included, or are already included, in the Market Network Model</u>	<u>Network Service Providers</u>
<u>4</u>	<u>D – 8</u>	<u>Register New Market Resource in the Central Registration and Settlement System (CRSS) and Market Management System (MMS)</u>	<u>Upon receiving the technical requirements for the registration of new market resources, the Market Operator shall register it in the CRSS and MMS at least eight (8) days prior to their target energization.</u>	<u>Market Operator</u>



<u>ITEM</u>	<u>TIMELINE</u>	<u>ACTIVITY</u>	<u>DESCRIPTION</u>	<u>RESPONSIBLE PARTY</u>
<u>5</u>	<u>D – 7</u>	<u>Submit notice of changes to the Grid</u>	<p><u>The <i>System Operator</i> shall submit a notice of changes to the grid, which includes the following.</u></p> <ul style="list-style-type: none"> • <u>Breaker-oriented single line diagram that highlights the changes;</u> • <u>Real-time mapping definitions; and</u> • <u>Technical parameters affected by the change.</u> 	<u><i>System Operator</i></u>
<u>6</u>	<u>D – 6</u>	<u>Initiate Preparations for MNM Update</u>	<p><u>The <i>Market Operator</i> shall make the necessary preparations concerning the MNM update, specifically for network changes that has a material effect to the system operations and market operations as appropriately assessed by the <i>Market Operator</i>. It shall involve the changes as notified by the <i>System Operator</i>, and changes recommended by the <i>Market Operator</i>, where appropriate, including simplifications and alterations to the market network model that maintains: (a) the relationship between the market network model and the transmission network; and (b) consistency with market requirements.</u></p>	<u><i>Market Operator</i></u>
<u>7</u>	<u>Before D – 2</u>	<u>Market Model and Power System Model Update</u>	<p><u>The <i>Market Operator</i> shall effect changes to the MNM through the updating of the market and power system models recognized by the MMS.</u></p> <p><u>The <i>Market Operator</i> may create different “MNM Update Tasks” for such MNM updates. An MNM update task represents a collection of changes in</u></p>	<u><i>Market Operator</i></u>



<u>ITEM</u>	<u>TIMELINE</u>	<u>ACTIVITY</u>	<u>DESCRIPTION</u>	<u>RESPONSIBLE PARTY</u>
			<u>the MNM. Each MNM update task can be deployed separately for production use.</u>	
<u>8</u>	<u>Before D – 2</u>	<u>Testing of “MNM Update Task”</u>	<u>The Market Operator shall perform functional and technical tests on the updated network model for each MNM task to ensure its consistency with the updated power system.</u>	<u>Market Operator</u>
<u>9</u>	<u>Before D – 1</u>	<u>Confirm schedule of energization</u>	<u>The System Operator shall inform the Market Operator of the final schedule of energization.</u>	<u>System Operator</u>
<u>10</u>	<u>On or Before D</u>	<u>Notice of Planned Deployment to the WESM Participants</u>	<u>The Market Operator shall inform the WESM Participants of the planned deployment date for the updating of the MNM in the production system of the MMS</u>	<u>Market Operator</u>
<u>11</u>	<u>D</u>	<u>Deployment of MNM Update Task</u>	<u>The Market Operator shall deploy the MNM Update Task in the production system.</u> <u>Should the MNM update task involve changes that are not yet energized, and the updated MNM’s power system model is unable to dynamically adapt to its non-energization, then the Market Operator may defer the deployment of the MNM Update Task to a later date.</u>	<u>Market Operator</u>
<u>12</u>	<u>D</u>	<u>Notice of Post-Deployment to the WESM Participants</u>	<u>The Market Operator shall inform the WESM Participants of the successful deployment of MNM update in the production system of the MMS</u>	<u>Market Operator</u>



<u>ITEM</u>	<u>TIMELINE</u>	<u>ACTIVITY</u>	<u>DESCRIPTION</u>	<u>RESPONSIBLE PARTY</u>
<u>13</u>	<u>D</u>	<u>Provide Updates on Market Model and Power System Model to the System Operator</u>	<u>The Market Operator shall provide the System Operator with relevant information to ensure reliable operation between the two entities. This primarily includes the updated mapping information between the MMS and EMS</u>	<u>Market Operator</u>
<u>14</u>	<u>D to D+7</u>	<u>Consistent monitoring of the updated MNM</u>	<u>The Market Operator shall continuously monitor the status of the recently updated MNM in the production system for the next seven days</u>	<u>Market Operator</u>



E. WESM Manual on Market Operator Information Disclosure and Confidentiality Manual Issue 5.1

WESM Manual on Market Operator Information Disclosure and Confidentiality Issue 5.0					
Title	Section	Provision	Proposed Amendment	Rationale	
Appendix A Market Information Catalogue	Category: OTHERS Transmission System Information	<i>[See table below]</i>		<ul style="list-style-type: none"> To be consistent with the proposed changes in the WESM DP Section 14.4.2 To provide timeline on publication of report indicating revisions to the SO Dispatch Instruction Report 	

Appendix A. Market Information Catalogue

Market Information			Information Access			
Category	Specific Information	Information/ Data Source	Classification	Recipient	Means of Provision	Publication Timeline
xxx						
OTHERS						
Transmission System Information	xxx	xxx	xxx	xxx	xxx	xxx
	Dispatch Deviation Instruction Report by the System Operator (in CSV) and Daily Operations Report	System Operator	Public	Public	Market Information Website	Within the next trading day Weekly report to be submitted within the following week
	Revisions to the Dispatch Instruction Report by the System Operator (in CSV)	System Operator	Public	Public	Market Information Website	Within five (5) working days upon receipt from the System Operator

