RULES CHANGE COMMITTEE

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

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WHEREAS, the DOE on 23 October 2015 adopted[1] enhancements to WESM design and operations which includes among others the change from a 1-hour dispatch interval to a 5-minute dispatch interval;

WHEREAS, the Market Operator was tasked[2] 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) with the Market Operator, System Operator and WESM Members, and the market readiness assessment since 26 April 2019 to 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 needs 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 the following WESM Manual in view of the forthcoming implementation of the enhanced WESM design and operations on 26 June 2021 ("Go-Live Date"):

(1) WESM Manual on Dispatch Protocol, Issue 13.2;
(2) WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures Issue 5.3; and
(3) WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2 (MNM Manual).

WHEREAS, the proposal seeks to:

(1) improve the information exchanged between the Market Operator and System Operator;
(2) enhance procedures to further strengthen the implementation of generators' self-commitment; and
(3) further ensure the reliability of grid operations under a regime of self-dispatch in a 5-minute dispatch interval;

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[1] DOE Department Circular No. 2015-10-0015 dated 23 October 2015.
[2] DC No. 2015-10-0015, 3.

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WHEREAS, following the procedures for processing proposed urgent amendments specified in Section 7.2 of the WESM Manual on Procedures for Changes to the WESM and Retail Rules and Market Manuals ("Rules Change Manual"), the RCC convened for the 176th (Special) Meeting on 26 March 2021 to determine if the proposal is urgent based on the criteria set forth in Section 3.1 of the Rules Change Manual, and if so, deliberate on the proposal for endorsement to the PEM Board;

WHEREAS, the IEMOP presented to the RCC a summary of the proposed changes, as follows:

	DESCRIPTION	RATIONALE	BENEFITS
1	Use of nomenclature for reserve types (i.e. regulation, contingency, and dispatchable) as provided under DOE DC2019-12-0018	For harmonization with policy direction	Consistency with DOE DC
2	Replacement of system snapshot with real-time data, including the reference to the MNM manual concerning the required type of information for this data	To reflect change in type of data received with the use of the Inter-Control Centre Communications Protocol (ICCP) of the NMMS	Provide clarity on how real-time data shall be exchanged between Market Operator (MO) & System Operator (SO) thru the NMMS
3	Clarification on the process of updating SO constraints in the NMMS	To clarify current process of updating SO constraints data in NMMS	Provide clarity in current process, which will be also adopted in 5-minute market
4	Submission of Generator test profile with granularity of every 5-minutes during the testing and commissioning period by Generator Trading Participants	The test profile will be the reference of the SO in its submission of overriding constraints.	Provide more accurate market schedules in 5-minute market
5	Submission of variable renewable energy (VRE) MW projections for next day to the SO	To align responsibility of VREs in the Philippine Grid Code (PGC) in submitting projections	Improve SO Day-Ahead Planning and A/S Scheduling
6	Enhancement in the process of creating Merit Order Tables	Remove capacities that cannot be used for energy re-dispatch (i.e. ancillary services, outages)	Improve SO decisions on re-dispatch
7	Inclusion of procedures for optional dispatch using automatic generation control (AGC)	Provide guidelines on AGC dispatch through SO's Energy Management System	Provide clearer guidelines on how generators are dispatched using AGC
8	Provision of generator dispatch guidelines during conditions beyond the normal grid frequency threshold (e.g. <= 59.7 Hz or >= 60.3 Hz)	Provide clear guidelines on how generators should act when system frequency breaches normal operating thresholds	✓ Provide clearer guidelines in generator self-dispatch ✓ Enjoin each plant operator to act on conditions that ensures grid security and reliability
9	Change of SO reporting template from SO Dispatch Deviation Report to Dispatch Instruction Report	Streamline SO reporting to only provide re-dispatch instructions issued during the day (e.g. ancillary services, must-run unit (MRU), constrain-on, and constrain-off)	✓ Improve reporting efficiency given volume of data upon transition to 5-minute market ✓ TPs should be responsible in reporting

	DESCRIPTION	RATIONALE	BENEFITS
			their limitations if unable to follow RTD schedule
10	Revision of guidelines during start-up / shutdown	Establish that start-up / shutdown shall be managed by offers / nominations	Clearer guidelines on TP responsibility to manage start-up / shutdown through their offers / nominations
11	Updating of flowchart on emergency procedures	Based on current SO practice	Reflect current SO practice
12	Reflecting the option on Generator availability	Generators have the option to declare if their availability shall consider either: (a) market offers and generator breaker status (b) market offers only	Encourage self-commitment
13	Consistency in requirements for real-time data	Provide consistency between Dispatch Protocol and MNM regarding the types of real-time data to be provided by SO to MO	Ensure consistency in requirements
14	Improvement in the process on MNM Development and Deployment	Provide efficiency and flexibility in updating the MNM to reflect real-time model	Ensure timely updating of the MNM
15	Provision for urgent updates to the MNM		

WHEREAS, the IEMOP further clarified that the proposal was submitted as Urgent because the changes are intended to be immediately implemented to guide WESM stakeholders during the ongoing POP and the forthcoming conduct of the Limited Live Dispatch Operations (LLDO) prior the Go-Live Date, and to establish the rules and procedures upon the Go-Live Date. On such implementation, PEMC recommended that the full implementation will only start on the Go-Live Date while the implementation prior Go-Live Date will only be limited to providing guidance during the said preparatory activities;

WHEREAS, following initial discussions, the RCC certified the proposal as urgent since it satisfies the following criteria for urgent proposals per Section 3.1 of the Rules Change Manual:

(a) To avoid, reduce the risk of or mitigate the adverse effects of certain conditions on the ability of the power system to function normally; and
(b) To facilitate the implementation of any regulation, circular, order or issuance of the DOE or ERC pursuant to the EPIRA.

WHEREAS, the RCC proceeded to deliberate on the proposal during the same meeting and instructed the proponent to make the following revisions to the proposal:

(a) Reflect global change in the WESM Rules and the Dispatch Protocol Manual to use the nomenclature for ancillary services based on DOE Circular No. DC2019-12-0018, where applicable, for consistency;

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

(b) Adopt the definition for contingency reserves, regulating reserves and dispatchable reserves from DOE Circular No. DC2019-12-0018 to facilitate the implementation of the prevailing policy on reserves;

(c) Provide definition of Automatic Generation Control in Section 2 of the Dispatch Protocol Manual (Definitions) to align with the PGC definition of AGC;

(d) Add a provision stating that the Market Operator shall provide the System Operator with only one (1) WESM Merit Order Table per hour, not every five (5) minutes, to address the concern raised by the System Operator that it would be tedious to rely on WMOTs with changing information every 5 minutes;

(e) Delete the terms "must-stop units" and "displaced generation", as proposed, for consistency with DOE Circular No. DC2018-04-007 and PEM Board Resolution No. 2020-24-10;

(f) Reflect global change in the WESM Rules and the Dispatch Protocol Manual to replace "Dispatch Deviation Report" with "Dispatch Instruction Report", where applicable, for consistency;

(g) Revise the WESM Manual on Market Operator Information Disclosure and Confidentiality Issue 5.0 (version for enhanced market design) to replace "Dispatch Deviation Report" with "Dispatch Instruction Report", and provide specific timeline when the Market Operator shall publish said Report; and

(h) Provide clearer rationale for the proposed new provision stating that the Market Operator shall only provide the DOE, ERC and PEM Board with monthly report of Market Network Model updates instead of having the same ratified by the PEM Board (Section 4.5.7 of the Market Network Model Manual)

WHEREAS, the RCC provisionally approved the proposal, subject to further revisions by the proponent as directed by the body;

WHEREAS, the RCC also recommends the proposal's a) conditional immediate implementation to 1) provide guidance during the preparatory activities for Go-Live Date, in such activities as the POP and the LLDO, and 2) to establish the rules and procedures upon the Go-Live Date, and b) full implementation from Go-Live Date until six (6) months from the publication following the PEM Board's approval or until such time that a general amendment on the same matter has been approved and become effective, whichever comes first, per Section 7.4 of the Rules Change Manual;

WHEREAS, upon review of the revised proposal as submitted by the IEMOP on 29 March 2021, the RCC approved additional changes as follows:

(a) Proposed changes to WESM Rules Clause 3.15.3.1 to be consistent with the proposed revisions to Dispatch Protocol Section 14.4.7, which provides that the SO Dispatch Instruction Report will include all SO dispatch instructions, including MRUs and constrain-on and constrain-off generators, and that the report will be deemed final if there are no discrepancies reported by Generation Companies within two (2) weeks of its publication by the Market Operator.

(b) Rewording of the proposed new Section 14.4.9 of the Dispatch Protocol to reflect the ERC directive[3] on the reconciliation/validation timeline of the System Operator and Generation Companies of reported discrepancies, clarify the effect of non-submission of reconciliation/validation results within the prescribed timeline, and clearly provide the option for Generation Companies in such cases to lodge related claims for additional compensation to the WESM dispute resolution process;

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[3] Under Section 4.4.1.1.3 of ERC Decision dated 29 August 2020 on ERC Case No. 2017-042RC

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

WHEREAS, the RCC approved the final version of the proposal and its endorsement to the PEM Board, providing proposed changes to the:

(a) WESM Rules;
(b) WESM Manual on Dispatch Protocol, Issue 13.2;
(c) WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures Issue 5.3;
(d) WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2; and
(e) WESM Manual on Market Operator Information Disclosure and Confidentiality Manual Issue 5.0.

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 the Proposed Urgent Amendments to the WESM Rules and WESM Manuals on Enhancements to the Market Operator and System Operator Procedures (attached as Annexes A, B, C, D, and E);

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

- Immediate implementation in so far as to provide guidance to WESM stakeholders during the preparations for the Go-Live Date, in such activities as the POP and the LLDO, and to establish the rules and procedures upon the Go-Live Date;
- Full implementation from the Go-Live Date until six (6) months from the publication following the PEM Board's approval or until such time that a general amendment on the same matter has been approved and become effective, whichever comes first; and
- Transmittal to the DOE for information.

Done this **30th** day of **March 2021**, Pasig City.

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

| 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./ Panasia 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)
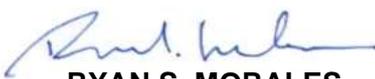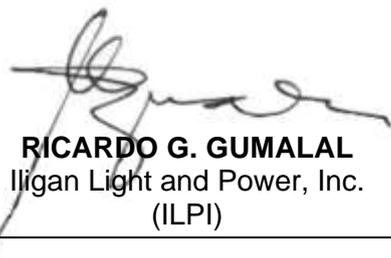
Proposed Urgent Amendments to the WESM Rules and Various WESM Manuals on the Enhancements to Market Operator and System Operator Procedures

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 Urgent 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**
Overriding Constraints	3.5.13.1	xxx The *System Operator* shall advise the *Market Operator* of the actions it has taken in relation to the foregoing, including but not limited to information necessary for the proper settlement of affected *generating units*, and the *Market Operator* shall publish the said information no later than one (1) week from the relevant trading day. For proper settlement of must-run units, *Trading Participants* shall review the information and notify the *Market Operator* 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 *must-run units*. **(As amended by DOE DC NO.2015-11-0016 dated 12 November 2015 and further amended by DOE DC No. 2018-04-0007 dated 28 March 2018)**	xxx The *System Operator* shall advise the *Market Operator* of the actions it has taken in relation to the foregoing, including but not limited to information necessary for the proper settlement of affected *generating units*, and the *Market Operator* shall publish the said information no later than one (1) week from the relevant trading day. ~~For proper settlement of must-run units,~~ *Trading Participants* shall review the information and notify the *Market Operator* 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 *must-run units*.~~ **(As amended by DOE DC NO.2015-11-0016 dated 12 November 2015 and further amended by DOE DC No. 2018-04-0007 dated 28 March 2018)**	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 SO reports as part of their responsibilities. 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".

WESM Rules				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
Responsibilities of the System Operator	3.8.2	3.8.2.2 After each one (1) hour interval, in accordance with the *timetable*, the *System Operator* shall advise the *Market Operator* of: a. xxx xxx The *System Operator* shall likewise provide a *dispatch* deviation report to the *Market Operator*, in accordance with the *timetable,* detailing among others the circumstances and *dispatch* levels of units that were *constrained-on* or *constrained-off* or put on must-run during that one (1) hour i*nterval*.	3.8.2.2 After each one (1) hour interval, in accordance with the *timetable*, the *System Operator* shall advise the *Market Operator* of: a. xxx xxx The *System Operator* shall likewise provide a *dispatch* ~~deviation~~ ***instruction*** report to the *Market Operator*, in accordance with the *timetable,* detailing among others the circumstances and *dispatch* levels of units that were *constrained-on* or *constrained-off* or put on must-run during that one (1) hour i*nterval*.	To change of report name to Dispatch Instruction Report consistent with proposed changes to WESM DP
System Operator Implementation of Real-Time Dispatch	3.8.3.4	Subject to Clause 3.8.3.4, if, in real-time, the available *generation* from a *must dispatch generating unit* differs from the available *generation* assumed in the *dispatch schedule* provided to the *System Operator*, the *System Operator* shall allow the *must dispatch generating unit* to generate at its *maximum available output*, and, if all available *frequency* regulation is exhausted during a *dispatch interval*, shall adjust the *dispatch* of other *generating units,* to compensate as required in accordance with relevant *Market Manuals*.	Subject to Clause 3.8.3.4**3**, if, in real-time, the available *generation* from a *must dispatch generating unit* differs from the available *generation* assumed in the *dispatch schedule* provided to the *System Operator*, the *System Operator* shall allow the *must dispatch generating unit* to generate at its *maximum available output*, and, if all available *~~frequency~~ regulation is* **regulating reserves are** exhausted during a *dispatch interval*, shall adjust the *dispatch* of other *generating units,* to	Revised reference clause to 3.8.3.3. For consistency with the proposed changes in the WESM DP on

WESM Rules				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
			compensate as required in accordance with relevant *Market Manuals.*	
Dispatch Conformance Standards	3.8.5	3.8.5.6 In cases when a *generating unit* was identified as a *Must-Stop Unit*, the *System Operator* shall include such in the Dispatch Deviation Report.	3.8.5.6 In cases when a *generating unit* was identified as a *Must-Stop Unit*, the *System Operator* shall include such in the Dispatch ~~Deviation~~ **Instruction** Report.	Change of report name to Dispatch Instruction Report consistent with proposed changes to WESM DP
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) *generating units* within a region, or transmission flows into a region. xxxx Dispatchable Reserve. The ability to respond to a re-dispatch performed by the *System operator* during a *trading interval*, on either a regular or an ad hoc basis. xxxx Regulating Reserve. The ability to adjust generation continuously in response to small frequency changes, so a so as to cover load fluctuations or minor	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)~~ *~~generating units~~* ~~within a region, or transmission flows into a region.~~ **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.** xxxx Dispatchable Reserve. ~~The ability to respond to a re-dispatch performed by the~~ *~~System operator~~* ~~during a~~ *~~trading~~*	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable).

WESM Rules				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		breakdowns, defined as an *ancillary service* in clause 3.3.4.2 (a).	~~*interval,* on either a regular or an ad hoc basis.~~ **Generating capacity that is not scheduled for regular energy supply, 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.** xxxx 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 *ancillary service* in clause 3.3.4.2 (a).~~ **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.**	

B. WESM Manual on Dispatch Protocol Issue 13.2

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
DEFINITIONS	2.1.2	XXX u. **Primary Reserve.** Synchronized generating capacity that is allocated to stabilize the system *frequency* and to cover the loss or failure of a synchronized *generating unit* or a *transmission line* or the power import from a single circuit interconnection, as defined in the *Grid Code*. Also referred to as *contingency reserves*. XXX w. **Red Alert.** An alert issued by the *System Operator* when the *Primary Reserve* is zero, a *generation* deficiency exists, or there is critical loading or imminent overloading of *transmission lines* or equipment. XXX x. **Secondary Reserve.** Synchronized generating capacity that is allocated to restore the system frequency to the	XXX **a. 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.** **b. Automatic Generation Control . The 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*.** 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	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	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		nominal *frequency* of 60Hz, as defined on the Grid Code. Also referred to as *regulating reserves.* XXX ff. **System Snapshot.** Otherwise known as EMS Snapshot. The *system snapshot* contains MW loadings of *generators* and *loads.* The *system snapshot* also indicates connection status of the power system. XXX hh. **Tertiary Reserve.** Capacity used in order to replenish the *Secondary Reserve* and for such other cases, as defined in the *Grid Code.*	u. **i. Primary Contingency Reserve.** ~~Synchronized generating capacity that is allocated to stabilize the system *frequency* and to cover the loss or failure of a synchronized *generating unit* or a *transmission line* or the power import from a single circuit interconnection, as defined in the *Grid Code.* Also referred to as *contingency reserves.*~~ **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.** g. **j.** Demand Control. xxx h. **k.** Demand Control Imminent Warning. xxx hh. **l. ~~Tertiary~~ Dispatchable Reserve.** ~~Capacity used in order to replenish the *Secondary Reserve* and for such other cases, as defined in the *Grid Code.*~~ **Generating capacity**	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 of

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
			that is not scheduled for regular energy supply, 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. i. **m.** Disturbance. xxx j. **n.** Frequency control. xxx k. **o.** Generator. xxx l. **p.** Load shedding. xxx m. **q.** Manual Load Dropping. xxx n **r.** Market Management System (MMS). xxx o. **s.** Maximum available capacity. xxx p. **t.** MMS-Market Participant Interface (MPI). xxx q. **u.** Multiple Outage Contingency. xxx r. **v.** Offer. xxx s. **w.** Operating margin. xxx	Dispatchable reserve in said DOE DC.

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
			t. **x.** Preferential Dispatch Units. xxx	
			ff. **y.** ~~System Snapshot~~ **Real-Time Data.** ~~Otherwise known as EMS Snapshot. The~~ *system snapshot* ~~c~~**C**ontains **analog measurements (**MW ~~loadings~~ **and MVAR)** of *generators* and *loads~~.~~,* ~~The~~ *~~system snapshot~~* ~~also indicates~~ **and the** connection status of ~~power system~~ **breakers and disconnect switches**.	To reflect change in type of data received with the use of Inter-Control Centre Communications Protocol (ICCP) of the NMMS.
			v. **z.** Real-Time Dispatch. xxx	
			w. **aa.** Red Alert. An alert issued by the *System Operator* when the *~~Primary~~* ***Contingency*** *Reserve* is zero, a *generation* deficiency exists, or there is critical loading or imminent overloading of *transmission lines* or equipment.	
			x. **bb.** ~~Secondary~~ **Regulating Reserve.** ~~Synchronized generating capacity that is allocated to restore the system frequency to the nominal~~ *~~frequency~~* ~~of 60Hz, as defined on the Grid Code. Also referred to as~~	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable). This is the definition of

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
			regulating reserves. **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.** y. **cc.** Security. xxx z. **dd.** Self-scheduled nomination. xxx aa. **ee.** Shutdown. xxx bb. **ff.** Stability. xxx cc. **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	Regulating reserve in said DOE DC.

		WESM Manual on Dispatch Protocol Issue 13.2		
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
WESM TIMETABLE	4.4	Table 2. DAP Timeline	Table 2. DAP Timeline	To reflect change in type of data received with the use of ICCP of the NMMS
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

Table 2. DAP Timeline (Provision):

Time	Activity	Responsible Party
XXX	XXX	*XXX*
Before [STPH1 + 1 minute]	Provide updates on the following, if any: 1. *XXX* 2. *XXX* 3. *XXX* 4. *XXX* 5. *Real-time system snapshot* 6. *XXX* 7. *XXX*	*System Operator*
XXX	XXX	*XXX*
XXX	XXX	*XXX*
XXX	XXX	*XXX*
	XXX	*XXX*

Table 2. DAP Timeline (Proposed Amendment):

Time	Activity	Responsible Party
XXX	XXX	*XXX*
Before [STPH 1 + 1 minute]	Provide updates on the following, if any: 1. *XXX* 2. *XXX* 3. *XXX* 4. *XXX* 5. *Real-time ~~system snapshot~~ <u>data</u>* 6. *XXX* 7. *XXX*	*System Operator*
XXX	XXX	*XXX*
XXX	XXX	*XXX*
XXX	XXX	*XXX*
	XXX	*XXX*

Table 4. HAP Timeline (Provision):

Time	Activity	Responsible Party
XXX	XXX	*XXX*
Before [STDI1 – 7	Provide updates on the	*System Operator*

Table 4. HAP Timeline (Proposed Amendment):

Time	Activity	Responsible Party
XXX	XXX	*XXX*
Before [STDI1 – 7	Provide updates on the	*System Operator*

		WESM Manual on Dispatch Protocol Issue 13.2		
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**

Provision column:

minutes]	following, if any: 1. *XXX* 2. *XXX* 3. *XXX* 4. *XXX* 5. *XXX* 6. *Real-time system snapshot*	
XXX	XXX	*XXX*
XXX	XXX	*XXX*
XXX	XXX	*XXX*
	XXX	*XXX*

Proposed Amendment column:

minutes]	following, if any: 1. *XXX* 2. *XXX* 3. *XXX* 4. *XXX* 5. *Real-time* ~~*system snapshot*~~ <u>*data*</u>	
XXX	XXX	*XXX*
XXX	XXX	*XXX*
XXX	XXX	*XXX*
	XXX	*XXX*

Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
WESM TIMETABLE	4.6	Table 5. RTD Timeline | **Time**	**Activity**	**Responsible Party**
---	---	---
XXX	XXX	*XXX*
Before [STDI – 7 minutes]	Provide updates on the following, if any: 1. *XXX* 2. *XXX*	*System Operator*		Table 5. RTD Timeline | **Time**	**Activity**	**Responsible Party**
---	---	---
XXX	XXX	*XXX*
Before [STDI – 7 minutes]	Provide updates on the following, if any: 1. *XXX* 2. *XXX*	*System Operator*		To reflect change in type of data received with the use of ICCP of the NMMS

		WESM Manual on Dispatch Protocol Issue 13.2			
Title	**Clause**	**Provision**		**Proposed Amendment**	**Rationale**
		3. XXX		*3. XXX*	
		4. XXX		*4. XXX*	
		5. Real-time system snapshot		*5. Real-time ~~system snapshot~~ **data**__*	
		XXX | XXX | *XXX*		XXX | XXX | *XXX*	
		XXX | XXX | *XXX*		XXX | XXX | *XXX*	
		XXX | XXX | *XXX*		XXX | XXX | *XXX*	
		XXX | *XXX*		XXX | *XXX*	
SYSTEM OPERATOR INPUT DATA AND REPORTS	7.4.1	7.4.1 **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: a. *Outage* schedules b. *Contingency* lists c. *Over-riding constraints* d. *Reserve* requirements		7.4.1 **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: a. *Outage* schedules b. *Contingency* lists c. *Over-riding constraints* d. *Reserve* requirements	Minor clerical amendment to clarify the provision
SYSTEM OPERATOR INPUT DATA AND REPORTS	7.6.4	(New)		***Generating units* undergoing regulatory and commercial tests shall submit to the *System Operator***	Gen TPs on testing and commissioning to submit test profiles for each dispatch

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			the MW profile that details the MW target for each *dispatch interval* during its requested test period on or before two (2) *working days* prior to the start of its testing.	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	7.9.1 **System Snapshot.** The *system snapshot* depicts the status of individual power facilities in the grid. The *system snapshot* is collected by the *Market Operator* from the *System Operator*'s EMS/SCADA. a. The *system snapshot* contains the following information: • *Generator* Unit MW and MVAR (analog measurements) • Load MW and MVAR (analog measurements) and • Breaker Status • Bus Voltages • Frequency 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	7.9.1 ~~System Snapshot~~ **Real-Time Data.** The *~~system snapshot~~ real-time data* **represents** ~~depicts~~ the analog measurements, and connection status of breakers and disconnect switches ~~status of individual power facilities~~ in the *grid*. ~~The *system snapshot*~~ **It** is collected by the *Market Operator* from the *System Operator*'s EMS/SCADA. a. The *~~system snapshot~~ real-time data* **shall** contain~~s the following~~ information **as prescribed in the *WESM Market Manual* on Market Network Model Development and Maintenance - Criteria and Procedure.**~~.~~	To reflect change in type of data received with the use of ICCP of the NMMS

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		network configuration and nodal demand forecasting processes. 7.9.2 **System Operator System Advisories**. The *System Operator system advisories* contain other information not included in the submission of *system snapshots*. Further to the information provided in Section 7.4.2, these are messages issued by the *System Operator* depicting particular events or incidents that would transpire prior, during or after real time condition.	• ~~*Generator*~~ Unit MW and ~~MVAR (analog~~ ~~measurements)~~ • ~~*Load* MW and MVAR~~ ~~(analog measurements)~~ ~~and~~ • ~~Breaker Status~~ • ~~Bus Voltages~~ • ~~*Frequency*~~ b. The ~~*system snapshot*~~ **_real-time data_** is an input to the MDOM which calculates the WAP, DAP, HAP, and RTD schedules. Specifically, the ~~*system snapshot*~~ **_real-time_** data is used for the network configuration and nodal demand forecasting processes. 7.9.2 **System Operator System Advisories**. ~~The *System Operator system advisories* contain other information not included in the submission of *system snapshots*.~~ Further to the information provided in	

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			Section 7.4.2, these are messages issued by the *System Operator* depicting particular events or incidents that would transpire prior, during or after real time condition.	
SYSTEM STATUS	7.10	7.10.2 The *System Operator* shall provide the information contained in this Section in accordance with the *timetable* set in Section 4.	7.10.2 The *System Operator* shall **update** ~~provide~~ the information contained in this Section ~~in accordance with~~ **considering** the *timetable* set in Section 4.	To clarify the responsibility of SO to update system status
MARKET PROJECTIONS - Responsibilities	8.3.3	*Trading Participants* shall be responsible for: a. Ensuring submission of *self-scheduled nominations, bids,* and *offers* as set out in the *WESM Rules* and in accordance with the *WESM timetable* and the procedures and requirements set forth in this Dispatch Protocol; and b. Maintaining their respective infrastructure to ensure access to the *MPI* of the *MMS*.	*Trading Participants* shall be responsible for: a. Ensuring submission of *self-scheduled nominations, bids,* and *offers* as set out in the *WESM Rules* and in accordance with the *WESM timetable* and the procedures and requirements set forth in this Dispatch Protocol; ~~and~~ b. **Submission of day-ahead *self-scheduled nominations* of its *must dispatch generating units* to the *System Operator* by 1300H; and**	Propose that Must Dispatch generating units provide SO day-ahead forecasts for planning purposes as also provided under PGC SD 8.3.2.6

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			c. Maintaining their respective infrastructure to ensure access to the *MPI* of the *MMS*.	
Data Inputs/Information Requirements	8.4.2	The data inputs for the market projections are as follows: a. XXX b. XXX c. *System snapshot* d. XXX e. XXX f. XXX g. XXX h. XXX i. XXX	The data inputs for the market projections are as follows: a. XXX b. XXX c. ~~*System snapshot*~~ ***Real-time data*** d. XXX e. XXX f. XXX g. XXX h. XXX i. XXX	Reflect change in type of data received with the use of ICCP of the NMMS
REAL-TIME DISPATCH SCHEDULING	9.5	Table 6. Summary of Inputs and Sources for the *Real-time dispatch*<table><tr><th>INPUTS</th><th>SOURCE</th></tr><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><tr><td>*XXX*</td><td>*XXX*</td></tr></table>	Table 6. Summary of Inputs and Sources for the *Real-time dispatch*<table><tr><th>INPUTS</th><th>SOURCE</th></tr><tr><td>*XXX*</td><td>*XXX*</td></tr><tr><td>*XXX*</td><td>*XXX*</td></tr><tr><td>~~*System snapshot*~~ ***Real-Time Data***</td><td>*System Operator*</td></tr></table>	Reflect change in type of data received with the use of ICCP of the NMMS

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		<table><tr><td>XXX</td><td>XXX</td></tr><tr><td>XXX</td><td>XXX</td></tr><tr><td>XXX</td><td>XXX</td></tr></table>	<table><tr><td>XXX</td><td>XXX</td></tr><tr><td>XXX</td><td>XXX</td></tr><tr><td>XXX</td><td>XXX</td></tr><tr><td>XXX</td><td>XXX</td></tr><tr><td>XXX</td><td>XXX</td></tr></table>	
PREPARATION OF THE WESM MERIT ORDER TABLE	10.1.2	The *WMOT* is generated by stacking in an unconstrained manner of scheduled and unscheduled capacities, excluding negative quantities through the *market offers* submitted for *the real-time dispatch* runs. *Energy offer* blocks submitted by *generator Trading Participants* for a particular dispatch interval are arranged from lowest to the highest priced offer block, without considering any *constraints*. The *WMOT* stacks *energy offers* into two, namely, the energy offers that were scheduled (or "Offers Dispatched") and *energy offers* that were not scheduled (or "Offers Not Dispatched").	The *WMOT* is generated by stacking**,** in an unconstrained manner**,** ~~of~~ scheduled and unscheduled capacities, excluding negative quantities**, _reserve schedules_, and generators on outage** through the *market offers* submitted for *the real-time dispatch* runs. *Energy offer* blocks submitted by *generator Trading Participants* for a particular dispatch interval are arranged from lowest to the highest priced offer block, without considering any *constraints*. The *WMOT* stacks *energy offers* into two, namely, the energy offers that were scheduled (or "Offers Dispatched") and *energy offers* that were not scheduled (or "Offers Not Dispatched").	To reflect more accurate presentation of available capacities for re-dispatch
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	Consistent with its obligations set out in this Dispatch Protocol in respect to the issuance of dispatch instructions, the System Operator shall be	Renamed to dispatch instruction report. Also, MRU reports will be integrated in the dispatch instruction report per

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		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.	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 **that were issued** *dispatch instructions* ~~designated as must-run units~~ through the dispatch ~~deviation~~ **instruction** report ~~and report on must-run units~~ prepared in accordance with Sections 14.4.2 and 14.4.5.	proposed revisions in Section 14.4.5.

Preparation of WMOT	10.4	10.4.1 The *WMOT* shall be prepared using the *offers*, excluding negative quantities, and the *real-time dispatch schedule* of each *generating system* for which *offers* were submitted for the relevant *dispatch interval*. The specific information that will be used is as follows:
		
		  XXX
		
		10.4.5 The "Offers Dispatched" consists of the *energy offer* blocks which have been scheduled in the RTD schedule for the *dispatch interval*. To the extent possible, the *dispatch schedule* of
			10.4.1 The *WMOT* shall be prepared using **the *real-time dispatch schedules,* and** the *offers*, excluding negative quantities, ***reserve schedules*, and generators on outage**, ~~and the real-time dispatch schedule~~ of each *generating system* for which *offers* were submitted for the relevant *dispatch interval*. The specific information that will be used is as follows:
			
			  XXX
				Proposed to amend to reflect more accurate presentation of available capacities for re-dispatch

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		each *generating unit* will be split into corresponding *offer* blocks. The scheduled *offer* blocks will then be sorted and listed from the lowest-priced to the highest-priced scheduled *offer* block, with the lowest-priced scheduled *offer* block at the bottom of the list and the highest-priced at the top of the list. The *generating units* for which no *offers* 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 *must dispatch generating units* at the bottom and followed by *priority dispatch generating units* and *non-scheduled generating units* in that order. 10.4.6 The "Offers Not Dispatched" consists of the remaining *energy offers* of each *generating unit* that are not scheduled or included in the RTD schedule for the *dispatch interval*. To the extent possible, the remaining *offers* will be sorted by *offer* blocks. The *offer* blocks not dispatched will then be sorted and	10.4.5 The "Offers Dispatched" consists of the *energy offer* blocks**, excluding _reserve schedules_,** which have been scheduled in the RTD schedule for the *dispatch interval*. To the extent possible, the *dispatch schedule* of each *generating unit* will be split into corresponding *offer* blocks. The scheduled *offer* blocks will then be sorted and listed from the lowest-priced to the highest-priced scheduled *offer* block, with the lowest-priced scheduled *offer* block at the bottom of the list and the highest-priced at the top of the list. The *generating units* for which no *offers* 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 *must dispatch generating units* at the bottom and followed by *priority dispatch generating*	

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		listed from the lowest-priced to the highest-priced scheduled *offer* 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 *energy offers* but have *reserve dispatch* targets shall be excluded from the list.	*units* and *non-scheduled generating units* in that order. 10.4.6 The "Offers Not Dispatched" consists of the remaining *energy offers* of each **available** *generating unit* that are not scheduled or included in the RTD schedule for the *dispatch interval*. To the extent possible, the remaining *offers* will be sorted by *offer* blocks. The *offer* blocks not dispatched will then be sorted and listed from the lowest-priced to the highest-priced scheduled *offer* 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 *energy offers* but have *reserve dispatch* targets shall be excluded from the list.	
Use of WMOT	10.6.2	As far as practicable, and when *secondary reserves* have been exhausted, the *System Operator* shall issue re-dispatch instructions	10.6.2 As far as practicable, and when ~~secondary~~ **regulating** reserves have been exhausted, the	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)

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		based on the *WMOT*. However, the *System Operator* may resort in an *out of merit dispatch* whenever the quality of the *grid frequency* is affected or the *security* of the *grid* is at risk.	*System Operator* shall issue re-dispatch instructions based on the *WMOT*. However, the *System Operator* may resort in an *out of merit dispatch* whenever the quality of the *grid frequency* is affected or the *security* of the *grid* is at risk.	
DISPATCH IMPLEMENTATION	11.1.3	11.1.3 During each *dispatch interval*, the *Trading Participant* is directed under *WESM Rules* Clause 3.8.4.1 to implement the *dispatch targets* determined by the *Market Operator*.	11.1.3 ~~During each *dispatch interval*~~ **Except for *generating units* operating on *automatic generation control (AGC)***, the *Trading Participant* is directed under *WESM Rules* Clause 3.8.4.1 to implement the *dispatch targets* determined by the *Market Operator* **for each *dispatch interval***. **11.1.4 For generating units operating on *AGC*, the *dispatch instructions* shall be issued by the *System Operator*. The *Trading Participant* shall then comply with the *dispatch instructions* issued by the *System Operator* through their facilities for *AGC*, based on the dispatch target**	Proposed to provide option for automated dispatching

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			determined by the _Market Operator_ for each _dispatch interval._	
DISPATCH IMPLEMENTATION	11.1.4	11.1.4 xxx	11.1.4**5** xxx **11.1.6 The _System Operator_ shall make use of the first _WMOT_ available for the hour as reference for its re-dispatch instruction at any _dispatch interval_ for that hour (e.g. 1005H WMOT shall be used for all _dispatch intervals_ from 1005H to 1100H).**	Re-numbered item due to additional clause in 11.1.4. Added new clause to specify 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.
RESPONSIBILITIES	11.3	11.3.1 The _System Operator_, in coordination with the _Market Operator_, shall be responsible for the following: a. XXX b. Implementing the _WMOT_ provided by the _Market Operator_; c. Assuring the _security_ and reliability of the grid at all times in compliance with the provisions of the System Security	11.3.1 The _System Operator_, in coordination with the _Market Operator_, shall be responsible for the following: a. XXX **b. Directly issuing _dispatch instructions_ to _generating units_ operating on _AGC_**	Proposed to provide option for automated dispatching consistent with revisions in Section 11.1.3.

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		and Reliability Guidelines and *Grid Code*; d. Dispatching *generators* as *constrain-on* or *constrain-off*, or as *must-run unit* if all available *reserves* are exhausted during a *dispatch interval*; and e. Reporting events and actions made during *dispatch intervals*	b.**c.** Implementing the *WMOT* provided by the *Market Operator*; c.**d.** Assuring the *security* and reliability of the grid at all times in compliance with the provisions of the System Security and Reliability Guidelines and *Grid Code*; d.**e.** Dispatching *generators* as *constrain-on* or *constrain-off*, or as *must-run unit* if all available *reserves* are exhausted during a *dispatch interval*; and e.**f.** Reporting events and actions made during *dispatch intervals*	
		11.3.2 XXX	11.3.2 XXX	
		11.3.3 All *Trading Participants* shall comply with their respective *dispatch schedules* issued by the *Market Operator* and the re-dispatch instructions issued to them by the *System Operator*, if any. For this purpose, they shall ensure that their respective internal processes, systems and infrastructure, as well as	11.3.3 All *Trading Participants* shall comply with their respective *dispatch schedules* issued by the *Market Operator*__, dispatch instructions issued by the System Operator through their facilities for *AGC*,__ and the re-dispatch instructions issued to them by the *System*	

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		their protocols with their counterparties, shall enable strict compliance with this Section.	*Operator*, 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.	
ISSUANCE AND COVERAGE OF DISPATCH INSTRUCTIONS	11.4	11.4.1 *Dispatch instructions* shall include the following: a. XXX b. XXX	11.4.1 **Except for *generating units* operating on *AGC*,** ~~D~~dispatch *instructions* shall include the following: a. XXX b. XXX **11.4.2 For *generating units* operating on *AGC*, the following shall be observed:** **a. The *System Operator* shall send *AGC* commands based on a linear ramp rate specified with the *Generation Company*.**	Proposed to provide option for automated dispatching consistent with revisions in Section 11.1.3. Proposed to ensure reliability of the grid by providing standard initial reaction from generation companies

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			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. **c. The *Generation Company* shall seek clearance from the *System Operator* to change from remote to local *AGC* mode in cases of technical constraints.** **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.** **e. For an aggregated *generating unit*, the *Generation Company* shall pro-rate the**	

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		11.4.2 XXX 11.4.3 **System Operator Clearance.** When the *grid frequency* is not within the normal threshold, the *Trading Participants* shall seek clearance from the *System Operator* before ramping up or down to their respective *target loading levels*. The *System Operator* shall provide clearance and issue *dispatch instructions* as it deems appropriate.	*AGC* **command to the individual** *generating units* **based on each unit's MW capability at that time.** 11.4.2**3** XXX 11.4.3**4** ~~System Operator Clearance.~~ **Generator Dispatch Compliance Beyond Normal** *Grid Frequency* **Threshold.** **a.** When the *grid frequency* ~~is not within the normal threshold~~ **reaches 59.7Hz or lower**, the *Trading Participants* shall **operate based on the following conditions:** ~~seek clearance from the~~ *~~System Operator~~* ~~before ramping up or down to their respective~~ *~~target loading levels.~~* ~~The~~ *~~System Operator~~* ~~shall provide clearance and issue~~ *~~dispatch instructions~~* ~~as it deems appropriate.~~	

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Condition	Status of Actual Dispatch	Expected Response
Frequency is 59.7 Hz or lower	If ramping down, or current actual loading is higher than *dispatch schedule*	*Generating unit* should stop ramping down and maintain current actual loading unless otherwise instructed by the *System Operator*
	If ramping up, or current actual loading is lower than *dispatch schedule*	*Generating unit* should continue to ramp up to its *dispatch schedule* unless otherwise instructed by the *System Operator*

b. Once the *grid frequency* goes up to 60 Hz after coming off from a state in Section

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			11.4.4 (a), then the _Trading Participants_ shall resume to dispatch its _generating units_ to meet its _dispatch schedule_. **c. When the _grid frequency_ reaches 60.3 Hz or higher, the _Trading Participants_ shall operate based on the following conditions:**	

Condition	Status of Actual Dispatch	Expected Response
Frequency is 60.3 Hz or higher	If ramping down, or current actual loading is higher than _dispatch schedule_	Generating unit should continue to ramp down to its _dispatch schedule_ unless otherwise instructed by the _System Operator_
	If ramping up, or current actual loading is	Generator should stop ramping up and maintain current actual

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			lower than *dispatch schedule* / **loading unless otherwise instructed by the** *System Operator*	
			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.*	
DISPATCH OF MUST AND PRIORITY DISPATCH GENERATING UNITS	11.5	11.5.2 If, in real-time, the available *generation* from a *Must dispatch generating unit* differs from the available *generation* assumed in the *dispatch schedule* provided to the *System Operator*, the *System Operator* shall allow the *Must dispatch generating unit* to generate at its *maximum available output*, and, if all available *secondary reserves* are exhausted during a *dispatch interval*, shall adjust the *dispatch* of other *generating units* to compensate as	11.5.2 If, in real-time, the available *generation* from a *Must dispatch generating unit* differs from the available *generation* assumed in the *dispatch schedule* provided to the *System Operator*, the *System Operator* shall allow the *Must dispatch generating unit* to generate at its *maximum available output*, and, if all available ~~secondary~~ **regulating** *reserves* are exhausted during	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)

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		required in accordance with re-dispatch process in this Section.	a *dispatch interval*, shall adjust the *dispatch* of other *generating units* to compensate as required in accordance with re-dispatch process in this Section.	
COMMUNICATING AND REPORTING OF DISPATCH SCHEDULES AND INSTRUCTIONS	11.8	11.8.1 The *real-time dispatch* targets shall be communicated by the *Market Operator* to the *Trading Participants* through the *MPI*. The *WMOT* generated for a *dispatch interval* 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.	11.8.1 The *real-time dispatch* targets shall be communicated by the *Market Operator* to the *Trading Participants* through the *MPI*. The *WMOT* generated for a *dispatch interval* shall be published in accordance with Section 10.7.2 of this Dispatch Protocol. ***Dispatch instructions* through the *AGC* facilities shall be communicated by the *System Operator* through the available communication link with the power plant operator.** Redispatch instructions shall be communicated by the *System Operator* to the *Trading Participants* through their respective power plant operators.	Proposed to provide option for automated dispatching. Also revised dispatch deviation reports to dispatch instruction reports.

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		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 11.8.4 All *dispatch instructions* 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. 11.8.5 Dispatch deviation reports submitted by the System Operator to the Market Operator shall be used for purposes of surveillance, audit, and market settlements.	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**, facilities for *AGC*,** and other means of communications. 11.8.3 XXX 11.8.4 All *dispatch instructions* issued by the *System Operator***, including those provided through the facilities for *AGC*,** to *Trading Participants* shall be recorded through operator logs. The *System Operator* shall include this information in the dispatch ~~deviation~~ **instruction** report, in accordance with Section 14.4. 11.8.5 Dispatch ~~deviation~~ **instruction** reports submitted by the System Operator to the Market Operator shall be used for purposes of	

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			surveillance, audit, and market settlements.	
START-UP AND SHUTDOWN OF GENERATING UNITS	13.2.2	Consistent with its obligations pertaining to real-time dispatch scheduling and implementation, the *System Operator* shall ensure: a. Continuous and timely submission and updating of the outage schedules, *overriding constraint* limits of generating units to the *Market Operator*; b. XXX c. XXX	Consistent with its obligations pertaining to real-time dispatch scheduling and implementation, the *System Operator* shall ensure: a. Continuous and timely submission and updating of the outage schedules, ~~*overriding constraint limits*~~ of generating units to the *Market Operator*; b. XXX c. XXX	For consistency with self-commitment and dispatch principles under the EWDO
General Procedures	13.3	13.3.4 The *dispatch scheduling* of the *generating unit* that will *start-up* or *shutdown* shall be managed through its *market offers* submitted within the *WESM timetable*. The *Trading Participant* shall submit *offers* for the *dispatch interval* during which the unit is to *startup* or *shutdown* and make adjustments to its *offers*, as appropriate.	13.3.4 The *dispatch scheduling* of the *generating unit* that will *start-up* or *shutdown* shall be managed through its *market offers* submitted within the *WESM timetable*. The *Trading Participant* shall submit **_market_** *offers* **_or nominations_** for the *dispatch interval* during which the unit is to *startup* or *shutdown* and make adjustments to its **_market_** *offers* **_or nominations_**, as appropriate.	For consistency with self-commitment and dispatch principles under the EWDO and provide options especially applicable to generating units with fast-start capability

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			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.*	
Start-up of a Generating Unit	13.4	13.4.1 Off-line units will not be included in the *dispatch scheduling* process. Thus, the *generating unit* must then be synchronized to the *grid* prior to the execution of the *real-time dispatch* run consistent with the *WESM timetable*. 13.4.2 The *System Operator* 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 *WESM timetable*. If the *start-up* will be deferred, the *System Operator* shall update the *outage schedule* accordingly and in	13.4.1 ~~Off-line units will not be included in the *dispatch scheduling* process. Thus,~~ the **A** *generating unit* must ~~then be synchronized to the *grid*~~ **have *market offers* or *nominations*** prior to the execution of the *real-time dispatch* run consistent with the *WESM timetable*. 13.4.2 The System Operator 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 WESM timetable.	For consistency with self-commitment and dispatch principles under the EWDO Re-numbered

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Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		accordance with the *WESM timetable* for submission of *outage schedules*. 13.4.3 XXX 13.4.4 XXX	**13.4.3 If the start-up will be deferred, the *System Operator* shall update the outage schedule accordingly and in accordance with the *WESM timetable* for submission of outage schedules.** 13.4.~~3~~**4** XXX 13.4.4~~4~~**5** XXX	
Shutdown of a Generating Unit	13.5	13.5.3 The *Trading Participant* shall update its *offers* for the *dispatch intervals* covered in the *shutdown* sequence. 13.5.4 Once the *generating unit* has completely *shut down*, the relevant *Trading Participant* shall cancel its daily *offer* profile for the affected *trading day*.	13.5.3 The *Trading Participant* shall update its **_market_** *offers* **_or nominations_** for the *dispatch intervals* covered in the *shutdown* sequence. 13.5.4 Once the *generating unit* has completely *shut down*, the relevant *Trading Participant* shall cancel its daily *market offer* **_or nomination_** profile for the affected *trading day*.	To clarify that Trading participants also required to update their nominations.

	WESM Manual on Dispatch Protocol Issue 13.2			
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
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~~ **instructions**, load shedding, network constraints, binding security constraints and operational irregularities.	

Post-dispatch Reports and Information	14.4.2	Dispatch Deviation Report. For each trading day, the System Operator shall submit a report 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:
		a. Covered period (start time and end time)
		b. Resource name
		c. Reason for Deviation:
		    • Utilized for ancillary services
		    • Testing Requirement
		    • Re-dispatch of constrain-on and constrain-off generating units
		    • Designation of must-run units
		d. Short description of the issue being addressed (e.g. frequency breached x Hz)
			Dispatch ~~Deviation~~ **Instruction** Report. **On a weekly basis,** ~~For each trading day,~~ the System Operator shall submit a report to the Market Operator~~, on a weekly basis,~~ containing **their *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*,** ~~deviation to actual dispatch from the RTD schedule~~. The Dispatch	Change to Dispatch Instruction Report to only cover instructions issued by SO. Added proposed changes to format also.

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Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**

			~~Deviation~~ **Instruction** Report shall contain, among others, the following information:
			a. ~~Covered period (start time and end time)~~ **Date and Time of Incident**
			b. Resource name
			c. Reason for ~~Deviation~~ **Dispatch Instruction**:
			   • Utilized for ancillary services
			   • Testing Requirement
			   • Re-dispatch of constrain-on and constrain-off generating units
			   • Designation of must-run units
			   • Limitation on *must dispatch generating units*
			   • *Market Intervention* or *Market Suspension*
			d. Short description of the issue being addressed (e.g. frequency breached x Hz)
			e. Type of *Dispatch Instruction*
			f. Target MW value instructed	

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	Report on Must-run Units. In accordance with WESM Rules Clause 3.5.13.1, the System Operator shall submit ~~a report~~ **information** to the Market Operator identifying all the	To indicate that information on designation of MRUs shall be included in the Dispatch Instruction Report

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		trading day, as well as information necessary for the proper settlement of such generating units.	generating units designated as must-run units within the trading day, as well as information necessary for the proper settlement of such generating units. **Such information shall be included in the Dispatch Instruction Report.**	
Post-dispatch Reports and Information	14.4.7	(NEW)	**14.4.7 Each *generation company* 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.**	To include provision that discrepancies should be reported within two weeks.
Post-dispatch Reports and Information	14.4.8	(NEW)	**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*.**	Provide the Market Operator time to consolidate and transmit discrepancy report to the SO

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
Post-dispatch Reports and Information	14.4.9	(NEW)	**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 two (2) weeks 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.**	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 *reserve* requirement for secondary *reserve* service shall be based on the latest issuances on the procurement of *ancillary services* by the *ERC*, and shall be used as reference by the *Market Operator* for the *market projections* and *real-time dispatch schedule*.	The level of *reserve* requirement for ~~secondary~~ ***regulating*** *reserve* service shall be based on the latest issuances on the procurement of *ancillary services* by the *ERC*, and shall be used as reference by the *Market Operator* for the *market projections* and *real-time dispatch schedule*.	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)

	WESM Manual on Dispatch Protocol Issue 13.2			
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
Determination of Reserve Requirements	15.4.3	For *primary reserve* service and *tertiary reserve*, the *System Operator* shall determine the level of *reserve* requirement in accordance with the latest issuances on the procurement of *ancillary services* by the *ERC.*	For ~~primary~~ **_contingency_** *reserve* service and ~~tertiary~~ **_dispatchable_** *reserve*, the *System Operator* shall determine the level of *reserve* requirement in accordance with the latest issuances on the procurement of *ancillary services* by the *ERC.*	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)
Management of Must-Run Units	17.5.1	17.5 Reporting and Publication 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.	~~17.5 Reporting and Publication~~ ~~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.~~	Suggest to delete given the proposed integration of MRU reporting to the Dispatch Instruction Report.
Managing Excess Generation for the Next Day	18.3	18.3.1 There is an impending *excess generation* when the resulting price in the *day-ahead projection* run is equivalent to the offer floor price and	18.3.1 There is an impending *excess generation* when the resulting price in the *day-ahead projection* run is equivalent to	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)

		WESM Manual on Dispatch Protocol Issue 13.2		
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		the aggregate unscheduled Technical Pmin of generating units with floor price offers is greater than or equal to the *secondary reserve* requirement.	the offer floor price and the aggregate unscheduled Technical Pmin of generating units with floor price offers is greater than or equal to the ~~secondary~~ **regulating** *reserve* requirement.	
Emergency Procedures	20.4	Emergency Procedures during Overload	*[See Annex B.1 for changes to Emergency Procedures during Overload flowchart]*	Proposed for refinements in the process flow from SO
Content Structure of *Real-time dispatch* Results for the *System Operator*	Appendix D	XXX **a. *Real-time dispatch schedules***<table><tr><td>**Column Name**</td><td>**Description**</td></tr><tr><td>END_TIME</td><td>XXX</td></tr><tr><td>REFERENCE_NAME</td><td>Concatenates the Resource Name and the market product. The following lists the market products available. • "EN" for energy • "RU" for Regulation raise/upward</td></tr></table>	XXX **a. *Real-time dispatch schedules***<table><tr><td>**Column Name**</td><td>**Description**</td></tr><tr><td>END_TIME</td><td>XXX</td></tr><tr><td>REFERENCE_NAME</td><td>Concatenates the Resource Name and the market product. The following lists the market products available. • "EN" for energy</td></tr></table>	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		• "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 XXX	• "RU" for Regulation raise/upward • "RD" for Regulation lower/downward • "FR" for Fast Contingency Raise **(Contingency Reserve)** • ~~"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	

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
				To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)

Provision:

b. Market Requirements		

Column Name	Description
START_TIME	Start 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
MKT_PRODUCT	Describes type of requirement • "EN" for energy • "RU" for Regulation raise/upward • "RD" for Regulation lower/downward • "FR" for Fast Contingency Raise

Proposed Amendment:

	XXX
MW	XXX

b. Market Requirements	

Column Name	Description
START_TIME	Start 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
MKT_PRODUCT	Describes type of requirement • "EN" for energy • "RU" for Regulation raise/upward • "RD" for Regulation lower/downward • "FR" for Fast Contingency

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		• "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 REGION_ID XXX REQ_MW XXX XXX	Raise **(Contingency Reserve)** • ~~"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~~ REGION_ID XXX REQ_MW XXX XXX	
Content Structure of SO Inputs to the	Appendix E	XXX	XXX	

WESM Manual on Dispatch Protocol Issue 13.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
Market Projections and Real-time dispatch		**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. • RegulationLowerReserve • RegulationRaiseReserve • FastContingencyLowerReserve • FastContingencyRaiseReserve • SlowContingencyLowerReserve • SlowContingencyRaiseReserve		**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. • RegulationLowerReserve • RegulationRaiseReserve • ~~FastContingencyLowerReserve~~ • FastContingencyRaiseReserve **(Contingency Reserve)** • ~~SlowContingencyLowerReserve~~		To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)

Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**

Table continuation (Provision):

	• DelayedContingencyLowerReserve • DelayedContingencyRaiseReserve
VERSION	XXX
OBJECT_ID	XXX
TARGET_TIME	XXX
MW	XXX

Table continuation (Proposed Amendment):

	• ~~SlowContingencyRaiseReserve~~ • ~~DelayedContingencyLowerReserve~~ • DelayedContingencyRaiseReserve **(Dispatchable Reserve)**
VERSION	XXX
OBJECT_ID	XXX
TARGET_TIME	XXX
MW	XXX

		(New)	**Appendix G. Details of Dispatch Instructions Using Automatic Generation Control** *[See Annex B.2]*	Proposed to provide option for automated dispatching

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

| Provision	Proposed Amendment
20.4.1 Emergency Procedures During Overload 	20.4.1 Emergency Procedures During Overload

Appendix G. Details of Dispatch Instructions Using Automatic Generation Control

Enhanced AGC System Command Modes

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

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

Illustrating AGC Commands Within the 5-minute Dispatch Interval
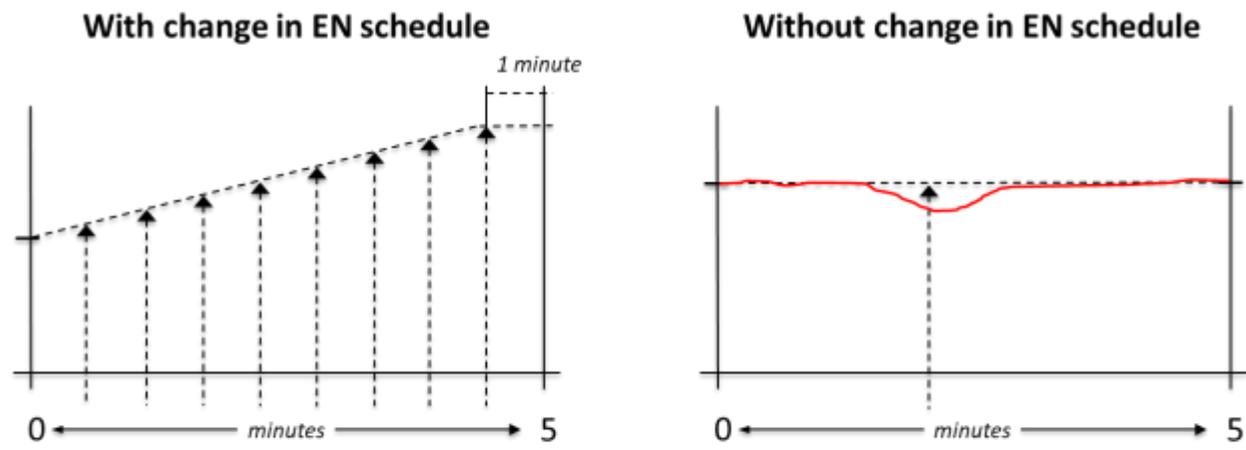
Command Mode: **SCHED-O**

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)	**2.5.4.7 Modelling of the Generating Unit's Availability** **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_.**	Proposed requirement for generator modelling where TPs need to specify if generator availability is based entirely on its generator breakers, or on the availability of its market offers.

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	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
Definitions	2.1.5	(NEW)	**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.**	Provide general term used in MNM for all objects representing generators, BESS, pumped-storage units, and loads
MNM Components and Modeling	4.4.12	(NEW)	**4.4.11 Real-Time Data** **The *System Operator* shall provide the following real-time data, each having its respective real-time data quality, to the *Market Operator*.** a. **Analog measurements (MW/MVAR) to represent gross generation output and generation net of the station use;** b. **Analog measurements (MW/MVAR) to represent consumption at least at the connection point;** c. **Analog measurements (MW/MVAR) measuring loading at the high-side and low-side of the transformer;** d. **Analog measurements (MW/MVAR) measuring the loading at both ends of an AC line or HVDC link;** e. **Breaker Status;** f. **Calculated MW Demand per region; and** g. **Power System Frequency per grid (Hz).**	Proposed addition 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	**Clause**	**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.	Revise for clarity of 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 *[See Annex D.1 for proposed revised Table 1. MNM Development Timetable. Existing Table 1 to be deleted]*	Revised for clarity. Also updated MNM Development Timetable to provide more clarity and introduce process improvements

WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	**Clause**	**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.	~~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.~~ **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.***	It is proposed that instead of a PEM Board Ratification, monthly MNM updates shall instead be provided. 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.
MNM Development Timetable	4.5.8	Additional Considerations in the MNM Development are as follows: a) Network Service Providers shall ensure that they provide ample information regarding their planned activities to the System Operator	Additional Considerations in the MNM Development are as follows: a) Network Service Providers shall ensure that they provide ample information regarding their planned activities to the System Operator b) All planned activities should involve proper coordination between the Market Operator and	Revised "uploading" to "deployment". Add provision to allow "urgent MNM updates".

WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		b) All planned activities should involve proper coordination between the Market Operator and the System Operator (including affected Trading Participants if necessary). 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. 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.	the System Operator (including affected Trading Participants if necessary). 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**. d) Should the target ~~uploading~~ **deployment** of an ~~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. **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*.**	
Alterations to the Market Network Model	5.1	REAL-TIME MNM CONFIGURATION	~~REAL-TIME MNM CONFIGURATION~~ **DYNAMISM OF MNM USING REAL-TIME DATA**	Revised for clarity

WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	**Clause**	**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.~~ **The static power system model of the MNM** ~~These revisions~~ shall be ~~made automatically~~ **dynamically updated** ~~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 **with reference to real-time status of breakers and disconnect switches**; **and** b) **Scheduled outages of power system equipment (e.g.** Line**s, Power Transformers, HVDC Links,** Generator**s**, and Customer Load**s** outage**)**; ~~and~~ ~~c) Reconfiguration as initiated by the System Operator or the Network Service Providers to maintain system security and reliability.~~	Revised for clarity. Also removed source of "EMS" since inputs from SO are provided through their different platforms. To add, item (c) is not part of the real-time update.
Alterations to the Market Network Model	5.2	NETWORK DEVELOPMENT	~~NETWORK~~ DEVELOPMENT OF UPDATES TO THE MNM	Revised 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	**The *Market Operator* shall develop updates to the market network model and power system model in view of** ~~Network development is~~ any reconfiguration of any part of the transmission or sub-transmission system.	Revised for clarity.

WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
		development may affect the dispatch and are permanent in nature. This shall include the following: xxxx	~~The Market Operator should be notified as the 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	Revised 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	Revise from Publication to Reporting
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.~~ **Within two (2) *working days from deployment*, the *Market Operator* shall publish advisory on the MNM updates deployed in the production system.**	Propose revision on how IEMOP will report MNM updates. Immediate information shall be published after deployment. Then a summary of the changes will be provided every month.

WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**

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. Every revision of the MNM shall have the following associated documents published in the Market Information Website:
		a) MNM Revisions Manual;
		b) Bus-Oriented Single Line Diagram; and
		c) Information brief
			~~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 associated documents published in the Market Information Website:~~
			~~a) MNM Revisions Manual;~~
			~~b) Bus-Oriented Single Line Diagram; and~~
			~~c) Information brief~~
			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.
			    a. **Summary of MNM Updates during the month**
			    b. **Latest Bus-Oriented Single Line Diagram**	

Generator MTN	6.5.4	(NEW)	**During the registration of the generator resource, *Trading Participants* shall specify if its availability shall be based on the real-**	During the generator modelling, TPs need to specify if generator availability is based entirely on its

WESM Manual on Market Network Model Development and Maintenance - Criteria and Procedures Issue 4.2				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
			time status of its generator breaker, or on the availability of its *market offers.*	generator breakers, or on the availability of its market offers.
Battery Energy Storage System	6.7.4	(NEW)	During the registration of the *battery energy storage system 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 *market offers.*	During the BESS modelling, TPs need to specify if generator availability is based entirely on its connecting breakers, or on the availability of its market offers.
Pumped-Storage Unit	6.8.3	(NEW)	During the registration of the *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 *market offers.*	During the BESS modelling, TPs need to specify if generator availability is based entirely on its connecting breakers, or on the availability of its market offers.

MNM Development Timetable

ITEM	TIMELINE	ACTIVITY	DESCRIPTION	RESPONSIBLE PARTY
1	**Before D – 9**	**Generator Trading Participants should provide technical specifications of its facility to the Market Operator**	**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.** **The same requirements are also required when requesting for the re-modelling of facilities (i.e. aggregation of disaggregation of resources).**	**Generator Trading Participant**
2	**Before D – 9**	**The System Operator should provide technical specifications to the Market Operator for new load facilities**	**The System Operator should provide the power system topology that reflects the connection of the new load facility.**	**System Operator**
3	**Before D – 8**	**Network Service Providers should provide notice of changes in the Distribution Network**	**Applicable only for *Network Service Providers* whose equipment should be included, or are already included, in the *Market Network Model***	***Network Service Providers***
4	**D – 8**	**Register New *Market Resource* in the Central Registration and Settlement System (CRSS) and Market Management System (MMS)**	**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.**	***Market Operator***
5	**D – 7**	**Submit notice of changes to the Grid**	**The *System Operator* shall submit a notice of changes to the grid, which includes the following.** 　　a. **Power system topology (or diagram) that highlights the changes;**	***System Operator***

ITEM	TIMELINE	ACTIVITY	DESCRIPTION	RESPONSIBLE PARTY
			b. **Real-time mapping definitions; and** c. **Technical parameters affected by the change.**	
6	**D – 6**	**Initiate Preparations for MNM Update**	The ***Market Operator*** **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** ***Market Operator*****. It shall involve the changes as notified by the** ***System Operator*****, and changes recommended by the** ***Market Operator*****, 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.**	***Market Operator***
7	**Before D – 2**	**Market Model and Power System Model Update**	The ***Market Operator*** **shall effect changes to the MNM through the updating of the market and power system models recognized by the MMS.** **The Market Operator may create different "MNM Update Tasks" for such MNM updates. An MNM update task represents a collection of changes in the MNM. Each MNM update task can be deployed separately for production use.**	***Market Operator***
8	**Before D – 2**	**Testing of "MNM Update Task"**	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*****.**	***Market Operator***
9	**Before D – 1**	**Confirm schedule of energization**	The ***System Operator*** **shall inform the** ***Market Operator*** **of the final schedule of energization.**	***System Operator***

ITEM	TIMELINE	ACTIVITY	DESCRIPTION	RESPONSIBLE PARTY
10	**On or Before D**	**Notice of Planned Deployment to the WESM Participants**	**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**	***Market Operator***
11	**D**	**Deployment of MNM Update Task**	**The *Market Operator* shall deploy the MNM Update Task in the production system.** **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.**	**Market Operator**
12	**D**	**Notice of Post-Deployment to the WESM Participants**	**The *Market Operator* shall inform the *WESM Participants* of the successful deployment of MNM update in the production system of the MMS**	**Market Operator**
13	**D**	**Provide Updates on Market Model and Power System Model to the *System Operator***	**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**	**Market Operator**
14	**D to D+7**	**Consistency monitoring of the updated MNM**	**The *Market Operator* shall continuously monitor the status of the recently updated MNM in the production system for the next seven days**	**Market Operator**

E. Market Operator Information Disclosure and Confidentiality Manual

Market Operator Information Disclosure and Confidentiality Manual Issue 5.0				
Title	**Clause**	**Provision**	**Proposed Amendment**	**Rationale**
OTHERS			*[See table below]*	Consistent with the proposed changes in the WESM DP Section 14.4.2

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**