REF NO.: RCC-MIN-21-04

MEETING MINUTES

Subject/Purpose : 176th Rules Change Committee Meeting
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ATTENDEES

	Name	Designation/Position	Department/Company
1	Allan C. Nerves	Member, Independent	RCC
2	Concepcion I. Tanglao	Member, Independent	RCC
3	Dixie Anthony R. Banzon	Member, Generation Sector	RCC
4	Cherry A. Javier	Member, Generation Sector	RCC
5	Carlito C. Claudio	Member, Generation Sector	RCC
6	Michelle Tuazon	Member (Alternate), Generation Sector	RCC
7	Ryan S. Morales	Member, Distribution Sector	RCC
8	Ricardo G. Gumalal	Member, Distribution Sector	RCC
9	Nelson M. Dela Cruz	Member, Distribution Sector	RCC
10	Virgilio Fortich, Jr.	Member, Distribution Sector	RCC
11	Lorreto H. Rivera	Member, Supply Sector	RCC
12	Ambrocio R. Rosales	Member, System Operator	RCC
13	Isidro E. Cacho, Jr.	Member, Market Operator	RCC
14	Karen A. Varquez	RCC Secretariat	PEMC
15	Divine Gayle C. Cruz	RCC Secretariat	PEMC
16	Dianne L. De Guzman	RCC Secretariat	PEMC
17	Kathleen R. Estigoy	RCC Secretariat	PEMC
18	John Mark S. Catriz	Head, Market Assessment Group	PEMC
19	Edward I. Olmedo	Proponent	IEMOP
20	Valfia U. Gregorio	Proponent	IEMOP
21	Melanie C. Papa	DOE Observer	DOE
22	Mari Josephine C. Enriquez	DOE Observer	DOE
23	Kevin Lloyd C. delos Santos	DOE Observer	DOE

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Agenda	Agreements / Action Taken / Action Required
I. Call to Order / Determination of Quorum	• The meeting was conducted via Microsoft Teams and was called to order at 9:11 AM. • The meeting was presided by Ms. Concepcion I. Tanglao (Member/Independent). • There were 11 RCC principal members and 1 alternate member in attendance.
II. Presentation and Approval of the Proposed Agenda	The provisional agenda of the meeting was approved by the body, as revised during the meeting. As recommended by the Presiding Officer, the body agreed to first discuss the draft RCC Resolution No. 2021-01.
III. Other Matters	
RCC Resolution No. 2021-01 Creating a Sub-Committee for the Proposed Amendments to the WESM Rules and Market Manuals Clarifying Indirect WESM Membership	Presenter: Ms. Kathleen R. Estigoy (RCC Secretariat) Action Requested: For approval Proceedings: • Ms. Concepcion I. Tanglao (Presiding Officer) asked if there is a need for a resolution for the decision of the RCC to create a Sub-Committee. Ms. Dianne L. De Guzman (RCC Secretariat) explained that the resolution meant to document the decisions made by the Committee, which Ms. Tanglao agreed to. She added that the resolution would also document the deferrals to endorse the proposal to the PEM Board as it would affect RCC's timeline per the Rules Change Manual to act on a proposal. • Ms. Kathleen R. Estigoy (RCC Secretariat) presented the draft resolution creating a Sub-Committee to discuss the proposed amendments to the WESM Rules and Market Manuals clarifying indirect WESM Membership. On the matters to be discussed by the Sub-Committee, Mr. Isidro Cacho, Jr. (MO), Ms. Cherry Javier (Generator), and Mr. Virgilio Fortich, Jr. (Distribution) suggested revising the matters for discussion by the Sub-Committee as follows: 1. Clarification on the delineation of responsibilities between the Direct and Indirect Members; 2. Possible remedies for WESM exposures of the Direct Members in behalf of the Indirect WESM Member for extreme scenarios; 3. Possible impact of the proposed amendments to distribution utilities; and 4. Other considerations deemed appropriate by the Sub-Committee. On item #3, Mr. Ryan Morales (Distribution) commented that it cannot be merged with item #2 since distribution utilities are direct members and may also serve an indirect member. Thus, the same was retained as subject for discussion.

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	• Mr. Fortich, Jr. moved for the approval of the draft resolution and for the affixing of their e-signature and was duly seconded by Ms. Lorreto H. Rivera (Supply). The motion was approved and adopted by the body. Resolution: The RCC approved the draft resolution and consented to affix their e-signature.
IV. Background and Objective of the Meeting	Presenter: Ms. Dianne L. De Guzman (RCC Secretariat) Action Requested: For information Meeting Materials: Annex A – Background and Meeting Objective Annex B – IEMOP's presentation material Proceedings: • Ms. De Guzman provided the actions requested from the RCC regarding the submission of the proposed urgent amendments, as follows: 1. Certify if the proposal is classified as urgent based on the criteria enumerated in the Rules Change Manual; and 2. Approve the proposal for endorsement to the PEM Board. - This will be determined by the Committee after the discussion of the proposal. • Below are the significant timelines and activities regarding the proposal. 23 March – The Secretariat received the following three (3) proposed rules changes in anticipation to the implementation of 5-minute dispatch interval: 1. Proposed Amendments to Various WESM Manuals for the Enhancements to the Market Operator-System Operator Procedures (Urgent and General) 2. Proposed Amendments to Various WESM Manuals for Improvements to Market Resource Modelling and Monitoring (General) 3. Proposed Amendments to the WESM Manual on Registration, Suspension and De-registration Criteria and Procedures for Improvements to De-registration and Cessation Procedures (General) 24 March – The proposal tagged as urgent was forwarded to the RCC and preparations for the conduct of a special meeting was done by the Secretariat in accordance with the Rules Change Manual. Coordination with IEMOP and preliminary assessment on the proposal was conducted by the Secretariat. • To aid the RCC in certifying if the proposal is an urgent amendment, Mr. Edward I. Olmedo (IEMOP) presented the summary of the proposal regarding enhancements to the scheduling and dispatch operations.

The Market Manuals proposed to be amended are the Dispatch Protocol, Market Network Model Development and Maintenance, and Registration, Suspension and De-registration for the enhanced WESM design.

The proposal aims to:

(1) introduce improvements on the information exchanged between the MO and the SO, particularly on the inputs of the SO and post-dispatch reports provided to the Market Operator and PEMC;

(2) enhance procedures to further strengthen the implementation of generators' self-commitment as the responsibility to comply with the 5-minuted RTD is assigned to the generators, which needs clear guidelines for self-dispatch; and

(3) provide guidelines in cases of normal and emergency conditions to ensure that generators are guided on what dispatch to implement to ensure the reliability of grid operations under the regime of self-dispatch in a 5-minute dispatch interval.

Below is the outline of proposed changes and the corresponding discussions between Mr. Olmedo and the RCC:

1. On the use of nomenclature for reserves types (i.e. regulation, contingency, and dispatchable as provided under DOE DC2019-12-0018)

   Mr. Carlito C. Claudio (Generator) suggested to also adopt the definition of terms as provided in another DOE Circular, and not only replace the terms for primary, secondary and tertiary reserves. Mr. Olmedo agreed to the suggestion and noted that the definitions are provided in the manual for Central Scheduling Protocol for Ancillary Services. Mr. Claudio also asked clarification if the definition under the Philippine Grid Code will be followed during the implementation of the second stage of the reserve market, and thus, the terms will again be revised. To this, Mr. Olmedo said that it will depend on the final guidelines that will be provided by the DOE.

2. On the replacement of the system snapshot with real-time data, including the reference to the MNM Manual concerning the required type of information for this data

   The Market Operator will no longer use system snapshot under the New MMS. Instead, through the Inter-Control Center Communications Protocol (ICCP), the MO will use real time data every 10 seconds from SO's Energy Management Systems (EMS).

3. On the clarification of process for updating SO Constraints in the Market Management Systems (MMS)

	Based on SO's internal audit, there was a misconception that for every market run, the SO is supposed to submit outage schedule, security limits and other inputs. The actual process is that the market run is being executed based on that latest update from the SO because the new MMS already has information on the duration of information such as outage. 4. On the submission of Generator Test Profile with granularity of every 5-minutes This amendment is an offshoot of the observations from parallel operations program and the conduct of start-up and shut down exercises with some generators that are conducting tests. Currently, the test profile is being submitted hourly, but it is not documented. The amendment is proposed for clarity in the process, enforcement of the submission and accuracy in pricing and scheduling. 5. On the submission of the Variable Renewable Energy (VRE) of its Megawatt Projections for Next Day to System Operator. This is to align the responsibility of the VRE in the PGC and to improve SO's Day-Ahead Planning and A/S Scheduling. 6. On the enhancement of process of creating the Merit Order Table (MOT) The MOT is a guide for SO for downward and upward re-dispatch outside of the ancillary services as it is managed by the SO. The capacities that cannot be used for energy re-dispatch will be excluded since MOT should only contain the available energy for re-dispatch. It will further be enhanced by removing the outages of plants that are included in the MOT. 7. On the inclusion of procedures for Dispatch using Automatic Generation (optional) The assumption for 5-minute dispatch is that each generator will be managing their own dispatch based on the RTD schedule provided to them by the MO. The generator will be solely responsible for implementing the dispatch and they will not wait for SO's instruction to proceed with their RTD dispatch. The SO will focus on maintaining the reliability and security of the grid and that includes balancing of supply and demand. There are generators that prefer to be dispatched by automatic generation control (AGC). Thus, the request from participants to include clear guidelines in the Dispatch Protocol. Particularly, the guidelines on AGC dispatch through SO's EMS will be added. It is not, however, a mandatory provision for all as it will only be used by generators that will opt to be dispatched linearly by AGC at the start of the interval up to the target interval.

	8. On the provision for generator dispatch guidelines in Generator Dispatch During Emergency (e.g. ≤59.7 Hz or ≥60.3 Hz) This proposal came from the SO. As the generators are synchronized to the grid, they have a real time dispatch data. Should the generator see that its frequency is at 59.7 Hz or lower, a generator that is projected to ramp down based on its RTD schedule should stop at their current loading. The other generator that is projected to go up based on its RTD schedule should continue to go up to help the system go back to the normal threshold. Similarly, should the generator encounter an over-frequency, the generator that is going up, should maintain and continue with current loading. But if the frequency is 60.3 Hz or higher, the generator that is going down should continue to go down to their RTD schedule. Ms. Javier asked for clarification why the proposal is for ≥60.3 Hz, while the emergency frequency per the Grid Code is ± 0.6 Hz. Mr. Olmedo explained that the wordings of the proposal does not state it as an emergency, but rather a part of the dispatch implementation of the proposal. The amendment is being introduced to avert the situation of reaching the critical state of the grid, as currently practiced and as prescribed by the SO. Ms. Javier inquired if the proposed guidelines address the overlap in using the emergency reserve and the contingency reserve. She also noted that such proposal is not currently in place for the hourly dispatch. Mr. Rosales explained that regulation should be maintained by the grid frequency within ±3%. If the grid frequency reaches 60.3 Hz or 59.7 Hz, it is already in the alert state. If it exceeds the stated frequency, then it is already in the emergency state. Emergency procedure is triggered when the reserve is already depleted, which calls for the application of generator dispatch guidelines. He also clarified that such guidelines are existing in the current interval regime. Mr. Olmedo clarified that the proposal is a guideline to the dispatch implementation when the frequencies are already breached to avert the critical or emergency state. The ≥60.3 Hz and ≤59.7 Hz examples will be revised. 9. On the change of SO reporting template from SO Dispatch Deviation Report to Dispatch Instruction Report The proposal is introduced to clarify the report being submitted by the SO by changing the SO Dispatch Deviation Report to Dispatch Instruction Report. Currently, the SO reports include all deviation regardless of whether it was issued by them or by the generator. This reporting process will be difficult to continue in the 5-minute interval regime. Hence, it was agreed between the SO and the generators that the former will only report re-dispatch instruction during the day, which contains the re-dispatch instruction, time, type (ancillary service, MRU,

MOT or constrained off generation) and remarks, if necessary. Should there be non-compliance or deviations by the generator, such will be explained by the generator.

10. On clarification to guidelines during start-up/shutdown

    Since the SO will not be submitting over-riding constraints or security limits to guide the generator to start-up and shutdown, it is proposed to provide clearer guidelines in managing offers and nominations. The trading participant has the responsibility to manage start-up and shutdown through their offers and nominations. The proposal was a result of exercise with some generators. It was observed that the trading participant can manage to provide their offers and nominations during this situation.

11. On updating the flowchart on emergency procedures

    The proposal updates the prioritization of the generators to be re-dispatched during emergency by reflecting current SO's practice.

12. On reflecting option on Generator Availability

    Currently, generators are scheduled based on their market offers and generator breaker status. Only registered fast start generator is using market offers for their availability because as far the MO is concerned, its breaker is always closed. The proposal provides the options for all generators to declare their availability based on either (a) market offers and generator breaker status or (b) market offers only.

13. On the consistency in requirements for Real-Time Data

    The proposal aligns the Dispatch Protocol and MNM manuals regarding the types of real-time data to be provided by the SO to MO.

14. On updating the MNM Development Timetable

    As discussed with SO, it is being updated to provide clarity to the processes as some are already outdated and to serve as reference to WESM stakeholders.

15. On allowing emergency updates in the MNM

    This proposal accommodates emergency updates to be submitted to the MO for modelling two (2) days from the target energization if it is not related to new generation and new loads. Examples of emergency update are the replacement of existing transformer and configuration needed to improve the power system.

- Mr. Ryan Morales (Distribution) clarified if the scope of the proposal covers the embedded generators and if IEMOP has timeline in incorporating the dispatch protocol between the IEMOP and the distribution utilities. Mr. Olmedo responded that they have considered the dispatching of embedded generators. However,

	the Technical Committee has an ongoing assessment regarding managing dispatches in coordination with the distribution utilities to which IEMOP provided inputs instead of including it in the proposal. Ms. Tanglao clarified if the timeline being asked by Mr. Morales will be dependent upon the submission of the proposal by the Technical Committee. Mr. Olmedo clarified that the proposal is general in nature to avoid conflict with the proposal of the Technical Committee. • After the discussion of the proposal summary, the RCC reviewed the preliminary assessment done by the Secretariat. Ms. Divine Gayle C. Cruz (RCC Secretariat) presented the assessment. Below are the highlights of the presentation and RCC discussion: 1. The proposal follows the formal requirements for submitting a proposal. 2. There are sections (numbering) in the proposal which needs renumbering and can be revised during the deliberation. 3. The proposal is affected by two (2) currently pending proposals with the DOE regarding Must-Stop Units and Displaced Generators (PEM Board Resolution No. 2020-24-10) and Audit and Performance Monitoring (PEM Board Resolution No. 2019-10-10). 4. The proposal is aligned with DOE Circular 2019-12-0018. The said circular is inconsistent with Philippine Grid Code 2016. But based on the earlier discussion, the proposal will be aligned with the DOE Circular. 5. Mr. Cacho, Jr. commented that the proposal aims to have a coordinated effort for all the participants in the operation of power systems, in the generation of electricity and in ensuring the reliability and security of the grid. Therefore, he opined that the proposal will also contribute to avoid, reduce the risk of or mitigate the adverse effects of certain conditions on the ability of the power system to function normally. Mr. Claudio agreed to the comment made by Mr. Cacho, Jr. and specified the proposed provision on system frequency regulation which contributes to the normal functioning of the power system. 6. Mr. Allan Nerves (Independent) inquired if the SO could still carry out its function if the amendment will not be considered as urgent. Mr. Rosales responded that in terms of real time security risk of the grid, the risk will be addressed immediately by the SO whether it is on hourly or five-minute dispatch. Should there be emergencies, interventions by the SO is allowed, and thus, SO's process will not change despite non-consideration of the proposal as urgent. However, in the receipt of real-time dispatch during emergency conditions, there will be difficulty on the part of the SO to rely on the 5-minute MOT. He also said that his proposal with IEMOP is to come-up with one-hour binding MOT that will guide the SO in

	issuing dispatch instruction if there will be constrained-on generators. He also opined that if the MOT will still be provided every 5-minutes during emergencies, it will not reduce the risk or mitigate the adverse effects of certain conditions on the ability of the grid to function normally. It is the one-hour binding MOT that would rather mitigate the adverse effects. Mr. Nerves agreed with the assessment of Mr. Rosales. 7. With ten (10) votes, the proposal was considered as an urgent amendment as it falls under the criteria of Section 8.4.1.1 (a) of the WESM Rules. Particularly, the proposal aims to: a) 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) Facilitate the implementation of any regulation, circular, order or issuance of the DOE or ERC pursuant to the EPIRA. Per Rules Change Manual, the amendment shall be implementable on the affected WESM/Retails operations and/or transactions within the period of six (6) months, subject to the confirmation of the Market Operator. 8. Mr. Fortich, Jr. moved to approve the proposal as an urgent amendment which was duly seconded by Mr. Rosales. The motion was approved and adopted by the body. • Ms. Karen A. Varquez (Secretariat) asked for clarification whether the proposed amendments will be implemented immediately after PEM Board's approval or during the implementation of enhanced WESM design in June 2021 (i.e. Go-Live Date). Mr. Cacho, Jr. answered that the intention of the proposal is to implement it as soon as possible since the procedures are applicable in the ongoing trial operations and Limited Live Dispatch (LLD). Mr. John Mark S. Catriz (PEMC) commented that if the proposal will be implemented as soon as possible, then the current manual must also be amended. He noted, however, that the submitted proposal was indicated to be for the enhanced WESM design and operation. Mr. Olmedo clarified that the proposal is for the enhanced WESM design and operation. Thus, Mr. Catriz clarified that the effectivity of the amendments should it be approved by the PEM Board in March 2021 will be at the start of the enhanced WESM design and operations. Mr. Cacho, Jr. added that the proposed amendments will be helpful in the trial runs of the NMMS. Mr. Olmedo also said that the proposal is also beneficial to the closed loop interface testing that the IEMOP has just started and with the LLD. Considering this, Mr. Cacho, Jr. suggested the proposal can be a reference to the closed-loop interface testing and LLD. <u>Resolution:</u> The RCC approved the proposal as urgent amendments.
V. New Business	
1. Discussion of the Proposed Urgent Amendments	<u>Presenter:</u> Edward I. Olmedo (IEMOP, Proponent)

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regarding Enhancements to the Market Operator-System Operator Procedures	Action Requested: For discussion and approval Meeting Materials: Annex C – Matrix of Proposed Urgent Amendments on Enhancements to the MO-SO Procedures Proceedings: Mr. Olmedo presented the proposed urgent amendments for the line-by-line review of the RCC. Below are the highlights of the discussion: A. On the Dispatch Protocol Manual • Mr. Claudio noted that the contingency reserve is not defined in the present Grid Code but is in the DOE DC. Thus, to harmonize the DP Manual with the said DOE DC, the proposed Section 2.1.2 must be revised, to which Mr. Olmedo agreed to. • Mr. Morales asked if the proposed DAP Timetable under Section 4.4 affects the ongoing discussion between MERALCO and IEMOP on snapshot and real time data. Mr. Olmedo answered in the negative and explained that the proposal is only a change to the nomenclature and that the MO is not being given a snapshot of the system from SO but rather real-time data. Should there be changes emanating from said discussion, IEMOP will submit proposed changes relative thereto. • Mr. Fortich, Jr. asked for clarification if the revision on the system will also be applied in the current MMS while the NMMS is undergoing trial. Mr. Olmedo answered that the current MMS is not capable of the 5-minute dispatch interval. Hence, the revisions are for the NMMS. • On the proposed Section 7.6.4 (new), Ms. Javier asked if the generator could change the MW profile after two (2) working days. Mr. Olmedo answered that it could be possible if the RCC deems it proper. The submission of MW profile on or before two (2) working days prior to start of its testing was suggested by the SO. Mr. Rosales raised his concern that if the generator will be allowed to revise after two (2) working days, variations will affect the day-ahead scheduling by the MO and the determination of reserve requirements by the SO. Moreover, he said that the SO and the generators have coordination in case there are changes during testing and commissioning. Mr. Dixie Anthony R. Banzon (Generation) agreed to the concern raised by Mr. Rosales and added that NGCP accepts real-time changes during testing and commissioning. He opined that the purpose of the new provision is for the generator to notify the SO on or before two (2) working days that a testing will be conducted. Mr. Claudio clarified that the new provision mandates the submission of load profile to be used for testing and not the request for testing and commissioning. He said that the submission timeline influences the DAP run and asked for further details on the impact of the submission timeline to the SO or to the WESM. Mr. Rosales responded that the impact is on the DAP, HAP and

	RTD. Before the effectivity of DAP, the revision can be provided to the load profile, where the profile will be reflected in the overriding constraint for the market to consider the generator's loading profile. He also noted that real-time coordination happens between the SO and the generator should there be changes in the intra-day which needs to be accommodated by the SO. He suggested that the wordings of the proposal should not allow full discretion on the part of the generator as it will affect the scheduling, and that cut-off must be indicated. Assessment on the part of the SO is also needed to identify the impact of the load to the reserve for the balancing of supply and demand. Considering the explanation above, Ms. Javier noted that the proposed new Section is different from the real-time coordination between the SO and the generator. The RCC agreed to retain IEMOP's wording for the generating units to submit load profile on or before two (2) working days prior to the start of its testing. • On Section 7.4.1, the proposal clarifies the manner of SO's submission of the market run data inputs to the MO as this has been a point of contention during audits. The SO provides or updates market run data inputs, if necessary, for each dispatch interval. • On Section 7.8.2, Mr. Claudio asked if the proposed addition of Section 15.4 and 15.7 refers to the Ancillary Service Procurement Plan (ASPP) of the NGCP. Mr. Olmedo explained that the Dispatch Protocol is overridden by the manual related to central scheduling and dispatch of energy and contracted reserves when it comes to ancillary. The basis of the level of reserve requirement, which is 4% is contained in the said manual in reference to DOE DC 2019-12-0018. He clarified that the ASPP of the NGCP is not the reference for the level of reserve requirement. Mr. Claudio noted that the ERC plans to issue an Ancillary Services Rules which contains the level of reserve requirement. He asked whether IEMOP will likewise refer to that rule for the reserve requirement. Mr. Olmedo answered that they will eventually propose other changes to that effect upon ERC's issuance of the said rule. Mr. Rosales suggested retaining the original provision of Section 7.8.2 and that revision be made later upon ERC's issuance of the rules. Ms. Javier noted that the MMS is using a central dispatch and scheduling for both reserves and energy, but still under Ancillary Services Procurement Agreement (ASPA) which means that there is no reserves market. Mr. Rosales explained that the focus of central scheduling is on the energy and in case there is a schedule for ancillary or reserve, it is not binding, currently. In terms of settlement, only the energy is binding and not the reserves. Thus, he opined that there is no need yet to amend the provision since the requirement is not yet existing. Mr. Cacho, Jr. agreed with the suggestion of Mr. Rosales. He opined that it would be appropriate to wait for ERC's issuance on the matter to avoid

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	possible conflict in the rules. Mr. Claudio also agreed to the suggestion and explained that the current provision will still be applicable even if the ERC issues the rule. The RCC agreed retaining the original provision of Section 7.8.2. • On Section 8.3.3, Ms. Javier asked if the submission to the SO of the day-ahead self-scheduled nominations by must dispatch generating units is different from the one being submitted to the MO. Mr. Olmedo explained that it was the request of the SO to submit the same to avoid a lag of another 20-30 minutes before the projection of DAP. • On Section 10.1.2, Mr. Rosales reiterated his its earlier comment that it would be difficult for the SO to use the 5-minute MOT in cases where there is constrained-off or constrained-on generating units. SO's suggestion is for the formulation of an hourly MOT for these cases. Mr. Olmedo said that the matter was raised and discussed with them by the SO after the submission of the proposal, hence, the same was not considered. He, however, noted that the concern is valid and that they will submit a proposed clause to address the concern of the SO under dispatch implementation section. Ms. Tanglao noted that IEMOP will submit the proposed revision subject to RCC's review. • On Section 11.1.3, PEMC suggested defining the Automatic Generation Control (AGC) in the manual, which the proponent agreed to. Mr. Claudio asked why there is an exception for generating units operating on AGC to implement dispatch targets. Mr. Olmedo answered that AGC instructions come from the SO for dispatch targets. If not under AGC, the generator will immediately implement its RTD schedules without SO's command. He further clarified that the proposal pertains only to implementation of dispatch target and not compliance. Mr. Rosales explained that if the generator is equipped with AGC, it will be the SO who will implement the RTD. • Ms. Michelle Tuazon (Generation) asked if the dispatch instruction for AGC will likewise be based on RTD target as determined by MO or by the SO. Mr. Olmedo answered that the questions will be answered by the energy guidelines in the succeeding sections. Ms. Javier suggested including a phrase for the basis of RTD targets in Section 11.1.4 to avoid confusion. • On Section 11.4.2.2, Ms. Javier inquired how frequent the communication will be between the generator and the SO. Mr. Rosales said that the generator should communicate with the SO immediately if there is a problem observed. Ms. Tanglao suggested that the frequency be stated as necessary, which the body agreed to. • On Section 11.4.2.5, Mr. Rosales asked how the unit's MW capability for aggregated generating unit with different capacities under AGC be pro-rated. Mr. Olmedo explained that per SO, it is an internal process of EMS to pro-rate per unit at the time the instruction is issued.

	• Ms. Javier asked whether it is easy to switch from remote to local and vice versa in the implementation of dispatch. Mr. Rosales answered in the affirmative provided that the generator is equipped with an AGC. It can be controlled by the SO if it is on remote mode. Thus, there is a need for communication between the SO and the generator for the switching to remote mode at the start, during, and after dispatch. • On the proposed revision in Section 14.4.2, the format of the Dispatch Instruction Report was based on the template provided by the SO. Ms. Cruz also noted that the term "displaced generators" were already deleted from the WESM Rules under DOE Circular No. DC2018-04-0007. Proposed complete deletion of these two terms in the WESM Rules and Dispatch Protocol Manual is still pending DOE approval (PEM Board Resolution No. 2020-24-10). Mr. Olmedo likewise noted that the proposal is based on ERC decision last 29 December 2020 regarding Must-Stop Unit and Displaced Generator. Ms. Varquez added the said ERC decision likewise directed PEMC to submit a study on possible compensation of displaced generators. Considering that the current rule has no framework for the compensation of the displaced generator or identification of must-stop unit, the proposed addition of the designation of must-stop units and displaced generators will stand alone. Thus, she asked whether the added provision can fall under re-dispatch of constrain-on and constrain-off generating units. Mr. Rosales commented that there is no such thing as must-stop unit and displaced generator in the dispatch instruction as these fall under constrain-off, constrained-on and must-run. Thus, he agreed to not specify it as one of the reasons for dispatch instruction for being a non-existing term under the WESM Rules. Mr. Olmedo clarified that the original definition of must-stop unit is not the same as the constrain-off generator since must-stop units are the identified generators that must reduce its energy dispatch for being non-compliant to its dispatch schedule. Mr. Rosales commented that term "instruction" is a general term which covers the deviation report. He then asked how the commands via AGC will be provided in the dispatch instruction report considering that those commands are automatic instructions. Mr. Olmedo responded that based on consultation with NGCP's SCADA Group, the converted megawatt value of what has been instructed to be dispatched will be indicated in the report to determine whether the command was followed by the generator. Mr. Rosales opined that it is tedious to report the same considering the 5-minute interval even if there is an intention to have it automated. Commands are not dispatch instructions, thus, should not be included in the report. He also explained that the SCADA could also monitor AGC's end of interval and whether it is turned off or turned on. He added that the MO should also consider all future generators being under AGCs, as this scenario would be

	burdensome on the part of the SO. He also suggested that the inclusion in the report of commands via AGC should only be as necessary if the generator is consistently non-compliant. • On the proposed Section 14.4.7 (new), Ms. Tuazon inquired about the timing of publication by the MO of the Dispatch Instruction Report. Mr. Olmedo answered that as practiced, the MO publishes it every Monday. The RCC agreed to insert the timing of publication. Mr. Olmedo also noted that a corresponding provision in the MO Information Disclosure and Confidentiality Manual will also be revised to reflect the timing of publication. The proposed revision will be submitted by IEMOP for RCC's review. • On proposed Section 14.4.9 (new), Ms. Javier inquired if there is a recourse after SO's validation of the reconciliation of reported discrepancies. Mr. Olmedo answered that only one (1) iteration was agreed to with the SO. However, as practiced, disagreement may still be raised, and it is being accommodated after SO's validation until it is resolved. But recourse may probably be raised within the dispute resolution framework should it remain unresolved. Ms. Varquez noted that there is an existing WESM Rule in relation to the SO report treating the data contained in the WESM report as exempted from dispute if the two-week period within which to validate the same has already lapsed. • Mr. Fortich, Jr. asked for clarification if ancillary services like load or voltage compensator (battery energy storage system) is compensated if there is a need for the system to invoke the system. Mr. Rosales answered that there is an ongoing accreditation for battery energy storage system as an ancillary. If it is not accredited, it will not be compensated. • Revisions as suggested in the preliminary assessment was considered by the RCC, such as the use of the term "regulating reserves" as global change and the revision of other clauses containing the term "dispatch deviation report" to "dispatch instruction report" in the Dispatch Protocol in relation to Section 14.4.2. B. On the Registration Manual • Revisions as suggested in the preliminary assessment was considered by the RCC. C. On the MNM Manual • On the MNM Development Timetable, Mr. Olmedo clarified that the existing timetable is proposed to be deleted in its entirety considering the significant changes.

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	• On Section 4.5.7, Ms. Estigoy noted that a proposal regarding Audit and Performance Monitoring (PEM Board Resolution No. 2019-10-10) currently pending with DOE provides that the MO shall not implement a new software or associated system or modify an existing software or its associated system for generation scheduling, dispatch or settlement or price calculation relevant to the WESM, without prior notice to all WESM Members, PEM Audit Committee, the PEM Board, the DOE and the ERC. The proposal on one hand only requires monthly reporting of all MNM updates deployed in the production system. MNM updates are being considered by PEMC as revision to the software per the IT Change Management Process (ICMP) under WESM Rules Clause 3.2.1.5. Therefore, the timing for the issuance of notice under the pending proposal with the DOE and reporting of MNM updates as proposed must be harmonized. Mr. Olmedo clarified that MNM updates are not change in software, but it is part of how the market operations work. He opined that PEMC's interpretation adds latency to the process rather than being efficient. The updating process is likewise highly technical in nature and no editing is being done in the software that will adversely affect the scheduling and pricing. Ms. Tanglao asked if the "updates" do not mean change in the software. Mr. Olmedo cited that update can be a change to the network model on how a resource in the grid should be represented in the nodal market. The updates are operational such as addition of new transformer in the model. But if the methodology of how the nodal prices is determined such that loss calculation is revised, the same shall undergo audit and require notice under the cited proposal. Ms. Tanglao suggested adding a qualification that MNM updates does not involve change in software that would require audit and notice to WESM members to clarify the meaning of updates. Mr. Cacho, Jr. commented that in the definition of the MNM under the WESM Rules and Manuals, it is not the software that is being changed but the representation of the physical network into the market management system. It is the modelling of the transmission lines to the market management system for market processes. Hence, MNM is not a software. He also added that a previous rules change has been approved where the PEM Board need not ratify the MNM updates but is only informed of the changes. Ms. Varquez confirmed the existence of the said rules change and pointed out that Section 4.5.7 is one of the provisions that must be changed to be consistent with the said rules change. She suggested for IEMOP to supply details on the rationale in relation to the experiences in the trial operations for the enhanced WESM design and operations as the proposal may fast track MNM changes necessary for updating the model like the inclusion of WESM Mindanao. She also noted that the proposal can be in the form of general amendment. Mr. Fortich, Jr. asked if additional charges are incurred in the modification of the MNM, and if there are compatibility issues between the MMS and the NMMS. Mr. Olmedo answered that

	there is no financial requirement in updating the MNM. The existing software is limited in nature, which is the reason for executing MNM updates by batches. With this kind of approach and flexibility as proposed, MNM updates can be executed in the NMMS as they are being energized and not by batches. He also added that the proposal is not out of experience from trial operations but in response to the observations by the market participants that the process of updating the model is delayed. Ms. Varquez explained that they interpreted MNM update as software change since WESM Rules 3.2.1.5 states that any alteration to the MNM should undergo the ICT Change Management Process (ICMP) of the Market Operator, which they understand as the same process for software changes. Mr. Olmedo commented that the proposal does not deviate with the said rules as ICT Change Management Process is still being observed for MNM updates. The RCC adopted IEMOP's proposed revision. • On Section 4.5.8, IEMOP will add details on what constitute urgent updates upon submission of the revised proposal. • On Section 6.5.3, Mr. Olmedo noted that IEMOP will gather the information on the availability of each generator based on the real-time status of its generator breaker or on the availability of its market offers. It will be done at least one (1) month prior to implementation as this is programmed as a critical step. • On the MNM Development Timetable, Ms. Varquez noted that a major change from current to the new table is on the requirement for registration. Currently, by D-9, the registration of the participant, who owns the resources, should already been approved. But in the revision, only the submission of technical requirements is required. Thus, she suggested supplying for additional rationale for changing such requirement. Mr. Olmedo explained that they aim to fully register the participant at least one (1) day prior to energization for flexibility. The change to submission of technical requirements instead of full registration is for the MO to input the same in the systems and conduct other preparations nine (9) days before the target energization. The timetable was developed in such a way that they worked back on the time when the participant wanted to be energized. • On the timeline for publication of MNM updates, Ms. Varquez asked on what day it was indicated in the timetable. Mr. Olmedo responded that for every update, advisories, scheduled update and after-schedule updates are issued. The details of all updates (MNM documents) are published within ten (10) days after the relevant billing month. Ms. Varquez also asked for confirmation if the publication under Section 5.5.1 pertains to the MNM updates and not to MNM document itself. Mr. Olmedo confirmed that Section 5.5.1 pertains to advisory. Ms. Varquez suggested that the same may be clarified as it may be confused with publication of the MNM document in the website, to which Mr. Olmedo also agreed.

MEETING MINUTES

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	Further, as confirmed by Mr. Olmedo, the reckoning for the issuance of the advisory is within two (2) working days from deployment. The RCC agreed to include the reckoning period in the proposal. • With the vote of majority, the proposed urgent amendments was approved subject to further revision by the proponent. <u>Resolution:</u> The RCC provisionally approved the proposed urgent amendments to WESM Rules and various WESM Manuals, for endorsement to the PEM Board. The proponent will submit the revised proposal for final approval of the RCC before the PEM Board's presentation.
2. Ways Forward	• As a way forward, IEMOP will submit the revised proposal based on the discussion by 29 March. The PEM Board meeting will be held on 31 March where the proposal will be discussed. If approved, the proposal will be published by 01 April for it to take effect.
VI. Adjournment	Ms. Lorreto Rivera (Supply) moved to adjourn the meeting, which was duly seconded by Mr. Cacho, Jr. The meeting was adjourned at 02:34 PM.

MEETING MINUTES

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Prepared by:

[redacted]
KATHLEEN R. ESTIGOY
Specialist, Rules Review Division
Market Assessment Group

Reviewed by:

[redacted]
KAREN A. VARQUEZ
Manager, Rules Review Division
Market Assessment Group

Noted by:

[redacted]
JOHN MARK S. CATRIZ
Head, Market Assessment Group

Approved by:

MAILA G. DE CASTRO
Chairman, Independent

FRANCISCO LEODEGARIO R. CASTRO, JR.
Member, Independent

[redacted]
ALLAN C. NERVES
Member, Independent

[redacted]
CONCEPCION I. TANGLAO
Member, Independent

[redacted]
DIXIE ANTHONY R. BANZON
Member, Generation Sector
Masinloc Power Partners Co. Ltd. (MPPCL)

[redacted]
CHERRY A. JAVIER
Member, Generation Sector
Aboitiz Power Corp. (APC)

[redacted]
CARLITO C. CLAUDIO
Member, Generation Sector
Millennium Energy, Inc. / Panasia Energy, Inc. (MEI/PEI)

MARK D. HABANA
Member, Generation Sector
Vivant Corporation – Philippines (Vivant)

[redacted]
RYAN S. MORALES
Member, Distribution Sector
Manila Electric Company (MERALCO)

[redacted]
VIRGILIO C. FORTICH, JR.
Member, Distribution Sector
Cebu III Electric Cooperative, Inc. (CEBECO III)

[redacted]
RICARDO G. GUMALAL
Member, Distribution Sector
Iligan Light and Power, Inc. (ILPI)

[redacted]
NELSON M. DELA CRUZ
Member, Distribution Sector
Nueva Ecija II Area 1 Electric Cooperative, Inc. (NEECO II – Area I)

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[redacted]

LORRETO H. RIVERA
Member, Supply Sector
TeaM (Philippines) Energy Corporation (TPEC)

[redacted]

ISIDRO E. CACHO, JR.
Member, Market Operator
Independent Electricity Market Operator of the Philippines (IEMOP)

[redacted]

AMBROCIO R. ROSALES
Member, System Operator
National Grid Corporation of the Philippines (NGCP)

Annex A – Background and Meeting Objectives

176th RCC (SPECIAL) MEETING

26 March 2021

MS Teams

ACTIONS REQUESTED

1) Certify if proposal is classified as urgent based on criteria specified in Rules Change Manual

2) Approval of proposal for endorsement to the PEM Board

3

BACKGROUND

TIMELINES	ACTIVITIES
23 March	Received proposal from IEMOP on the Proposed Amendments to Various WESM Manuals in anticipation to the implementation of 5-minute dispatch interval: • Proposed Amendments to Various WESM Manuals for Enhancements to Market Operator-System Operator Procedures (Urgent and General) • Proposed Amendments to Various WESM Manuals for Improvements to Market Resource Modelling and Monitoring (General) • Proposed Amendments to the WESM Manual on Registration, Suspension and De-Registration Criteria and Procedures for Improvements to De-registration and Cessation Procedures (General)
24 March	• Forwarded to the RCC the proposal tagged as Urgent • Initiated the conduct of RCC Special Meeting based on the rules for Urgent Amendments • Coordinated with IEMOP on their presentation • Ongoing Preliminary Assessment of proposals submitted as General Amendment

4

Annex A – Background and Meeting Objectives

CRITERIA FOR URGENT AMENDMENTS (RCM Sec. 3.1)

3.1 URGENT AMENDMENTS

Urgent Amendments are those which are needed:

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;

b) To avoid, reduce the risk of or mitigate the effects of the abuse of market power or anti-competitive behavior;

c) To avoid, reduce the risk of or mitigate the unintended adverse effect of the WESM Rules, Retail Rules and Market Manuals (or any of its amendments); and

d) To facilitate the implementation of any regulation, circular, order or issuance of the DOE or ERC pursuant to the EPIRA.

Provided further that the urgent amendments shall be implementable on the affected WESM/Retail operations and/or transactions within the period of six (6) months subject to the confirmation of the Market Operator.

5

WAYS FORWARD

TIMELINES	ACTIVITIES
30 March	• Endorsement of proposal to the PEM Board for inclusion in the Board Meeting Agenda
31 March	PEM Board Meeting - RCC Presenter: _____
01 April	(RCM Sec. 7.4 [a]) • Publication of Dispatch Protocol; • Protocol takes effect The approved urgent amendment shall become effective within twenty-four (24) hours upon publication of the relevant Rules and/or Market Manual(s) in the market information website. PEMC shall issue an advisory to the participants of the date of its effectivity. PEMC shall publish the amendments within twenty-four (24) hours from its approval and advisories shall be made through the MMS website informing participants of such amendment.
(by) 11 April	RCC notifies and invites WESM Members and interested parties to submit comments (RCM Sec. 7.5) Within ten (10) days from ratification by the *PEM Board* of the urgent amendment or upon approval by the PEM board, the *Rules Change Committee* shall notify and invite all *WESM Members* and all other interested parties of the amendment to make written submissions and shall thereafter proceed to consider the amendment as a general amendment in accordance with Section 6 hereof.
May - June	• Proposal to be re-submitted as general amendment (RCM Sec. 7.5) • Proponent to submit implementation report or update of the proposal (RCC Internal Rules) Three (3) months after the PEM Board's approval, the Committee shall require the proponent and other resource persons for an update on the implementation of the Urgent Amendments and their resulting impact to the performance of the market, which update must be submitted within thirty (30) calendar days.

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Annex B – IEMOP's presentation material

Enhancements to the Scheduling & Dispatch Operations

26 MARCH 2021

ONLINE

THE PROPONENT

- The proponent is the Independent Electricity Market Operator of the Philippines, Inc. (IEMOP)
- IEMOP is the market operator of the WESM.

2

OUTLINE

ACTION REQUESTED

RATIONALE OF THE PROPOSAL

SUMMARY OF THE PROPOSAL

OTHER RELEVANT MATTERS

3

Annex B – IEMOP's presentation material

ACTION REQUESTED

- For approval to publish and approve urgent amendments to the WESM Manuals on:
  a. Dispatch Protocol
  b. Market Network Model Development and Maintenance
  c. Registration, Suspension, and De-Registration

4

RATIONALE OF THE PROPOSAL

› Improvements on the information exchanged between the MO and SO

› Enhance procedures to further strengthen the implementation of generators' self-commitment

› Further ensure reliability of grid operations under regime of self-dispatch in a 5-minute dispatch interval

5

SUMMARY OF THE PROPOSAL (1/4)

DESCRIPTION	RATIONALE	BENEFITS
Use nomenclature for reserves types (i.e. regulation, contingency, and dispatchable) as provided under DOE DC2019-12-0018	For harmonization with policy direction	Consistency with DOE DC
Replace 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 ICCP of the NMMS	Provide clarity on how real-time data shall be exchanged between MO & SO thru the New MMS
Clarify process of updating SO Constraints in MMS	To clarify current process of updating SO Constraints data in MMS	Provide clarity in current process, which will be similarly adopted in 5-minute market
Submission of Generator Test Profile with granularity of every 5-minutes	Gen TPs on testing and commissioning to submit test profiles for each dispatch interval during the test period. The test profile will be the reference of the SO in its submission of overriding constraints.	Provide more accurate market schedules in 5-minute market
Submit VRE MW Projections for Next Day to System Operator	To align responsibility of VREs in PGC in submitting projections	Improve SO Day-Ahead Planning and A/S Scheduling

Annex B – IEMOP's presentation material

SUMMARY OF THE PROPOSAL (2/4)

DESCRIPTION	RATIONALE	BENEFITS
Enhance process of creating MOTs	Remove capacities that cannot be used for energy re-dispatch (i.e. ancillary services, outages)	Improve SO decisions on re-dispatch
Include Procedures for Dispatch using Automatic Generation (optional)	Provide guidelines on AGC dispatch through SO's EMS	Provide clearer guidelines on how generators are dispatched using AGC
Provide generator dispatch guidelines in Generator Dispatch During Emergency (e.g. <= 59.7 Hz or >= 60.3 Hz)	Provide guidelines on how generators should act when system frequency breaches normal operating thresholds	✓ Provide clearer guidelines in generator self-dispatch during emergency ✓ Enjoin each plant operator to act on conditions that ensures grid security and reliability
Change of SO reporting template from SO Dispatch Deviation Report to Dispatch Instruction Report	SO to only report re-dispatch instructions issued during the day (e.g. ancillary services, MRU, MOT, constrain-off)	✓ Improve reporting efficiency given volume of data upon transition to 5-minute market ✓ TPs should be responsible in reporting their limitations if unable to follow RTD sched

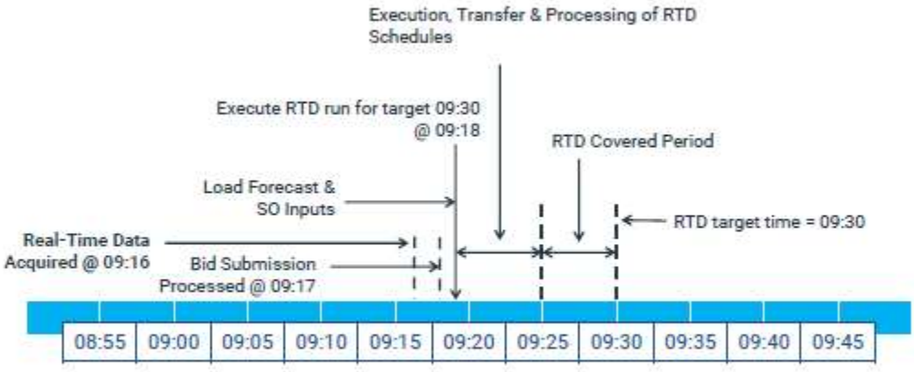
7

SUMMARY OF THE PROPOSAL (3/4)

DESCRIPTION	RATIONALE	BENEFITS
Clarify 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
Update flowchart on emergency procedures	Based on current SO practice	Reflect current SO practice
Reflect 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
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

8

Sample RTD Timeline



For those starting up

Option 1 (Default): Synchronize Breakers prior to 09:16 and be non-compliant for 09:20 and 09:25

Option 2: Register to bypass real-time status of generator breakers; offers to indicate availability

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Annex B – IEMOP's presentation material

SUMMARY OF THE PROPOSAL (4/4)

DESCRIPTION	RATIONALE	BENEFITS
Update MNM Timetable	Propose changes in the timetable for updating the MNM	Provide clarity and reference to the WESM Stakeholders
Allow emergency updates in the MNM (less than D+7)	Accommodate urgent updates in MNM	Introduce flexibility in accommodating urgent updates

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OTHER RELEVANT MATTERS

- None

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ACTION REQUESTED

- For approval to publish and approve urgent amendments to the WESM Manuals on:
  a. Dispatch Protocol
  b. Market Network Model Development and Maintenance
  c. Registration, Suspension, and De-Registration

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A. WESM Manual on Dispatch Protocol Issue 13.2

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
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 nominal *frequency* of 60Hz, as defined on	XXX u. ~~**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.*~~ XXX w. **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. XXX x. ~~**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 *regulating reserves.*~~	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable) To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable) To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)	RCC: For IEMOP's revision	1. Include the definition of automatic generation control 2. Reflect the definition of Contingency, Regulating, and Dispatchable reserves under the DOE DC2019-12-0018 3. Global change in updating the proposal and concerned Manuals to reflect the regulating, contingency and dispatchable reserves

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		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.*	XXX ff. **~~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**. XXX hh. **~~Tertiary~~ Dispatchable Reserve.** Capacity used in order to replenish the ~~*Secondary*~~ ***Contingency*** *Reserve* and for such other cases, as defined in the *Grid Code.* XXX **II. 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.**	To reflect change in type of data received with the use of ICCP of the NMMS To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable) To add definition of an ancillary service procurement agreement, which will be referred to in later sections		

<table>
<tr><th>Title</th><th>Clause</th><th>Provision</th><th>Proposed Amendment</th><th>Rationale</th><th>RCC Decision</th><th>IEMOP's Tasks</th></tr>
<tr>
<td>WESM TIMETABLE</td>
<td>4.4</td>
<td>Table 2. DAP Timeline
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<tr><th>Time</th><th>Activity</th><th>Responsible Party</th></tr>
<tr><td>XXX</td><td>XXX</td><td>XXX</td></tr>
<tr><td>Before [STPH1 + 1 minute]</td><td>Provide updates on the following, if any:
1. XXX
2. XXX
3. XXX
4. XXX
5. Real-time system snapshot
6. XXX
7. XXX</td><td>System Operator</td></tr>
<tr><td>XXX</td><td>XXX</td><td>XXX</td></tr>
<tr><td>XXX</td><td>XXX</td><td>XXX</td></tr>
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<td>Table 2. DAP Timeline
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<tr><th>Time</th><th>Activity</th><th>Responsible Party</th></tr>
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<tr><td>Before [STPH1 + 1 minute]</td><td>Provide updates on the following, if any:
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3. XXX
4. XXX
5. Real-time ~~system snapshot~~ <u>data</u>
6. XXX
7. XXX</td><td>System Operator</td></tr>
<tr><td>XXX</td><td>XXX</td><td>XXX</td></tr>
<tr><td>XXX</td><td>XXX</td><td>XXX</td></tr>
<tr><td>XXX</td><td>XXX</td><td>XXX</td></tr>
<tr><td></td><td>XXX</td><td>XXX</td></tr>
</table></td>
<td>To reflect change in type of data received with the use of ICCP of the NMMS</td>
<td>Sir Ryan: w/ standing discussion

Sir Edward: no effect

RCC: Adopted as proposed</td>
<td></td>
</tr>
<tr>
<td>WESM TIMETABLE</td>
<td>4.5</td>
<td>Table 4. HAP Timeline
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<td>Table 4. HAP Timeline
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<tr><td>Before [STDI1 – 7</td><td>Provide updates on the</td><td>System Operator</td></tr>
</table></td>
<td>To reflect change in type of data received with the use of ICCP of the NMMS</td>
<td>RCC: Adopt as proposed</td>
<td></td>
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<tr><td>minutes]</td><td>following, if any:
1. XXX
2. XXX
3. XXX
4. XXX
5. XXX
6. Real-time system snapshot</td><td></td></tr>
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4. XXX
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6. Real-time <s>system snapshot</s> <u>data</u></td><td></td></tr>
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<tr><td>WESM TIMETABLE</td><td>4.6</td><td>Table 5. RTD Timeline
<table>
<tr><th>Time</th><th>Activity</th><th>Responsible Party</th></tr>
<tr><td>XXX</td><td>XXX</td><td>XXX</td></tr>
<tr><td>Before [STDI – 7 minutes]</td><td>Provide updates on the following, if any:
1. XXX
2. XXX
3. XXX
4. XXX</td><td>System Operator</td></tr>
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</td><td>Table 5. RTD Timeline
<table>
<tr><th>Time</th><th>Activity</th><th>Responsible Party</th></tr>
<tr><td>XXX</td><td>XXX</td><td>XXX</td></tr>
<tr><td>Before [STDI – 7 minutes]</td><td>Provide updates on the following, if any:
1. XXX
2. XXX
3. XXX
4. XXX</td><td>System Operator</td></tr>
</table>
</td><td>To reflect change in type of data received with the use of ICCP of the NMMS</td><td>RCC: Adopted as proposed</td><td></td></tr>
</table>

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		<table><tr><td></td><td>*5. Real-time system snapshot*</td><td></td></tr><tr><td>XXX</td><td>XXX</td><td>*XXX*</td></tr><tr><td>XXX</td><td>XXX</td><td>*XXX*</td></tr><tr><td>XXX</td><td>XXX</td><td>*XXX*</td></tr><tr><td></td><td>XXX</td><td>*XXX*</td></tr></table>	<table><tr><td></td><td>*5. Real-time ~~system snapshot~~ **data***</td><td></td></tr><tr><td>XXX</td><td>XXX</td><td>*XXX*</td></tr><tr><td>XXX</td><td>XXX</td><td>*XXX*</td></tr><tr><td>XXX</td><td>XXX</td><td>*XXX*</td></tr><tr><td></td><td>XXX</td><td>*XXX*</td></tr></table>			
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	RCC: Adopted as proposed	

[redacted]

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
SYSTEM OPERATOR INPUT DATA AND REPORTS	7.6.4	<New>	***Generating units*** **undergoing regulatory and commercial tests shall submit to the *System Operator* the MW profile that details the MW target for each *dispatch interval* during its requested test period on or before two (2) *working days* prior to the start of its testing.**	Gen TPs on testing and commissioning to submit test profiles for each dispatch interval during the test period. The test profile will be the reference of the SO in its submission of overriding constraints.	Sir Amby: retain wordings of IEMOP Ma'am Cherry: add subject to revision Sir Dixie: continuous changes during testing stage in real-time; revision is accepted by SO; Sir Lito: clarification if there's impact of loading profile submission 2days prior Sir Amby: real-time coordination; RCC: Adopted as proposed	
RESERVE REQUIREMENTS	7.8.2	7.8.2 The level of *reserve requirement* shall be based on the provisions of the Grid Code and the relevant ERC issuances on ancillary services.	7.8.2 The level of *reserve requirement* shall be based on the provisions of ~~the Grid Code and the relevant ERC issuances on ancillary services~~ **Section 15.4 of this Protocol**.	To clarify the basis of the level of reserve requirement as provided by Sections 15.4 and 15.7 of this Protocol	IEMOP: noted the initial assessment Sir Amby: suggested to retain the original provision Sir Sid: retain existing Sir Lito: suggested to retain	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
					RCC: proposal not adopted; retained original provision. To be deleted in the proposal.	
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 network configuration and nodal demand forecasting processes.	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.**~~:~~ ~~• *Generator* Unit MW and MVAR (analog measurements)~~ ~~• *Load* MW and MVAR (analog measurements) and~~ ~~• Breaker Status~~ ~~• Bus Voltages~~ ~~• *Frequency*~~	To reflect change in type of data received with the use of ICCP of the NMMS	RCC: adopt IEMOP	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
			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 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.	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.			
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	RCC: adopted as proposed	
MARKET PROJECTIONS -	8.3.3	*Trading Participants* shall be responsible for:	*Trading Participants* shall be responsible for:	Propose that Must Dispatch generating units provide SO day-ahead forecasts	RCC: adopt as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
Responsibilities		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*.	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** c. Maintaining their respective infrastructure to ensure access to the *MPI* of the *MMS*.	for planning purposes as also provided under PGC SD 8.3.2.6		
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	RCC: adopted as proposed	
REAL-TIME DISPATC	9.5	Table 6. Summary of Inputs and Sources for the *Real-time dispatch*	Table 6. Summary of Inputs and Sources for the *Real-time dispatch*	Reflect change in type of data received	RCC: adopted as proposed	

[redacted]

<table>
<tr><th>Title</th><th>Clause</th><th>Provision</th><th>Proposed Amendment</th><th>Rationale</th><th>RCC Decision</th><th>IEMOP's Tasks</th></tr>
<tr>
<td>H SCHEDULING</td>
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<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>
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<tr><th>INPUTS</th><th>SOURCE</th></tr>
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<tr><td>XXX</td><td>XXX</td></tr>
<tr><td><s>System snapshot</s> <u>Real-Time Data</u></td><td>System Operator</td></tr>
<tr><td>XXX</td><td>XXX</td></tr>
<tr><td>XXX</td><td>XXX</td></tr>
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<td>with the use of ICCP of the NMMS</td>
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<tr>
<td>PREPARATION OF THE WESM MERIT ORDER TABLE</td>
<td>10.1.2</td>
<td>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").</td>
<td>The WMOT is generated by stacking<u>,</u> in an unconstrained manner<u>,</u> <s>of</s> scheduled and unscheduled capacities, excluding negative quantities<u>, reserve schedules</u><u>, and generators on outage</u> 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").</td>
<td>Proposed to amend to reflect more accurate presentation of available capacities for re-dispatch</td>
<td>Sir Amby: requested MO to provide one (1) WMOT

Sir Edward: Unfortunately, the proposal was submitted prior the request

MO to look into specific clause or wording in the Dispatch Implementation section to accommodate SO's request

RCC: adopted as revised; IEMOP to</td>
<td>To include a provision that MO will provide one WMOT per hour not every 5 minutes on the dispatch implementation section</td>
</tr>
</table>

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
					provide the specific clause/wordings	
PREPARATION OF THE WESM MERIT ORDER TABLE	10.3.2	Consistent with its obligations set out in this Dispatch Protocol in respect to the issuance of dispatch instructions, the System Operator shall be responsible for ensuring the application of the information provided in the WMOT in the real-time operation of the grid. The System Operator shall also be responsible for identifying the generating units designated as must-run units through the dispatch deviation report and report on must-run units prepared in accordance with Sections 14.4.2 and 14.4.5.	Consistent with its obligations set out in this Dispatch Protocol in respect to the issuance of dispatch instructions, the System Operator shall be responsible for ensuring the application of the information provided in the WMOT in the real-time operation of the grid. The System Operator shall also be responsible for identifying the generating units **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.	Renamed to dispatch instruction report. Also, MRU reports will be integrated in the dispatch instruction report.	RCC: adopted as proposed	
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	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	RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		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 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	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 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			

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		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.	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 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.	10.6.2 As far as practicable, and when ~~*secondary*~~ ***regulating*** *reserves* have been exhausted, the *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.	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)	RCC: adopted as proposed	
DISPATCH IMPLEMENTATION	11	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*	11.1.3 ~~During each *dispatch interval*~~ **Except for *generating units* operating on automatic generation control**, the *Trading Participant* is directed	Proposed to provide option for automated dispatching	PEMC: consider defining AGC	1. Define AGC in the manual

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		determined by the *Market Operator*. 11.1.4 XXX	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 automatic generation control, 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 automatic generation control, based on the dispatch target determined by the Market Operator for each dispatch interval.** 11.1.4**5** XXX		MO to define AGC in the manual Sir Lito: on 11.1.3, why there's exemption Sir Edward: for AGC, instructions will coming from SO; if AGC dependent to SO, if not the dispatch target (RTD) will be immediately implemented Ms. Michelle: determination of instructions. RCC: adopted as revised	2. Italicized automatic generation control once defined
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*;	11.3.1 The *System Operator*, in coordination with the *Market Operator*, shall be responsible for the following: a. XXX **b. Directly issue *dispatch instructions* to *generating units* operating on automatic generation control**	Proposed to provide option for automated dispatching	RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		c. 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. 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* 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 their protocols with their counterparties, shall enable	~~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 11.3.3 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 automatic generation control,** 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 their protocols with their			

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		strict compliance with this Section.	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 automatic generation control,** ~~D~~**d***ispatch instructions* shall include the following: a. XXX b. XXX **11.4.2 For *generating units* operating on automatic generation control, the following shall be observed:** **11.4.2.1 The *System Operator* shall send automatic generation control (AGC) commands based on a linear ramp rate specified with the *Generation Company*.** **11.4.2.2 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.**	Proposed to provide option for automated dispatching Proposed to ensure reliability of the grid by providing standard initial reaction from generation companies	Ms. Cherry: how frequent is the communication SO: communicate with SO immediately if there's a problem, as necessary. RCC: adopted as revised	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
			11.4.2.3 The *Generation Company* shall seek clearance from the *System Operator* to change from remote to local AGC mode in cases of technical constraints. **11.4.2.4 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.** **11.4.2.5 For an aggregated *generating unit*, the *Generation Company* shall pro-rate the AGC command to the individual *generating units* based on each unit's MW capability at that time.**			
		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*	11.4.2**3** XXX 11.4.3**4** **~~System Operator Clearance.~~ Generator Dispatch**			

<table>
<tr><th>Title</th><th>Clause</th><th>Provision</th><th>Proposed Amendment</th><th>Rationale</th><th>RCC Decision</th><th>IEMOP's Tasks</th></tr>
<tr><td></td><td></td><td>instructions as it deems appropriate.</td><td><u>Compliance Beyond Normal Grid Frequency Threshold.</u>

<u>11.4.4.1</u> When the grid frequency ~~is not within the normal threshold~~ <u>reaches 59.7Hz or lower</u>, the Trading Participants shall <u>operate based on the following conditions:</u> ~~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.~~

<table><tr><th><u>Condition</u></th><th><u>Status of Actual Dispatch</u></th><th><u>Expected Response</u></th></tr><tr><td><u>Frequency is 59.7 Hz or lower</u></td><td><u>If ramping down, or current actual loading is higher than dispatch schedule</u></td><td><u>Generating unit should stop ramping down and maintain current actual loading unless otherwise instructed by the System Operator</u></td></tr></table></td><td></td><td></td><td></td></tr>
</table>

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
			<table><tr><td></td><td>**If ramping up, or current actual loading is lower than *dispatch schedule***</td><td>***Generating unit* should continue to ramp up to its *dispatch schedule* unless otherwise instructed by the *System Operator***</td></tr></table> **11.4.4.2 Once the *grid frequency* goes up to 60 Hz after coming off from a state in clause 11.4.4.1, then the *Trading Participants* shall resume to dispatch its *generating units* to meet its *dispatch schedule.*** **11.4.4.3 When the *grid frequency* reaches 60.3 Hz or higher, the *Trading Participants* shall operate based on the following conditions.** <table><tr><th>Condition</th><th>Status of Actual Dispatch</th><th>Expected Response</th></tr><tr><td>Frequency is</td><td>If ramping down, or current</td><td>Generating unit should continue to</td></tr></table>			

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
			60.3 Hz or higher / **actual loading is higher than *dispatch schedule*** / **ramp down to its *dispatch schedule* unless otherwise instructed by the *System Operator*** **If ramping up, or current actual loading is lower than *dispatch schedule*** / **Generator should stop ramping up and maintain current actual loading unless otherwise instructed by the *System Operator*** **11.4.4.4 Once the *grid frequency* comes down to 60 Hz after coming off from a state in clause 11.4.4.3, then the *Trading Participants* shall resume to dispatch its generating units to meet its *dispatch schedule*.**			
DISPATCH OF MUST AND PRIORITY	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	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	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)	PEMC: suggest to amend in WR Clause 3.8.3. to use regulating reserves of the term IEMOP: will align	Propose changes to WESM Rules Clause 3.8.3.4 to align with the proposed changes in this provision

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
DISPATCH GENERATING UNITS		*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 required in accordance with re-dispatch process in this Section.	*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 a *dispatch interval*, shall adjust the *dispatch* of other *generating units* to compensate as required in accordance with re-dispatch process in this Section.		PEMC: Global change to revert changes in reserves IEMOP: yes RCC: adopted as proposed	
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 automatic generation control 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	Proposed to provide option for automated dispatching. Also revised dispatch deviation reports to dispatch instruction reports.	RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
			respective power plant operators.			
		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.	11.8.2 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 automatic generation control,** and other means of communications.			
		11.8.3 XXX	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.	11.8.4 All *dispatch instructions* issued by the *System Operator***, including those provided through the facilities for automatic generation control,** 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 reports submitted by the System Operator to the Market Operator shall be used for purposes of surveillance, audit, and market settlements.	11.8.5 Dispatch ~~deviation~~ **instruction** reports submitted by the System Operator to the Market Operator shall be used for purposes of surveillance, audit, and market settlements.			

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
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	RCC: adopt as proposed	
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. **13.3.5 Consistent with the provisions in the *WESM Manual* on the *Market Network Model*, the status of *generating units* shall be based on their registered availability in the *market network model.***	For consistency with self-commitment and dispatch principles under the EWDO and provide options especially applicable to generating units with fast-start capability	RCC: adopt as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
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 accordance with the *WESM timetable* for submission of *outage schedules.* 13.4.3 XXX 13.4.4 XXX	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. **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**5** XXX	For consistency with self-commitment and dispatch principles under the EWDO Re-numbered	RCC: adopted as proposed	
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.	13.5.3 The *Trading Participant* shall update its ***market*** *offers* **or *nominations*** for the *dispatch intervals* covered in the *shutdown* sequence.	To clarify that Trading participants also required to update their nominations.	RCC: adopted as proposed	

[redacted]

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		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.*	13.5.4 Once the *generating unit* has completely *shut down*, the relevant *Trading Participant* shall cancel its *market offer* **or *nomination*** profile for the affected *trading day.*			
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	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.	PEMC: suggested to align clauses in the WR to use dispatch instruction report Removal of must-stop and displaced gen wordings MO: in compliance with ERC to directive Last MW instruction via AGC	1. Align clauses in WESM Rules (i.e., Clause 3.8.5.6, 3.8.2.2). using the word dispatch instruction report. 2. To remove all must-stop and displaced generation words in the manual

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		• 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)	~~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**		Sir Amby: suggest not include the must-stop and displaced PEMC: must-stop and dg maybe covered by 3rd bullet Sir Edward: clarified different meanings for must stop and constrain-off RCC: adopted as revised	
Post-dispatch Reports and Information	14.4.5	Report on Must-run Units. In accordance with WESM Rules Clause 3.5.13.1, the System Operator shall submit a report to the Market Operator identifying all the generating units designated as must-run units within the trading day, as well as information necessary for the proper settlement of such generating units.	Report on Must-run Units. In accordance with WESM Rules Clause 3.5.13.1, the System Operator shall submit ~~a report~~ **information** to the Market Operator identifying all the generating units designated as must-run units within the trading day, as well as information necessary for the proper settlement of such generating units. **Such information shall be included in the Dispatch Instruction Report.**	To indicate that information on designation of MRUs shall be included in the Dispatch Instruction Report	RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
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.	Ms. Michelle: Timing of publication of MO MO: current practice every Monday; provides whole details of the whole week To revisit IDC Manual re: publication and reflect changes RCC: adopted as proposed	1. To revise the IDC Manual to update, as necessary, the publication timeline of MO
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	RCC: adopted as proposed	
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 *Market Operator* shall consider the submitted discrepancies by the *generation company* as invalid.**	To include ERC directive on SO reconciliation timeline and impact of non-submission by SO of validation within the prescribed timeline	Ms. Cherry: will there be recourse MO: current practice, one iteration but the may still be considered until agreed PEMC: exempted from dispute of SO reports if 2 weeks has passed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
					RCC: adopted as proposed	
Management of Must-Run Units	17.5.1	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.	~~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	RCC: adopted as proposed	
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 the aggregate unscheduled Technical Pmin of generating units with floor price offers is greater than or equal to the *secondary reserve* requirement.	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 the aggregate unscheduled Technical Pmin of generating units with floor price offers is greater than or equal to the ~~*secondary*~~ ***regulating*** *reserve* requirement.	To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)	RCC: adopted as proposed	
Emergency Procedures	20.4	*(Appendix A)*	*(Appendix A)*	Proposed for refinements in the process flow from SO	RCC: adopt as proposed	

<table>
<tr><th>Title</th><th>Clause</th><th>Provision</th><th>Proposed Amendment</th><th>Rationale</th><th>RCC Decision</th><th>IEMOP's Tasks</th></tr>
<tr>
<td>Content Structure of Real-time dispatch Results for the System Operator</td>
<td>Appendix D</td>
<td>XXX

<table>
<tr><th colspan="2">a. Real-time dispatch schedules</th></tr>
<tr><th>Column Name</th><th>Description</th></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
• “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</td></tr>
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• “EN” for energy
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• “RD” for Regulation lower/downward
• “FR“ for Fast Contingency Raise <u>(Contingency Reserve)</u>
• ~~“FL” for Fast Contingency Lower~~</td></tr>
</table>
</td>
<td>To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)</td>
<td>RCC: adopt as proposed</td>
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<tr><td></td><td>• "DL" for Delayed Contingency Lower

XXX</td></tr>
<tr><td>MW</td><td>XXX</td></tr>
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<tr><td colspan="2">b. Market Requirements</td></tr>
<tr><td>Column Name</td><td>Description</td></tr>
<tr><td>START_TIME</td><td>Start Time of the Dispatch interval</td></tr>
<tr><td>END_TIME</td><td>End/Target Time of the Dispatch interval</td></tr>
<tr><td>RUN_TYPE</td><td>Describes the type of market run, which is RTD</td></tr>
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<tr><td></td><td>• ~~"SR" for Slow Contingency Raise~~
• ~~"SL" for Slow Contingency Lower~~
• "DR" for Delayed Contingency Raise <u>(Dispatchable Reserve)</u>
• ~~"DL" for Delayed Contingency Lower~~

XXX</td></tr>
<tr><td>MW</td><td>XXX</td></tr>
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<table>
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</td><td>To harmonize with DOE DC2019-12-0018 (regulating, contingency, dispatchable)</td><td></td><td></td></tr>
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Title	Clause	Provision		Proposed Amendment		Rationale	RCC Decision	IEMOP's Tasks
		MKT_PRODUCT	Describes type of requirement • "EN" for energy • "RU" for Regulation raise/upward • "RD" for Regulation lower/downward • "FR" for Fast Contingency Raise • "FL" for Fast Contingency Lower • "SR" for Slow Contingency Raise • "SL" for Slow Contingency Lower • "DR" for Delayed Contingency Raise • "DL" for Delayed	MKT_PRODUCT	Describes type of requirement • "EN" for energy • "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			

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<tr><td></td><td><u>(Dispatchable Reserve)</u>
• ~~"DL" for Delayed Contingency Lower~~</td></tr>
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<tr><td>Content Structure of SO Inputs to the Market Projections and Real-time dispatch</td><td>Appendix E</td><td>XXX

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<tr><th>Column Name</th><th>Description</th></tr>
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• RegulationLowerReserve
• RegulationRaiseReserve</td></tr>
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<table>
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</table>

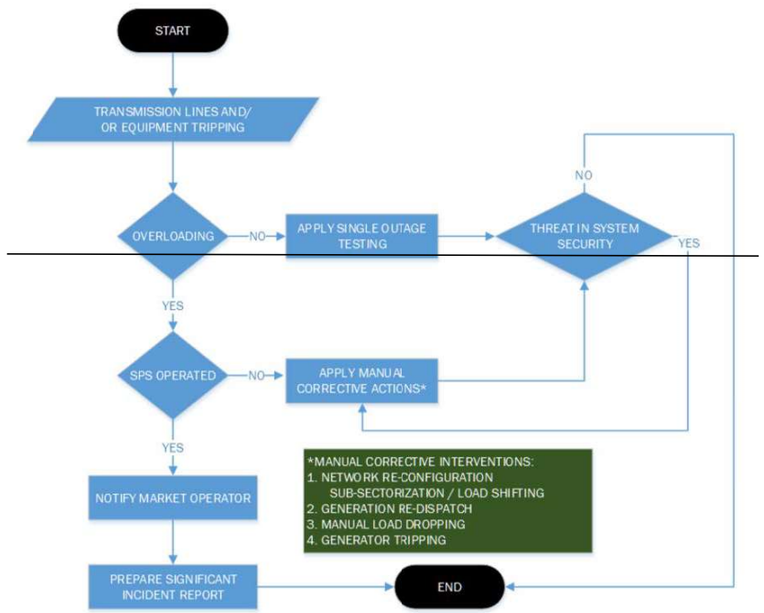
Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		• FastContingencyLowerReserve • FastContingencyRaiseReserve • SlowContingencyLowerReserve • SlowContingencyRaiseReserve • DelayedContingencyLowerReserve • DelayedContingencyRaiseReserve	• ~~FastContingencyLowerReserve~~ • FastContingencyRaiseReserve **(Contingency Reserve)** • ~~SlowContingencyLowerReserve~~ • ~~SlowContingencyRaiseReserve~~ • ~~DelayedContingencyLowerReserve~~ • DelayedContingencyRaiseReserve **(Dispatchable Reserve)**			
		VERSION: XXX OBJECT_ID: XXX TARGET_TIME: XXX MW: XXX	VERSION: XXX OBJECT_ID: XXX TARGET_TIME: XXX MW: XXX			

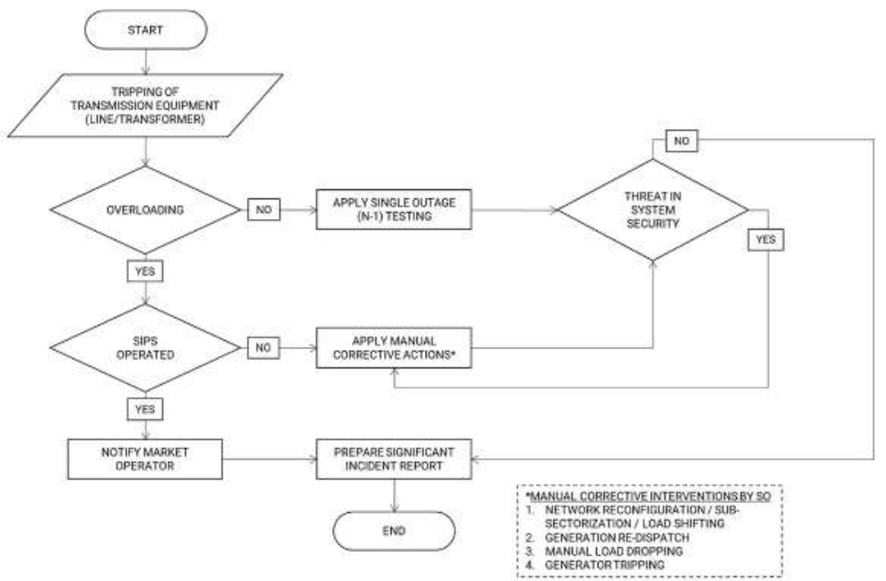
Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
Details of Dispatch Instructions Using Automatic Generation Control	**Appendix G.**	(New)	Appendix B	Proposed to provide option for automated dispatching	RCC: adopted as proposed	

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

Appendix A

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





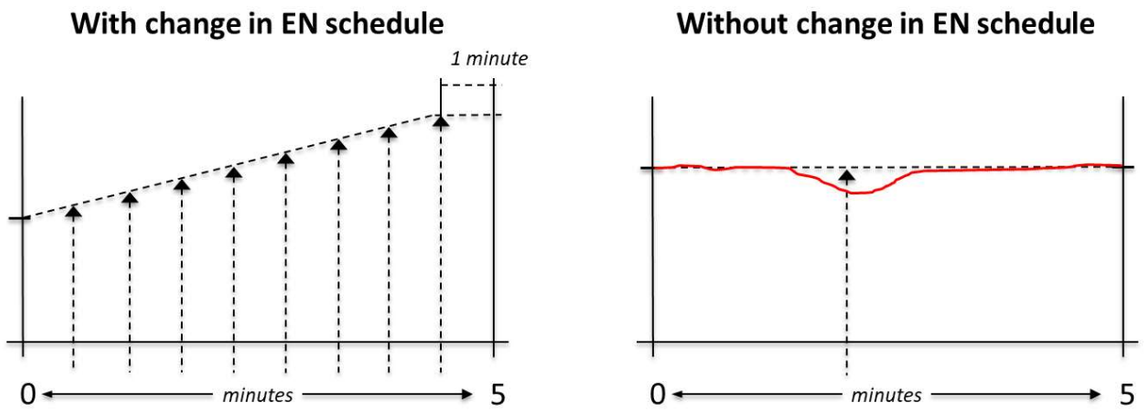
Appendix B

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.		
		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**
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**

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

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
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.	PEMC: noted that this Section ended at 2.5.4.6 and that IEMOP proposed a new 2.5.4.7 in their general amendment. IEMOP: this provision is proposed to be part of the Urgent Amendment since this is related to the enhancement of MO-SO procedures, Will renumber. RCC: adopted as revised	Renumber proposal since 2.5.4.7 is part of the general amendment yet to be approved

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

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
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	RCC: adopted as proposed	
MNM Components and Modeling	4.4.11	(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** **g. Power System Frequency per grid (Hz)**	Proposed addition to document provision of real-time data for the MNM.	RCC: adopted as proposed	
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	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,	Revise for clarity of existing process	RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		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.	additional bays for future expansions) to the transmission network that has no impact to the market operations may be implemented at a later time.			
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 Appendix A for proposed revised Table 1. MNM Development Timetable]***	Revised for clarity. Also updated MNM Development Timetable to provide more clarity and introduce process improvements	RCC: adopted as proposed	
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***	It is proposed that instead of a PEM Board Ratification, monthly MNM updates shall instead be provided.	PEMC: inconsistent with PEM Board-approved proposal on audit which required prior notice of changes (Proposal regarding Audit and Performance Monitoring approved	Provide clarification on the rationale given the explanation and implementation of EWDO

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
			ten (10) *working days* after the end of the *billing period.*		by PEM Board Resolution No. 2019-10-10) MO: not part of changing software, these are all operational changes PEMC: noted that MNM changes are not part of software updates Requested rationale as urgent amendment Sir Jomoy: financial impacts; compatibility issues MO: no financial impacts; adjust more flexible operation; current software – with many limitations; execute updates in MNM as they are being energized	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
					RCC: adopted as proposed	
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 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.	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 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) *business days* prior to the target energization. Urgent updates do not include new *market resources*.**	Revised "uploading" to "deployment". Add provision to allow "urgent MNM updates".	RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
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	RCC: adopted as proposed	
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**; 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.	RCC: adopted as proposed	
Alterations to the Market Network Model	5.2	NETWORK DEVELOPMENT	~~NETWORK~~ DEVELOPMENT OF UPDATES TO THE MNM	Revised for clarity.	RCC: adopted as proposed	
Network Development	5.2.1	Network development is any reconfiguration of any part of the transmission or sub-transmission system. The Market Operator should	**The *Market Operator* shall develop updates to the market system model and power system model in view of** ~~Network development is~~ any reconfiguration of any part of the transmission or sub-transmission system. ~~The~~	Revised for clarity.	RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		be notified as the network development may affect the dispatch and are permanent in nature. This shall include the following: xxxx	~~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.	To be amended under general proposal	
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.	RCC: adopted as proposed	
Alterations to the Market Network Model	5.5	Manner of Publication	~~Manner of Publication~~ Reporting of MNM Updates	Revise from Publication to Reporting	RCC: adopted as proposed	
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.	RCC: adopted as revised	
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	~~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~~		RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
		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	~~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	6.5.3	(NEW)	**During the registration of the generator resource, *Trading Participants* shall specify if its availability shall be based on the real-time status of its generator breaker, or on the availability of its *market offers*.**	During the generator modelling, TPs need to specify if generator availability is based entirely on its generator breakers, or on the availability of its market offers.	Ma'am Cherry: exercise option 2 MO: there will be drive to ask generators for option 2; MO will prepare in advance for information gathering RCC: adopted as proposed	

Title	Clause	Provision	Proposed Amendment	Rationale	RCC Decision	IEMOP's Tasks
Battery Energy Storage System	6.7.3	(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.	RCC: adopted as proposed	
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.	RCC: adopted as proposed	

Appendix A. Proposed 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 Registration Manual 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

ITEM	TIMELINE	ACTIVITY	DESCRIPTION	RESPONSIBLE PARTY
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 b. Real-time mapping definitions c. Technical parameters affected by the change	*System Operator*
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, includes 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 update 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