Philippine Electricity Market Corporation

WHOLESALE ELECTRICITY SPOT MARKET
RULES CHANGE COMMITTEE

RESOLUTION NO. 2014-14

Proposed Amendments to the WESM Manual on the Management of Procedure for Excess Generation

WHEREAS, the Rules Change Committee (RCC), in the course of its review of the WESM Manual on the Management of Must Run Units, as directed by the Department of Energy, saw that the proposal for amendments to the said Manual also entails necessary changes to the WESM Rules and the Manual on Dispatch Protocol and, thus, proposed corresponding proposal for amendments to the WESM Rules and the Manual on Dispatch Protocol aligned with it proposal for amendments relative to MRUs;

WHEREAS, the RCC noted that such proposed amendments to the WESM Rules and the WESM Manuals on the Management of Must Run Units and Dispatch Protocol entail necessary revisions in other WESM Manuals affected by the proposed amendments relative to MRU;

WHEREAS, one of the manuals mapped and identified to be affected by said proposed revisions is the WESM Manual on the Management of Procedure for Excess Generation;

WHEREAS, the RCC, cognizant of the need to harmonize the provisions of the Manual on the Management of Procedure for Excess Generation with what have been proposed in the WESM Rules and the Manuals on the Management of Must Run Units and Dispatch Protocol, proposed corresponding amendments to the WESM Manual on the Management of Procedure for Excess Generation (Annex A), incorporating, among other things, the revisions to the responsibilities of the System Operator and the Market Operator pertaining to the mitigation of excess generation in the power system;

WHEREAS, the proposed amendments were deliberated upon by the RCC in various meeting beginning the last quarter of 2013:

WHEREAS, during the 87th RCC meeting held on 7 May 2014, the RCC approved the publication of the Proposal in the WESM Website to solicit comments from Participants and interested parties;

WHEREAS, the Proposal was published in the WESM Website on 10 July 2014, with notification email sent the following day;

WHEREAS, the RCC received comments on the Proposal from SN Aboitiz Power;

WHEREAS, during 92nd RCC meeting on 10 September 2014, the RCC deliberated upon the proposal once again, giving due course to the comments received from SN Aboitiz Power;

WHEREAS, during the same meeting, the RCC approved the Proposal for Amendments to the Manual on the Management of Procedure for Excess Generation, as revised based on discussions and with consideration to the merits of the comments received;

NOW THEREFORE, we, the undersigned and in behalf of the sector we represent, hereby resolve as follows:

RESOLVED, that the Proposal for Amendments to the WESM Manual on Management of Procedure for Excess Generation (ANNEX B) is hereby approved;

RESOLVED FURTHER, that the attached Proposal for Amendments to the WESM Manual on the Management of Procedure for Excess Generation is hereby endorsed to the PEM Board for its approval.

Done this 10 September 2014, Pasig City.

Approved by: RULES CHANGE COMMITTEE [redacted] **Rowena Cristina L. Guevara** Chairperson University of the Philippines (UP)	
Members:	
Concepcion I. Tanglao Independent	**Francisco L.R. Castro, Jr.** Acting Chairperson Independent Tensaiken Consulting
[redacted] **Maila Lourdes G. de Castro** Independent	[redacted] **Jose Ferlino P. Raymundo** Generation Sector SMC Global
[redacted] **Theo Cruz Sunico** Generation Sector 1590 Energy Corporation (1590 EC)	[redacted] **Joselyn D. Carabuena** Generation Sector Power Sector Assets and Liabilities Management Corporation (PSALM)
Gilbert A. Pagobo Distribution Sector (PDU) Mactan Electric Company (MECO)	[redacted] **Ciprinilo C. Meneses** Distribution Sector (PDU) Manila Electric Company (MERALCO)
[redacted] **Jose P. Santos** Distribution Sector (EC) Ilocos Norte Electric Cooperative, Inc. (INEC)	**Sulpicio C. Lagarde Jr.** Distribution Sector (EC) Central Negros Electric Cooperative, Inc. (CENECO)
Lorreto H. Rivera Supply Sector TeaM (Philippines) Energy Corporation (TPEC)	[redacted] **Isidro E. Cacho Jr.** Market Operator Philippine Electricity Market Corporation (PEMC).
[redacted] **Ambrocio R. Rosales** Transmission Sector/System Operator National Grid Corporation of the Philippines (NGCP)	
	Certified True and Correct: [redacted] **Elaine D. Gonzales** RCC Secretary PEMC

[redacted]

Proposed Amendments to the Manual on the Management Procedure on Excess Generation ANNEX A

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
Background	1.6	As per WESM Rules (Section 3.9.8 and 10.4.16), the MO and SO, in consultation with *WESM Participants*, and subject to approval by the *PEM Board*, will each develop and *publish* the procedures which they plan to adopt with respect to the management of all aspects of *dispatch* and pricing should it be necessary to shut down *generating systems* in the event the *dispatch optimization*, or any *market projection*, indicate *excess generation* at any *node*, prior to the *spot market commencement date*.	**The WESM Rules require that** ~~**As per WESM Rules (Section 3.9.8 and 10.4.16),**~~ the MO and SO, in consultation with *WESM Participants*, ~~**and subject to approval by the *PEM Board*, will each develop and *publish* the procedures which they plan to shall**~~ adopt **procedures regarding** ~~with respect **to**~~ **the** management of all aspects of *dispatch* and pricing should it be necessary to shut down *generating systems* in the event the *dispatch optimization*, or any *market projection*, indicate *excess generation* at any *node*. ~~***prior to the spot market commencement date.***~~	Proposed changes are intended to align affected provisions of the Manual on Management of Excess Generation with the proposed amendments to the WESM Rules Manual on the Management of Must Run Units along with various other Market Manuals Excess Generation procedure already established.
Definition of Terms	**2.0**	2.3 "Must Run Units" – is required by the power system for reliability reasons regardless if there is excess generation or not. Generating units which are designated to run during excess generation consistent with the criteria developed by the MO and SO.	~~**2.3 "Must Run Units" – is required by the power system for reliability reasons regardless if there is excess generation or not. Generating units which are designated to run during excess generation consistent with the criteria developed by the MO and SO.**~~	During excess generation, only the generating unit/s that would be put to MRU will benefit during this condition since the MRU plants will be cleared based on MRU settlement. However, other generating units would have its settlement based on the MCP which could have zero or negative price. It is suggested that to prevent the unit from shutting down, the MO in coordination with SO only identify generating unit/s that could be put in the overriding-constraint limit to ensure that it would be reflected in the RTD schedule but the settlement should also be the same with

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Section	Title	Original Provision	RCC Proposed Amendment	Rationale
				others.
		New	**2.1 Constrain-off. In respect of a generating unit the output of that *generating unit*\s limited below the level to which it would otherwise have been dispatched by the *Market Operator* on the basis of its *energy offer.***	Include the definition of Constrain-Off . This will be the dispatch instruction to be issued by the System Operator based on the Merit-Order table (MOT) prepared by MO.
		New	**2.5 Must-Stop Unit (MSU) – a generating unit identified and instructed by the System Operator to reduce the provision of energy due to its non-compliance of the Dispatch Schedule to address or prevent possible threat to the System Security requirements of the Grid.**	Include the definition of Must Stop Unit (MSU). Generators not following dispatch instructions specifically when excess generation is being experienced in the real time situation shall be tagged as MSU by SO.
		2.5 Over Riding Constraints – constraints imposed in the *Market Dispatch Optimization Model* by the *Market Operator*, at the recommendation of the *System Operator*, with the intention of over-riding the effect of a *Trading Participant*'s offers or demand bids in accordance with WR clause 3.5.13.	**2.6** ~~**2.5**~~ Over Riding Constraints – constraints imposed in the *Market Dispatch Optimization Model* by the *Market Operator*, **~~at the recommendation of~~ in coordination with** the *System Operator*, with the intention of over-riding the effect of a *Trading Participant*'s offers or demand bids in accordance with **WR WESM Rules** clause 3.5.13.	The coordination between MO and SO is much preferred instead of recommendation by SO, so that when a certain generating unit will be put in the over-riding constraint limit, it would be transparent to all.
		Renumbering of affected provisions under Item 2.0 as appropriate		
Responsibilities Pertaining to	**5.0**	5.1 The System Operator will:	**5.1** The System Operator will:	

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Section	Title	Original Provision	RCC Proposed Amendment	Rationale
the Mitigation and Arrest of Excess Generation in the Power System		**5.1.2.** Coordinate with MO and provide necessary information which will be utilized in the calculation of the Dispatch Schedule to mitigate or arrest possible excess generation condition encountered in the market projections.	**5.1.2.** Coordinate with MO and provide necessary information which will be utilized in the **~~calculation of the~~ hour-ahead** *Dispatch Schedule* to mitigate or arrest possible *excess generation* condition **as ~~encountered~~ indicated** in the **day-ahead ~~market~~** projection**~~s~~ schedule prepared by MO.**	
		5.1.3. Elect reliability Must-Run Units based on the *Must-Run Criteria* approved by the PEM Board.	**~~5.1.3. Elect reliability Must-Run Units based on the *Must- Run Criteria* approved by the PEM Board.~~ Coordinate with MO for the imposition of over-riding constraint limit for a certain generating unit/s that would be required not to be shutdown since it will be still needed during the peak period in case possible excess generation exists during off-peak period.**	
		5.1.4. Issue excess generation alert to the Trading Participants and MO of the imminent threat to system security and reliability during real-time dispatch.	**~~5.1.4 Issue excess generation alert to the Trading Participants and MO of the imminent threat to system security and reliability during real-time dispatch.~~**	Not consistent with the PGC Issuance of Grid Alert Notices.
		5.1.5. Implement *Emergency Procedures* and provide instructions to generating systems not elected as must-run to shut	**~~5.1.5 Implement *Emergency Procedures* and provide instructions to generating systems not elected as must-run~~**	Not consistent with the PGC Issuance of Grid Alert Notices.

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Section	Title	Original Provision	RCC Proposed Amendment	Rationale
		down, as maybe necessary, based on the System Security and Reliability Guidelines and offer merit order provided by MO.	~~to shut down, as maybe necessary, based on the System Security and Reliability Guidelines and offer merit order provided by MO.~~	
		5.2 The Market Operator will: xxx **5.2.4.** Prepare offer based merit order and submit to SO as basis for shutting down generators during off-peak condition.	5.2 The Market Operator will: xxx 5.2.4. Prepare offer based **on WESM Mm**erit **Oo**rder **Table (MOT)** and submit to SO **on an hourly basis** ~~as basis for shutting down generators during off-peak condition.~~ **This will be the reference of SO issuance of dispatch instruction whenever the generating unit/s will be constrained-on or if necessary, the SO may opt to shutdown the generators during off-peak condition or whenever there is a loss of large loads that resulted in excess generation.**	The MO should establish WESM Merit-Order Table in consultation with SO whenever the generators would already be at its Pmin. With this, it would be easy for both MO and SO to identify which generating unit/s will be shutdown to address excess generation.
		New provision – additional for section 5..4	**5.4. In case of excess generation, the Generators shall be responsible for executing the dispatch instructions from the System Operator when required to constrain-off (i.e. decrease the output to Pmin or from on-line to**	

Proposed Amendments to the Manual on the Management Procedure on Excess Generation ANNEX A

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			be shutdown) with due consideration to power quality, reliability and security of the grid	
Management Procedures	**6.0**	**6.1 Occurrence of Excess generation condition in the Day-Ahead Projection** **6.1.1.** The MO will verify if there is any occurrence of any excess generation in the Day Ahead Dispatch (from the 12 noon run and in the succeeding DAP run thereafter) and will advise Trading Participants through the System Messages and Market Reports published in the WESM website.	**6.1 Occurrence of Excess generation condition in the Day-Ahead Projection** **6.1.1.** The MO **will shall** verify if there is any **~~occurrence~~ indication** of **~~any~~** *excess generation* in the Day Ahead **Dispatch** Projections (from the **~~12 noon~~ 1200H** run and in the succeeding DAP run **thereafter**) and **~~will~~ shall** advise *Trading Participants through* **~~S~~s***ystem* ***~~Messages~~*** **advisories ~~and~~ of expected excess generation based on the specified period and shall publish the M**market **R**reports **~~published~~** in the WESM website.	
		6.1.2. Prior to the 4 PM DAP run, the SO will assess the impact of the projected excess generation condition and nominate Must Run Units (MRU) and provide the information to MO as over-riding constraints in the MDOM. The details Over-Riding Constraint will be recorded as provided in WR clause 3.5.13.4.	**6.1.2.** Prior to the **~~4 PM~~ 1600H** DAP run, the **MO in coordination with ~~the~~** SO **~~will assess the impact of the projected~~ shall agree on the generating unit/s to be retained in case of** excess generation **~~condition and nominate Must Run Units (MRU) and provide the information to MO as over-riding constraints~~**	

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			~~in the MDOM. The details Over-Riding Constraint will be recorded as provided in WR clause 3.5.13.4.~~ identified in the day ahead projection or on real-time condition. The inclusion of over-riding constraint limit as agreed by MO and SO shall be imposed to ensure that the generating unit/s will be reflected in the dispatch schedule.	
		6.1.3 The objectives of nominating MRU's in the dispatch scheduling process are as follows: **6.1.3.1** Assure that System Security is not compromised in the Trading Interval with Excess Generation **6.1.3.2** Assure Adequacy of Supply in the succeeding Trading Intervals.	6.1.3 The objectives of **~~nominating~~ MRU's the imposition of over-riding constraint limit** in the dispatch scheduling process are as follows: 6.1.3.1 Assure that **S**system **Ss**ecurity is not compromised in the **~~T~~t**rading **l**interval with **Ee**xcess **Gg**eneration 6.1.3.2 Assure **Aa**dequacy of **Ss**upply in the succeeding **~~T~~t**rading **l**intervals.	
		6.1.4 Prior to the 4 PM DAP run, the Trading Participants will consider the projected off-peak system condition and assess their market offers for the periods where imminent and excess generation conditions are indicated.	6.1.4 Prior to the **~~4 PM~~ 1600H** DAP run, the *Trading Participants* **~~will~~ shall** consider the projected off-peak system condition and assess their market offers for the periods where imminent and *excess generation* conditions are indicated. **Likewise, the**	

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Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			Generators, in coordination with SO, may opt to conduct maintenance activities during the period where excess generation exists as identified by MO.	
		6.1.6 The MO will confirm and inform the TP and SO, if excess generation is indicated in the 4 PM DAP run.	6.1.6. The MO will confirm and inform the ~~T P~~ ***Trading Participants*** and SO, if *excess generation* is indicated in the **~~4 PM~~ 1600H** DAP run.	
		6.1.8 Prior to the 8 PM DAP run, the SO may adjust any nomination in the MRU based on their latest and projected system security and supply adequacy assessment of the power system.	**~~6.1.8. Prior to the 8 PM DAP run, the SO may adjust any nomination in the MRU based on their latest and projected system security and supply adequacy assessment of the power system.~~**	Not implementable if beyond 1700H
		6.1.9 The MO will verify in the 2000 hour (8 PM) DAP run if there are still indication of excess generation and continuously coordinate with the SO. The SO may also coordinate with Generating Plants on the following: **6.1.9.1** Minimum stable loading and emergency minimum energy limits. **6.1.9.2** Possibility of additional unit maintenance for the periods	**~~6.1.9. The MO will verify in the 2000 hour (8 PM) DAP run if there are still indication of excess generation and continuously coordinate with the SO. The SO may also coordinate with generating plants on the following:~~** **~~6.1.9.1 Minimum stable loading and emergency minimum energy limits.~~** **~~6.1.9.2 Possibility of additional~~**	Not implementable if beyond 1700H

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Section	Title	Original Provision	RCC Proposed Amendment	Rationale
		where there is possible occurrence of excess generation.	~~unit maintenance for the periods where there is possible occurrence of excess generation.~~	
		6.1.10 The MO will again verify if there are indications of excess generation in the 12 midnight run.	~~6.1.10. The MO will again verify if there are indications of excess generation in the 12 midnight run.~~	Not implementable if beyond 1700H
		6.1.11 The MO will prepare an offer-based merit order based on the offers for the 12 midnight DAP run and transmit the information to the SO.	~~6.1.11 MO will prepare an offer-based merit order based on the offers for the 12 midnight DAP run and transmit the information to the SO.~~	Not implementable if beyond 1700H
		6.1.12 The SO will finalize a scheduling strategy considering the merit order provided by the MO and taking into account the security of the power system and the supply adequacy for the next peak period.	~~6.1.12. The SO will finalize a scheduling strategy considering the merit order provided by the MO and taking into account the security of the power system and the supply adequacy for the next peak period.~~	No Scheduling strategy being implemented ever since by the System Operator.
		6.1.13 Based on the scheduling strategy, the SO may ultimately remote- trip a generating plant to mitigate and prevent any over-frequency in the power system.	~~6.1.13. Based on the scheduling strategy, the SO may ultimately remote- trip a generating plant to mitigate and prevent any over-~~	To move section 6.1.13 to 6.2.2 as revised under Real-Time Dispatch (with Excess Generation Intervals)

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Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			~~frequency in the power system.~~	
		Renumbering of affected provisions as appropriate		
		6.2 Real-Time Dispatch (with Excess Generation Intervals) **6.2.1.** If excess generation is encountered in the real-time dispatch, then the SO will immediately implement its Emergency procedures.	**6.2 Real-Time Dispatch (with Excess Generation Intervals)** **6.2.1.** If excess generation is encountered in the real-time dispatch, then the SO **will** ~~**immediately implement its Emergency Procedures**~~ **shall issue Dispatch Instructions to generators to constrain-off their MW output based on the WESM Merit-Order Table (WMOT) provided by MO if the scheduled regulating reserve has been depleted (i.e. at Pmin) and the grid frequency breached the 60.3Hz. However, if over-frequency exists (i.e. grid frequency is greater than 60.6Hz), the following corrective actions, in the order of priority, shall be followed until the frequency returns to normal;** **a. "Constrain-off" generator/s with fast ramp rate.** **b. Effect shutdown of generator/s under test.** **c. Effect shutdown of generator/s**	

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			with fast start capability. d. Require gas turbine generator/s at combined cycle to operate at simple cycle mode. e. Require coal fired thermal power plants to operate on oil support mode. f. Require generator/s to operate on house load.	
		New provision for section 6.2.2	6.2.2. In such cases where the grid frequency breached the normal range due to excess generation as a result of loss of large load or over supply capacity in real time, the SO shall issue dispatch instructions to generators to constrain-off their output to mitigate the effect of the imbalance in supply and demand. However, if the generator/s failed to comply to the dispatch instructions issued by SO, the System Operator shall tag the generator as Must Stop Unit (MSU) and shall report the non-conformance to dispatch instruction to MSC, GMC and DOE. The SO may ultimately remote- trip a certain generating unit tagged as MSU if the high risk is at stake that would eventually affect the security and reliability of the grid.	

Proposed Amendment to the Manual on the Management Procedure Excess Generation **Annex B**

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
Background	1.6	As per WESM Rules (Section 3.9.8 and 10.4.16), the MO and SO, in consultation with *WESM Participants*, and subject to approval by the *PEM Board*, will each develop and *publish* the procedures which they plan to adopt with respect to the management of all aspects of *dispatch* and pricing should it be necessary to shut down *generating systems* in the event the *dispatch optimization*, or any *market projection*, indicate *excess generation* at any *node*, prior to the *spot market commencement date*.	**The WESM Rules require that** ~~**As per WESM Rules (Section 3.9.8 and 10.4.16),**~~ the MO and SO, in consultation with *WESM Participants*, ~~**and subject to approval by the *PEM Board*, will each develop and *publish* the procedures which they plan to**~~ **shall** adopt **procedures regarding** ~~with respect to~~ the management of all aspects of *dispatch* and pricing should it be necessary to shut down *generating systems* in the event the *dispatch optimization*, or any *market projection*, indicate *excess generation* at any *node*. ~~**prior to the *spot market commencement date*.**~~	Proposed changes are intended to align affected provisions of the Manual on the Management Procedure of Excess Generation with the proposed amendments to the WESM Rules and Manual on the Management of Must Run Units along with various other Market Manuals Excess Generation procedure already established.
Definition of Terms	**2.0**	2.3 "Must Run Units" – is required by the power system for reliability reasons regardless if there is excess generation or not. Generating units which are designated to run during excess generation consistent with the criteria developed by the MO and SO.	~~**2.3 "Must Run Units" – is required by the power system for reliability reasons regardless if there is excess generation or not. Generating units which are designated to run during excess generation consistent with the criteria developed by the MO and SO.**~~	During excess generation, only the generating unit/s that would be put to MRU will benefit during this condition since the MRU plants will be cleared based on MRU settlement. However, other generating units would have its settlement based on the MCP which could have zero or negative price. It is suggested that to prevent the unit from shutting down, the MO in coordination with SO only identify generating unit/s that could be put in the overriding-constraint limit to ensure that it would be reflected in the RTD schedule but the settlement should also be the same with others.

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
		New	**2.1 Constrain-off. In respect of a generating unit the output of that *generating unit is* re-dispatched by the System Operator above its Real-Time Dispatch schedule in accordance with the WESM Merit Order Table.**	Include the definition of Constrain-Off . This will be the dispatch instruction to be issued by the System Operator based on the Merit-Order table (MOT) prepared by MO.
		New	**2.5 Must-Stop Unit (MSU) –a generating unit identified and instructed by the System Operator to reduce the provision of energy due to its non-compliance of the Dispatch Schedule to address or prevent possible threat to the System Security requirements of the Grid.**	Include the definition of Must Stop Unit (MSU). Generators not following dispatch instructions specifically when excess generation is being experienced in the real time situation shall be tagged as MSU by SO.
		2.5 Over Riding Constraints – constraints imposed in the *Market Dispatch Optimization Model* by the *Market Operator*, at the recommendation of the *System Operator*, with the intention of over-riding the effect of a *Trading Participant*'s offers or demand bids in accordance with WR clause 3.5.13.	**2.6** ~~2.5~~ Over Riding Constraints – constraints imposed in the *Market Dispatch Optimization Model* by the *Market Operator*, ~~**at the recommendation of**~~ **in coordination with** the *System Operator*, with the intention of over-riding the effect of a *Trading Participant*'s offers or demand bids in accordance with ~~**WR**~~ **WESM Rules** clause 3.5.13.	The coordination between MO and SO is much preferred instead of recommendation by SO, so that when a certain generating unit will be put in the over-riding constraint limit, it would be transparent to all.
		Renumbering of affected provisions under Item 2.0 as appropriate		
Responsibilities Pertaining to	**5.0**	5.1 The System Operator will:	**5.1** The System Operator will:	

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
the Mitigation and Arrest of Excess Generation in the Power System		**5.1.2.** Coordinate with MO and provide necessary information which will be utilized in the calculation of the Dispatch Schedule to mitigate or arrest possible excess generation condition encountered in the market projections.	**5.1.2.** Coordinate with **the** M**arket** O**perator** and provide necessary information which will be utilized in the ~~**calculation of the**~~ **hour-ahead** *Dispatch Schedule* to mitigate or arrest possible *excess generation* condition **as** ~~**encountered**~~ **indicated** in the **day-ahead market** projection**s** **schedule prepared by the Market Operator.**	
		5.1.3. Elect reliability Must-Run Units based on the *Must-Run Criteria* approved by the PEM Board.	~~**5.1.3. Elect reliability Must-Run Units based on the *Must-Run Criteria* approved by the PEM Board.**~~ **Coordinate with the Market Operator for the imposition of over-riding constraint limit for a certain generating unit/s that would be required not to be shutdown since it will be still needed during the peak period in case possible excess generation exists during off-peak period.**	
		5.1.4. Issue excess generation alert to the Trading Participants and MO of the imminent threat to system security and reliability during real-time dispatch.	~~**5.1.4 Issue excess generation alert to the Trading Participants and MO of the imminent threat to system security and reliability during real-time dispatch.**~~	Not consistent with the PGC Issuance of Grid Alert Notices.
		5.1.5. Implement *Emergency Procedures* and provide	5.1.5 Implement Emergency Procedures and provide instructions to	Not consistent with the PGC Issuance of Grid Alert Notices.

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
		instructions to generating systems not elected as must-run to shut down, as maybe necessary, based on the System Security and Reliability Guidelines and offer merit order provided by MO.	generating systems not elected as must-run to shut down, as maybe necessary, based on the System Security and Reliability Guidelines and ~~offer~~ **WESM Merit Order Table (WMOT)** provided by **the** Market Operator.	
		5.2 The Market Operator will: xxx **5.2.4.** Prepare offer based merit order and submit to SO as basis for shutting down generators during off-peak condition.	5.2 The Market Operator will: xxx 5.2.4. Prepare offer based **on WESM** ~~M~~merit ~~O~~order **Table** and submit to **the** System Operator **on an hourly basis** ~~as basis for shutting down generators during off-peak condition.~~ **This will be the reference of the System Operator issuance of dispatch instruction whenever the generating unit/s will be constrained-on or if necessary, the System Operator may opt to shutdown the generators during off-peak condition or whenever there is a loss of large loads that resulted in excess generation.**	The MO should establish WESM Merit-Order Table in consultation with SO whenever the generators would already be at its Pmin. With this, it would be easy for both MO and SO to identify which generating unit/s will be shutdown to address excess generation.
		New provision – additional for section 5..4	**5.4. In case of excess generation, the Generators shall be responsible for executing the dispatch instructions from the System**	

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			Operator when required to constrain-off (i.e. decrease the output to Pmin or from on-line to be shutdown) with due consideration to power quality, reliability and security of the grid.	
Management Procedures	**6.0**	**6.1 Occurrence of Excess generation condition in the Day-Ahead Projection** **6.1.1.** The MO will verify if there is any occurrence of any excess generation in the Day Ahead Dispatch (from the 12 noon run and in the succeeding DAP run thereafter) and will advise Trading Participants through the System Messages and Market Reports published in the WESM website.	**6.1 Occurrence of Excess generation condition in the Day-Ahead Projection** **6.1.1.** The **Market** Operator **~~will~~ shall** verify if there is any **~~occurrence~~ indication** of **~~any~~** *excess generation* in the Day Ahead **~~Dispatch~~** Projections (from the **~~12 noon~~ 1200H** run and in the succeeding DAP run **~~thereafter~~**) and **~~will~~ shall** advise *Trading Participants through* **~~S~~***system* ***Messages*** **~~advisories~~ ~~and~~ of expected excess generation based on the specified period and shall publish the ~~M~~**market **~~R~~**reports **~~published~~** in the WESM website.	
		6.1.2. Prior to the 4 PM DAP run, the SO will assess the impact of the projected excess generation condition and nominate Must Run Units (MRU) and provide the	**6.1.2.** Prior to the **~~4 PM~~ 1600H** DAP run, the **Market Operator in coordination with the ~~the~~** System Operator **~~will assess the impact of the projected~~ shall**	

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
		information to MO as over-riding constraints in the MDOM. The details Over-Riding Constraint will be recorded as provided in WR clause 3.5.13.4.	**agree on the generating unit/s to be retained in case of** excess generation ~~**condition and nominate Must Run Units (MRU) and provide the information to MO as over-riding constraints in the MDOM. The details Over-Riding Constraint will be recorded as provided in WR clause 3.5.13.4.**~~ **identified in the day ahead projection or on real-time condition. The inclusion of over-riding constraint limit as agreed by the Market Operator and the System Operator shall be imposed to ensure that the generating unit/s will be reflected in the dispatch schedule.**	
		6.1.3 The objectives of nominating MRU's in the dispatch scheduling process are as follows: **6.1.3.1** Assure that System Security is not compromised in the Trading Interval with Excess Generation **6.1.3.2** Assure Adequacy of Supply in the succeeding Trading Intervals.	6.1.3 The objectives of ~~**nominating MRU's**~~ **the imposition of over-riding constraint limit** in the dispatch scheduling process are as follows: 6.1.3.1 Assure that **S**system **Ss**ecurity is not compromised in the ~~**T**~~**t**rading **li**nterval with **E**~~**e**~~xcess **G**~~**g**~~eneration 6.1.3.2 Assure **A**~~**a**~~dequacy of **Ss**upply in the succeeding ~~**T**~~**t**rading **li**ntervals.	
		6.1.4 Prior to the 4 PM DAP run, the	6.1.4 Prior to the ~~**4 PM**~~ **1600H** DAP	

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
		Trading Participants will consider the projected off-peak system condition and assess their market offers for the periods where imminent and excess generation conditions are indicated.	run, the *Trading Participants* ~~will~~ **shall** consider the projected off-peak system condition and assess their market offers for the periods where imminent and *excess generation* conditions are indicated. **Likewise, the Generators, in coordination with the System Operator, may opt to conduct maintenance activities during the period where excess generation exists as identified by the Market Operator.**	
		6.1.6 The MO will confirm and inform the TP and SO, if excess generation is indicated in the 4 PM DAP run.	6.1.6. The **Market Operator** will confirm and inform the ~~TP~~ ***Trading Participants*** and **the System Operator**, if *excess generation* is indicated in the ~~**4 PM**~~ **1600H** DAP run.	
		6.1.8 Prior to the 8 PM DAP run, the SO may adjust any nomination in the MRU based on their latest and projected system security and supply adequacy assessment of the power system.	**6.1.8.** ~~**Prior to the 8 PM DAP run, the SO may adjust any nomination in the MRU based on their latest and projected system security and supply adequacy assessment of the power system.**~~	Not implementable if beyond 1700H
		6.1.9 The MO will verify in the 2000 hour (8 PM) DAP run if there are still indication of excess generation and continuously coordinate with the SO. The SO may also coordinate with Generating Plants on the following:	~~**6.1.9. The MO will verify in the 2000 hour (8 PM) DAP run if there are still indication of excess generation and continuously coordinate with the SO. The SO may also coordinate with**~~	Not implementable if beyond 1700H

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			~~generating plants on the following:~~	
		6.1.9.1 Minimum stable loading and emergency minimum energy limits.	~~**6.1.9.1 Minimum stable loading and emergency minimum energy limits.**~~	
		6.1.9.2 Possibility of additional unit maintenance for the periods where there is possible occurrence of excess generation.	~~**6.1.9.2 Possibility of additional unit maintenance for the periods where there is possible occurrence of excess generation.**~~	
		6.1.10 The MO will again verify if there are indications of excess generation in the 12 midnight run.	~~**6.1.10. The MO will again verify if there are indications of excess generation in the 12 midnight run.**~~	Not implementable if beyond 1700H
		6.1.11 The MO will prepare an offer-based merit order based on the offers for the 12 midnight DAP run and transmit the information to the SO.	~~**6.1.11 MO will prepare an offer-based merit order based on the offers for the 12 midnight DAP run and transmit the information to the SO.**~~	Not implementable if beyond 1700H
		6.1.12 The SO will finalize a scheduling strategy considering the merit order provided by the MO and taking into account the security of the power system and the supply adequacy for the next peak period.	~~6.1.12. **The SO will finalize a scheduling strategy considering the merit order provided by the MO and taking into account the security of the power**~~	No Scheduling strategy being implemented ever since by the System Operator.

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			~~system and the supply adequacy for the next peak period.~~	
		6.1.13 Based on the scheduling strategy, the SO may ultimately remote- trip a generating plant to mitigate and prevent any over-frequency in the power system.	~~6.1.13. Based on the scheduling strategy, the SO may ultimately remote- trip a generating plant to mitigate and prevent any over-frequency in the power system.~~	To move section 6.1.13 to 6.2.2 as revised under Real-Time Dispatch (with Excess Generation Intervals)
		Renumbering of affected provisions as appropriate		
		6.2 Real-Time Dispatch (with Excess Generation Intervals) **6.2.1.** If excess generation is encountered in the real-time dispatch, then the SO will immediately implement its Emergency procedures.	**6.2 Real-Time Dispatch (with Excess Generation Intervals)** **6.2.1.** If excess generation is encountered in the real-time dispatch, then the **System Operator ~~will immediately implement its Emergency Procedures.~~ shall issue Dispatch Instructions to generators to constrain-off their MW output based on the WESM Merit-Order Table provided by the Market Operator if the scheduled regulating reserve has been depleted (i.e. at Pmin) and the grid frequency breached the 60.3Hz. However, if over-frequency exists (i.e. grid**	

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			frequency is greater than 60.6Hz), the following corrective actions, in the order of priority, shall be followed until the frequency returns to normal; a. "Constrain-off" generator/s with fast ramp rate. b. Effect shutdown of generator/s under test. c. Effect shutdown of generator/s with fast start capability. d. Require gas turbine generator/s at combined cycle to operate at simple cycle mode. e. Require coal fired thermal power plants to operate on oil support mode. f. Require generator/s to operate on house load.	
		New provision for section 6.2.2	6.2.2. In such cases where the grid frequency breached the normal range due to excess generation as a result of loss of large load or over supply capacity in real time, the System Operator shall issue dispatch instructions to generators to constrain-off their output to mitigate the effect of the imbalance in supply and demand. However, if the generator/s failed to comply to the dispatch instructions issued by System Operator, the System	

Section	Title	Original Provision	RCC Proposed Amendment	Rationale
			Operator shall tag the generator as Must Stop Unit and shall report the non-conformance to dispatch instruction to Market Surveillance Committee, Grid Management Committee and the Department of Energy. The System Operator may ultimately remote- trip a certain generating unit tagged as Must Stop Unit if the high risk is at stake that would eventually affect the security and reliability of the grid.	