

**WHOLESALE ELECTRICITY SPOT MARKET
RULES CHANGE COMMITTEE**

RESOLUTION NO. 2010-11

**Proposed Amendments to the WESM Manual on
Dispatch Protocol, Issue 5.0**

WHEREAS, the WESM Manual on Dispatch Protocol (the "Manual") provides the scheduling and dispatch procedures that shall be followed during WESM operation, emergency situations, market suspension and restoration;

WHEREAS, there is a need to amend the Manual to improve the provision of real-time market results by minimizing pricing errors and market re-runs as well as to provide flexibility for future policies on HVDC operation;

WHEREAS, on 12 August 2010, the Philippine Electricity Market Corporation (PEMC) submitted its proposed amendments on the Manual to the Rules Change Committee (RCC), for consideration and approval;

WHEREAS, during the 38th RCC Meeting on 18 August 2010, the proposed amendments were presented to the RCC, for review and approval;




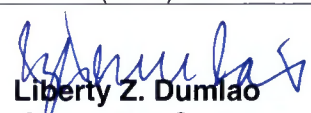
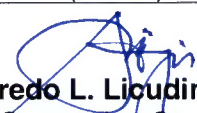

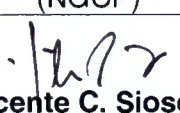
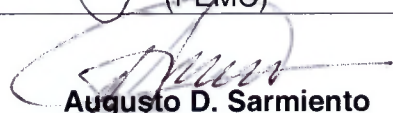
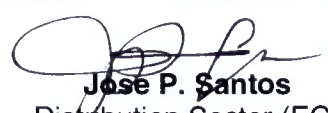
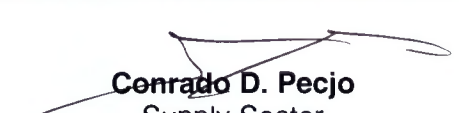

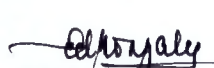
WHEREAS, during the said 38th meeting, the RCC agreed to adopt the proposed amendments, incorporating the RCC comments/suggestions;

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

RESOLVED, that the proposed amendments to the WESM Manual on Dispatch Protocol (attached as Annex "A"), as revised by the RCC, are adopted and approved in full;

RESOLVED FINALLY, that the proposed amendments to the WESM Manual on Dispatch Protocol be endorsed to the PEM Board for approval.

Done this 18 August 2010, Pasig City.

<p>Approved by:</p> <p>RULES CHANGE COMMITTEE</p> <p> Epictetus E. Patalinghug Acting Chairperson Independent University of the Philippines (UP)</p>	
<p>Members:</p>	
<p> Cherry Aquino-Javier Generation Sector AES Philippines (AES)</p>	<p> Ralph T. Crisologo Generation Sector SN Aboitiz Power (SNAP)</p>
<p> Liberty Z. Dumlao Generation Sector Power Sector Assets and Liabilities Management Corporation (PSALM)</p>	<p> Alfredo L. Licudine, Jr. Generation Sector National Power Corporation (NAPOCOR)</p>
<p>Raul Joseph G. Seludo Transmission Sector National Grid Corporation of the Philippines (NGCP)</p>	<p> Robinson P. Descanzo Market Operator Philippine Electricity Market Corporation (PEMC)</p>
<p> Vicente C. Sioson Distribution Sector (PDU) Manila Electric Company (MERALCO)</p>	<p> Augusto D. Sarmiento Distribution Sector (PDU) Dagupan Electric Corporation (DECORP)</p>
<p> Jose P. Santos Distribution Sector (EC) Ilocos Norte Electric Cooperative (INEC)</p>	<p> Conrado D. Pecjo Supply Sector Angeles Power, Inc.</p>
<p> Gloria P. Gerilla-Teknomo Independent CPI-Energy Phils., Inc.</p>	
	<p>Certified True and Correct:</p> <p> Elaine D. Gonzales RCC Secretary PEMC</p>

Proposed Amendments to the WESM Dispatch Protocol Manual RCC/WESM-WM-10/07

Title	Original Provision	Proposed Amendments	Rationale	RCC Remarks																																																		
Appendix A.4 Contingency Planning	<p>4.4 Submission of Contingency List</p> <p>The System Operator shall submit a contingency list to the Market Operator in the format specified in Section 4.2.</p> <p>A contingency list shall be submitted by the SO for the following processes of the Market Operator:</p> <ul style="list-style-type: none"> • Pre-Dispatch Market Projections • Real Time Dispatch <p>The contingency list shall be submitted to the Market Operator prior to the execution of the aforementioned processes which are as follows:</p> <table border="1"> <thead> <tr> <th>Processes</th><th>Study Horizon</th><th>Execution Frequency</th><th>Schedules Resolution</th><th>Number of Study Time Points</th></tr> </thead> <tbody> <tr> <td>WAP</td><td>7 days ahead</td><td>Daily at 9:00a.m.</td><td>1 hour</td><td>168 (=7x24)</td></tr> <tr> <td>DAP</td><td>1 day ahead</td><td>Every 4 Hourly</td><td>1 hour</td><td>36~24~16</td></tr> <tr> <td>RTD</td><td>65-mins ahead</td><td>Hourly</td><td>1 hour</td><td>1</td></tr> <tr> <td>RTX</td><td>The current time</td><td>Hourly</td><td>1 hour</td><td>1</td></tr> </tbody> </table>	Processes	Study Horizon	Execution Frequency	Schedules Resolution	Number of Study Time Points	WAP	7 days ahead	Daily at 9:00a.m.	1 hour	168 (=7x24)	DAP	1 day ahead	Every 4 Hourly	1 hour	36~24~16	RTD	65-mins ahead	Hourly	1 hour	1	RTX	The current time	Hourly	1 hour	1	<p>4.4 Submission of Contingency List</p> <p>The System Operator shall submit a contingency list to the Market Operator in the format specified in Section 4.2.</p> <p>A contingency list shall be submitted by the SO for the following processes of the Market Operator:</p> <ul style="list-style-type: none"> • Pre-Dispatch Market Projections • Real Time Dispatch <p>The contingency list shall be submitted to the Market Operator prior to the execution of the aforementioned processes which are as follows:</p> <table border="1"> <thead> <tr> <th>Processes</th><th>Study Horizon</th><th>Execution Frequency</th><th>Schedules Resolution</th><th>Number of Study Time Points</th></tr> </thead> <tbody> <tr> <td>WAP</td><td>7 days ahead</td><td>Daily at 9:00a.m.</td><td>1 hour</td><td>168 (=7x24)</td></tr> <tr> <td>DAP</td><td>1 day ahead</td><td>Every 4 Hourly Hours</td><td>1 hour</td><td>36~24~16</td></tr> <tr> <td>RTD</td><td>65-mins ahead</td><td>Hourly</td><td>1 hour</td><td>1</td></tr> <tr> <td>RTX</td><td>The current time</td><td>Hourly</td><td>1 hour</td><td>1</td></tr> </tbody> </table>	Processes	Study Horizon	Execution Frequency	Schedules Resolution	Number of Study Time Points	WAP	7 days ahead	Daily at 9:00a.m.	1 hour	168 (=7x24)	DAP	1 day ahead	Every 4 Hourly Hours	1 hour	36~24~16	RTD	65-mins ahead	Hourly	1 hour	1	RTX	The current time	Hourly	1 hour	1	Clerical correction.	-Approved, as proposed-
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Appendix A.5 Pre-Dispatch Market Projection	<p>4.2.8 Security Limits</p> <p>Security Limits are often used to reflect system stability limits and they vary under different system conditions. Security Limits as described in this document covers generator operating limits and transmission branch group limits:</p> <ul style="list-style-type: none"> Generator operating limits (Pmin, Pmax) may vary based on different plant and system conditions. Some generators are required to produce no less than certain amount of output for system reliability reasons. Some generators are required to restrain their output due to stability considerations. Generating units nominated by the System Operator as a "Must Run Unit" falls in this category. Refer to WESM Criteria for Must Run Units for more details. A transmission branch group defines one or more transmission lines. Branch group limits usually reflect system stability constraints. A branch group limit means the sum of power flow on the group of transmission lines shall not exceed the limit. HVDC transmission limits may vary constraining power transmission from one region to another. The HVDC limits are modeled. 	<p>4.2.8 Security Limits</p> <p>Security Limits are often used to reflect system stability limits and they vary under different system conditions. Security Limits as described in this document covers generator operating limits and transmission branch group limits:</p> <ul style="list-style-type: none"> Generator operating limits (Pmin, Pmax) may vary based on different plant and system conditions. Some generators are required to produce no less than certain amount of output for system reliability reasons. Some generators are required to restrain their output due to stability considerations. Generating units nominated by the System Operator as a "Must Run Unit" falls in this category. Refer to WESM Criteria for Must Run Units for more details. A transmission branch group defines one or more transmission lines. Branch group limits usually reflect system stability constraints. A branch group limit means the sum of power flow on the group of transmission lines shall not exceed the limit. HVDC transmission limits may vary constraining power transmission or allowing a fixed power transfer from one region to another. The HVDC limits are modeled. <u>The limits will be used as the new HVDC limits.</u> 	<p>The HVDC is intended to be a free-flowing branch where the flow (schedule) is dictated by the interaction of offers in Luzon and Visayas. But since WESM is not yet operational in the Visayas, the import/export between Luzon and Visayas is nominated by the System Operator through submission of HVDC security limits.</p> <p>In the current security limits functionality, the forward and reverse limits of the HVDC can be set constraining the power flow from one region to another. When the HVDC nomination</p>	<p>-Approved, as amended-</p> <p>Upon the recommendation of the RCC, the phrase "The limits will be used as the new HVDC limits" is added.</p>

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			<p>is not met, a pricing error is issued and a market re-run is performed in ex-post (RTX).</p> <p>Allowing to fix the HVDC schedule will eliminate most of the HVDC related pricing errors and will provide flexibility for future policies on HVDC operation even after the WESM is already operational in the Visayas.</p> <p>The manual change is proposed to include the use of security limits to fix the HVDC flow from one region to another.</p>	
Appendix A.6 Real Time Dispatch Schedule	4.2.8 Security Limits Security Limits are often used to reflect system stability limits and they vary under different system conditions. Security Limits as described in this document covers generator operating limits and transmission branch group limits: <ul style="list-style-type: none"> • Generator operating limits (Pmin, Pmax) may vary based on different plant and system conditions. Some generators are required to 	4.2.8 Security Limits Security Limits are often used to reflect system stability limits and they vary under different system conditions. Security Limits as described in this document covers generator operating limits and transmission branch group limits: <ul style="list-style-type: none"> • Generator operating limits (Pmin, Pmax) may vary based on different plant and system conditions. Some generators are required to 	The HVDC is intended to be a free-flowing branch where the flow (schedule) is dictated by the interaction of offers in Luzon and Visayas. Bus since WESM is not yet	<p>-Approved, as amended-</p> <p>Upon the recommendation of the RCC, the phrase "The limits will be used as the new HVDC limits" is added.</p>

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Attachment A.8 Data Format for Security Limits	Security Limits... <table><thead><tr><th>Data Format</th></tr></thead><tbody><tr><td>Equipment ID, Equipment Type, Start time, Maximum limit, Minimum limit</td></tr><tr><td>Equipment ID, Equipment Type, Start time, Maximum limit, Minimum limit</td></tr><tr><td>Descriptions for the data fields: Data column 1: Equipment ID (32 characters: The unique name of the equipment. Data column 2: Equipment Type (2 characters): UN - Generating unit; BG - Branch group DC - HVDC link. Data column 3: Start Time: YYYY-MM-DD HH:MI (e.g. 2004-01-22 13:45) Data column 4: Maximum limit (MW) Data column 5: Minimum limit (MW)</td></tr></tbody></table>	Data Format	Equipment ID, Equipment Type, Start time, Maximum limit, Minimum limit	Equipment ID, Equipment Type, Start time, Maximum limit, Minimum limit	Descriptions for the data fields: Data column 1: Equipment ID (32 characters: The unique name of the equipment. Data column 2: Equipment Type (2 characters): UN - Generating unit; BG - Branch group DC - HVDC link. Data column 3: Start Time: YYYY-MM-DD HH:MI (e.g. 2004-01-22 13:45) Data column 4: Maximum limit (MW) Data column 5: Minimum limit (MW)	Security Limits... <table><thead><tr><th>Data Format</th></tr></thead><tbody><tr><td>Equipment ID, Equipment Type, Start time, <u>End Time</u>, Maximum limit, Minimum limit</td></tr><tr><td>Equipment ID, Equipment Type, Start time, <u>End Time</u>, Maximum limit, Minimum limit</td></tr><tr><td>Descriptions for the data fields: Data column 1: Equipment ID (32 characters: The unique name of the equipment. Data column 2: Equipment Type (2 characters): UN - Generating unit; BG - Branch group DC - HVDC link. Data column 3: Start Time: YYYY-MM-DD HH:MI (e.g. 2004-01-22 13:45 13:01) Data column 4: Maximum limit (MW) End Time: YYYY-MM-DD HH:MI (e.g. 2004-01-22 17:00) Data column 5: Minimum limit (MW) Maximum limit (MW) Data column 6: Minimum limit (MW)</td></tr></tbody></table>	Data Format	Equipment ID, Equipment Type, Start time, <u>End Time</u> , Maximum limit, Minimum limit	Equipment ID, Equipment Type, Start time, <u>End Time</u> , Maximum limit, Minimum limit	Descriptions for the data fields: Data column 1: Equipment ID (32 characters: The unique name of the equipment. Data column 2: Equipment Type (2 characters): UN - Generating unit; BG - Branch group DC - HVDC link. Data column 3: Start Time: YYYY-MM-DD HH:MI (e.g. 2004-01-22 13:45 13:01) Data column 4: Maximum limit (MW) End Time: YYYY-MM-DD HH:MI (e.g. 2004-01-22 17:00) Data column 5: Minimum limit (MW) Maximum limit (MW) Data column 6: Minimum limit (MW)	The proposed amendment will update the Data Format to include end time in the security limits data. The use of end time in the security limits data was implemented in MMS-MA Release 1.5.4 dated 2006-09-28.	-Approved, as proposed-
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