

RULES CHANGE COMMITTEE

Proposed Urgent Amendments to the WESM Manual on Dispatch Protocol regarding Considerations and Criteria for Selection of Must-Run Units

Effective Date : 18 February 2021

Page : 1 of 8

WHEREAS, until 2014, a Must-Run Unit (MRU) was defined as a generating unit identified by the System Operator to be on-line on a particular Trading Interval to address System Security requirements and other considerations as set forth in the WESM Manual on the Management of Must-Run Units Issue 4.0 (“MRU Manual”)¹;

WHEREAS, aligned with the foregoing definition of MRUs, one of the other considerations of the System Operator in its designation of MRU was “local calamities and emergencies” which pertained to “short-term incidents (i.e. floodings, etc.) that would require the designation of generators as MRUs to avert or minimize damage to infrastructure and security of people living in affected localities.”²;

WHEREAS, the National Power Corporation (NPC) is a Government-Owned and Controlled Corporation mandated, among others, to manage and supervise dam operations by optimizing water utilization and ensuring the integrity and safety of the people that live downstream of five (5) dams in Luzon (Ambuklao, Binga, San Roque, Angat and Caliraya Dams) and seven (7) dams in Mindanao;

WHEREAS, part of NPC’s dam management process is MRU Operation which “optimizes pre-emptive water discharge through power turbines in anticipation of incoming weather disturbances, minimizes spillage through the spillway gates and mitigates flood and its aftermath in the downstream communities”³;

WHEREAS, the “local calamities and emergencies” criterion for designating MRUs specified in MRU Manual Issue 4.0 served as basis for NPC’s Caliraya Dam Contingency Protocol (March 2009) and San Roque Dam Dispatch Protocol (May 2010), which both serve as guides and elaborate the details and conditions for NPC’s MRU Operation during weather disturbances or flood periods;

WHEREAS, pursuant to the rules change process that included requesting comments from WESM stakeholders, the MRU Manual was revised in 2014 and was published accordingly as Issue 5.0, in which the use for MRUs was amended to only address security and reliability of the grid and correspondingly necessitated the removal of the “local calamities and emergencies” criterion;

WHEREAS, in a letter dated 10 December 2021, NPC wrote to PEMC copy-furnished the Rules Change Committee (RCC) requesting for the reinstatement of the “local calamities and emergencies” criterion for designating MRUs as its abolition “puts in question the propriety and applicability of the San Roque Dispatch Protocol and Caliraya Contingency Protocol... (and) eliminated the statutory basis for the approval of NPC’s request for Must-Run Unit Operations in times of calamities and emergencies”⁴;

¹ WESM Manual on Management of Must-Run Units Issue 4.0 that was in effect from 2007 until 2014

² Ibid.

³ NPC’s Discussion Paper of Proposal (ORCP-WM-22-03) submitted to RCC on 28 January 2022

⁴ NPC Letter to PEMC dated 10 December 2021 (received by PEMC on 21 December 2021)

WHEREAS, the Market Assessment Group of PEMC conferred with NPC on 12 January 2022 to be further clarified of their concerns and at the same time provide NPC a background on the RCC's discussions in 2013 for removing the subject criterion⁵:

PEMC-MAG explained that, based on the discussions of the Rules Change Committee (RCC) back in 2013 when the body was evaluating the MRU criteria, the specific case of NPC was not considered when local calamities and emergencies criterion was removed. The RCC's discussion on the matter focused on these scenarios:

- *when a grid is isolated due to extreme weather condition and a generator within that local area continues to provide power. This generator is considered a MRU but its designation as such shall be under the new criterion Real Power Balancing and Frequency Control;*
- *during local calamities and emergencies, it is likely that market intervention is declared and in such case the procedures under it and the administered price determination methodology shall apply.*

NPC was also unable to provide comments on the proposed amendments at that time.

WHEREAS, PEMC subsequently concurred with NPC's planned way forward of submitting a rules change proposal to the RCC to allow careful deliberation of the issue and NPC's proposal, and recommended NPC to review its proposal in the context of the 5-minute dispatch interval market and the DOE policy for Market Participants to manage their dispatch, i.e. self-dispatch, through their offers under the enhanced WESM design and operations;

WHEREAS, on 28 January 2022, the NPC submitted to the RCC its proposed urgent amendments to the WESM Manual on Dispatch Protocol to (i) reinstate "local calamities and emergencies" among the criteria and considerations for selection of MRUs, and (ii) prioritize dispatch of hydropower plants, if possible, in times of calamities when there is an excessive amount of stored water that threatens dam or public safety (see Annex B)⁶;

WHEREAS, following the procedures for processing proposed urgent amendments specified in Section 7.2 of the WESM Manual on Procedures for Changes to the WESM and Retail Rules and Market Manuals ("Rules Change Manual"), the RCC convened a special meeting (190th Meeting) on 08 February 2022 to determine if the proposal is urgent based on the criteria set forth in Section 3.1 of the Rules Change Manual, and if so, deliberate on the proposal for endorsement to the PEM Board;

WHEREAS, NPC provided justifications for submitting the proposal as urgent invoking Section 3.1(c) of the WESM Manual on Procedures for Changes to the WESM Rules, Retail Rules and Market Manuals⁷, and likewise presented an overview of the proposal and further information:

⁵ Highlights of PEMC-MAG and NPC Meeting held on 12 January 2022

⁶ NPC Discussion Paper

⁷ Section 3.1 Urgent Amendments, WESM Manual on Procedures for Changes to the WESM Rules, Retail Rules and Market Manuals, Issue 5.0:

Urgent Amendments are those which are needed:

xxx

- a) The proposal was submitted as urgent for the following reasons:
- (i) dam safety and public safety may be compromised without the proposed additional provisions in the criteria and considerations in the selection of MRUs. This is because MRU Operation is vital particularly during the incoming flood season as a means to lower reservoir elevation to safe levels in the occurrence of weather disturbances when there is an excess stored water in order to reduce the volume of water spilled through the spillway, and may even avert the conduct of spilling operations thus protecting the downstream from flooding and major damages;
 - (ii) MRU operation is also requested at times when the dam structures or appurtenances require immediate repair and are inoperable for spilling operation; and
 - (iii) there is an upcoming repair of the damaged portion downstream of the flip bucket of San Roque spillway which therefore restricts as much as possible dam spilling operations to reduce further damage in the dam structure, and the only option to regulate reservoir elevation is through MRU operation.
- b) MRU Operation is particularly valuable for San Roque Dam and Caliraya Dam in the following ways:
- (i) San Roque Dam is also used for irrigation and is required to maintain a certain water elevation thus making it more difficult for NPC to pre-emptively release water for power generation reasonably ahead of a weather disturbance;
 - (ii) Caliraya Dam is a special case compared with other dams because of its relatively smaller size such that water elevation increases quickly, even without the pumping operation of the Kalayaan Hydroelectric Power Plant
 - (iii) Unlike other dams, Caliraya Dam only has significantly shorter propagation time of 20 to 40 minutes before the water released through the spillway gates reach the communities within its proximity;
- c) MRU Operation prioritizes the use of stored water in the reservoir for power generation and provides revenues and, as applicable, additional compensation to the power plant operators;
- d) NPC's requests for their power plants to operate as MRU have been normally granted by the System Operator;
- e) Since NPC's MRU Operation was previously allowed on the grounds of local calamities and emergencies and, subsequently, even in the absence of those grounds, then there should be no difficulty for granting the proposed reinstatement of the subject MRU criteria; and
- f) Public safety should be a higher priority than grid security;

WHEREAS, the following comments were raised during the RCC's discussion:

- (a) The proposed re-instatement of "local calamities" and "emergencies" as MRU criteria is not aligned with the purpose of MRUs that was clarified in 2014, which is to ensure security and reliability of

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); xxx

the grid. While public safety should be a priority, it is a different matter altogether from the SO's main responsibility of ensuring electricity supply by maintaining grid security and reliability.

- (b) During calamities when there is a decrease in customer load resulting to occurrence of over-generation and over-frequency, it is likely that market intervention will be declared. In such cases, dispatching hydroelectric plants as MRUs will compromise the security of the grid.
- (c) Being designated and dispatched as MRU is not the only means for dams to be able to lower elevated reservoir levels. Hydroelectric power plants can instead manage or strategize their offers to ensure that they will be dispatched (e.g., submission of offers at lower prices, which could be zero or negative).

WHEREAS, having considered all the arguments raised, the RCC voted⁸ in favor of (i) not certifying the instant proposal as urgent, and (ii) remanding the proposal to NPC for revision, recommending that NPC's request for its plants to be dispatched in order to lower water reservoir levels during anticipated weather disturbance be included under the "non-security limit" category of over-riding constraints in the WESM Manual on Dispatch Protocol;

WHEREAS, on 18 February 2022, while finalizing this resolution during its 191st Meeting, the RCC noted the clarifications made by SN Aboitiz Power (SNAP) and Strategic Power Development Corp. (SPDC), which are the Trading Participants of the power plants situated at NPC-managed dams, that they adjust the offers for these power plants to be dispatched accordingly;

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

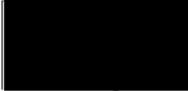
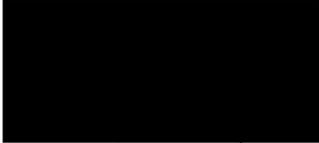
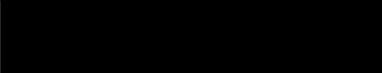
RESOLVED, the RCC does not find the proposal as submitted acceptable and does not satisfy the criteria for urgent amendments;

RESOLVED, that the RCC remands to the proponent the Proposed Urgent Amendments to the WESM Manual on Dispatch Protocol regarding Considerations and Criteria for Selection of Must-Run Units for revision based on the Committee's recommendation;

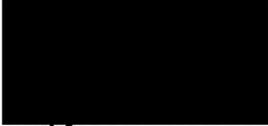
RESOLVED FURTHER, that, pursuant to Section 7.3 of the Rules Change Manual, the RCC endorses the proposal to the PEM Board for its concurrence with the RCC's decision and subsequent transmittal to the DOE for information;

Done this 18th day of February 2022, Pasig City.

⁸ Ten (10) votes: Generation sector (4), Distribution Utility sector (1), Supply sector (1), System Operator (1), Market Operator (1) Independent members (2)

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



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



Matrix of NPC's Proposed Amendments to the WESM Manual on Dispatch Protocol

Title	Section	Provision	Proposed Amendment		Rationale
17.2 Must-Run Unit Criteria	17.2.2	(to add provision)	<p><u>17.2.2 Additional Consideration</u></p> <p><u>When there is an excessive amount of stored water in the reservoir, dispatch of hydropower plants shall be prioritized and generating units shall be designated as MRUs to ensure dam and public safety particularly during:</u></p> <ul style="list-style-type: none"> • <u>Local Calamities – refers to short-term incidents (i.e. flooding, etc.) that would require designation of generators as MRUs to avert or minimize damage to infrastructures and to ensure safety of people living in affected localities.</u> • <u>Emergencies – refers to situations where there is an immediate need to lower reservoir elevation but spilling operation through the spillway cannot be made due to spillway gates or other dam appurtenances requiring repair.</u> 		<ul style="list-style-type: none"> - Public Safety: MRU Operation minimizes flooding downstream by pre-emptive water spillage through power generating turbines at the onset of any weather disturbances. - Priority dispatch should be given to hydropower plants in times of calamities where reservoirs are in excess of stored water to maximize the beneficial use of stored water while avoiding emission of air pollution from oil-based plants.
17.3 Criteria and Considerations of Selecting MRUs	17.3.2 Table 9	(to add rows in Table 9)	<p>MRU Criteria</p> <p><u>Local Calamities – refers to short-term incidents (i.e. flooding, etc.) that would require designation of generators as MRUs to avert or minimize damage to infrastructures and</u></p>	<p>Considerations for Qualifications/ Selection of MRUs</p> <ul style="list-style-type: none"> • <u>Generating units called to run as MRU to ensure dam and public safety by optimizing pre-emptive water discharge through power turbines in anticipation of incoming weather disturbances, minimizing spillage through the spillway gates and</u> 	<ul style="list-style-type: none"> - Caliraya Dam has no record of spilling operation through its spillway and its reservoir elevation is being maintained in safe levels through MRU. In addition, the flood propagation time from spillway to the downstream only takes around 25–40 minutes giving very limited time for the

Title	Section	Provision	Proposed Amendment		Rationale
			<u>to ensure safety of people living in affected localities.</u>	<u>mitigating flooding downstream.</u>	communities to take safety measures. - Volume of water spilled through MRU operation may generate additional compensation for the power plant operators. - Dam Safety: MRU Operation is the only option in lowering reservoir elevation immediately in situations where dam discharge through its spillway cannot be conducted due to dam structure/ appurtenances requiring repair.
<u>Emergencies – refers to situations when there is an immediate need to lower reservoir elevation but spilling operation through the spillway cannot be made due to spillway gates or other dam appurtenances requiring repair.</u>	<ul style="list-style-type: none"> • <u>MRU Operation is the only option to draw down reservoir elevation when needed, in situations where the spillway gates or other dam appurtenances are inoperable or under repair.</u> 				

