Effect of negative CALF values on the MVRN refusal/rejection process

Introduction

At the first meeting of the Issue 28 Group there was discussion of the effect of negative Credit Assessment Load Factor (CALF) values on the Metered Volume Reallocation Notification (MVRN) refusal/rejection process. This issue was first identified as part of the assessment of Modification P210 (approved). The Group requested clarification of the issue, which this document aims to deliver by providing an example of the circumstances in which this issue occurs.

Metered Volume Percentage Reallocations

Parties may submit MVRNs to reallocate percentages of the Metered Volumes of BM Units, for a number of Settlement Periods or on an ongoing basis. In this situation, the Party reallocating the Metered Volume percentage is the Lead Party, and the Party receiving the Metered Volume percentage is the Subsidiary Party.

For instance, a Generator may reallocate a percentage of the Metered Volume of its Production BM Unit from that BM Unit's Production Energy Account to the Production Energy Account of another Party. For example, a Generator BM Unit with an expected output of 500MWh might agree to reallocate 50% of its Metered Volume to a Generator Party Energy Account that has contracted to generate 400MWh but is short by 250MWh.

Therefore initially:

Generator: Production BM Unit (500MWh)	Generator: Production BM Unit (150MWh)

50% MVRN submitted by Generator:

Generator: Production BM Unit (**250MWh**) **LEAD PARTY**	→	Generator: Production Energy Account (**400MWh**) **SUBSIDIARY PARTY**

MVRN Refusal/Rejection

Under BSC Section M, a Party that enters Level 2 Credit Default (i.e. due to its Credit Cover Percentage exceeding 90%) is subject to refusal or rejection of any MVRNs it submits, or has previously submitted, which would have the effect of increasing its Energy Indebtedness.

BSC Section P 3.5 specifies that an MVRN that will be refused or rejected is 'one which, if in force, and not treated as rejected in relation to a Settlement Period (a "relevant" Settlement Period), would have the effect in relation to that Settlement Period of increasing the Energy Indebtedness (in accordance with Section M1.2) of the Party in Level 2 Credit Default.'

It is intended that this requirement is delivered via the Energy Contract Volume Aggregation Agent (ECVAA) User Requirement Specification (URS), which states (ECVAA-F007) that ECVAA will:

> 'Reject notification components for that Settlement Period that increase Indebtedness.

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For the avoidance of doubt, notifications are considered to increase Indebtedness where the Party is selling energy and to reduce Indebtedness where the Party is purchasing energy. Note: 'Indebtedness' refers to a Party's Energy Indebtedness to BSCCo Ltd as a result of imbalance charges.'

The ECVAA URS specifies that for Meter Volume Percentage Reallocations, the notification components that increase Indebtedness are defined as:

- If the BM Unit Type is Consumption, those where the Party is the Subsidiary Party;
- If the BM Unit Type is Production, those where the Party is the Lead Party.

Therefore, if the Lead Party Generator in the example above was in Level 2 Credit Default, the MVRN would be refused/rejected. It can be seen that this is because reallocation of the Metered Volume would tend to increase the Generator's Energy Indebtedness, thus further increasing its Credit Cover Percentage.

If however the Subsidiary Party Generator in the example above was in Level 2 Credit Default, the MVRN would be accepted. The reallocation would tend to decrease the Generator's Energy Indebtedness, thus decreasing its Credit Cover Percentage (without any additional Credit Cover being lodged).

Negative CALF Values

CALF values are used in the estimation of Parties' Credit Assessment Energy Indebtedness (CEI). CALF values are used in conjunction with the Generation Capacity (GC) of Production BM Units and Demand Capacity (DC) of Consumption BM Units to produce flat estimates of Metered Volumes.

However, there are Production BM Units for which on average demand exceeds generation (e.g. pumped storage plants) and Consumption BM Units for which on average generation exceeds demand (e.g. embedded generation). In order to accommodate these BM Units, they are assigned negative CALF values. This enables them to be net consumers while classed as Production BM Units, or net producers while classed as Consumption BM Units.

MVRN Refusal/Rejection for BM Units assigned Negative CALF Values

The issue under consideration by the Issue 28 Group concerns the situation where a Party has a BM Unit that has been assigned a negative CALF value and is also in Level 2 Credit Default.

For example, a Party's embedded generation may be classed as a Consumption BM Unit despite the fact that it is a net producer of energy volumes; if that Party then enters Level 2 Credit Default then, according to the BSC, any MVRN that increases its Energy Indebtedness will be rejected or refused. However, because the BM Unit is in actuality a generator the Party might submit an MVRN to reallocate a percentage of its Metered Volume production to another BM Unit. Though this would increase its Energy Indebtedness (and thus under the BSC should be rejected/refused) because the BM Unit Type is Consumption, and the Party is not the Subsidiary Party, under the ECVAA URS the notification is not defined as one which increases Energy Indebtedness; hence the ECVAA system will accept it.

Conversely, Production BM Units which are generators but net consumers of energy may submit MVRNs to reallocate a percentage of their consumption Metered Volume to a Production Energy Account. Though this would tend to decrease their Energy Indebtedness (and thus under the BSC should be accepted), according to the ECVAA URS it should be rejected because the BM Unit Type is Production and the Party is the Lead Party, thus the ECVAA system will reject/refuse the notification.

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The table below (Figure 1) shows the permutations of activity (i.e. generation/consumption *on the basis of their net energy volume production/use*), BM Unit Type (i.e. Production/Consumption) and MVRN Party status (i.e. Lead/Subsidiary) of BM Units of Parties in Level 2 Credit Default. The table shows the effect of these different combinations on energy indebtedness, whether they should be rejected or accepted under the BSC, and what the ECVAA URS prescribes regarding rejection/acceptance. The shaded entries show the erroneous refusal/rejections produced by the system (i.e. compared with what the BSC requires) on the basis of the ECVAA URS.

Party	Generator		Supplier		consumer that is net generator (e.g. embedded generation)		generator that is net consumer (e.g. pumped storage plant)	
Net Energy Volume Action	Produce		Consume		Produce		Consume	
BMU Type	Production		Consumption		Consumption		Production	
CALF	Positive		Positive		Negative		Negative	
MVRN Status	Lead	Subsid.	Lead	Subsid.	Lead	Subsid.	Lead	Subsid.
Effect on Energy Indebtedness	Increase	Reduce	Reduce	Increase	Increase	Reduce	Reduce	Increase
BSC Requirement	Reject	Accept	Accept	Reject	Reject	Accept	Accept	Reject
ECVAA URS (System action)	Reject	Accept	Accept	Reject	Accept	Reject	Reject	Accept

Figure 1: Impact on MVRNs of different Party's BM Units entering Level 2 Default

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Appendix: Negative CALF worked example based on embedded generation

(Prepared by LogicaCMG 16/07/07 for use by Issue 28 Group in considering Issue 28)

This worked example considers a very simple, imaginary GSP Group _S. Two suppliers have base BM Units in the GSP Group and there is one embedded generator, as below:

BM Unit: 2__SXXXX000: Demand Capacity = -500MW

Generation Capacity = 0MW

CALF = +0.5

BMCAEC = 0

BMCAIC = -250

Registrant: Party1

BM Unit: 2__SYYYY000: Demand Capacity = -250MW

Generation Capacity = 0MW

CALF = +0.25

BMCAEC = 0

BMCAIC = -62.5

Registrant: Party2

BM Unit: E_EMBED000: Demand Capacity = -20MW

Generation Capacity = 40MW

CALF = -0.60

BMCAEC = -24

BMCAIC = 12

Registrant: Party3

The Production/ Consumption flag for all BM Units within the GSP Group (who are members of it's Base Trading Unit) is assumed to be Consumption (i.e. the Embedded generator has not exercised any option it might have as an Exempt Export BM Unit to change it's P/C flag)

The embedded generator is therefore (assuming for the moment that no MVRN is in place for this BM Unit) providing a contribution of 6MWh (i.e. 0.5*BMCAIC) to the indebtedness of Party 3 in each Settlement Period for which CEI is being used.

If this output is then MVRNed to the Consumption account of a Subsidiary party, Party 4 (in this paper only a 100% reallocation is considered, fixed reallocations are treated in the same way as ECVNs) then ECVAA Credit Check will work such that:

Party 3: No contribution to credit assessment credited energy from BM Unit E_EMBED000 for each Settlement Period

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Party 4: 6MWh contribution to credit assessment credited energy from BM Unit E_EMBED000 for each Settlement Period (improving indebtedness)

Now supposing that Party 3 (as the Lead Party for BM Unit E_EMBED000) is in Level 2 Authorised Credit Default such that ECVAA Notification Rejection/Refusal is possible. No Rejection/Refusal of this 100% MVRN takes place even though the MVRN is worsening the position of Party 3 because only the credit position of the subsidiary party is considered for MVRN Refusal/Rejection for MVRNs relating to consumption BM Units.

Now supposing that Party 4 is in Level 2 Authorised Credit Default such that ECVAA Notification Rejection/Refusal is possible (Party 3 may have cleared Credit Default at this time but this does not affect the analysis presented here). Rejection/Refusal of the 100% MVRN **DOES** take place but MVRN actually improves Party 4's position.

In both cases the negative CALF value for E_EMBED000 inverts the anticipated behaviour that an MVRN from a consumption BM Unit will increase the Indebtedness of the Subsidiary Party to that MVRN around which the Rejection/Refusal rule used by ECVAA is based.

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