

WP48 – Volume Reallocation

EMRS Working Practice

Public

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Change Amendment Record

Version	Date	Description
1.0	1 August 2017	Go-live version
2.0	1 November 2017	Clarifications on Settlement data, CMVR registered participants and company roles.
3.0	14 November 2017	Updates to the CMVRN examples
4.0	25 April 2018	Minor content updates

1. Introduction

In the Capacity Market, Capacity Committed CMUs must fulfil their Capacity Obligations during a System Stress Event. After a stress event has occurred, Capacity Providers may use volume reallocation if they have under or over-delivered compared to their obligation. This can be done to reduce penalty charges they may face based on their performance during the Stress Event and provide a mechanism for over-delivering CMUs to receive earlier payments for their excess capacity.

1.1 Scope and Purpose of the Working Practice

The purpose of this document is to provide details on how Capacity Providers can participate in Volume Reallocation and the timescales associated with the process.

The document will provide answers to:

- What is volume reallocation?
- What incentive is there for Capacity Providers to participate in volume reallocation?
- How do I identify a CMU with which I can participate in volume reallocation?
- How do I initiate volume reallocation?
- How do I know if it is successful?
- What is the timeline for volume reallocation?

Volume reallocation takes place between the Capacity Providers of two contracting CMUs. EMRS’s role in volume reallocation is limited to publishing the register, validating and matching trades and settling on the positions at the close of the volume reallocation window. EMRS does not offer any advice on or have any role in the private arrangements between trading CMUs.

1.2 Main Users of this Working Practice and Responsibilities

Role	Responsibilities
EMR Settlement Ltd (EMRS)	Publishing the Capacity Volume Register (CVR), receiving, matching and validating Capacity Market Volume Reallocation Notifications (CMVRNs) and republishing the CVR to reflect new positions. Invoicing, collecting Penalty Charges and paying out Over-Delivery payments.
Delivery Body	Provide a list of qualified participants to EMRS
Capacity Providers	Submit valid CMVRNs and ensuring that they pay any penalties owed by the close of the volume reallocation window.

1.3 Associated Documents

This working practice is based upon but does not replace the regulations and rules overseeing the Capacity Market and should be read in conjunction with the following:

Document
Electricity Capacity Regulations 2014, and all subsequent amendments ¹
Capacity Market Rules 2014 and all subsequent amendments ²
G17 - Capacity Provider Payments ³
WP22 – Applicant & Capacity Provider Registration ⁴
WP25 – EMR Aggregation Rules ⁴
WP31 – Amending EMR Party Details ⁴

¹ Regulations can be found at <http://www.legislation.gov.uk/>

² Capacity Market rules can be found at <https://www.gov.uk/government/publications/capacity-market-rules>

³ <https://www.emrsettlement.co.uk/publications/guidance/>

⁴ <https://www.emrsettlement.co.uk/publications/working-practices/>

2. What is volume reallocation?

Volume reallocation is a mechanism where CMUs facing penalty charges for under-delivering during a System Stress Event, can trade volume with over-delivering CMUs to reduce the amount of penalty charges they owe. This involves the Capacity Provider submitting a file for the CMU which is trading away excess volume (the “transferor”) and the Capacity Provider who owns the CMU receiving the volume (the “transferee”) submitting an equal but opposite file (noting that the Capacity Providers may be the same). These files are known as Capacity Market Volume Reallocation Notifications (CMVRNs). EMRS is responsible for validating these files, matching them to their counterparts and notifying the Capacity Providers involved of the outcome. EMRS must also publish the Capacity Volume Register by 5pm daily during the volume reallocation window. CMUs with an Under-Delivery amount may be liable for Penalty Charges and those with an Over-Delivery amount could receive Over-Delivery payments at the end of the Delivery Year. Over-Delivery payments are funded by the amount of Penalty Charges collected. These payments are explained in G17 - Capacity Provider Payments⁵.

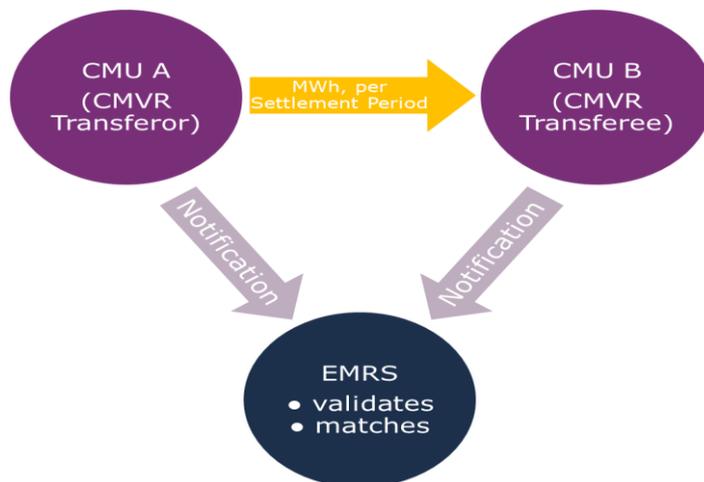


Figure 1: Process of Volume Reallocation

During a Stress Event Capacity Providers are obliged to deliver on their Capacity Agreement, whether this means an increase in generation or a decrease in demand.

Figure 1 - Delivering against Capacity obligation (generation) shows a Delivery Year where three Stress Events have occurred. In the first instance the generator is producing above the obligation which is considered “over delivery” and means they may be rewarded with an additional payment at the end of the Delivery Year. In the second and third Stress Events they are not producing enough electricity which is classed as “under delivery” and will be penalised with Penalty Charges after the end of the month (with the Penalty Charge for the second Stress Event larger than the third Stress Event as they have no output).

⁵ <https://www.emrsettlement.co.uk/publications/guidance/>

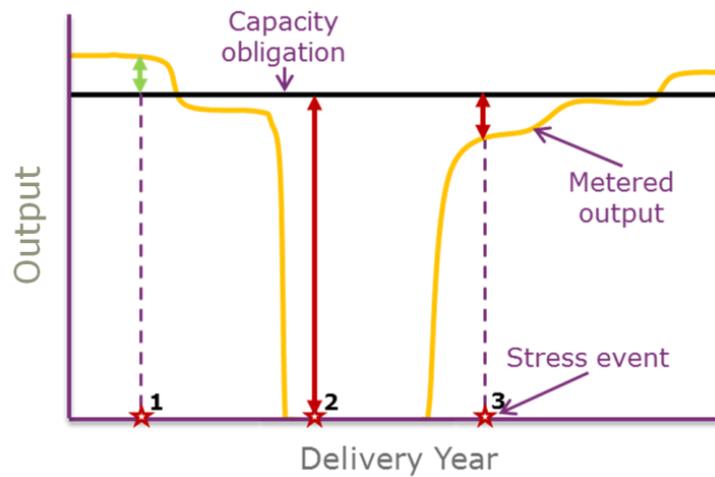


Figure 2: Delivering against Capacity obligation (generation)

There are two ways for the Capacity Provider to avoid being penalised. A Capacity Provider can trade either part of or their entire obligation for a period of time to another Capacity Provider in advance of the period that is being traded. Although they could not be certain a Stress Event would occur, if one then did (as shown in the diagram), they would have a reduced obligation to deliver against and therefore would have mitigated their penalties. This is shown in Figure 2.

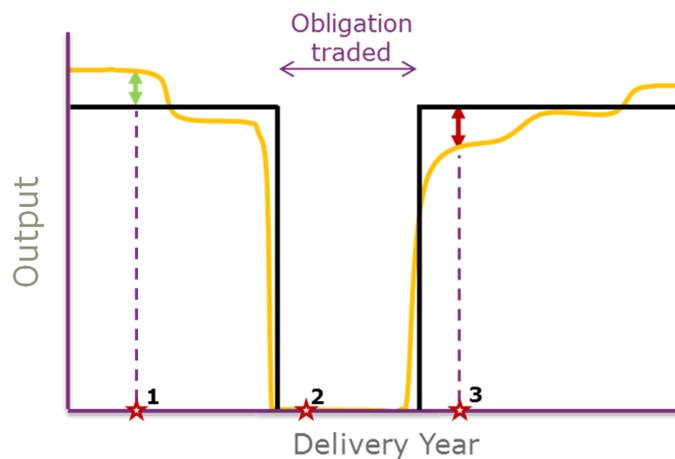


Figure 3: Obligation trading

The Capacity Provider in Figure 3 has not traded its obligation for the period covering the third Stress Event and it has not generated enough to meet its obligation (in the case of demand side response Capacity Providers they are judged on how much they reduce their demand). However, it can still avoid a penalty by using volume reallocation after the Stress Event has occurred. This requires another CMU to have over delivered in the same period and be willing to reallocate their volume to the CMU which has under delivered. Successfully using volume reallocation would reduce the amount of Penalty Charges the Capacity Provider is liable for with the potential of bringing the Capacity Provider up to having met their obligation. This is shown in Figure 4: Volume reallocation below.

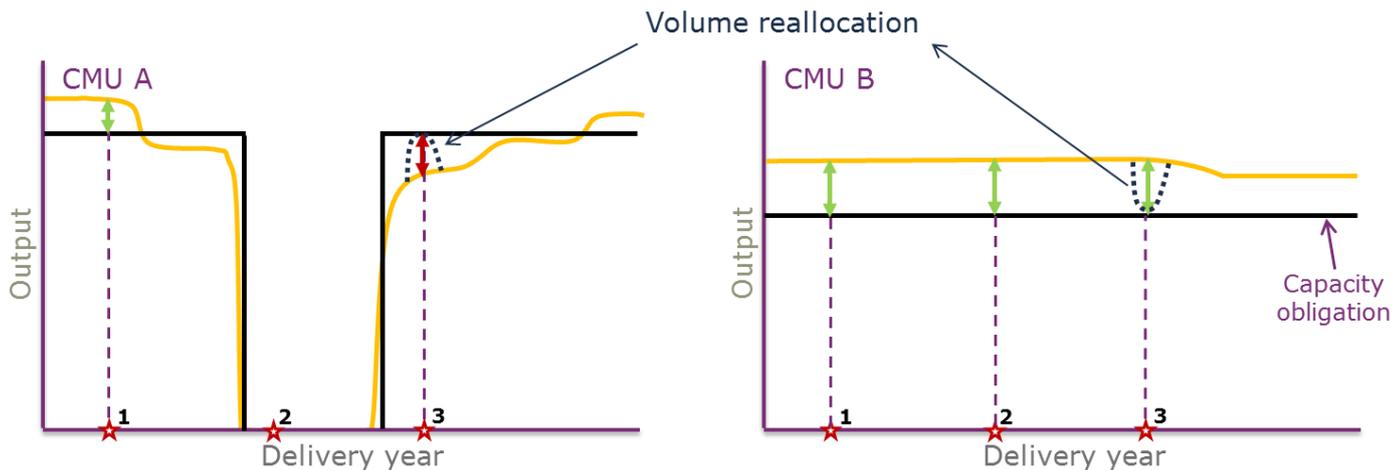


Figure 4: Volume reallocation

3. Who can participate in volume reallocation?

All Capacity Providers who own Capacity Committed Capacity Market Units (CMUs) may take part in volume reallocation during the Delivery Years for which those CMUs have a Capacity Agreement.

In addition, Capacity Providers who have successfully completed prequalification with the Delivery Body and registered themselves to take part in volume reallocation can also participate. The Delivery Body will maintain a register of the approved participants.

Capacity Providers who do not have a Capacity Obligation, either acquired through auction or via a physical trade with another CMU, but wish to participate in volume reallocation following a Stress Event should contact the Delivery Body to register to take part. Please note that these Capacity Providers are still required to complete all registration⁶ and metering assurance activities with EMRS and the Delivery Body and ensure that EMRS has agreed aggregation rules⁶ for the CMUs.

CMUs will need to submit Capacity Market Volume Reallocation Notifications (CMVRNs) in order to complete trades. EMRS will accept CMVRNs from the following roles from each Capacity Provider:

- Primary Party Authority
- Finance Authority
- Operating Authority
- Trading Contact

⁶ WP22- Applicant & Capacity Provider Registration and WP25- EMR Aggregation Rules <https://www.emrsettlement.co.uk/publications/working-practices/>

4. What incentive is there for Capacity Providers to participate in volume reallocation?

Penalties for Under-Delivery are calculated and invoiced monthly whereas Over-Delivery Payments are calculated and paid at the end of a Delivery Year. Furthermore, Over-Delivery Payments are limited by how much is collected in penalties. Capacity Providers may want to participate in volume reallocation between their own CMUs or with CMUs owned by another Capacity Provider.

Participating in volume reallocation can mean that the Capacity Provider who has CMUs which have over-delivered receives a payment sooner (if charging another Capacity Provider) and possibly for a greater amount than they would in Over-Delivery payments at the end of the Delivery Year.

Capacity Providers who have CMUs that have under-delivered will be seeking to pay less for the volume reallocation than the penalty would cost. Information on penalty charge calculation can be found in G17- Capacity Provider Payments⁷. Please note that the price of the arrangement is a commercial agreement between Capacity Providers and EMRS has no part to play in setting the value of these trades.

5. How do I identify a CMU which can participate in volume reallocation?

The Capacity Volume Register is published daily on the EMRS website during the period of volume reallocation. It contains information on each CMU's performance in relation to its Adjusted Load Following Capacity Obligation (ALFCO), i.e. what it needs to deliver. This information may be used by Capacity Providers to determine which CMUs qualify as a CMVR Transferee or a CMVR Transferor. Please see Appendix 1 for more information on the columns of the register.

Capacity Providers can use volume reallocation between their own CMUs or make contact with other Capacity Providers and agree to participate in volume reallocation between their respective CMUs. Please note that currently EMRS will not be able to release contact details.

⁷ <https://www.emrsettlement.co.uk/publications/guidance/>

6. How do I initiate volume reallocation?

The owner(s) of each participating CMUs needs to email EMRS a Capacity Market Volume Reallocation Notification (CMVRN) in CSV format. EMRS must receive one from the CMVR Transferor and one from the CMVR Transferee. The volume in the file for the CMVR Transferor should have minus signs and the CMVR Transferee file should contain the same volume as a positive number. The Settlement Period(s) specified in the files must be covered by a System Stress Event as published on the initial CVR. Trading Capacity Providers cannot switch from buying to selling, or vice-versa, in the same file and will need to submit a separate CMVRN to trade in the opposite direction.

Please note, that in the instance where a CMU has been transferred between two Capacity Providers by a Physically Traded Capacity Obligation (PTCO), only the Capacity Provider against which the CMU is registered on the settlement date of the Stress Event can submit a volume reallocation notification. Penalties are apportioned based on the number of days in the month the CMU is held by each Capacity Provider (as defined in the Regulations).

7. How do I know if it is successful?

If EMRS system matches a notification with its equal and opposite notification then this will be reflected in the next publication of the Capacity Volume Register. Anyone can check the position of CMUs using the Capacity Volume Register which will be published daily during the period of volume reallocation and will show the latest position. A worked example in the appendix shows the Capacity Volume Register before and after trades have taken place and the CMVRNs submitted by the CMU owners for the trade.

You cannot trade volume that would take you to the other side of your ALFCO. For example, if a Capacity Provider had over delivered by 10MWh then this is the maximum they can trade away. They can do this through more than one trade e.g. trade 5 MWh to one Capacity Provider and 5MWh to another. This is also the case for a Capacity Provider who has under-delivered; they can make multiple trades to top up their output as long as this does not result in them exceeding their ALFCO. Consequently, the limit of volume that you can trade is in the IOD or IUD column. EMRS will accept trades as and when they are submitted so subsequent trades that would take a CMU to the other side of their ALFCO would not be accepted.

8. What is the timeline for volume reallocation?

Volume reallocation is only triggered when there has been a Stress Event. By 5pm on the 10th working day after the end of the month in which the Stress Event occurred, EMRS will publish the Capacity Volume Register on the EMRS website⁸ so that Capacity Providers can see their positions. The volume reallocation window, during which Capacity Providers can trade volume, is open from the 11th Working Day until the 19th Working Day inclusive. CMVRNS are accepted by EMRS from 8.30am to 4pm and the result of those

trades will be featured in the updated Capacity Volume Register published by 5pm each day. Any CMVRNs received after 4pm will be included in the register published the following day. By 10am on the 20th Working Day EMRS will publish a final Capacity Volume Register which will give everybody’s final positions as at the close of the window (5pm on WD19). After the volume reallocation window

i – Please take note that if a Settlement Run takes place while the volume reallocation window is open, the updated data will be used to recalculate your performance during the Stress Event. You may see an adjustment in your calculated performance (E) before the close of the window which would also affect any over or under delivery volume you have.

closes EMRS will calculate and invoice penalties to those Capacity Providers with CMUs who continue to have Under-Delivery volume at the close of the window.

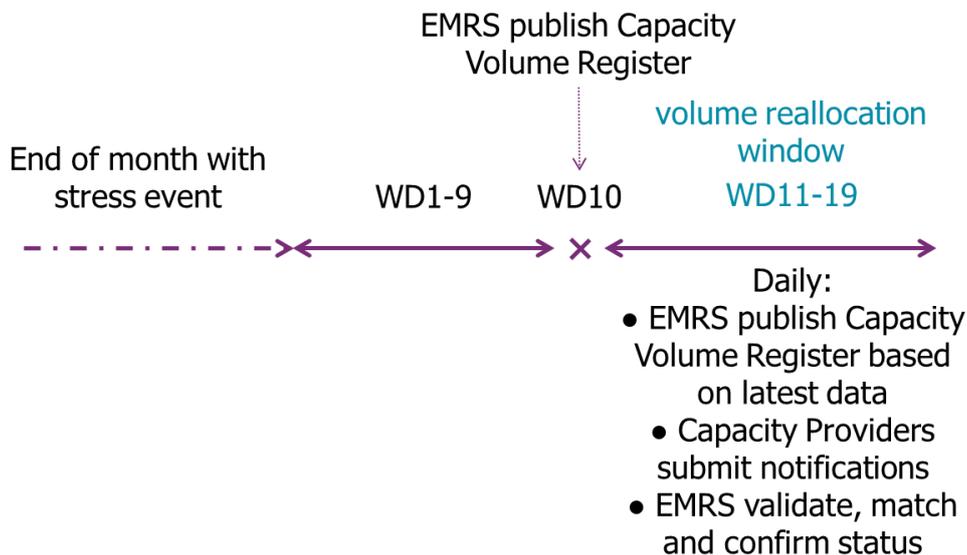


Figure 5: Volume reallocation timeline

⁸ <https://www.emrsettlement.co.uk/>

9. Interface and timetable information

9.1 Submission of Capacity Market Volume Reallocation Notification

This is the process for submitting CMVRNs to EMRS.

Ref	When	Action	From	To	Input Information Required	Method
9.1.1	Prior to the start of the Delivery Year	The Delivery Body will provide a list of qualified participants to the Settlement Body	Delivery Body	EMRS	List of qualified participants	Internal process
9.1.2	10 WD after the end of the month in which there has been a Stress Event and by 17:00	Publish Capacity Volume Register on EMRS website	EMRS		Capacity Volume Register	Online
9.1.3	Between 11 WD and 19 WD after the end of the month in which there has been a Stress Event	Submit CMVRN	Transferor and transferee	EMRS	Capacity Market Volume Reallocation Notification from both the transferor and the transferee. Please see appendix for examples	Email
9.1.4	Within 1WD of 9.1.3	Validate and match the CMVRNs	EMRS	CMVRN transferor and transferee		Internal process
9.1.5	Within 1WD of 9.1.3	Send notification report of whether the trade has been successful or not	EMRS	CMVRN transferor and transferee	If unsuccessful, the notification email should list all the reasons why	Email

Ref	When	Action	From	To	Input Information Required	Method
9.1.6	Every day between 11 WD and 19 WD after the end of the month in which there has been a Stress Event	Republish the updated CVR by 17:00 to reflect validated trades END PROCESS	EMRS		Validated trades	Online
9.1.7	21 WD after the end of the month in which a Stress Event has occurred	Issue invoice for any Under-Delivery volume remaining after the close of the volume reallocation window END PROCESS	EMRS	Capacity Providers	Invoice	Email

10. Contact Information

For all queries, please contact:

Contact Organisation	Contact
EMR Settlement Ltd	Telephone: 020 7380 4333 Email: contact@emrsettlement.co.uk

11. Acronyms and Definitions

A full list of acronyms and definitions included within this document can be found on the EMRS website⁹.

⁹ <https://emrsettlement.co.uk/publications/guidance/>

12. Appendix 1 - Capacity Volume Register

The Capacity Volume Register (CVR) will be published every day by 5pm between the 10th and 19th Working Day inclusive after the end of the month in which a Stress Event occurred.

The CVR will include the following for each Settlement Period in the previous calendar month which was a System Stress Event and in respect of each CMU:

- The capacity delivered by a CMU (i) during the Settlement Period (j), (E)¹⁰;
- The Adjusted Load Following Capacity Obligation (ALFCO)¹¹;
- (if any) the Initial Over-Delivery Volume (IOD);
- (if any) the Initial Under-Delivery Volume (IUD);
- The Aggregated traded Capacity Market Volume (ACMV); and
- The adjusted metered output (AE), which is equal to E plus ACMV.

These are shown as the column headings in Table 1: Capacity Volume Register Headings below.

Table 1: Capacity Volume Register Headings

Settlement Date	Settlement Period	CMU Id	E	ALFCO	IOD	IUD	ACMV	AE
dd/mm/yyyy		xx abc_12	xx.xxx	x.xxx	xx.xxx	xx.xxx	x	xx.xxx

¹⁰ Determined in accordance with Capacity Market Rule 8.6

¹¹ Determined in accordance with Capacity Market Rule 8.5

13. Appendix 2 - Capacity Market Volume Reallocation

Notification

A CMVRN must be sent by both the transferor and the transferee. The format of the notification is shown below and should be submitted in .csv format. The volume to be transferred in the notifications from each party must be equal but of opposite signs; negative for the transferor and positive for the transferee.

Table 2: Capacity Volume Reallocation Notification Template

CMVR,EMR Party ID of submitting company
CMVRN_Transferor CMU ID_Transferee CMU_ID_Trade ID
From EMR Party ID,CMU ID
To EMR Party ID,CMU ID
Settlement Date,Settlement Period,volume to 3 d.p.
FTR

Trading Capacity Providers must ensure that their matching CMVRNS contain a matching unique trade ID.

14. Appendix 3 - Capacity Market Volume Reallocation Examples

In the example below, a Stress Event has occurred between periods 33-46 on 27 April 2017. ENG_01 has over-delivered in each period and GEN_12 has under-delivered in each period. Capacity Providers, ENGECORP and GEN, agree to trade and transfer some volume from ENG_01 to GEN_12.

Table 3: Capacity Volume Register Example

Settlement Date	Settlement Period	CMU ID	E	ALFCO	IOD	IUD	ACMV	AE
27/04/2017	33	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	33	GEN_12	0	120	0	120	0	0
27/04/2017	34	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	34	GEN_12	0	120	0	120	0	0
27/04/2017	35	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	35	GEN_12	0	120	0	120	0	0
27/04/2017	36	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	36	GEN_12	0	120	0	120	0	0
27/04/2017	37	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	37	GEN_12	0	120	0	120	0	0
27/04/2017	38	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	38	GEN_12	0	120	0	120	0	0
27/04/2017	39	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	39	GEN_12	0	120	0	120	0	0
27/04/2017	40	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	40	GEN_12	0	120	0	120	0	0
27/04/2017	41	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	41	GEN_12	0	120	0	120	0	0
27/04/2017	42	ENG_01	300.02	200	100.02	0	0	300.02
27/04/2017	42	GEN_12	0	120	0	120	0	0
27/04/2017	43	ENG_01	197.48	100	97.48	0	0	197.48
27/04/2017	43	GEN_12	0	110	0	110	0	0
27/04/2017	44	ENG_01	197.48	100	97.48	0	0	197.48
27/04/2017	44	GEN_12	0	110	0	110	0	0
27/04/2017	45	ENG_01	197.48	100	97.48	0	0	197.48
27/04/2017	45	GEN_12	0	110	0	110	0	0
27/04/2017	46	ENG_01	197.48	100	97.48	0	0	197.48
27/04/2017	46	GEN_12	0	110	0	110	0	0

ENGECORP and GEN have agreed to transfer 100.020 MWh in periods 33 to 42 and 97.480 in periods 43 to 46 from ENG_01 to GEN_12. Both CMU owners must submit a CMVRN to EMRS. The values in column C in the CMVRN submitted by ENGECORP are negative values; this is because EMRS will deduct this amount from the capacity they delivered during the specified periods. The values in the corresponding CMVRN from GEN are the same but positive. If the values in the CMVRNs do not match or do not have the correct signs, EMRS will reject the CMVRNs and email both submitting Capacity Providers the reasons why the trade was rejected.

Table 4: Capacity Volume Reallocation Notification Examples

CMVR, GEN	CMVR, ENGECORP
CMVRN_ENG_01_GEN_01_101	CMVRN_ENG_01_GEN_01_101
ENGECORP, ENG_01	ENGECORP, ENG_01
GEN, GEN_12	GEN, GEN_12
27/04/2017, 33, 100.020	27/04/2017, 33, -100.020
27/04/2017, 34, 100.020	27/04/2017, 34, -100.020
27/04/2017, 35, 100.020	27/04/2017, 35, -100.020
27/04/2017, 36, 100.020	27/04/2017, 36, -100.020
27/04/2017, 37, 100.020	27/04/2017, 37, -100.020
27/04/2017, 38, 100.020	27/04/2017, 38, -100.020
27/04/2017, 39, 100.020	27/04/2017, 39, -100.020
27/04/2017, 40, 100.020	27/04/2017, 40, -100.020
27/04/2017, 41, 100.020	27/04/2017, 41, -100.020
27/04/2017, 42, 100.020	27/04/2017, 42, -100.020
27/04/2017, 43, 97.480	27/04/2017, 43, -97.480
27/04/2017, 44, 97.480	27/04/2017, 44, -97.480
27/04/2017, 45, 97.480	27/04/2017, 45, -97.480
27/04/2017, 46, 97.480	27/04/2017, 46, -97.480
FTR	FTR

Once EMRS has matched and validated the CMVRNs, it will adjust the CMUs' positions in the CVR and republish the register by 5pm on the following day. Capacity Providers can see their adjusted output and Over and Under-Delivery amounts in the AE, IOD and IUD columns as the window remains open and trades are completed. The Aggregated traded Capacity Market Volume column (ACMV) is a cumulative figure of the total amount of volume that each CMU has traded while the volume reallocation window is open.

The adjusted metered output (AE) for ENG01's AE has been reduced to 200 and 100, and increased to 100.02 and 97.48 for GEN_12 in periods 33-42 and periods 43 to 46 respectively. This has the effect of reducing any penalties that GEN_12 was facing and the Over-Delivery payment that may have been due to ENG_01 at the end of the Delivery Year.

Table 5: Capacity Volume Register Example

Settlement Date	Settlement Period	CMU ID	E	ALFCO	IOD	IUD	ACMV	AE	
27/04/2017		33	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		33	GEN_12	0	120	0	19.8	-100.02	100.02
27/04/2017		34	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		34	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		35	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		35	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		36	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		36	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		37	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		37	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		38	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		38	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		39	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		39	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		40	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		40	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		41	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		41	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		42	ENG_01	300.02	200	0	0	-100.02	200
27/04/2017		42	GEN_12	0	120	0	19.8	100.02	100.02
27/04/2017		43	ENG_01	197.48	100	0	0	-97.48	100
27/04/2017		43	GEN_12	0	110	0	12.52	97.48	97.48
27/04/2017		44	ENG_01	197.48	100	0	0	-97.48	100
27/04/2017		44	GEN_12	0	110	0	12.52	97.48	97.48
27/04/2017		45	ENG_01	197.48	100	0	0	-97.48	100
27/04/2017		45	GEN_12	0	110	0	12.52	97.48	97.48
27/04/2017		46	ENG_01	197.48	100	0	0	-97.48	100
27/04/2017		46	GEN_12	0	110	0	12.52	97.48	97.48

ENG_01's Over-Delivery amount was reduced by the amount it traded away

GEN_12's Under-Delivery amount was reduced by the amount that was reallocated to it

If GEN_12 does not engage in any further trading while the window is open, they will be invoiced for Penalty Payments based on the remaining volume left in the IUD column.

On the 21st Working Day after the end of the month in which a Stress Event occurred, Under-Delivery Penalty invoices are issued with payment due 5 Working Days later. Over-Delivery Payments are calculated and paid out at the end of the Delivery Year as long as EMRS has received any Under-Delivery Penalty Payments due.



EMR
SETTLEMENT
LIMITED

