

Single Electricity Market

|  |
| --- |
| Final REcommendation Report  Mod\_12\_13: amendment to special units pumped storage definition to include energy storage  22 september 2015 |

COPYRIGHT NOTICE

All rights reserved. This entire publication is subject to the laws of copyright. This publication may not be reproduced or transmitted in any form or by any means, electronic or manual, including photocopying without the prior written permission of EirGrid plc and SONI Limited.

DOCUMENT DISCLAIMER

Every care and precaution is taken to ensure the accuracy of the information provided herein but such information is provided without warranties express, implied or otherwise howsoever arising and EirGrid plc and SONI Limited to the fullest extent permitted by law shall not be liable for any inaccuracies, errors, omissions or misleading information contained herein.

Document History

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Date** | **Author** | **Comment** |
| 1.0 | 11 Sept 15 | Modifications Committee Secretariat | Issued to Modifications Committee for review and approval |
| 2.0 | 22 Sept 15 | Modifications Committee Secretariat | Issued to Regulatory Authorities for final decision |

Reference Documents

|  |
| --- |
| **Document Name** |
| [Trading and Settlement Code](http://semopub/MarketDevelopment/MarketRules/TSC.docx) |
| [Mod\_12\_13 Amendment to Special Units Pumped Storage Definition to Include Energy Storage](http://semopub/MarketDevelopment/ModificationDocuments/Mod%2012_13%20V1.0.docx) |
| [Meeting 53 Slides](http://semopub/MarketDevelopment/ModificationDocuments/Mod_12_13%20AES%20Slides%20Meeting%2053.pptx) |
| [Conference Call](http://semopub/MarketDevelopment/ModificationDocuments/Conf%20Call%20Note%201.0.docx) |
| [Test Results Analyst Report](http://semopub/MarketDevelopment/ModificationDocuments/Battery%20Storage%20Test%20July%202014%20(2)%20Word%20doc.doc) |
| [Test Files](http://semopub/MarketDevelopment/ModificationDocuments/Battery%20Storage%20test%20files%2020140709.zip) |
| [Test Files](http://semopub/MarketDevelopment/ModificationDocuments/Battery%20Storage%20test%20files%2020140710.zip) |

Table of Contents

[1. MODIFICATIONS COMMITTEE RECOMMENDATION 3](#_Toc429745594)

[**Recommended for approval – majority Vote** 3](#_Toc429745595)

[2. Background 3](#_Toc429745596)

[3. PURPOSE OF PROPOSED MODIFICATION 3](#_Toc429745597)

[**3A.) justification of Modification** 3](#_Toc429745598)

[**3B.) Impact of not Implementing a Solution** 4](#_Toc429745599)

[**3c.) Impact on Code Objectives** 4](#_Toc429745600)

[4. Assessment of Alternatives 4](#_Toc429745601)

[5. Working Group and/or Consultation 4](#_Toc429745602)

[6. impact on systems and resources 4](#_Toc429745603)

[7. Impact on other Codes/Documents 4](#_Toc429745604)

[8. MODIFICATION COMMITTEE VIEWS 4](#_Toc429745605)

[**Meeting 52** 4](#_Toc429745606)

[**Meeting 53** 5](#_Toc429745607)

[**Meeting 54** 7](#_Toc429745608)

[**Meeting 55** 8](#_Toc429745609)

[**Meeting 56** 9](#_Toc429745610)

[**Meeting 57** 10](#_Toc429745611)

[9. Proposed Legal Drafting 11](#_Toc429745612)

[10. LEGAL REVIEW 12](#_Toc429745613)

[11. IMPLEMENTATION TIMESCALE 12](#_Toc429745614)

[Appendix 1: Mod\_12\_13 amendmene to special units pumped storage definition to include energy storage 13](#_Toc429745615)

# MODIFICATIONS COMMITTEE RECOMMENDATION

## Recommended for approval – majority Vote

* The proposal was Recommended for Approval subject to legal drafting change from “Energy storage” to “Pumped Storage and Battery storage”.

|  |  |  |
| --- | --- | --- |
| **Recommended for Approval (by Majority Vote)** | | |
| Aine Dorran | Generator Member | Approved |
| Brian Mongan | Generator Member | Approved |
| Connor Powell | Supplier Member | Approved |
| Julie-Anne Hannon | Supplier Alternate | Approved |
| Kevin Hannafin-Chair | Generator Member | Approved |
| Mary Doorly | Generator Alternate | Approved |
| Patrick Liddy | DSU Member | Abstain |
| William Carr | Supplier Member | Approved |
| William Steele | Supplier Member | Approved |

# Background

This Modification Proposal was raised by the AES and was received by the Secretariat on 20 November 2013. The proposed change is to modify the specific reference to ‘Pumped Storage’ to a more generic reference to ‘Energy Storage’. This shall treat all plant and equipment with similar systems and capabilities equally in the Single Electricity Market.

The Modification Proposal was discussed at Meetings 52 to Meeting 57 on 02 October 2014 where it was voted on.

# PURPOSE OF PROPOSED MODIFICATION

## 3A.) justification of Modification

The Code Objective No.3 states ***“*to facilitate the participation of electricity undertakings engaged in the generation, supply or sale of electricity in the trading arrangements under the Single Electricity Market*”.***

The Code Objective No6 states ***“to ensure no undue discrimination between persons who are parties to the Code”.***

There are different types of Energy Storage processes available, and the TSC should facilitate the participation of these within its structure. This is done through the various TSC clauses, and specifically through clause 5. This identifies how a generator / supplier / process is to be categorised and treated.

Pumped Storage is one of the Energy Storage processes, although it has its’ own specific process and terminologies. Should each process be given its unique definition then the TSC could be seen as becoming cluttered. By modifying the wording to encompass Pumped Storage as well as other processes with similar capabilities would mean that there would be no discrimination between these processes.

## 3B.) Impact of not Implementing a Solution

Not implementing this modification shall mean that non “Pumped Storage” energy storage processes shall not be facilitated in the Market, and they shall be discriminated against. It would also mean that the interests of consumers may not be fully promoted.

## 3c.) Impact on Code Objectives

The implementation of this Modification will fulfil the following code objectives;

3. to facilitate the participation of electricity undertakings engaged in the generation, supply or sale of electricity in the trading arrangements under the Single Electricity Market

6. to ensure no undue discrimination between persons who are parties to the Code

7. to promote the short-term and long-term interests of consumers of electricity on the island of Ireland with respect to price, quality, reliability, and security of supply of electricity

This modification shall allow current technologies access to the SEM, with similar capabilities to Pumped Storage. This meets Objective 3 requirements as well as ensuring that Objective 6 is also met.

In addition to this it is also possible that Objective 7 shall be addressed via the potential impact to security of supply, and impact to price, quality, and reliability.

1. **Assessment of Alternatives**

N/A

# Working Group and/or Consultation

N/A

# impact on systems and resources

N/A

# Impact on other Codes/Documents

N/A

# MODIFICATION COMMITTEE VIEWS

## Meeting 52

Proposer outlined the intention of the proposal; to introduce a more generic definition for energy storage as opposed to defining rules for every new storage technology that has similar capabilities to that of pumped storage that may operate in the market and expressed the view that the current rules are discriminatory.

Vice-chair noted that a broad definition of energy storage may not be accurate enough to encompass all types of storage. Generator Member was in agreement with this. The CAES proposal was also discussed as it too is a storage unit, but it was acknowledged by the proposer that a CAES unit has a fuel element which makes it unique, however batteries, fly wheels and pumped storage are all storage types that may have similar characteristics.

DSU Member questioned why the rules were written with a section specific to Pumped Storage. SO Member advised that Pumped Storage was the only type in existence at Market start and is treated differently in the market, which needed to be reflected in the Market Rules. The issue of discrimination was also discussed with varying views as to whether developing rules for specific units is discriminatory to other units.

MO Member requested that the proposer provide a greater level of detail with regard to the compatibility of the unit type under consideration, with the existing rules for Pumped Storage. MO Member stated that it would be necessary to confirm that the technical characteristics of battery storage are analogous to that of a Pumped Storage unit and said that it would be helpful if the proposer would give a presentation in this regard. . Proposer agreed to deliver a presentation on battery storage to the Committee at the next meeting.

Proposer advised that the timescale for implementing this unit type is early 2015 emphasising preference that the proposal be developed in time for the February 2014 CMS cut-off date.

Generator Member advised that it will most likely be necessary to test to see if characteristics of a battery storage unit are compatible with that of Pumped Storage.

Proposer believes that unit specific rules act as a barrier to entry for energy storage technologies other than that of Pumped Storage.

Generator Member added that new technologies must be defined prior to becoming active in the SEM, otherwise there is a risk of undermining some of the characteristics of the technology. MO Member advised that it is necessary to have detail on technical offer data of a unit in advance of a unit becoming registered.

Airtricity observer noted that, should the wording change be implemented, the risk of the rules being incompatible with the unit type lies with the Participant.

Proposer questioned if modifying the definition from specific to the general may have any unintended consequences. SO member appreciated that the MO’s request for additional information is reasonable to ensure such a unit will fit with both the rules and system, emphasising that the MO has a responsibility to ensure compatibility of all aspects.

SO Member requested a view from the committee that if the current MW De-Minimus level should require relatively small energy storage devices to participate in the market, should there be an energy MWh De-Minimus level.

## Meeting 53

Secretariat provided background advising that the proposal was raised and discussed at Meeting 52.

Proposer presented slides providing more technical information on the proposal. Proposer stated that this type of energy storage is useful for islanded systems. Further advised that the storage can be transmission distribution connected which is effective where there are wind farms.

SO Member queried as to the capacity of the individual containers. Proposer advised that there is 5MW per container and that there is ample space for the containers at power stations.

MDP Member queried as to the connection voltage for the technology. Proposer clarified that the connection voltage is specific for each location.

DSU Member queried as to whether a cycling or storage cost would be incurred and whether there is a level that would cause damage to the equipment.

Proposer clarified that the equipment would be cycling with an 85 % efficiency, further advising that losses incurred are due to what cycling the units are requested to perform.

DSU Member queried as to whether the proposer will be actively trying to prevent cycling.

Proposer advised that as market does not provide for energy storage to receive constraint payments, the plan is for utilisation of the technology in ancillary services.

Chair queried as to how the energy storage would operate in PJM. Proposer advised that AES are looking for a contract for the storage specifically in ancillary services.

Chair queried as to the differences between pumped storage and the battery storage. Proposer advised that although there is a direct comparison between the two, the AES project does not have the same storage capacity as Turlough Hill, reiterating that it is highly suitable for islanded countries such as Ireland.

MDP Member queried as to whether AES had considered the possibility of a fire hazard occurring within a container. Proposer advised that the containers are air-conditioned, sealed and modular in design and that AES dot foresee this as a tangible risk. Further advised that the standard fire and health and safety precautions will apply as is the case for any equipment warehouse.

Chair queried in relation to the meeting that took place between SEMO, the TSO and AES. MO Member confirmed that the meeting took place in December 2013 at which AES provided similar information to that presented at the meeting and that SEMO had initial discussions on whether there would be any issues with putting a second pumped storage unit into the market with the systems vendor. ABB said that in principle the market systems should be able to handle an additional pumped storage unit, but that it would have to be tested and had some concerns regarding the special implementation of pumped storage in RCUC. Separately, the MO has asked ABB about their experience with similar units in other markets and whether the existing pumped storage rules were the best way for them to be incorporated into the market or whether alternate rules would be more suitable.

Proposer advised that the units must enter the SEM due to their size and this was the reason why the proposal was raised.

Chair queried as to the length of time it will take for the testing to complete. MO Member advised that the testing will be completed as quickly as possible, however it is not possible to advise how long it will take.

Proposer queried as to what the testing results will indicate. MO Member advised that the testing would identify whether any system changes were necessary to incorporate a second pumped storage unit in the market systems and if so the associated cost.

MDP Member sought clarification with the issue around introducing more units to the system. MO Member advised that it may be appropriate to look at the Capacity Payment rules for Pumped Storage and whether they are appropriate for battery storage. MO Member advised that that the proposal needs to be investigated thoroughly in order to be fully informed.

MO Member advised that the Committee must decide whether the proposed inclusion of battery storage using the same rules as pumped storage is the correct way to include battery storage in the market.

MO Member asked whether any of the Committee had a view on the question asked by the SO member at Meeting 52 - whether an energy storage MWh De-Minimus level should be put in place for energy storage. Supplier Alternate advised of the view that although the MWh capacity is relatively small, the MW output is significant and therefore it probably should be in the market.

DSU Member expressed opinion that the Committee should modify the market rules first, with SEMO adapting the systems subsequent to the rules change

Chair advised that standard procedure advocates that the Committee have full information of the system implications of any proposal prior to approving any proposed legal drafting changes. Chair further advised that it is important to have the results of the testing to ascertain how much implementation of the proposal will cost the market and the customer.

Chair and proposer expressed the view that the decision on a De-Minimus level for energy storage is a Regulatory decision.

Lengthy discussion ensued as to whether it was necessary for SEMO to procure an IA or whether the proposal should be voted on prior to receiving the IA results. The Committee decided that it was necessary for SEMO to begin an IA on the proposal.

Secretariat advised that a vote could take place if the Committee wish, however, it is in the interest of the proposal to wait and receive the IA results in order to allow for the Committee to fully consider all implications of the proposal and to cast an informed vote once all the relevant information has been received.

RA Member confirmed that from a Regulatory perspective, in order to make a decision on an FRR, it is imperative that full detail of all aspects of a proposal including costs must be included in the FRR.

MO Member reiterated that no vote is necessary for the IA to progress.

Supplier Alternate expressed agreement that an indication of cost is necessary before voting.

Generator Member expressed opinion that the Committee must decipher whether what is proposed is the correct modification and whether it is appropriate. Proposer expressed AES desire to have the proposal included within the October 2014 release, the cut-off date for this is the 21st February.

Proposer sought clarification as to whether it is necessary to IA every proposal with systems impacts and expressed the opinion that SEMO should initiate an IA as soon as proposals with systems impacts are raised.

MO Member advised that SEMO cannot initiate an IA without Committee approval as there are associated costs, for example the IA for CAES cost €13,900 in vendor costs plus SEMO’s additional resource costs.

Proposer advised that when AES raised the proposal, they did not believe that an IA would be necessary.

MDP Member reiterated that a vote at the Meeting would be premature and that voting on the merit of a proposal that may or may not fit the system is simply not prudent.

DSU Member queried as to whether there are any other issues or barriers that should be addressed to facilitate a vote for example from the TSO or RA perspectives.

SO Member advised that a RCUC IA would also be required as is standard practice for any proposal that may affect the systems. Chair summarised that the testing would include addition of another Pumped Storage unit and options for incorporating the unit into the market.

## Meeting 54

MO Member advised of discussions between the MO and the vendor in relation to testing for the addition of a pumped storage unit to the system. The vendor submitted an initial cost which was found by the MO to be excessive with a delivery timescale after Meeting 54, therefore a number of its elements were questioned. MO Member further advised that ABB & Brady reduced the costs to €48,000 with no reduction in timescales.

MO Member advised of the alternative of utilisation of SEMO IT resources to carry out the testing. Currently SEMO IT test resources are fully allocated to the System Integration Testing for the May release, however it would be possible for them to allocate resources to the testing of pumped storage in the May (once the CMS release has been deployed). MO Member advised that it is the intention for the testing to be completed before the June Modifications Committee Meeting. MO Member clarified that this would not include RCUC testing. SO Alternate advised that RCUC testing of an additional pumped storage unit will be carried out by EirGrid following completion of the SEMO IT market testing.

Proposer expressed agreement with the option of SEMO IT carrying out the IA so as to avoid incurring significant cost by utilising the vendor. Proposer further advised of the view that theoretically the system should be able to cope with the addition of an extra pumped storage unit however this assumption must be verified by the appropriate testing.

DSU Member queried as to whether there is some form of warranty or redress available to facilitate other pumped storage units given the fact that the vendor built the systems originally.

MO Member clarified that while the system should in theory be able to accommodate more than one pumped storage unit, it was originally tested with only one.

## Meeting 55

MO Member provided an update on the action recorded at Meeting 54 for SEMO to initiate an IA. MO Member advised that the initial testing was quite limited. MO Member further advised that an identical unit to Turlough Hill was set up in the market and the systems were tested to ascertain whether an additional Pumped Storage Unit could be handled. MO Member advised that no problems were identified by SEMO IT during this initial phase of testing, but that analysis had not been performed on the generation schedule output.

SO Member provided an update on the action recorded at Meeting 54, for the SOs to initiate a RCUC IA. SO Member advised that the RCUC testing was not successful and that further discussions with ABB are necessary. Chair queried as to whether the issue with RCUC is a design issue or a defect. SO Member advised that currently the SO do not have full information of the issue, which is why further discussion with ABB is necessary and the original specifications for RCUC must be examined further.

Proposer reiterated that the market systems can cope with the proposed change. MO Member reiterated that the initial testing was very simplistic. Proposer expressed the view that the modification proposes a basic word change, and that as the MO has confirmed there doesn’t seem to be an issue in the market systems, there should be no reason why a vote could not be procured from the Committee. MO Member advised that without RCUC, it would not be possible to provide an dispatch schedule based on the same economic inputs as the market in real time and that could impact on constraint payments. Proposer queried that a despatch schedule could not be provided, and SO Member stated that despatches schedule would still be provided by SOs as presently. SO Member advised that it is necessary to procure an overall impact of a proposal prior to voting on it. Proposer advised that RCUC is a tool to assist the SO and that it doesn’t drive SEMO’s day to day operation.. MO Member advised that a RCUC IA for Mod\_11\_12 Compressed Air Energy storage is still ongoing and where a modification impacts RCUC it needs to be assessed to provide complete information. Proposer advised that there are distinct differences between the AES and the CAES modification proposals. Proposer further advised that RCUC issues are outside the Modifications Committee’s remit.

RA Alternate expressed the view that it would be prudent for the Committee to wait to vote on the proposal as all the information on the implications of the proposal are not yet clear. Chair advised that the intention was to complete the relevant testing before Meeting 55, however only the preliminary tests have been complete with further testing necessary. Chair expressed agreement with RA Alternate’s point that it is not prudent to vote on the proposal on the basis of completion of preliminary testing. Proposer drew attention to the fact that TOD that was provided was within the specification for Pumped Storage, therefore it is not necessary to use any other TOD.

Supplier Member queried as to how much further testing is likely to be necessary. MO Member advised that it will be necessary to check resources internally with SEMO IT. Proposer reiterated the importance of knowing the timeframe for the additional testing emphasising that it should be completed by the next Meeting. Observer expressed the view that more testing of unconstrained units should be carried out.

DSU Member expressed the view that the Committee are setting an unfavourable precedent by not allowing new Participants to enter the market due to uncertainties within the respective systems. Discussion ensued around the option of separating the RCUC testing and the market testing and keeping the RCUC testing out of the Modifications Committee forum. SO Member confirmed to the DSU Member that if additional units (not requiring TSC mods) entered SEM and that RCUC couldn’t cope then RCUC would be changed. Chair was in support of separating the RCUC and market testing and advised that the Committee are in support of the technology proposed by AES and do wish to vote on it, however feel the full information on the impacts of the proposal is necessary before taking a vote.

Observer queried as to the target date for the implementation of the energy storage. Proposer confirmed the end of 2015 as the target date.

## Meeting 56

Secretariat provided an update on the status of the proposal advising that following a conference call to agree the scenarios for further market testing, the testing had been completed and a market analyst report documenting the findings of the testing had been circulated. SO Member provided an update on the RCUC testing advising that ABB have successfully run the unit and that the SO must check the validity of the save cases. SO Member advised that it could take several weeks for the RCUC testing to be completed. Chair queried as to whether the proposal will have Grid Code implications. SO Member confirmed it may have.

MO Member noted that testing of an additional pumped storage unit in SEM was successful as outlined in the circulated report, with all MSP pricing runs being successfully executed for the test period of two Trading days, also advising as a point of information that this was not a full end-to-end test and did not include testing of settlement. MO Member expressed SEMO’s preference for the current wording of the proposal to be changed from “Energy storage” to “Pumped Storage and Battery Storage”, to prudently include the categories of storage technology that have undergone some testing and also to ensure that areas such as Capacity Payments would be handled correctly A question was also raised by the MO Member as to whether the unit will be considered fully firm.

Proposer advised that AES would prefer for a generic definition to be introduced into the code, however have no issue with re-wording the proposal to “Pumped Storage and Battery Storage”.

Discussion ensued around the action that was previously recorded for the RAs to discuss whether a MWh De-Minimus level should be put in place for energy storage. RA Alternate advised that it is not possible to operate with a TSC De–Minimus level MWh limit, even with a limited MWh value such as 100 MWh the market price could be affected . RA Member advised that the exemption in GB is less than 50MW; SO Member advised that it is less than 10MW in SEM

Chair expressed the view that if the RCUC testing appears to be successful, the need for the discussion on MWh De-Minimus levels for energy storage may be lesser. Discussion ensued in relation to how the De-Minimus issue will impact on future unit set-up in the market and whether these units will be considered firm.

SO Member expressed the view that it would be prudent for the Committee to defer a vote on the proposal until the full IA has been received. Further advised that the SOs would not feel comfortable voting on a proposal when the indication of pricing impact has not been received. Proposer expressed dissatisfaction with the length of time that the process has taken to date.

RA Alternate advised that the RAs can not make a final decision on a FRR that does not included full details of all IAs. RA Alternate put forth a suggestion of holding an Extraordinary call with the Committee to facilitate a vote when the SO have received the IA results.

DSU Member expressed concern that the process may be an obstacle for energy units trying to enter the market. Chair advised that it is important to strike a balance of progressing Modification Proposals through the modifications process in a timely manner, while also ensuring the IAs are complete and that all the relevant information is in place to allow the RAs to make a final determination on any proposal.

## Meeting 57

SO Member advised that the RCUC IA was completed and that the additional Pumped Storage unit was tested successfully. SO Member advised that the SOs are satisfied that the unit works in RCUC.

Proposer requested a summary of what was carried out in the RCUC IA. SO Member advised that the testing involved replicating another Turlough Hill pumped storage unit and checking the functionality within RCUC and the relevant data feeds for RCUC within the market systems. MO Member advised that the testing within the Market systems had previously been carried out successfully with two different unit scenarios.

Discussion ensued in relation to a concern raised by MO Member at the previous Meeting in relation to the current wording of the proposal being generic, as it refers only to “Energy storage”. MO Member had proposed re-wording the proposal to “Pumped Storage and Battery Storage” as opposed to “Energy storage”. This suggestion was put forward to prudently include the categories of storage technology that have undergone some testing and also to ensure that areas such as Capacity Payments would be handled correctly.

Proposer advised that AES would prefer for a generic definition to be introduced to ensure no restriction is introduced into the Code, however accept SEMO’s justification to re-word the proposal to “Pumped Storage and Battery Storage”.

RA Alternate queried as to whether the legal drafting proposed by SEMO would have any undue effect on the Code. MO Alternate advised that the legal drafting change is being proposed in order to ensure that no unintended errors in relation to the Code arise as a result of the proposal. Secretariat advised that at the FRR stage a full legal review is taken by the internal legal department to ensure legal robustness of all proposals.

DSU Member queried as to what would happen in the instance of another Battery or Pumped Storage unit that does not have the same parameters as Turlough Hill is seeking to enter the market and whether further testing would be necessary within RCUC. SO Member advised that additional testing for impact assessments would be required if the parameters varied from the existing parameters. Any different technology type different from existing units would require testing to ensure compatibility with RCUC. Supplier Alternate advised that if the Units can meet the parameters, then access should not be limited.

DSU Member expressed discontent with the fact that a Compressed Air unit or some other form of storage that had the same parameters as Turlough Hill would not be able to enter the market. DSU Member expressed the view that the Modifications Committee should not be a barrier to entry.

MO Member advised that it would be imperative to seek an IA to ensure an indication of costs and compatibility with the systems. Generator Alternate expressed the view that it is reasonable to have the necessity of IAs for new technologies. DSU Member expressed concern that a new form of storage technology could be presented at the Modifications Committee in the future seeking to enter the market and that a barrier for entry would exist, due to the proposed re-wording of the modification.

Generator Alternate queried as to whether there may be potential to hold a Working Group dedicated to new storage projects. Secretariat advised that there was discussion in relation to this at the first Compressed Air Energy storage Working Group. Secretariat advised that a call was put out to industry requesting detail on any other forms of storage to be discussed at the second Working Group in relation to CAES however nothing was put forward. Observer drew reference to DS3 expressing the view that an expeditious process is imperative in order to adequately deal with new technologies.

# Proposed Legal Drafting

As set out below in attached documents reflecting agreed legal drafting:

In order to open the documents below right click on the icon, select ‘Document Object’ and then ‘Open’ -

|  |  |  |
| --- | --- | --- |
| Agreed Procedures |  |  |
|  |  |  |
| Appendices |  |  |
|  |  |  |
| Glossary |  |  |
|  |  |  |
| Code Mod\_12\_13 |  |  |
|  |  |  |

# LEGAL REVIEW

Complete

# IMPLEMENTATION TIMESCALE

It is proposed that this Modification is implemented on a Trading Day basis with effect from one Working Day after an RA Decision is made.

# Appendix 1: Mod\_12\_13 amendment to special units pumped storage definition to include energy storage

In order to open the document below right click on the icon, select ‘Document Object’ and then ‘Open’ -

