
WREGIS Project - Change Control

PROPOSED - Change Request Form

Project Issue Request ID: PIR165 (new proposal)	Requested by: WREGIS E-tag Committee	Type of Change: Overall Application change	Date Requested: Priority: High
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Title: Modify WREGIS to be able to transfer the verification of energy delivery with Certificates.

Description:

The WREGIS E-tag Working Group seeks to expand WREGIS functionality that tracks the proof of energy delivery which meets RPS requirements of various jurisdictions within WECC. The committee has had several meetings to review and discuss possible solutions but it has become apparent that the ideal solution, (in terms of cost and functionality) is highly dependent on the WREGIS system and that some solutions are more feasible than others due to the existing data structure. (Appendix B contains comments and responses to the latest proposal).

The data structure of the existing WREGIS system is proprietary to the vendor (APX). Therefore this change request attempts to:

- 1) Detail the issues and current system limitations with proof of delivery, that need to be resolved within the WREGIS system and process
- 2) Provides several Use Cases to illustrate the more complicated possible scenarios that the system does support and those it should also support
- 3) Provides suggestions for possible solutions based on assumptions of the WREGIS data structure.

This change control form has been written with the goal of explaining the problem under the assumption that APX is in the best position to determine the least cost solution to address the concerns. A number of jurisdictions have delivery requirements for renewable energy. This document regularly refers to both California and Oregon specifically, (since they have the most developed delivery requirements) but describes a set of Use Cases that are generic to any jurisdiction provided it uses NERC e-Tags. The terms in the document rely on the previous discussion papers of the WREGIS E-tag committee which can be found on the WREGIS website in the WREGIS E-tag Working Group section. <http://www.wregis.org/NERC+E-Tag+Working+Group+Meetings.php>

The requirements include:

- 1) Modify the WIT query to include more E-tag data and add the E-Tag data to the account of the importer rather than the NERC tag LSE.**

The current WIT query only allows WREGIS to determine who imported the energy into the state in the circumstance where the importer is also the NERC Tag LSE, (this is not universally the case). In a generalized case, the importer can only be identified with certainty by looking at the PSE where the POR is out of state and the POD is instate on a NERC Tag with a GCA that is out of state and an LCA that is in state.

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The current WIT query and WREGIS functionality imports the tag data only into the account of the NERC tag LSE rather than the WREGIS account of the importer.

Once the WIT query identifies the importer, WREGIS should be modified to import the NERC tag data into the account of the Importing Entity, rather the NERC E-tag LSE to accurately meet the California RPS regulations. Appendix A contains 2 suggestions of possible modifications to the WIT query and deliverability tests to meet this requirement however, it would be best for APX to suggest the least cost IT solution that meets the requirements outlined in this Change Control form as well as meeting the requirements of each jurisdictions RPS.

2) Apply a unique delivery test for each jurisdiction to determine eligibility for that jurisdictions RPS.

The current deliverability requirements for Oregon and California, are quite different in that California requires import into the state but not to a particular Control Area while Oregon requires delivery to a particular Control Area while not necessarily requiring that they are entirely within the state. One can assume that other jurisdictions will also have different requirements in the future. The delivery test(s) would determine which jurisdiction's requirements were satisfied, based on data from the expanded WIT query. This has the added benefit of having jurisdictions predefine what constitutes an eligible delivery to provide more certainty for those meeting the requirements. This would require state regulators to prospectively define what e-tag data provides proof of meeting deliverability requirements based on the data returned by the WIT query. Appendix C provides suggestions of how these deliverability tests could be designed to test for the Oregon and California RPS deliverability requirements, however they are just suggestions and APX may suggest a better method. A list of all the NERC registered points in the US in WECC, which can be used as a reference in determining deliverability tests can be found at <http://reg.tsin.com/downloads/default.asp>

3) Allow the deliverability verification data to be associated with Certificates prior to a retirement account and transferred with certificates to other account holders.

The LSE on an E-tag is not always the RPS LSE that is receiving the energy when power is imported into a Power Pool such as the California ISO. The current functionality of WREGIS only allows the association of delivery data to be associated with WREGIS certificates in a retirement account. Functionally this means that only RPS regulated entities can both import renewable energy and receive recognition for that import. It does not allow a third party to import on an RPS regulated entities behalf and then transfer evidence of the delivered renewable energy to the RPS regulated entity. The 3rd party needs to be able to import the verification data into WREGIS and transfer it with the Certificates to other WREGIS account holders. Once associated with a Certificate, the verification data that would be transferred with the certificates, would only include essential non-confidential data such as RPS jurisdiction, Etag ID and the MWh's associated. There is often an inherent delay between the timing of the energy delivery and when a REC is retired. An intermediate method (such as a matching account/ table) would allow an entity to ensure delivery requirements are met while the proof of delivery data is still current. If NERC tags can be associated with the REC at the time of delivery, it is clear what rules are applicable at the current time. NERC tags associated with REC's at the time of retirement may be subject to a myriad of different rule sets depending on the date the REC was created.

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In order to evaluate how and whether or not these requirements can be met, it is necessary to have a proposed solution and a cost estimate from the vendor (APX). While the Etag working Group attempted to define a solution to meet these requirements, it wasn't possible to come to an agreement without understanding the data structure of WREGIS and the costs associated with changing it. Therefore this change control form is just requesting that APX be asked to provide a proposed solution and cost estimate for changes required to meet these requirements.

When designing an IT system it is critical to understand how a system will be used and what the expected behavior would be. To aid APX in this endeavor, the attached Use Case describes a detailed example of the types of transactions that should be supported by WREGIS with this implementation. In Appendix E Use Case 1a is an example that is currently supported and should continue to be supported, while 1b and 1c describe situations that are not currently supported by WREGIS.

APX Response:

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Reason for Change: The current functionality does not support the transfer of valid proof of delivery from the deliverer/importer to the RPS regulated LSE because the RPS LSE is not always equal to the LSE on a NERC tag. The current functionality also forces the RPS LSE to determine if a NERC tag meets RPS delivery requirements. The proposal would provide more certainty to the LSE's in that the regulating body defines what is eligible and the NERC tags can be associated to the REC's in a timely fashion.

Deliverables: Pricing quote, with a design and implementation plan to demonstrate feasibility

Estimate for Scheduled Release: To be determined.

Cost Impact:

Risk & Issues Involved:

-

External Impacts:

-

Attachments/References:

None

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Approvals

APX: Date:

CEC: Date:

Notes:

Appendix A

Description of Existing WIT Query

The following description is from Mark Neilson of OATI.

On the 7th of each month, a WIT automated process runs a data query against all schedules from the previous month. This query retrieves schedules meeting the following criteria:

- (1) Schedules matching a WECC approved LSE list. LSEs will be identified using NERC PSE Codes.
- (2) Schedules with a start/stop date and time within the previous calendar month in the UTC time zone.
- (3) Schedules with RPS ID numbers. These Values are found on the E-Tag Physical Path LSE row with Misc Info Tokens of "RPS_ID"

All schedules retrieved from the aforementioned query will be properly formatted as an EIDE message and sent to the WREGIS system. The following data elements will be provided for each schedule:

- Schedule name (E-Tag Code)
- Schedule net MWh value for query period
- Start Date/Time of energy flow during the query period
- Stop Date/Time of energy flow during the query period
- Generating facility NERC registered "Source Point"
- Generator Balancing Area (GCA)
- Generation Providing Entity (GPE)
- Load facility NERC registered "Sink Point"
- Sink Balancing Area (LCA)
- Load Serving Entity (LSE)
- Token Value(s) (RPS_IDs)

Proposed changes to WIT Query are **Underlined in RED** ~~Deleted in Strikethrough~~

On the 7th of each month, a WIT automated process runs a data query against all schedules from the previous month. This query retrieves schedules meeting the following criteria:

- (1) Schedules matching a WECC approved **Import PSE** list. **Importing PSE** will be identified using NERC PSE Codes and the following logic:

For each regulatory region X (state):

If the Sink Balancing Area (LCA) is in region X then,

Find the PSE in the line of the etag where:

POR is not in Region X

AND

POD is in Region X.

That PSE is the importer to the region and the tag data should go into the WREGIS account of that PSE (importer).

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- (2) Schedules with a start/stop date and time within the previous calendar month in the UTC time zone.
- (3) Schedules with RPS ID numbers. These Values are found on the E-Tag Physical Path LSE row with Misc Info Tokens of "RPS_ID"

All schedules retrieved from the aforementioned query will be properly formatted as an EIDE message and sent to the WREGIS system. The following data elements will be provided for each schedule:

- Schedule name (E-Tag Code)
 - Schedule net MWh value for query period
 - Start Date/Time of energy flow during the query period
 - Stop Date/Time of energy flow during the query period
 - Generating facility NERC registered "Source Point"
 - Generator Balancing Area (GCA)
 - ~~Generation Providing Entity (GPE)~~
 - Load facility NERC registered "Sink Point"
 - Sink Balancing Area (LCA)
 - ~~Load Serving Entity (LSE)~~
 - Token Value(s) (RPS_IDs)
-
- **Import POR (POR associated with last transmission node not inside jurisdiction)**
 - **Import POD (POD associated with first transmission node inside jurisdiction)**
 - **Import PSE (PSE associated with above import POR and POD)**

Confidentiality: With these proposed changes only confidential data belonging to an importer will be uploaded into that importers WREGIS account, no confidential data belonging to any other third party will be uploaded. At this point, the only transfer of confidential E-Tag data becomes the transfer of the importer's confidential E-Tag data. The decision to transfer this data would be a commercial decision by the data's owner and will be governed by any underlying commercial contract that the importer has with respect to the transfer of WREGIS certificates.

Another option would be to have entities identify in the Miscellaneous token on the NERC tag, which entity is entitled to import the NERC tag data into their WREGIS account as proof of delivery requirements as proposed in the attached Use Case.

By specifying the entity on the NERC tag this ensures that each tag can only be used once as proof of delivery for an RPS standard and it is clear to all parties on the NERC who that entity is.

There are several ways this could be accomplished and the above two options are just suggestions of possible solutions. It would be best for APX to suggest the least cost solution that meets the requirements outlined in the Change Control form as well as the requirements of each jurisdictions RPS.

Appendix B

The following comments are in response to two proposals put forward by the E-Tag working group April 2010. The proposals can be found on the WREGIS Website: <http://www.wregis.org/NERC+E-Tag+Working+Group+Meetings.php>

Comments on Draft Proposal New Import Matching Tool April 27, 2010

Kate Zocchetti and Angela Gould
California Energy Commission

Energy Commission staff prefer Proposal #2.

Below are excerpts from the April 27, 2010 NERC E-Tag Proposal – New Import Matching Tool to which Energy Commission staff had comments. CEC staff comments are provided in red.

Proposal 1: Match & Transfer

CEC staff: Proposal #1 is more problematic than Proposal 2; it is more complicated to tie RECs and NERC tags together before the retirement step. For example, what if the importer doesn't have the RECs in its account? Would the LSE have to transfer the RECs to them, have the importer combine the RECs and NERC tags, then have the importer transfer the combined product back to the LSE? It seems needlessly complicated.

Powerex Response: Under this proposal, the RECs and e-Tag delivery data would need to be in the same WREGIS account so they could be matched together. Typically the importer (either a third party or the RPS regulated LSE) will have the REC and be responsible for delivery. If there was a situation that the deliverer of the Renewable energy did not have the REC in their account then they would need to transfer it to the deliverer and then have it returned with the delivery data associated. This is likely to be a straightforward contracting/scheduling process.

1. Should the system be set up such that delivery data, once matched with a WREGIS certificate, could be overwritten, if the buyer wanted to remarket the certificate to a different jurisdiction RPS? (WREGIS ensures that no generation is counted twice but it does not preclude WREGIS certificates to be remarketed as long as they haven't been retired.)

CEC staff: As with WREGIS Certificates, we do not support the option of overwriting delivery data on a NERC E-tag. This data should be verifiable and robust and without the possibility of being overwritten. Further, the requirement for the CA RPS ID number on the NERC E-tag

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would preclude the tag from having value to other parties not having a contractual relationship with that RPS certified facility.

Powerex Response: agree

Proposal 2: NERC Tag Transfer

CEC staff: We prefer having the option of having NERC tags transferred among sub-accounts like RECs. This option provides more flexibility to WREGIS participants and ultimately to participating states and programs. We are concerned, however, about available funds for the ultimate costs of such a large change in functionality with CEC funding ending in October 2010.

Powerex Response: The cost of proposal 2 is a concern however, without knowing the data structure of the WREGIS system, it is impossible to truly know, which design is more expensive. We propose forwarding a change request to APX that defines the requirements in a way that allows APX to determine the least cost implementation.

Proposed Additional Information to Add to the Certificate Notes

CEC staff does not think that any of these additions to the WREGIS Certificate are necessary, and some are probably not possible. For example, some of this information would not be known at the time of Certificate creation, especially in cases where the energy can be arranged and delivered up to a year after the generation that is represented by the Certificate. Since some of this information is available on the NERC E-tag, it does not need to be replicated on the WREGIS Certificate.

Powerex Response: Powerex is intending not that the data would be added to a WREGIS certificate so much as associated with a certificate and transferred with it, once the association has taken place. From an IT perspective, the NERC tag data could be stored in a separate table that maintains the association to a WREGIS certificate and can be included in a report to anyone entitled to see the associated certificate.

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Andrea Jackson / Portland General Electric

5/24/2010

Concerns regarding the WREGIS/NERC tag proposals:

1 - What happens if the required WREGIS codes on the NERC tags are mis-entered, forgotten, and/or out of the control of the RPS entity (if the tag is not created by the purchaser)? How does one match to the REC? Do the suggested changes to the query address?

Powerex Response: It's every PSE's responsibility to ensure the tags are correct. We haven't addressed a way of fixing incorrect tags but I would just say it's a good idea but out of scope.

2 - Will a matching account allow for non-simultaneous delivery?

Powerex Response: Yes. The retiring LSE and regulatory entities would be able to see enough tag data to confirm whether or not delivery was simultaneous and they would know if non-simultaneous meets the contract and regulatory obligations.

3 - How will differences in delivered energy on a NERC tag and created RECs in WREGIS be handled?

Powerex Response: These NERC tag values and REC values would be stored separately so the retiring LSE and regulatory entities would be able to see enough tag data to confirm whether or not the delivery and REC met the contract and regulatory obligations.

4 - What is meant by "could be overwritten" in order to be remarketed in the first bullet under Considerations on page 3?

Powerex Response: The initial concept was that once delivery data was associated with a REC the owner might still want to use it for another RPS (obviously before it was retired) if it is commercially reasonable, and consequently may need to be associated with another set of delivery data. This concept suggested during an earlier stakeholder call and was included for completeness. The idea adds tremendous complexity to the proposal and has limited support.

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Comments on Draft Proposal New Import Matching Tool April 27, 2010

Stacey Kusters
PacifiCorp

Issues and Concerns regarding the WREGIS PIR 165 NERC E-Tag Working Group
April 27, 2010:

PacifiCorp agrees with Portland General Electric's four concerns and reiterates that these proposals are not drafted to the level of detail required to have APX further develop a cost and viability analysis. In addition to the four concerns cited by Portland General Electric, PacifiCorp adds the following issues and concerns that were raised on the conference call on May 27, 2010 as needing to be addressed.

1. WREGIS Certificates - Will there be a requirement to amend any existing WREGIS certificates in any way, and if so, what is the implication of that going forward?

This is a valid concern. Anytime there is a change in functionality, then entities will need to track that the processes changed as of a certain date and Certificates created prior to the implementation should be able to follow the historical methods, while Certificates created after the implementation should follow the new methods. There would inevitably be a transition period where entities would have RECs from both periods. The proposal should not take away any existing functionality in WREGIS. The proposal is just adding the ability to transfer proof of delivery between entities.

2. Intermediate e-Tags - Will the creation of intermediate e-tags in either proposal create a market where parties will be selling the NERC e-tags so that other parties can match up to Certificates that are purchased from another party? Will a secondary market in e-tags that can be "married" to Certificates to create evidence of delivery for purposes of WREGIS or for any particular state regulatory requirement create any regulatory or reputational risk?

This is certainly not the intention of the proposal but may be a question that should be addressed by regulators. It shouldn't be possible for a secondary

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market for NERC tags to develop unless it is allowed by the RPS jurisdiction and ultimately purchased by the RPS regulated LSE's.

3. Tracking of the generation - Will there be an impact on tracking or Certificates if the entity that sourced the energy from the renewable generation sinks the energy and the e-tag at a point of delivery and an intermediary (e.g., a marketer) sells the energy to another party? How will the energy be tracked back to the original entity that sources the generation so that an e-tag is "rebundled" with the Certificate?

The overall goal of the proposal is to facilitate the ability for a broader range of market participants to facilitate the generation and delivery of renewable energy. The NERC E-tag data is currently the most detailed method of tracking delivery data in the physical power market but it doesn't cover every possible set of contractual / operational circumstances. The proposal gives regulators a wide variety of data to implement a delivery test within the data provided by a single e-tag. To the extent that the delivery rules in a particular jurisdiction require this sort of evidence the combination of contractual data and E-tag data would be required. In the context of a California delivery the CEC guidebook could be consulted to test validity of the above transaction.

4. Viability and costs associated with any changes - What are the extra costs of the function to marry e-tags that have changed hands separately with Certificates, and who would pay them?

The cost is unknown until it can be estimated by APX. We believe that the cost should be born by all those who bore the cost of the original implementation. The original implementation excludes some valid participants from the market and should be corrected to allow equal access to all those who can meet the regulatory requirements as defined by each RPS jurisdiction.

Stacy Kusters / PacifiCorp

Comments on Draft Proposal New Import Matching Tool April 27, 2010**Comments of Morgan Stanley Capital Group Inc.
May 24, 2010**

Morgan Stanley Capital Group Inc. (MSCG) is one of the largest wholesale sellers of electricity in the WECC. Therefore, the choice of methods for management of the interface between E-Tags and the RPS eligibility status of various electricity transactions has the potential to have a significant impact on our business activities. For that reason, we appreciate the opportunity to comment on the WREGIS NERC E-Tag Working Group's White Paper on associating WREGIS certificates and delivery data from NERC E-Tags. If anyone desires to ask clarifying questions on our views, or engage in follow-up discussions, please contact Morgan Hansen at 914-225-1558 or via e-mail at morgan.hansen@morganstanley.com.

MSCG has reviewed both proposals, and views both as workable. However, we do believe that the "match and transfer" method is superior, and is the approach that we recommend be adopted. Our view is that it is simpler, and in the long run will be more supportive of a liquid secondary market for bundled RECs. Conversely, we believe that the "NERC Tag Transfer" approach, while it would also accomplish the underlying objective, is more complicated, and would add an additional step anytime parties are transferring RECs. This has the potential to complicate the process, and therefore reduce liquidity to some degree, at the margin.

Appendix C

This shows a possible suggestion for how Oregon could implement their delivery Test based on the revised WIT query data:

RPS requirements for Oregon:

www.leg.state.or.us/ors/469a.html

www.sos.state.or.us/archives/rules/OARs_300/OAR_330/330_160.html

Currently the Oregon RPS appears to require that the Load Control area is within Oregon.

Currently any e-tag sinking in an Oregon LCA would be eligible to meet the delivery requirements. However it is difficult to determine whose WREGIS account would be entitled to claim the etag as proof of their delivery. The solution could be similar to California, to require the Miscellaneous token field on the last line of the etag to contain an indicator of the RPS program being satisfied and the WREGIS account holder being credited and the unique generator id of the renewable generation for that Certificate.

Only use Etags where...		
GCA =	Misc Token	LCA =
anything	RPS program - WREGIS Account holder	BPAT
	OR_RPS - BPA	PGE
	WA_RPS - PAC	PACW
	CA_RPS - PWXSC	

To determine which WREGIS account is eligible to use the etag as proof of delivery, look it up in the MISC token			
POR =	POD =	TP=	LCA=
this logic does not currently seem to be required for Oregon RPS			

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This shows a possible suggestion for how California could implement their RPS delivery Test based on the revised WIT query data:

Only use Etags where...		
GCA <>	Misc Token Value contains	LCA =
CISO LDWP MID SMUD TIDC	RPS****	CISO LDWP MID SMUD TIDC

To determine which WREGIC account is eligible to use the etag, find PSE on section of path where all of these values match...			
POR =	POD =	TP=	LCA=
anything	SP15	CISO	CISO
anything	NP15	CISO	CISO
MEAD500	VICTORVILLE	LDWP	LDWP
CaptainJack	TRY500	TIDT	TIDC
CaptainJack	TRY500	SMDT	SMUD
PALOVERDE500	DEVERS500	LDWP	LDWP
CaptainJack	TRY500	MIDT	MID

A complete list of the NERC registered points in WSCC is available at <http://reg.tsin.com/downloads/default.asp>

Appendix E

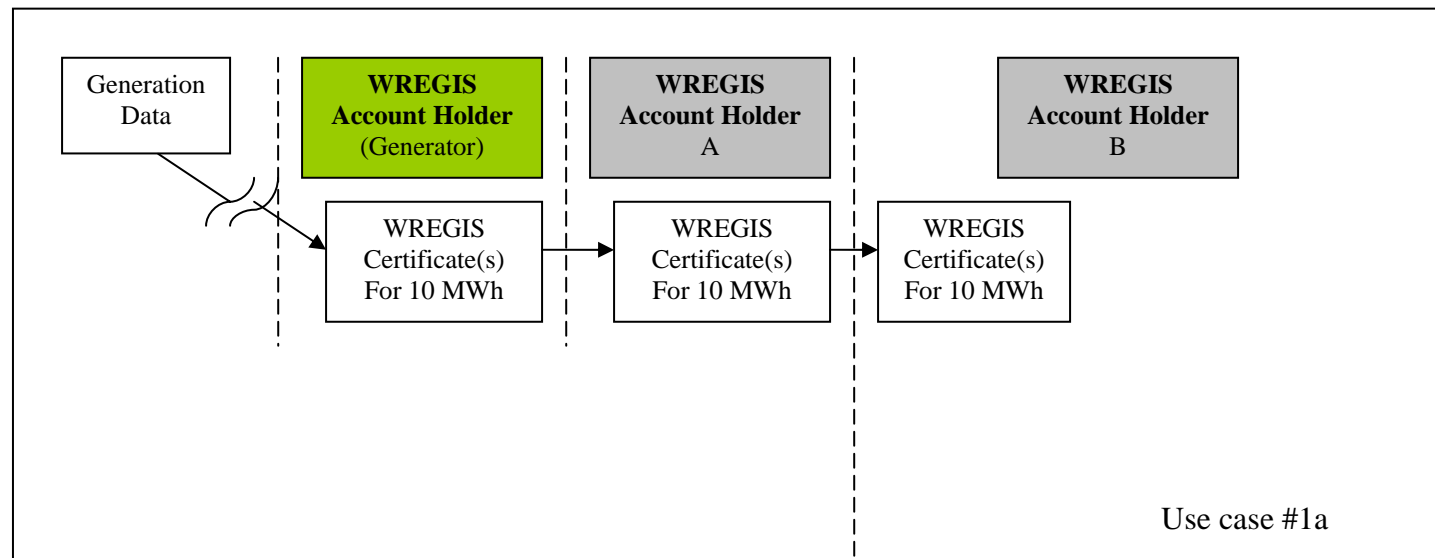
WREGIS NERC E-tag Match & Transfer – Use Case

When designing an IT solution it is often helpful to have “Use Cases” which describe scenario’s of how it is anticipated that the system will be used. This enables system designers to better understand each step of a process and the ways in which the user intends to use a system. It is helpful to have both simple examples as well as the most complicated possible scenario that should be supported. It is important to understand that these scenarios may or may not be allowable under all RPS jurisdictions currently. The Oregon RPS is used for illustrative purposes. The concept is that each jurisdiction would define their own delivery rules and delivery test based on the data available in the WIT query and only deliveries that meet this specific test as defined by the regulator would be considered eligible deliveries. This Use Case is simply meant to illustrate types of transactions that could be possibly be allowable and describe the flow of information under those scenarios.

Without visibility of the detailed data structure, the WREGIS NERC E-tag working group was not able to come to a clear consensus on whether proof of delivery data should be added to a WREGIS certificate or transferred separately, however it is clear that in the supporting proof of delivery data there would need to be some sort of unique reference to the renewable generator that it supports. In reviewing these use cases it appears that the distinction may be more a case of semantics. Whether the proof of delivery data is stored in the same table as the WREGIS certificate and “modifies the Certificate” or the data is stored in a separate table that can be linked to a certificate, is really an IT design issue and the least cost solution should prevail.

SIMPLE CASE (EXISTING) - Use Case # 1a

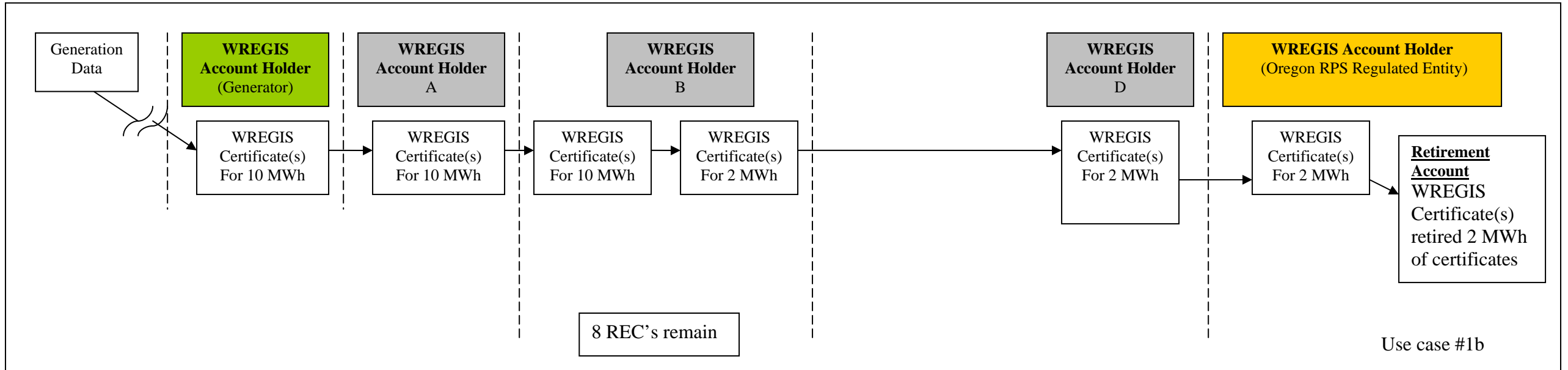
Wind Generator in Washington (WINDYPLANT) Generates 10 MWh of Energy and creates 10 WREGIS Certificates #123456. They would like to Sell to Deliverer B but for credit reasons, they need to use an Intermediary A between the Generator and Deliverer B. So title of the 10 REC’s pass from the Generator to the Intermediary A and then to Deliverer B. This set of transactions would flow through each entity’s WREGIS account ultimately leaving Deliverer B with 10 REC’s in their account. This functionality is currently supported by WREGIS and should continue to be supported.



SIMPLE CASE (EXISTING) - Use Case # 1b -Account Holder B to LSE

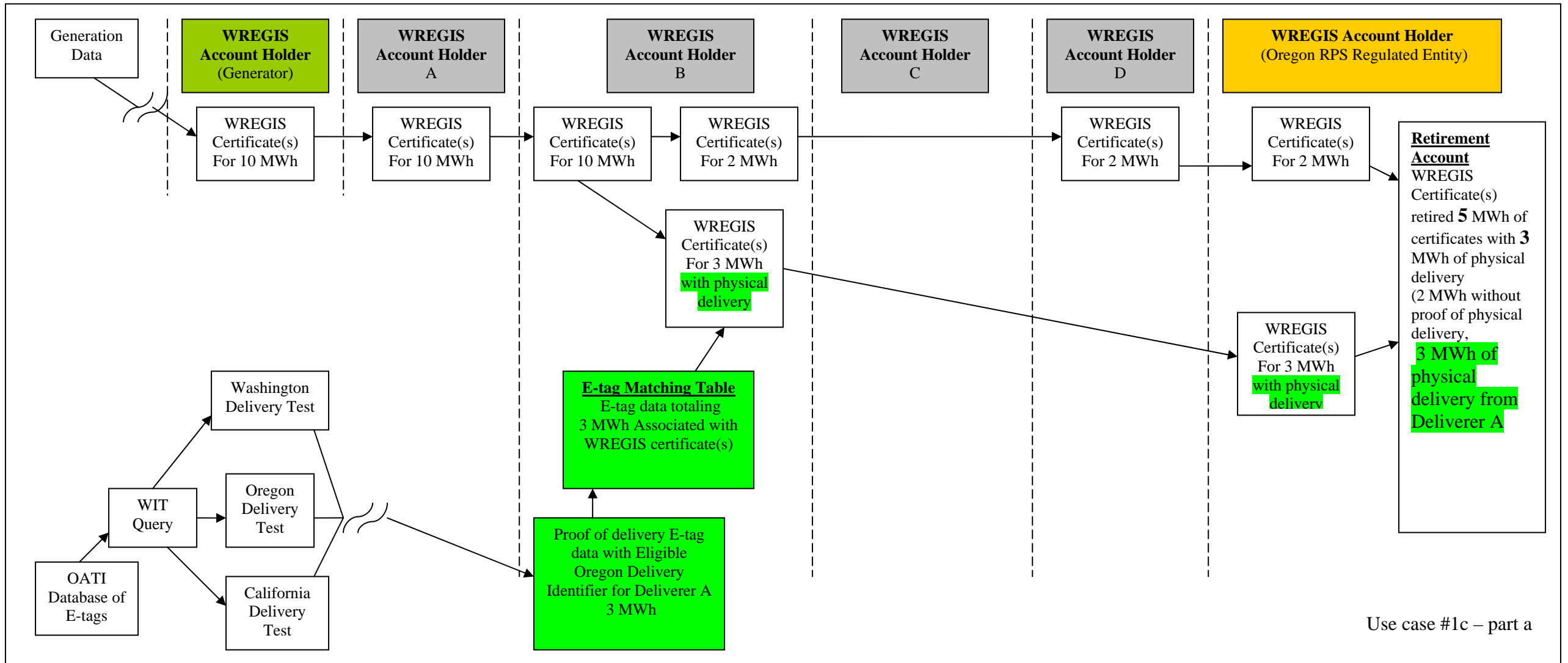
The RPS LSE is allowed to use a small percentage of Unbundled REC's to meet their RPS obligation so RPS LSE is willing to buy 2 REC's without proof of physical delivery. They want to buy the REC's from B but for Credit reasons B asks D to take on the credit risk. The REC's are transferred from B to D and then to the RPS LSE within WREGIS. The RPS regulated entity then retires the RECs. This functionality is currently supported by WREGIS and should continue to be supported.

B would then have 8 REC's remaining in their account.



COMPLEX CASE (NEW FUNCTIONALITY) Use Case #1c (PART A)– Account Holder B to LSE with proof of physical delivery

Deliverer B has 3 MWh of transmission to get the energy from the Generator to the BPA control Area. Deliverer B delivers the Energy and adds a miscellaneous token (OR-Deliverer B-123456) on a NERC E-tag indicating that they (Deliverer B) are claiming the right to use this Etag as proof of physical delivery meeting the Oregon RPS standard with energy from WINDYPLANT #123456. The WIT Query and Oregon RPS delivery test, determine that the NERC E-tag does meet the Oregon RPS and can be credited to the WREGIS account of Deliverer B. Deliverer B sells 3 of their REC's #123456 including proof of physical delivery to the RPS LSE in the BPA Control Area. Deliverer B must transfer the REC and proof of physical delivery to the RPS LSE within WREGIS. The RPS LSE then retires the REC with the associated proof of physical delivery NERC E-tag data in their WREGIS account. Deliverer B would still have 5 MWh of REC #123456 remaining in their account.



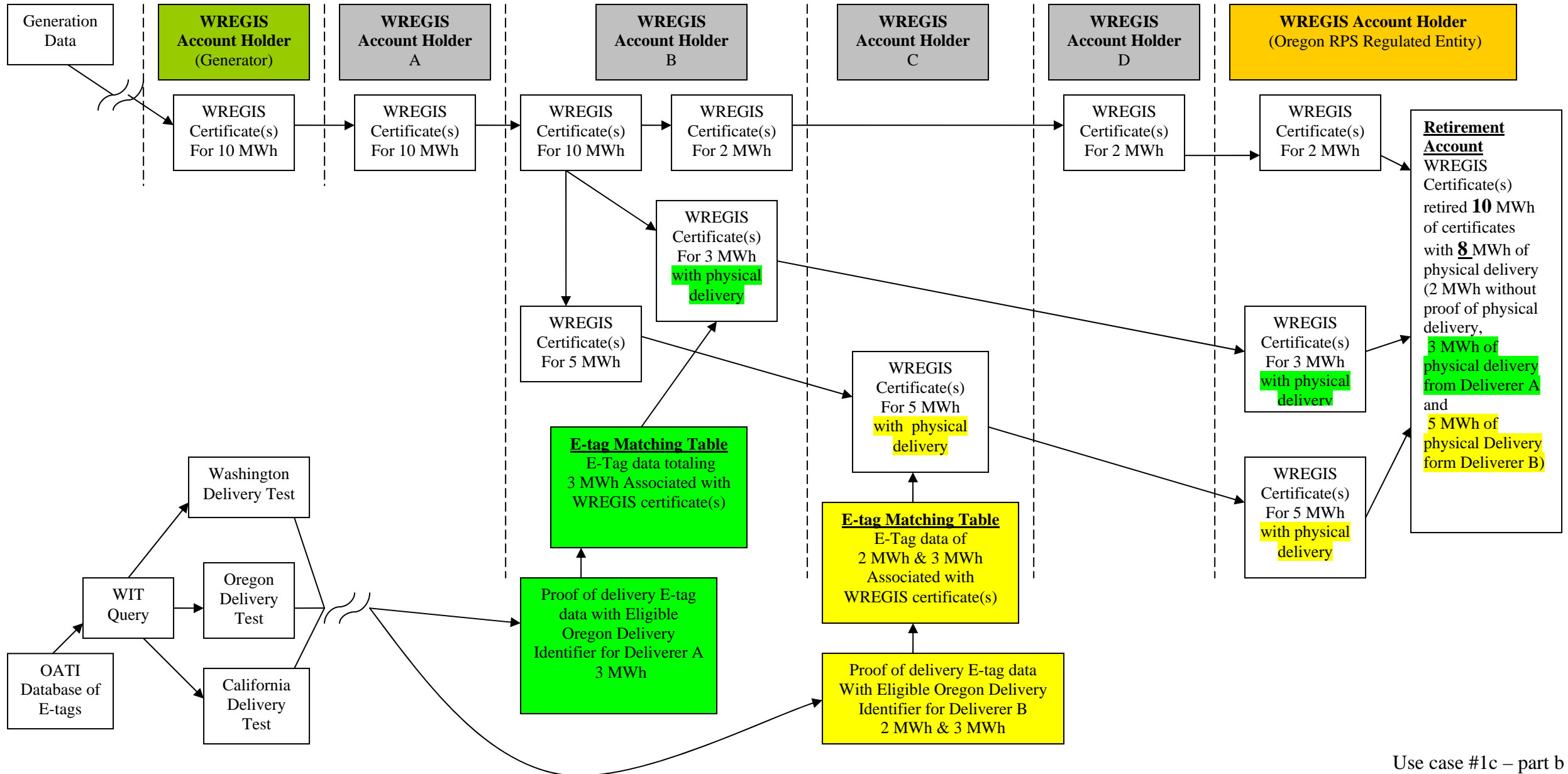
This is the functionality not currently supported in WREGIS:

- 1) there is not currently a delivery test to ensure that a NERC E-tag meets a particular RPS standard. Eligibility is just determined by the RPS LSE at retirement.
- 2) the proof of delivery NERC E-tag data can only be uploaded into the NERC E-tag Account of an LSE rather than the account of the importer.
- 3) the proof of delivery NERC E-tag data can only be matched with a REC upon retirement, not prior to retirement.

COMPLEX CASE (NEW FUNCTIONALITY) Use case #1c (PART B) - B Sells to C who sells to LSE with proof of physical delivery

Deliverer B arranges with Deliverer C to sell them the renewable energy because Deliverer C has the ability to Shape 5 MWh of the output of the WINDPLANT Wind Generator and provide the Energy to the RPS LSE at a different time. Deliverer C takes the output of the Generator and delivers the shaped energy to the BPA control Area. Deliverer C adds a miscellaneous token (OR-Deliverer C-123456) on the NERC E-tag indicating that they (Deliverer C) are claiming the right to use this E-tag data as proof of physical delivery meeting the Oregon RPS standard with Energy from WINDPLANY #123456. Deliverer C sells the 5 REC's with proof of physical delivery to the RPS LSE in the BPA Control Area. Deliverer C must transfer the REC with proof of physical delivery to the RPS LSE within WREGIS. The RPS LSE then retires the REC with the NERC E-tag in their WREGIS account.

See following page:



Use case #1c – part b

Requirements for WREGIS:

- 1) New - Support a structured delivery test for each jurisdiction.
- 2) Existing - Have clear rules to prevent proof of data from an E-tag from coming into the WREGIS account of more than one entity.
- 3) New - Once proof of data from an E-tag is in WREGIS, then WREGIS should allow all or part of that quantity to be transferred with the batch of Certificates to other Accounts.
- 4) New - Allow any type of entity (not just the NERC tag LSE) to import proof on delivery into their account.
- 5) Existing - Ensure that 1 MWh of delivery on 1 E-tag can only be used as proof of delivery and retired once.
- 6) Existing - Allow proof of delivery data from a single E-tag for many MWh to be associated with multiple Certificates while still ensuring that no MWh is double counted.
- 7) New - Allow certificates to be transferred with a record of the proof of delivery E-tag data associated with it.
- 8) New - Allow an owner of a REC to see the NERC E-tag ID(s), Miscellaneous token and MWh of all the NERC E-tags (or portions thereof) used to prove delivery of the REC.

Under this approach the NERC E-tag data pulled down by the WIT query goes through a 'delivery' test to determine which jurisdiction accepts the NERC E-tag is evidence of an eligible delivery. An identifier (Miscellaneous Token) will be on to each NERC E-tag indicating the jurisdictions to which the NERC E-tag constitutes evidence of an eligible delivery and it will be this identifier which attaches to the WREGIS certificate when proof of delivery NERC E-tag data and a WREGIS certificate are matched/associated in a pre-retirement account.

This variation of the Match & Transfer method allows/requires regulators to pre-define tests of eligible delivery and only NERC E-tags which pass the test criteria will be identified as evidence of eligible delivery for that jurisdiction. An advantage of this method over the originally proposed Match & Transfer method is that confidential NERC E-tag information remains in the account of the owner of that information and only a 'pass test' identifier of eligible delivery, NERC E-tag ID(s), Miscellaneous token and MWh is associated with the WREGIS certificate for downstream transfer to the ultimate compliance entity.

Regulators would also need to retain the right to audit WREGIS data to ensure that the jurisdiction tests are working appropriately.