



Unidentified Gas Modifications (Updated)

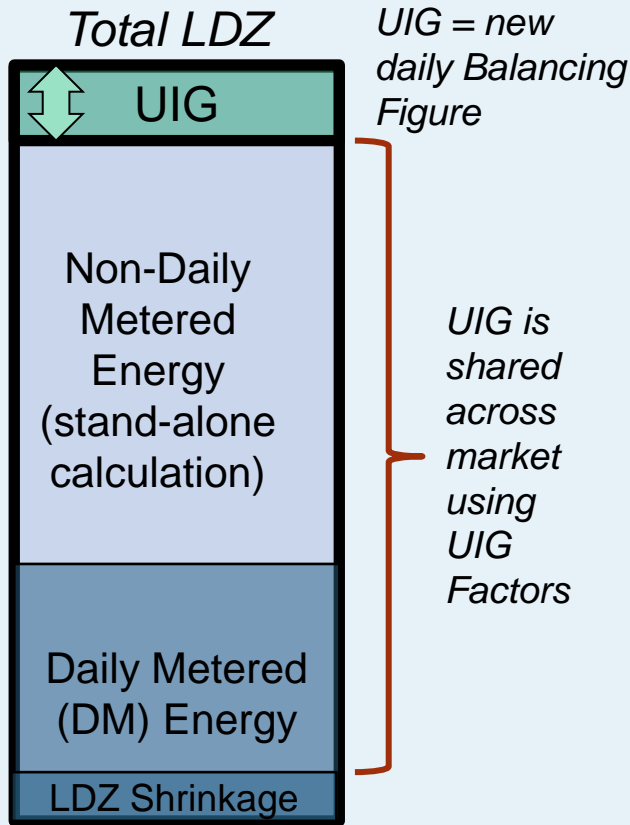
Workgroup Meeting

30 January 2018

- Slides represent Xoserve's revised understanding of the three UIG Modifications, based on
 - Review of Mod proposals as at 25th January
 - Discussions with proposers
 - Discussions/explanations at previous UIG Workgroup
- May be subject to further change depending on subsequent discussions
- **Key changes from last presentation are in red**

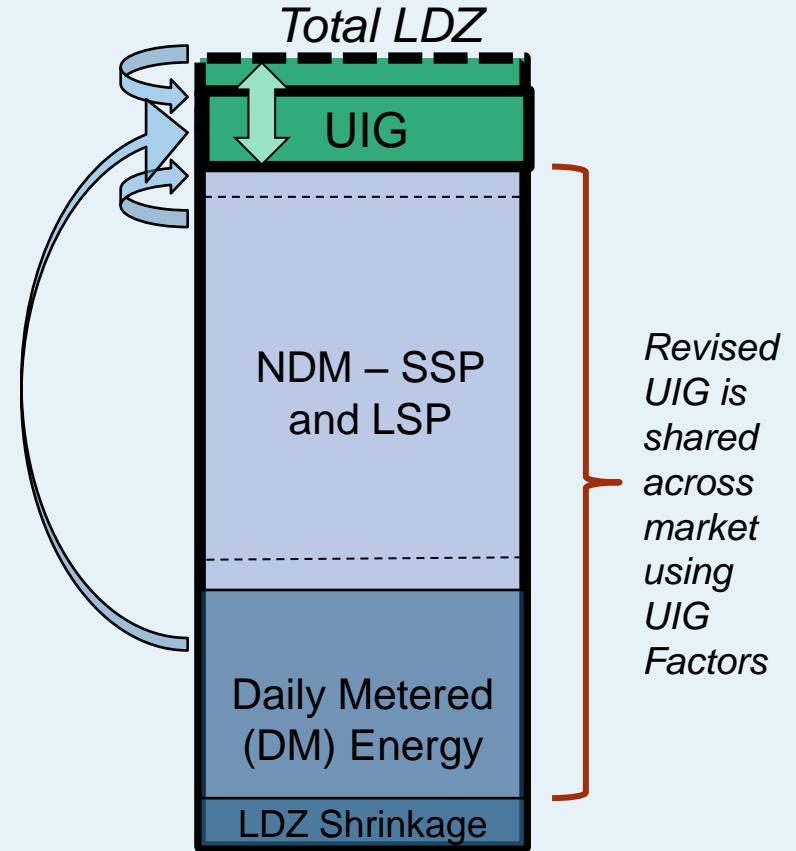
Recap: Post-Nexus Allocation and Reconciliation 3

DAILY ALLOCATION



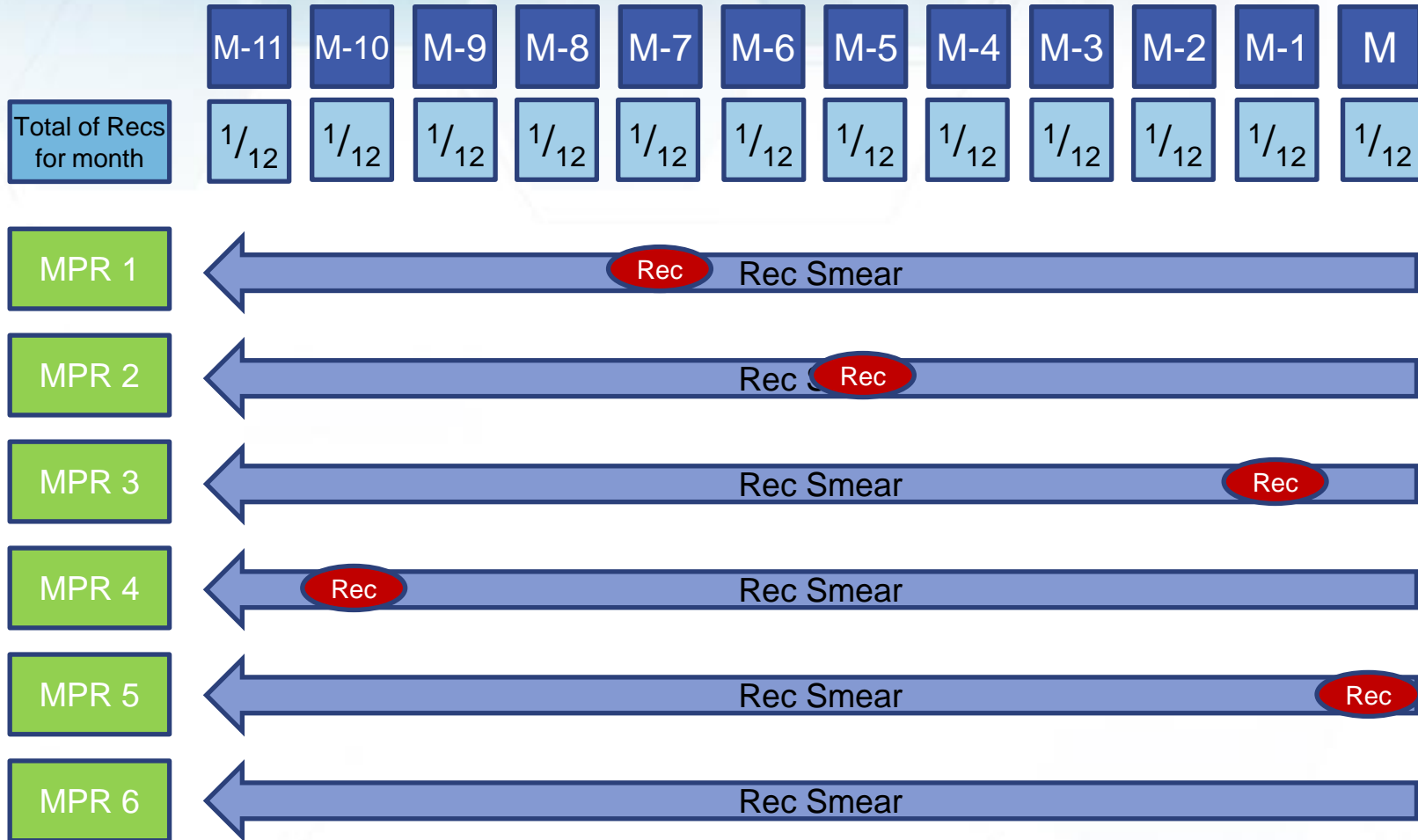
- AUGE determines Weighting Factors each year for sharing UIG
- UIG shared on basis of daily Throughput and Weighting Factors

MONTHLY RECONCILIATION



- All meter points are subject to individual reconciliation
- Equal and opposite of all individual reconciliations is applied to UIG and shared in line with latest measurements and Weighting Factors

Recap – Current UIG Rec sharing

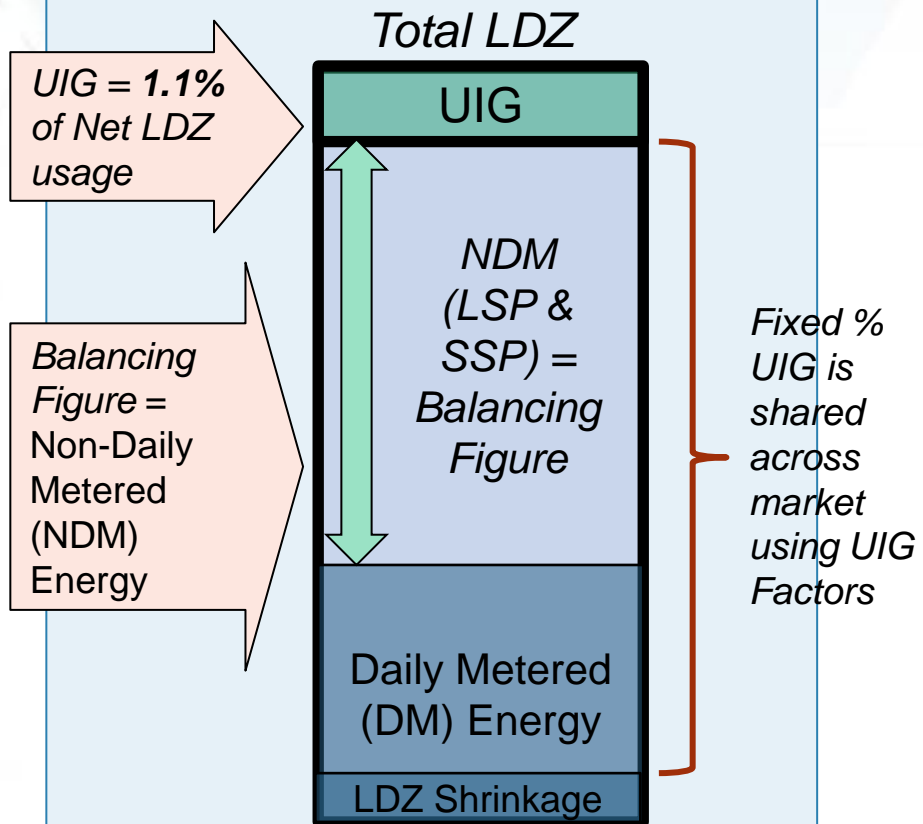


Total Rec energy is summed and divided by 12 to apportion across last 12 months market shares, as adjusted using UIG Weighting Factors.
 Shared out regardless of Read/Reconciled status.

Modification 0642

Modification 0642 – Fixed Daily UIG Percentage

DAILY ALLOCATION

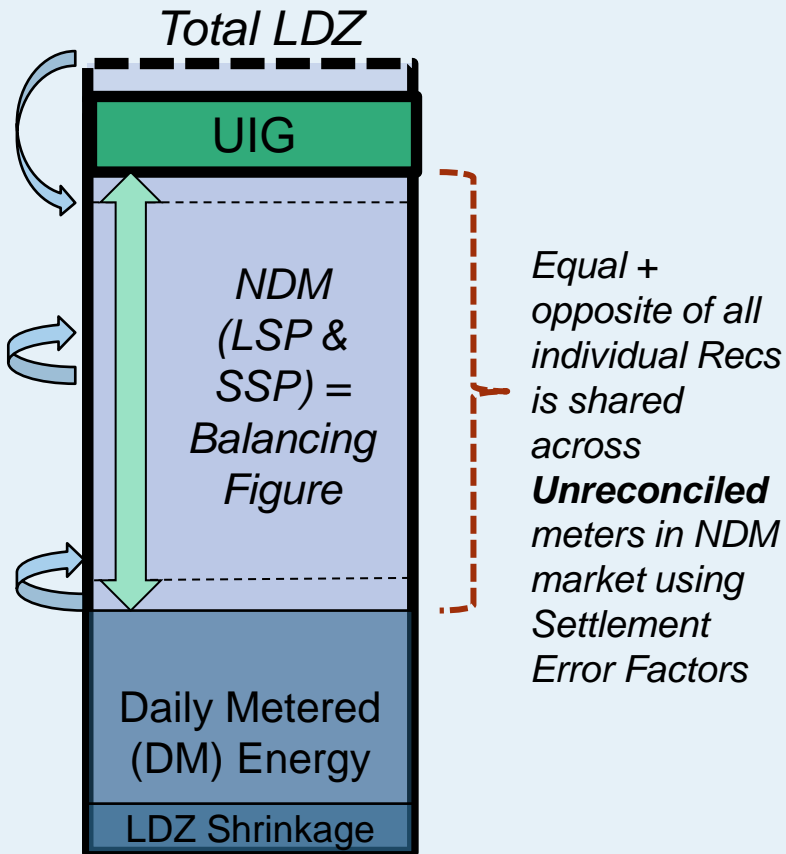


- AUGE determines a fixed percentage for UIG each year
- Applied to net LDZ Demand (after Shrinkage)
- Shared out using Weighting Factors (as current rules)

- Daily Allocation becomes a 5-step process
- STEP 1 - measure total gas used in the LDZ
- STEP 2 – deduct daily Shrinkage quantity
- STEP 3 – calculate UIG as fixed 1.1% of LDZ Demand – Shrinkage
- STEP 4 – calculate NDM Allocations as the balancing figure
 - Weather Correction Factor (WCF) reverts to pre-Nexus formula (i.e. not using weather data)
 - Scaling Factor (SF) reintroduced
- STEP 5 – UIG shared out on basis of allocations using UIG Weighting Factors

Modification 0642 – Fixed Daily UIG Percentage

MONTHLY RECONCILIATION



- Universal individual Meter Point rec still applies
- Daily UIG allocation is not re-opened by Rec
- Equal and opposite of all individual recs is shared to Unreconciled Class 3/4 only
- Sharing based on throughput for the Billing month of Unreconciled meters, adjusted using separate Settlement Error Weighting Factors
- One month pot (as opposed to current 12 month pot)
- Re-reconciliation of an earlier month's read does not remove from current month's sharing
- Extra test applies – if Rec Energy (+/-) > Allocated Energy for the month for the qualifying MPRs in an LDZ, then smear to all sites, regardless of reconciled status

Mod 0642 Settlement Error Rec

	M-11	M-10	M-9	M-8	M-7	M-6	M-5	M-4	M-3	M-2	M-1	M
Total of Recs for month	0	0	0	0	0	0	0	0	0	0	0	12/12
MPR 1												Rec
MPR 2			Re-rec									Rec smear
MPR 3												Rec
MPR 4												Rec
MPR 5												Rec smear
MPR 6												Rec

Total Rec energy is shared out over current month's market shares, as adjusted by Settlement Error factors. Only Class 3/4 meters which have not had a Reconciliation in that month pick up a share of Settlement Error Rec.

* Extra test – if Rec Energy (+/-) > Allocated Energy for the month for the qualifying MPRs in an LDZ, then smear to all sites, regardless of reconciled status

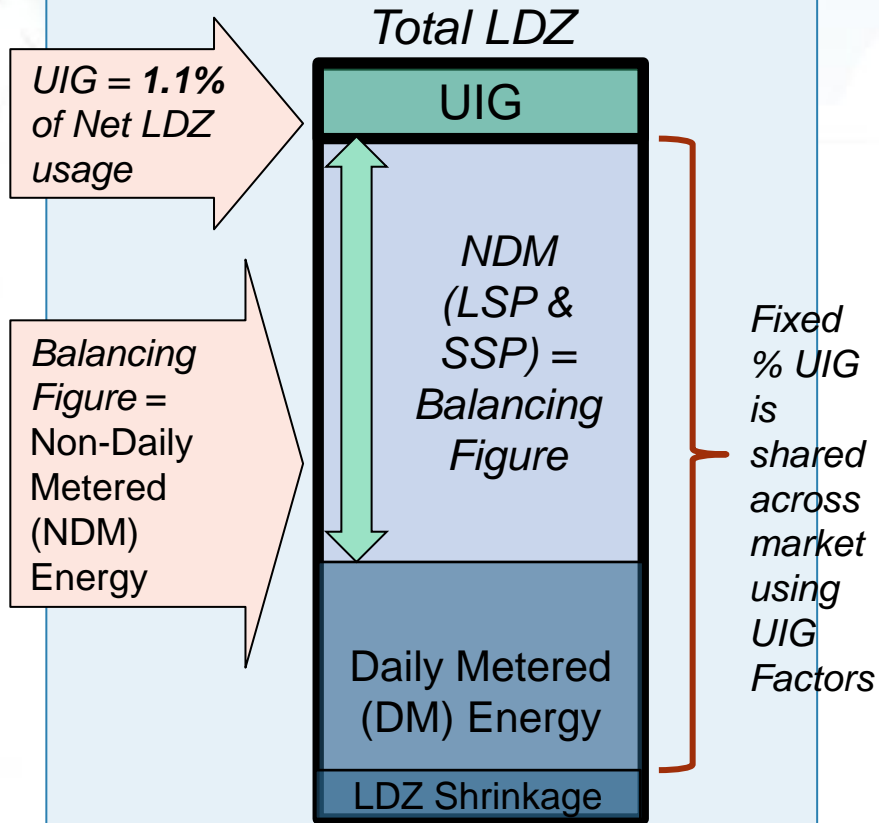
- Version 3.0 includes the following proposed implementation dates:
 - Implementation date of 1 April 2018 if a decision to implement is issued by 1 March 2018*
 - 01 May 2018* if a decision to implement is received by 1 April 2018*
 - If a decision to implement is received after 1 April 2018*, implementation is 10 business days following the decision to implement.
- Initial assessment suggests a system build lead time of 9 months or more
- Xoserve assumes that the Transporters will assign the implementation date based on system build and testing lead times
- Unclear whether any interim arrangements would be required

** Mod version 3.0 currently states 2017, however we understand that the proposer's intention in 2018 in each case*

Modification 0643

Modification 0643 – Fixed Daily UIG Percentage₁

DAILY ALLOCATION

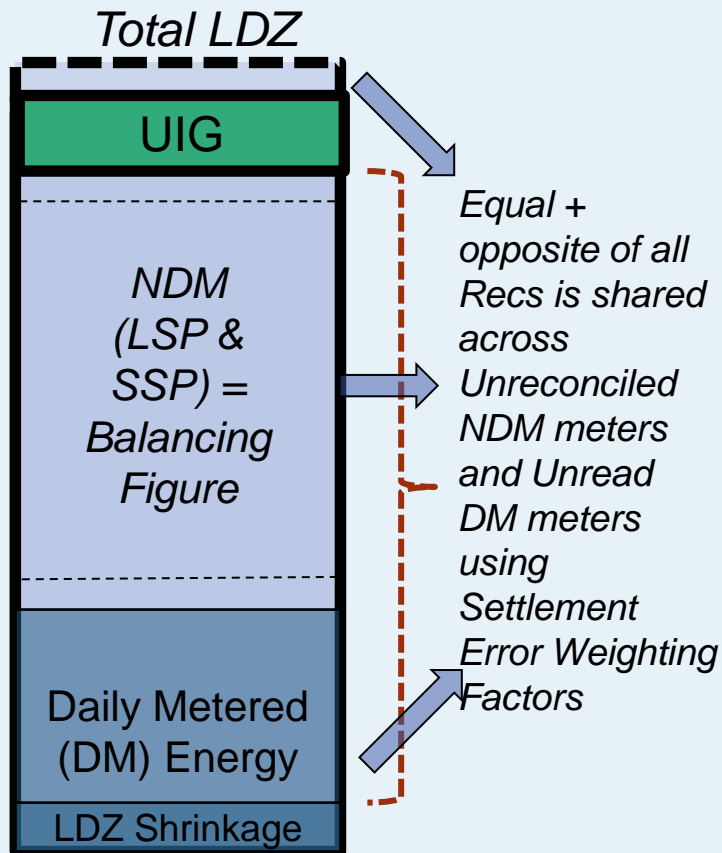


- AUGE determines a fixed percentage for UIG each year
- Applied to net LDZ Demand (after Shrinkage)
- Shared out using Weighting Factors (as current rules)

- (ALLOCATION PROCESS IS THE SAME AS FOR 0642)
- Daily Allocation becomes a 5-step process
- STEP 1 - measure total gas used in the LDZ
- STEP 2 – deduct daily Shrinkage quantity
- STEP 3 – calculate UIG as fixed 1.1% of LDZ Demand – Shrinkage
- STEP 4 – calculate NDM Allocations as the balancing figure
 - Weather Correction Factor (WCF) reverts to pre-Nexus formula (i.e. not using weather data)
 - Scaling Factor (SF) reintroduced
- STEP 5 – UIG shared out on basis of allocations using UIG Weighting Factors

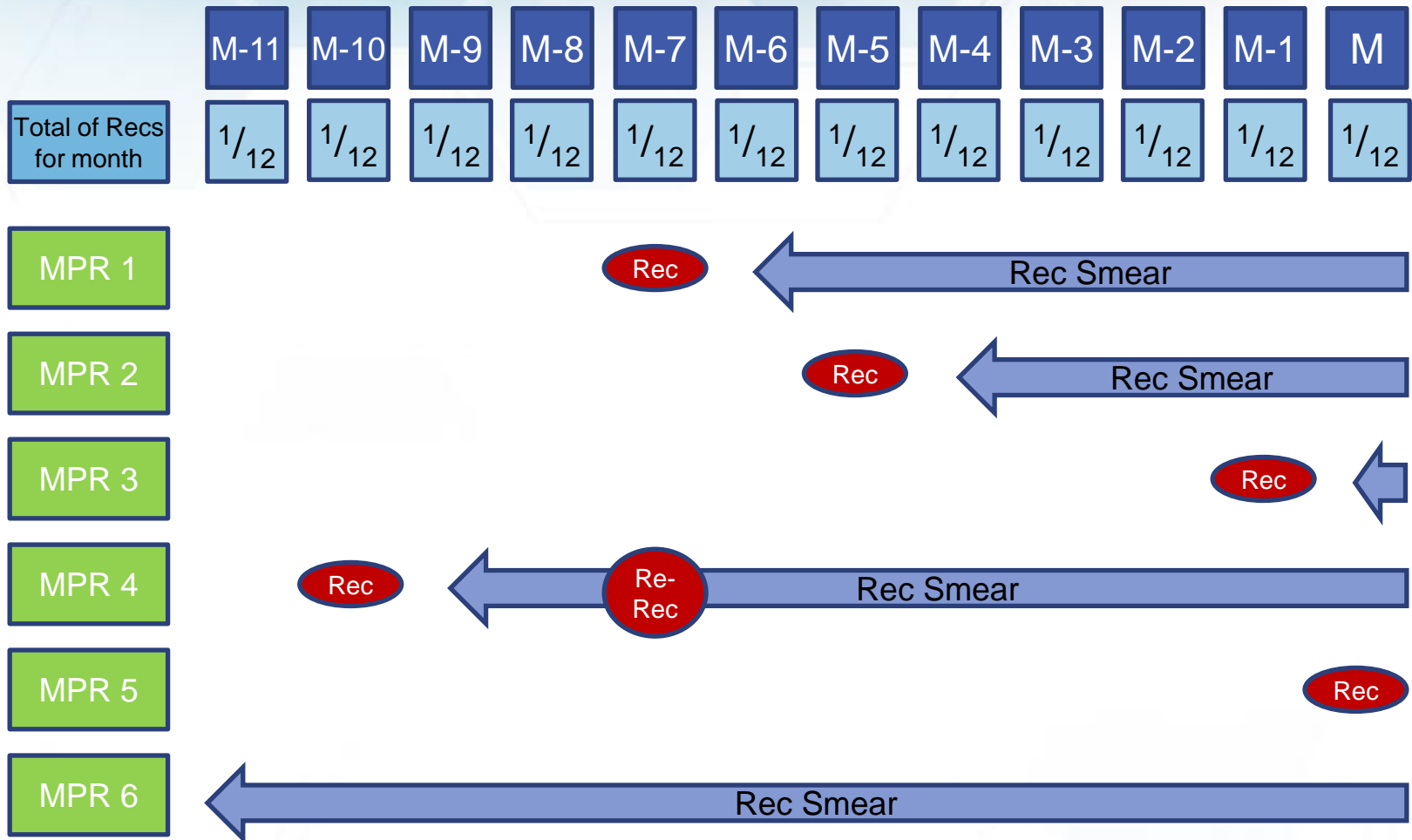
Modification 0643 – Fixed Daily UIG Percentage₁₂

MONTHLY RECONCILIATION



- Universal individual Meter Point rec still applies
- Daily UIG allocation is not re-opened by Rec
- Equal and opposite of all individual recs is shared to **Unreconciled Class 3/4 and Unread Class 1/2** only
- Sharing based on throughput for Unreconciled/ Unread meters, using separate Settlement Error Weighting Factors
- 12 month pot, rec/read in this month removes site from all of previous 11
- Re-reconciliation of an earlier month's read does not remove from current month's sharing
- Extra test applies for each smear month and LDZ – if Rec Energy (+/-) > Allocated Energy for the month for the qualifying MPRs in an LDZ, then smear to all sites, regardless of reconciled status

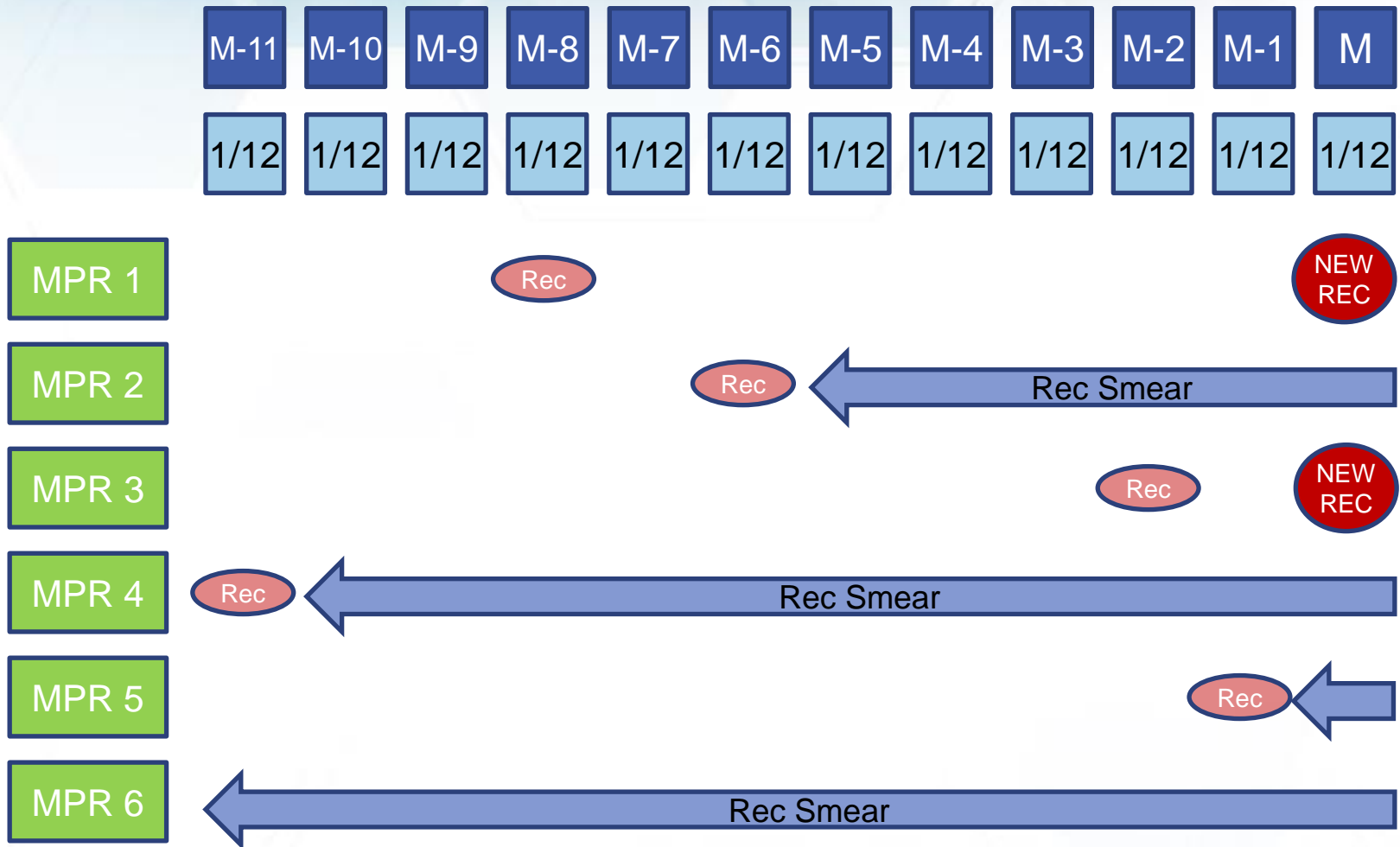
Mod 0643 Settlement Error Rec – Month X



Total Rec energy is summed and divided by 12 to apportion across last 12 months market shares. Only meters which have not had a reconciliation in or since that month pick up a share of Settlement Error Rec. Here only 1 meter is still picking up Rec energy for the oldest month

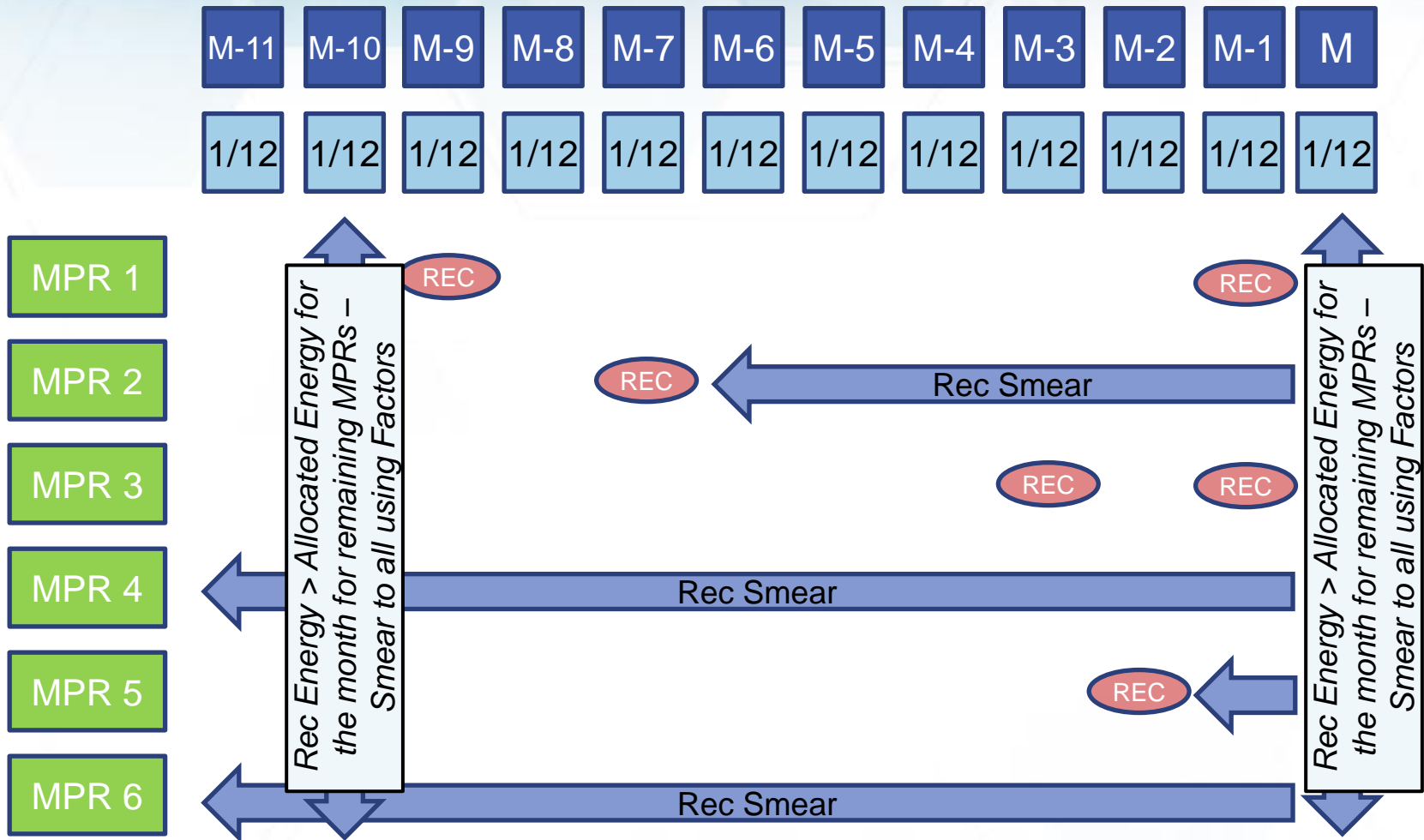
* Extra test – if Rec Energy (+/-) > Allocated Energy for each month and LDZ for those MPRs, then smear to all sites, regardless of reconciled/read status

Mod 0643 Settlement Error Rec – Month X+1



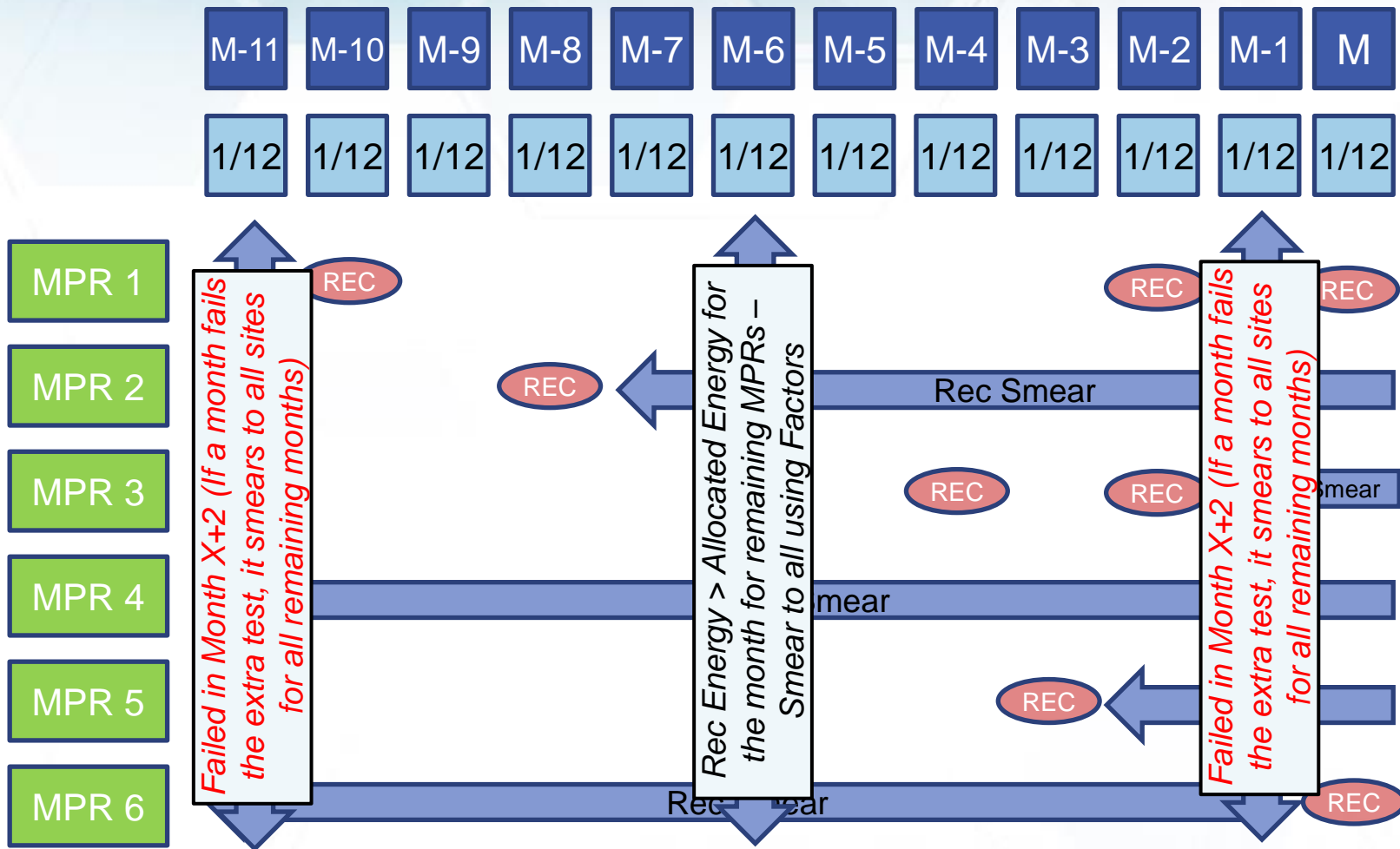
New reads received in the month remove that meter from earlier months' UIG shares. The oldest month's Settlement Error Rec will be smeared to an ever-decreasing pool of meters

Mod 0643 Settlement Error Rec – Month X+2



Extra test conditions have been met for current and 2nd oldest month – Rec Energy (+/-) > Allocated Energy for the month for those MPRs, so smear to all sites, regardless of read status (each LDZ considered separately each month)

Mod 0643 Settlement Error Rec – Month X+3



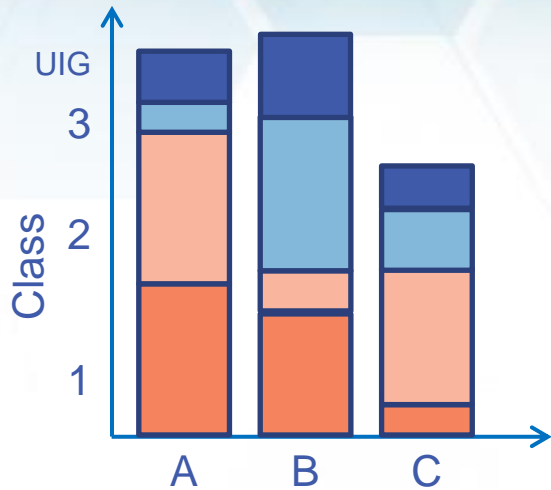
Extra test conditions have been met for a different month – Rec Energy (+/-) > Allocated Energy for the month for those MPRs, so smear to all sites, regardless of read status (each LDZ considered separately each month)

Once a month fails the test, it stays in “Smear to all” status for the rest of the 12 month lifecycle

- Xoserve understanding of the Retrospective element
 1. Recalculate UIG for each Gas Day and LDZ using the fixed UIG % to give a daily quantity in kWh
 2. Share out that revised UIG to Shippers using the prevailing Weighting Factors for the day, and compare to Shippers' original UIG allocation, calculating a daily Shipper/LDZ difference, valued at SAP for the day.
 3. Sum all those differences by month and LDZ, to get a value which will be classed as "Settlement Error" in kWh and £
 4. Collect historic data on which meters were not Reconciled/Read for that month for that LDZ, along with their original allocation data
 5. Share out the "Settlement Error" to the Unrec'd/unread sites for each historic month, also applying the "Reconciliation Target" test
 6. Issue Invoices for the net of the Shippers' difference in UIG allocation and their share of Settlement Error, using the original SAP from the daily calculations, so that there will be no loss of energy or financial difference between the two sides of the transactions. Shippers could get either net debits or credits out of this process, depending on UIG levels and their read performance.

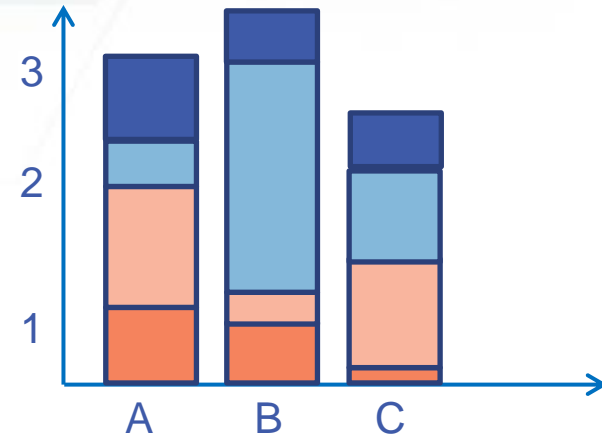
(Version 3.0 also states that we will undertake a further retrospective activity after 12 months, to capture reconciliations which span the implementation date. However as the above process could be finalised at M+18 after the implementation date, once the Amendment Invoice has been processed and doesn't need to take account of reconciliation energy at all. As the only use of reconciliation data is to determine the rec'd/unrec'd status, it does not appear that there would be any change after 12 months)

Modification 0643 - Retrospection

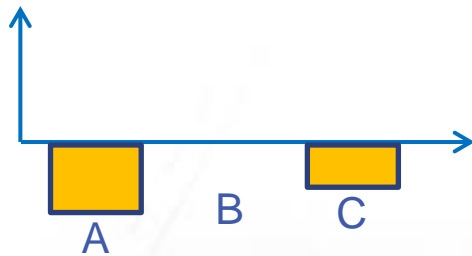


Original Measurements/
Allocations by Shipper
for a Gas Day
(LDZ XX)

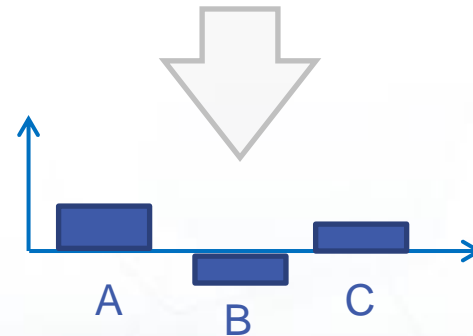
Recalculate for
all days
between
Project Nexus
Go-Live and
0643
implementation
date



Revised Measurements/
Allocations by Shipper
for a Gas Day
(LDZ XX)



Reversal of net differences shared to
Shippers using new Unrec'd/unread rules
(here B had read all its meters)

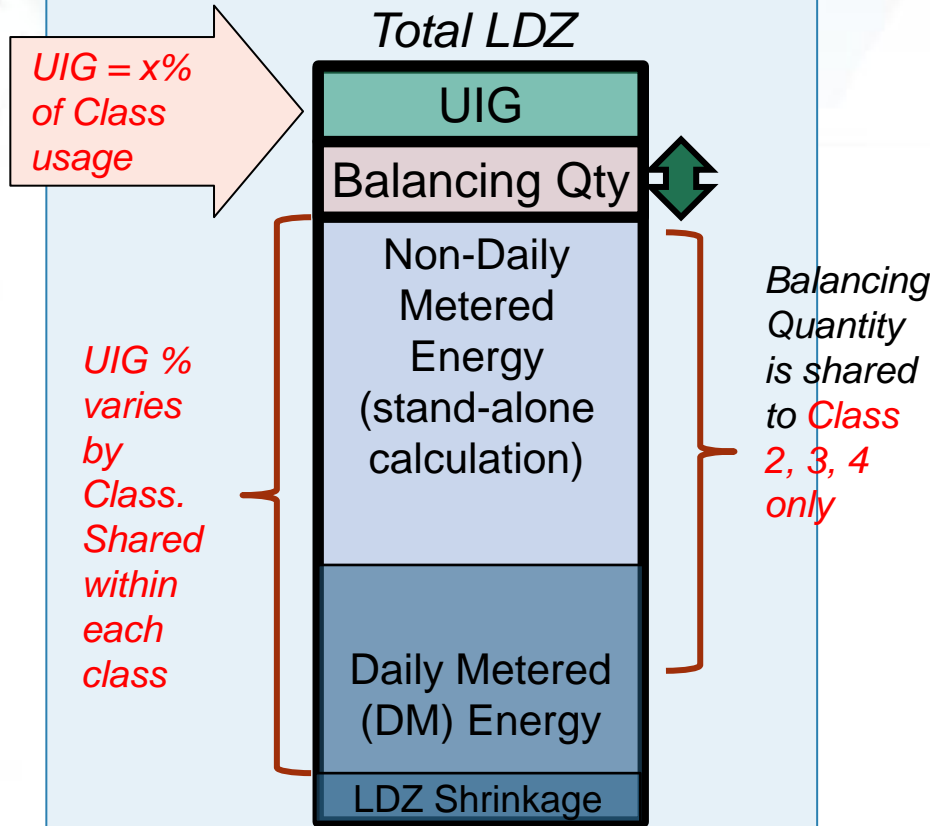


Net Differences – billed/credited to
Shippers

Modification 0642A

Modification 0642A – Fixed Daily UIG Percentage, plus Balancing Quantity

DAILY ALLOCATION



- DESC determines a fixed percentage for UIG each year – **by Class**
- **UIG % differs, each Class' UIG is shared out to that Class only**
- New Balancing Quantity shared out to NDM only without Weighting Factors

- Daily Allocation becomes a 5-step process
- STEP 1 - measure total gas used in the LDZ
- STEP 2 – deduct daily Shrinkage quantity, calculate DM energies
- **STEP 3** – calculate NDM Allocations using new Nexus Algorithm
 - Current Weather Correction Factor (WCF) i.e. using weather data
 - *(Scaling Factor not required)*
- **STEP 4** – calculate UIG as fixed % of Throughput (**0.01% of Class 1, 2.5% of Class 2, 3, 4**), shared to all sites (no Weighting Factors)
- STEP 5 – new Balancing Quantity calculated and shared out on basis of allocations to **Class 2 to 4** only (no UIG Weighting Factors)
- **No transportation charges on Balancing Quantity**

Example of UIG Sharing

- UIG Sharing stays within its class:
- Example for LDZ xx

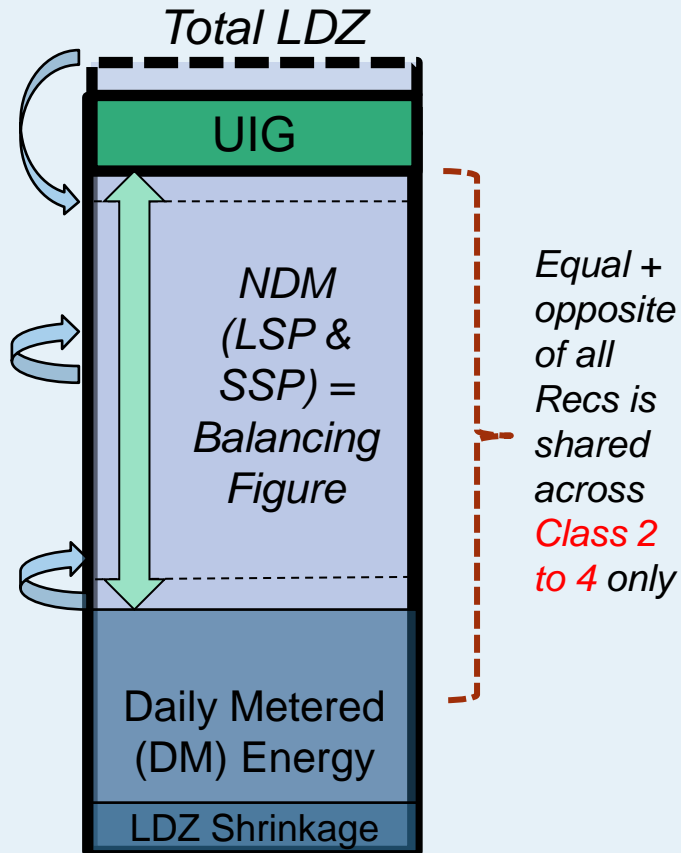
Class	%	Throughput	UIG
1	0.01	1,000	1
2	2.5	1,000	25
3	2.5	1,000	25
4	2.5	1,000	25
Total		4000	76

- Sharing of UIG – stays within the sector:

Class	Throughput	UIG share
1	1,000	1
2	1,000	25
3	1,000	25
4	1,000	25
Total	4000	76

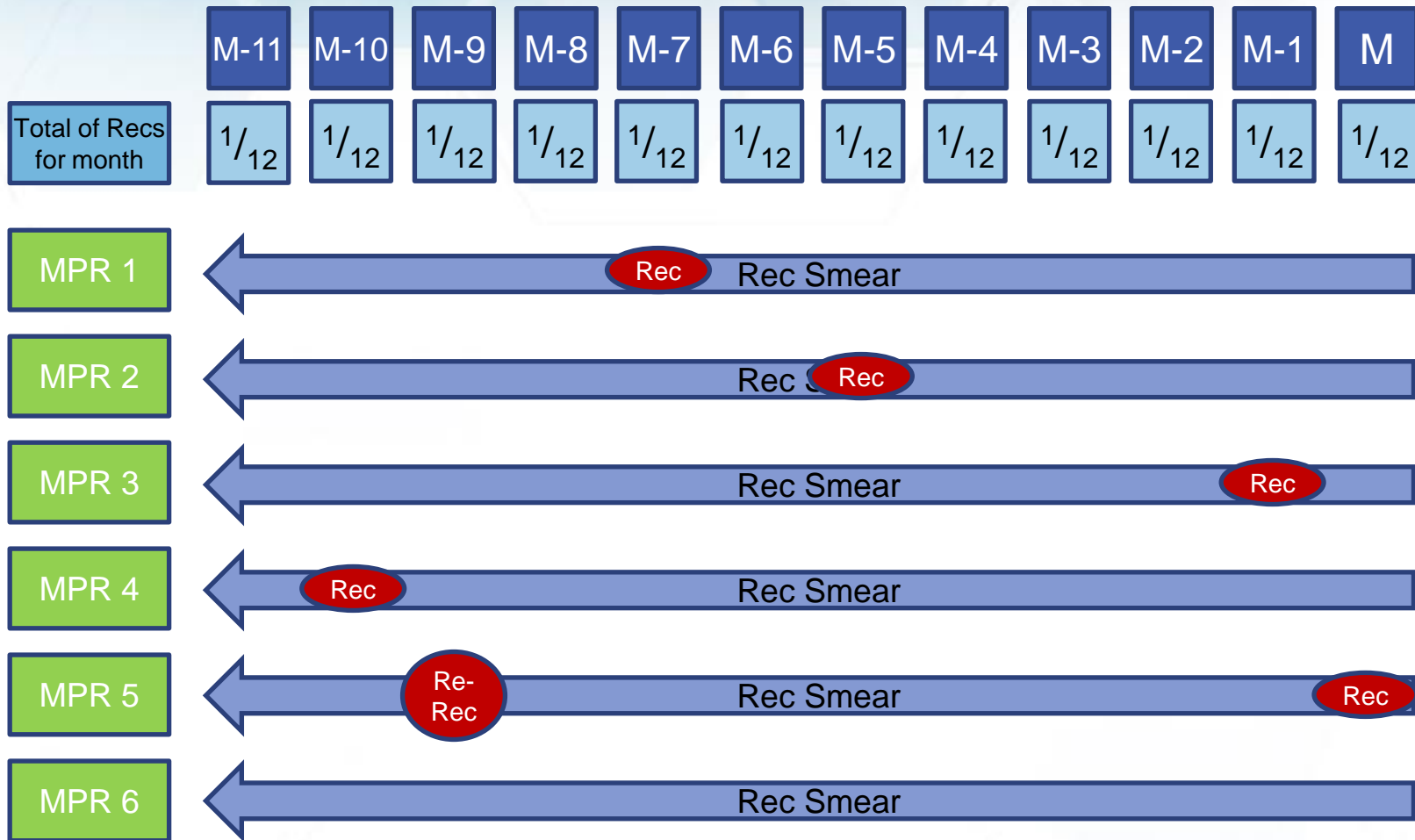
Modification 0642A – Fixed Daily UIG Percentage, plus Balancing Quantity

MONTHLY RECONCILIATION



- Universal individual Meter Point rec still applies
- Daily UIG allocation is not re-opened by Rec
- Equal and opposite of all individual recs is shared to **Class 2 to 4** only
- 12 month pot, no Weighting Factors
- **Plus: Annual Reassessment of actual UIG and possible redistribution of funds after end of Gas Year**

Modification 0642A – Reconciliation



Total Rec energy is summed and divided by 12 to apportion across last 12 months market shares, without UIG Weighting Factors.

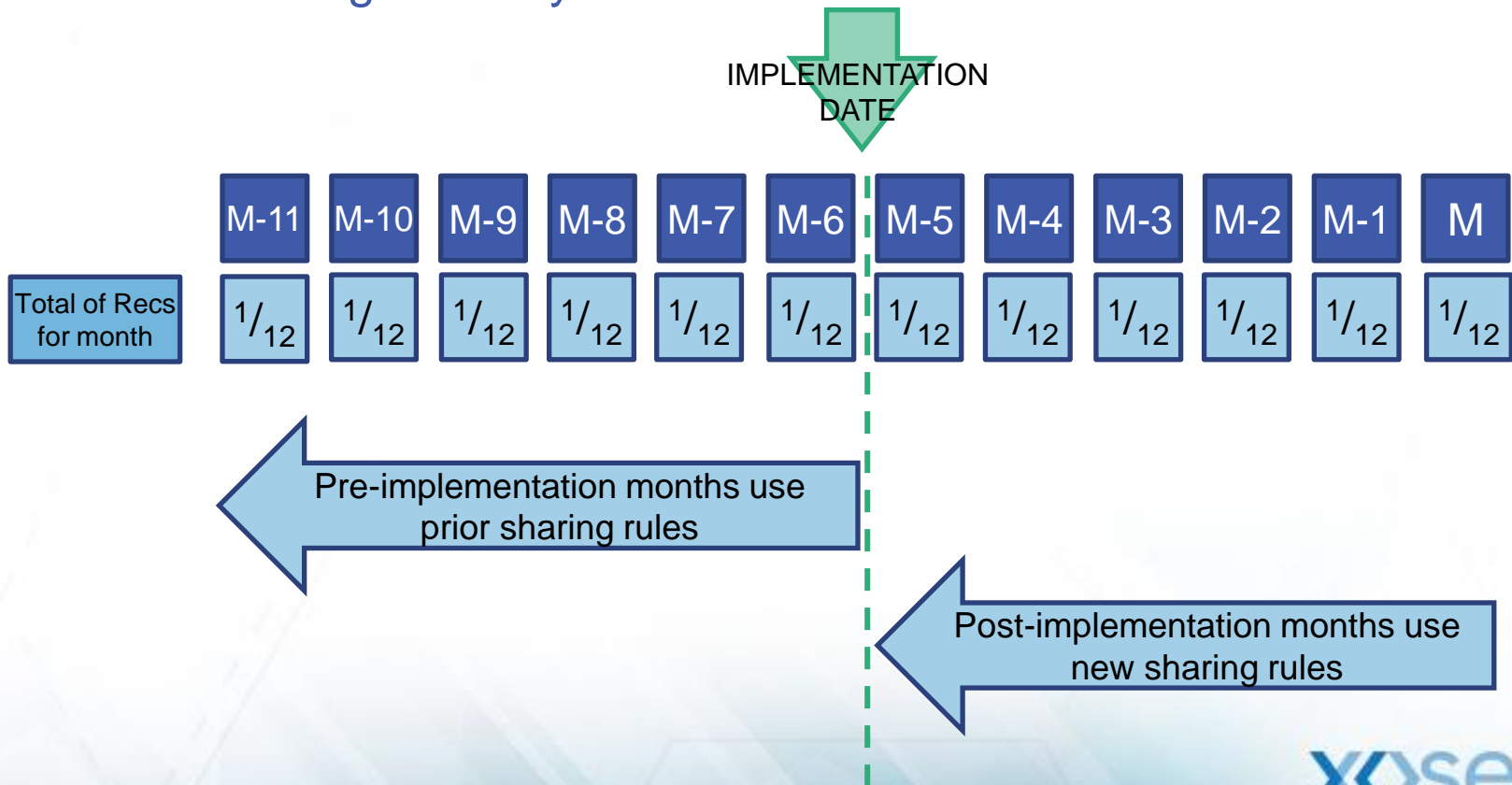
Shared out regardless of Read/Reconciled status to Classes 2 to 4.

Only change is removal of UIG Weighting Factors

- 0642/0643:
 - A Change of Shipper event in a month will remove the meter point from share of Settlement Error rec for that month, regardless whether the read is actual or estimated
 - The UIG and Settlement error weighting factors can vary from LDZ to LDZ
 - LDZ measurement errors (incl Shrinkage corrections) will not result in a change to UIG calculation but will be treated as Settlement Error rec
 - Small LDZ measurement errors follow the unrec'd/unread process
 - Large LDZ measurement errors follow the current process – matches against original error period
 - Prevailing AUG Table Weighting Factors apply until AUGE can produce specific Settlement Error factors
- 0642A:
 - The Fixed UIG % can vary from LDZ to LDZ
 - LDZ measurement errors (incl Shrinkage corrections) will not result in a change to UIG calculation but will be treated as Balancing Quantity rec

Reconciliation Transition - Assumption

- Assume that change of reconciliation rules will be prospective only – affects 0643 and 0642A
- New rules only used for post-implementation months
- 11 month transition until no pre-implementation months attract Settlement Error/Balancing Quantity rec share



Areas for further clarification/rule development²⁶

- Are the above assumptions all valid?
- Treatment of transition in Gemini:
 - Whether Gemini needs to maintain both old and new business rules during cutover period – may not be feasible
- Update to AUG Framework document – required to inform a change to the current AUGE’s service (or assess whether re-tender required)
- Clarity on likely implementation date of 0642 and whether retrospection will be required back to a “virtual implementation date”?