

# **Management and resolution of Erroneously large EAC/AAs**

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June 2015  
Tee Seong Yeow



# What are EACs and AAs?

# Management and resolution of Erroneously large EAC/AAs

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How does ELEXON's monitoring process work?

What reports do we receive and what do we use them for?

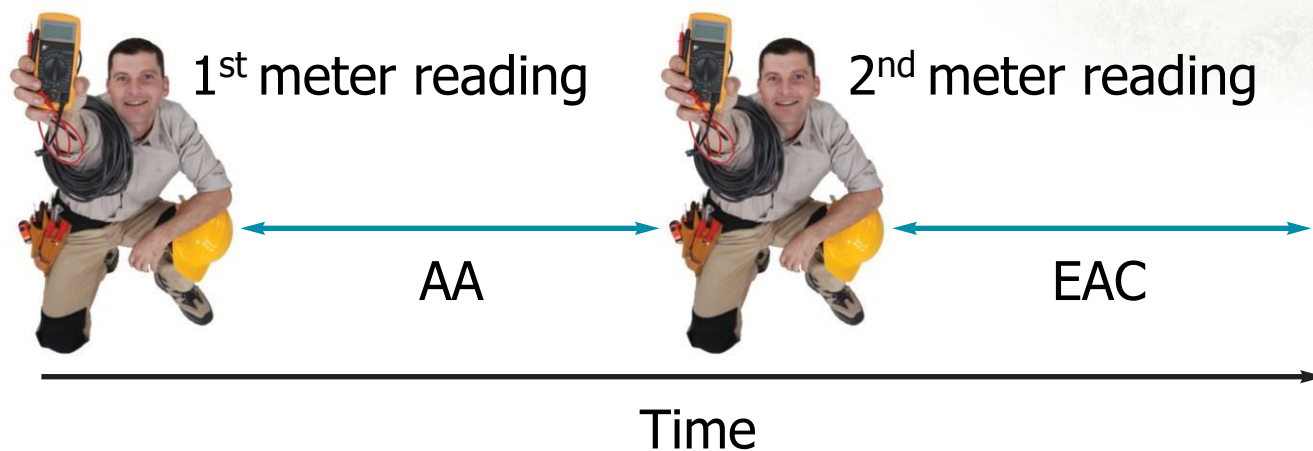
How do we correct errors?

How do we prevent errors?

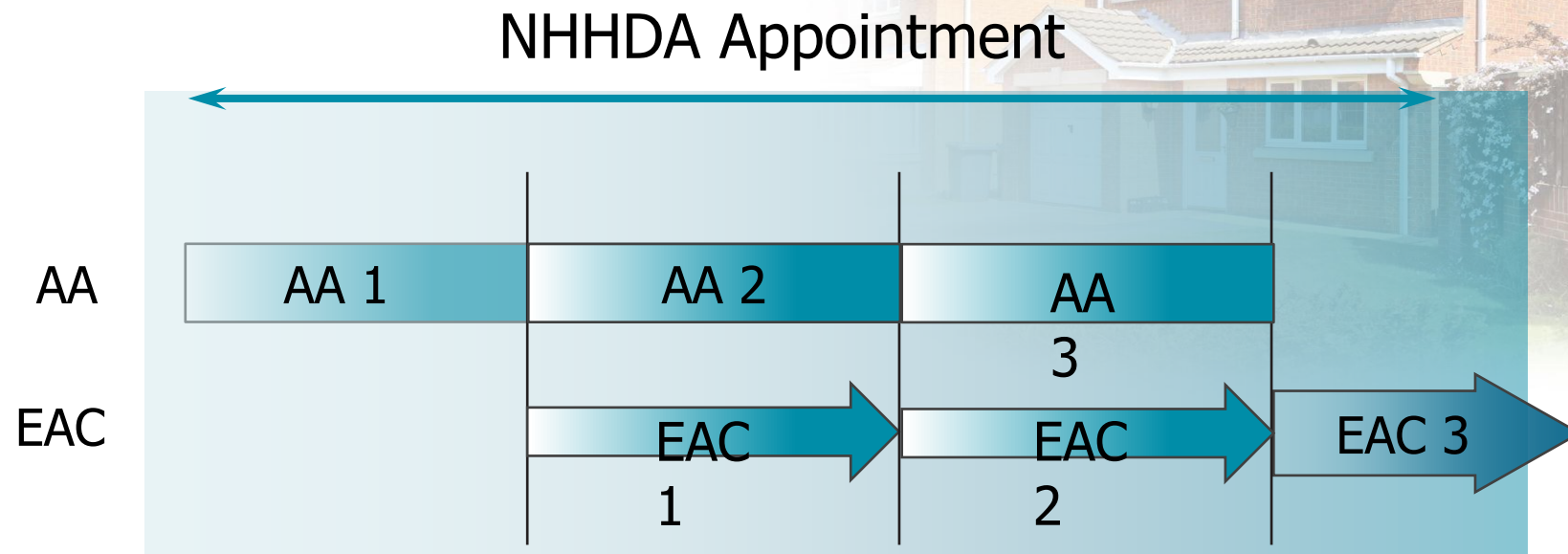


# What are AA and EACs?

- **AA** – annual rate of consumption derived by extrapolating a meter advance over a year using a profile
- **EAC** - forward looking estimate (weighted average of all previous AAs)

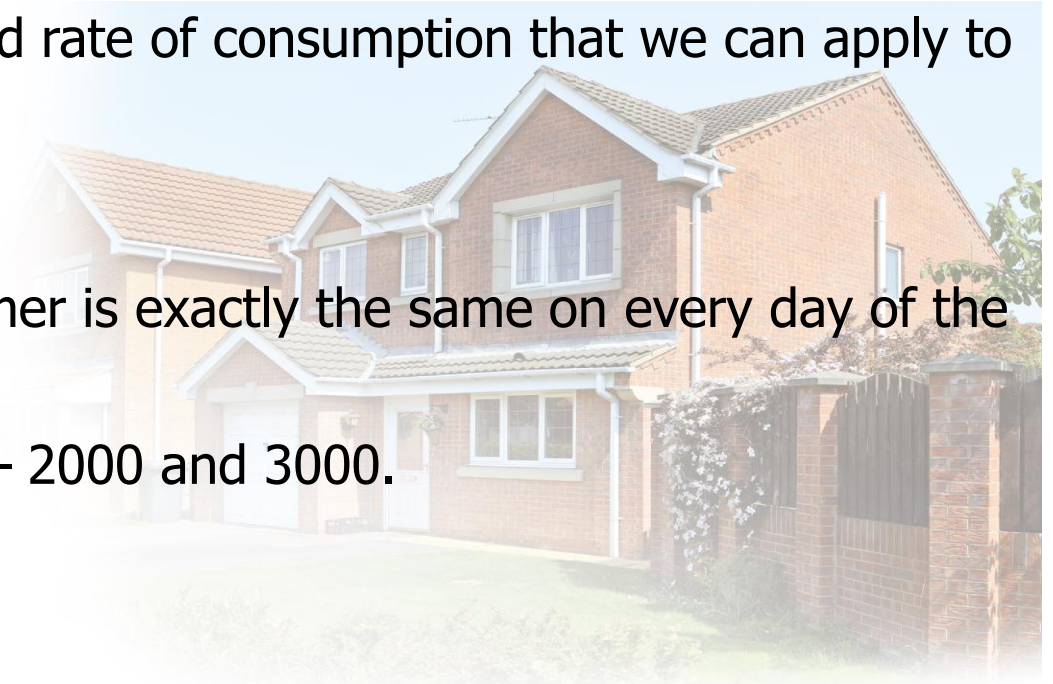


# Use of EACs and AAs by Non Half Hourly Data Aggregators (NHHDA)



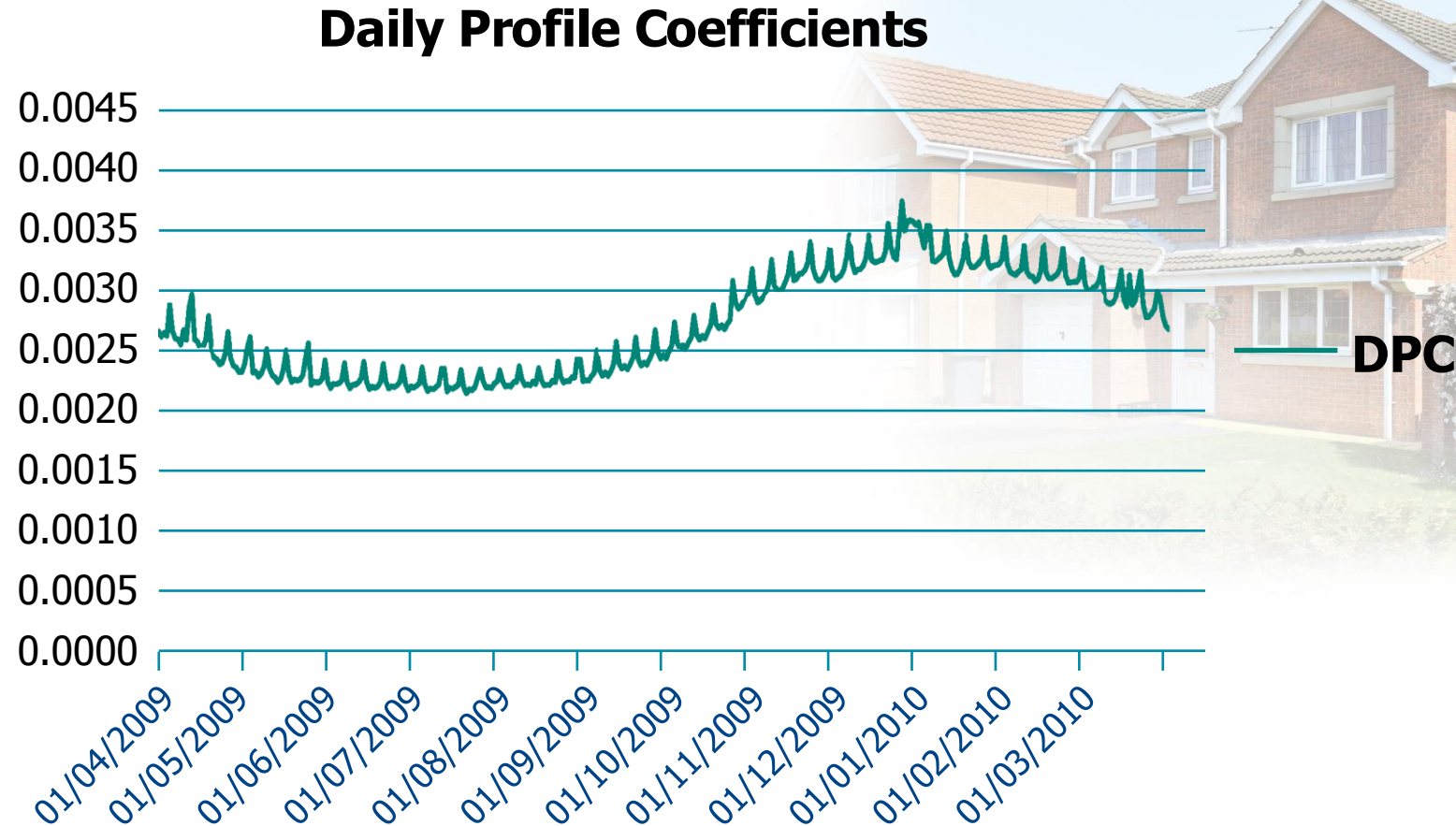
# Annualising Consumption

- Annualising makes it possible to compare consumption despite meter read frequency not being fixed, i.e. it gives us a standard rate of consumption that we can apply to all Meter Advances.
- Example:
  - Imagine that consumption for a customer is exactly the same on every day of the year.
  - You have two reads for this customer – 2000 and 3000.
  - The reads are 3 months apart.
- For Settlement, we want to know an annual rate of consumption for this customer.
- What would be a reasonable AA for this customer?
- Since consumption is exactly the same across the year, we can just multiply the consumption across three months by four, to get an annual rate, i.e.  $1000 \times 4 = 4000$  per year.



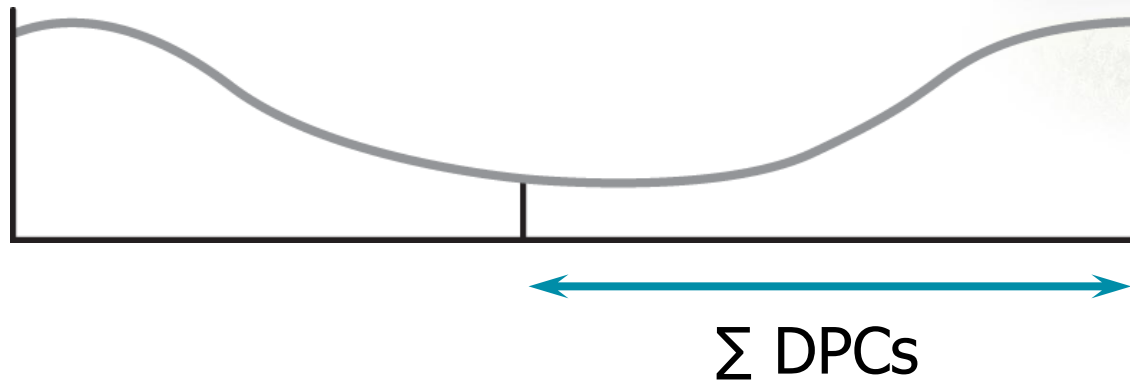


# Average Yearly Profile – domestic unrestricted



# The AA Calculation

$$AA = \frac{\text{Meter Advance}}{\Sigma \text{ Daily Profile Coefficients (MAP)}}$$





# The EAC Calculation

Where  $\sum \text{DPCs} \times \text{SP} > 1$  then;

$$\text{EAC} = \text{AA}$$

Otherwise;

$$\text{EAC} = \underbrace{(\text{AA} \times \sum \text{DPC} \times \text{SP})}_{\text{AA Weighting}} + \underbrace{(\text{Previous EAC} \times [1 - (\sum \text{DPC} \times \text{SP})])}_{\text{Previous EAC Weighting}}$$

- The shorter the Meter Advance Period for the new AA, the more the new EAC will be weighted toward the previous EAC.
- The Smoothing Parameter controls the degree by which the new AA will influence the new EAC.
- Currently the Smoothing Parameter is 2.

# Questions?

- If you have any questions you can:
  - Contact ELEXON at [large.aa@elexon.co.uk](mailto:large.aa@elexon.co.uk)
  - Contact your Operational Support Manager (OSM), if applicable
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**How does ELEXON's  
monitoring process  
work?**

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How do we prevent errors?



# Large EAC/AAs

Are they wrong?





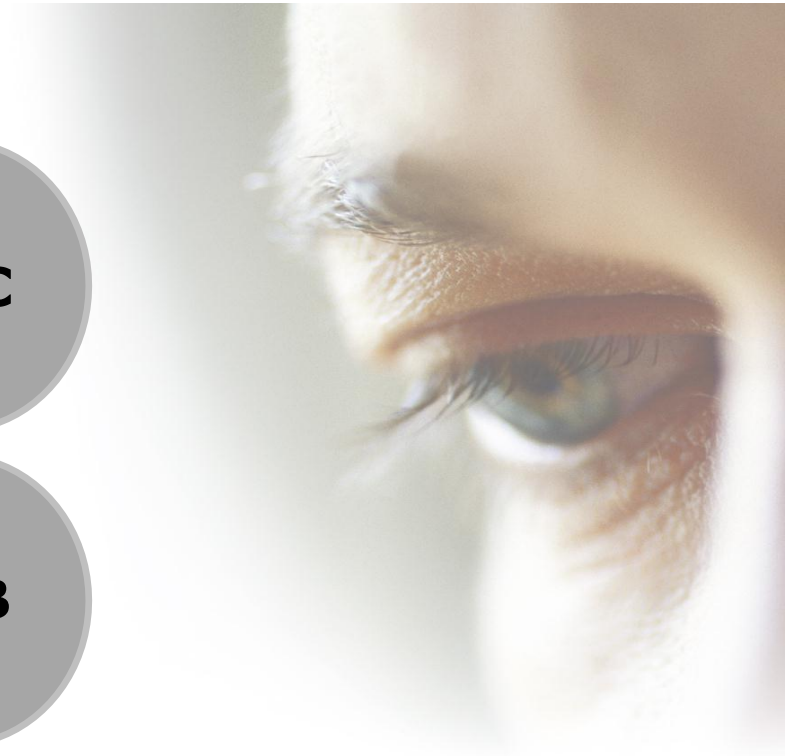
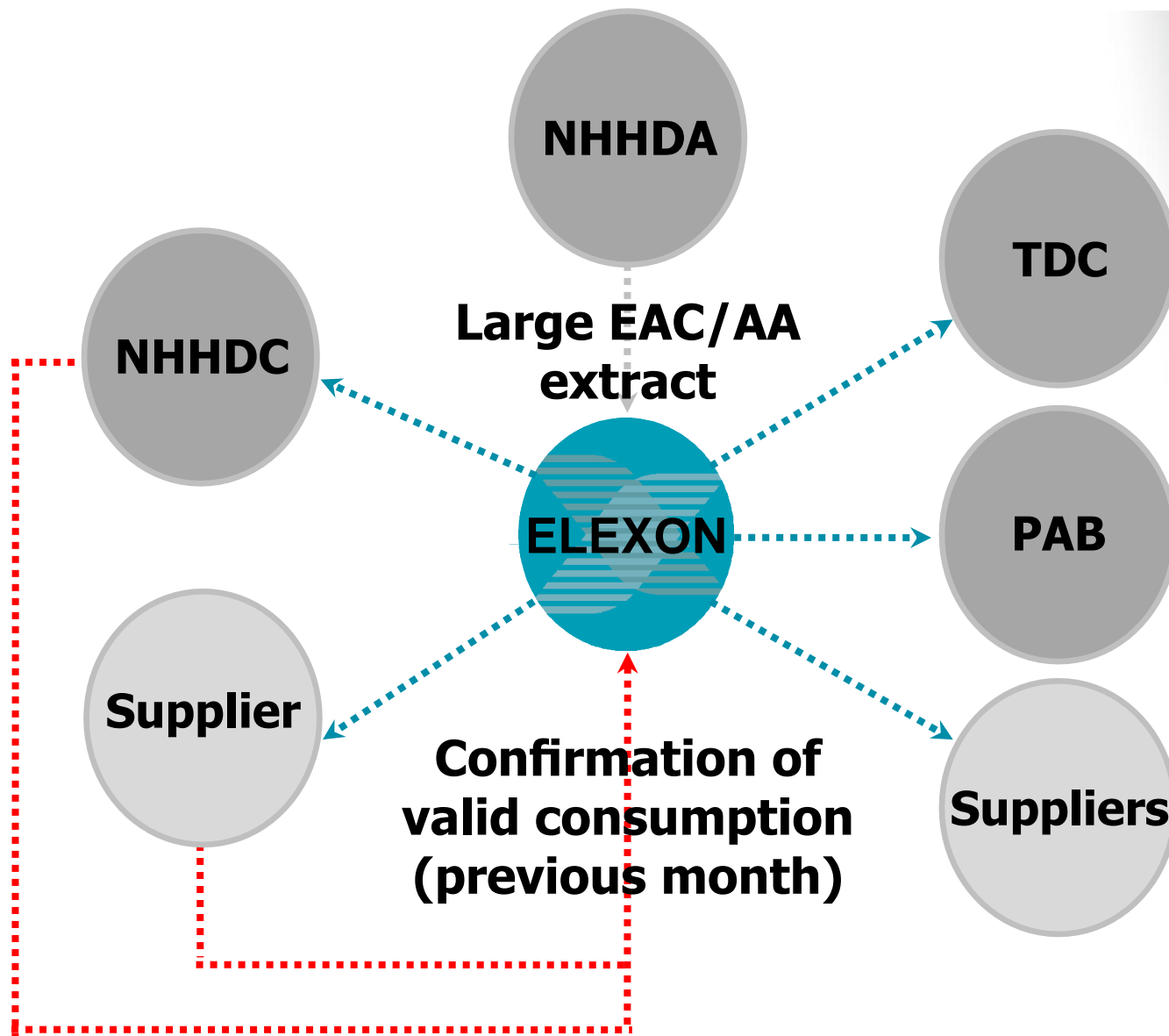
## Large EAC/AAs

Or just very big?





# The Monthly monitoring process



# Profile Class thresholds

**Erroneously Large EAC/AAs are considered to be those that breach the following thresholds:**

Profile Class	Average (kWh)	Upper Threshold (kWh)	Lower Threshold (kWh)
PC 1	3,562	128,000	-50,000
PC 2	7,398	88,000	-50,000
PC 3	11,831	200,000	-35,000
PC 4	24,150	140,000	-35,000
PC 5	70,072	220,000	-35,000
PC 6	107,035	320,000	-35,000
PC 7	136,619	430,000	-35,000
PC 8	192,759	552,000	-35,000

## Error calculation (per AA/EAC instance)

If instance is 'genuine' (determined automatically by the system or via a Supplier confirmation), error = zero

Otherwise error = excessive (i.e. AA/EAC value) minus Annual Billed Units (if provided)

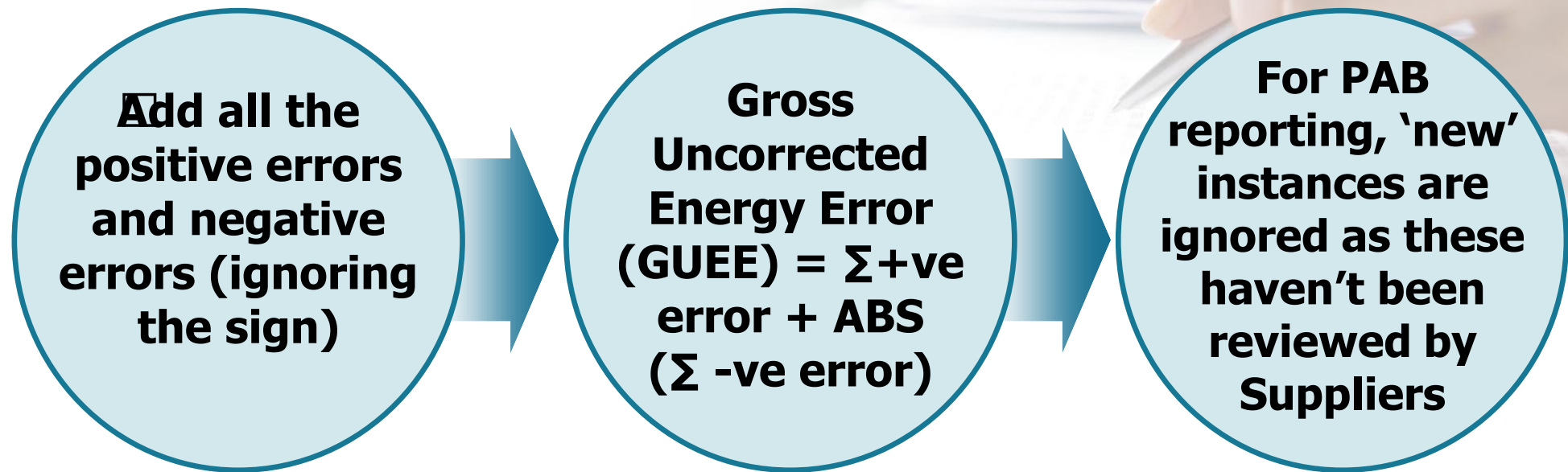
or excessive minus Profile Class Average (if Annual Billed Units not provided)



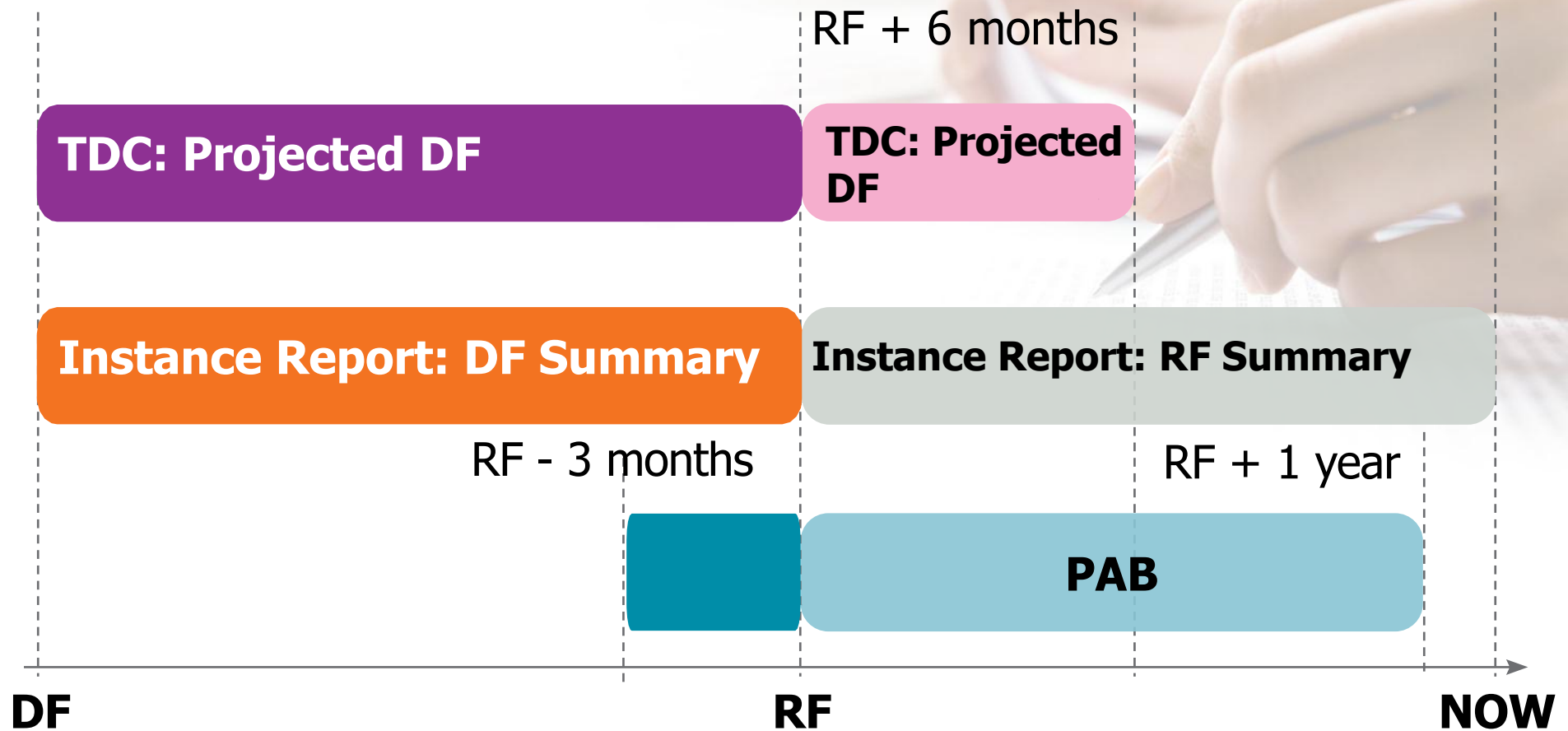
# Process indicators

Process Indicator	ELEXON View	Explanation
0	Error	No Information has been provided by NHHDC or Supplier to suggest that the EAC/AA is genuine.
1	Genuine	The EAC/AA is within twice the MPAN's Annual Billed units.
2	Genuine	The Supplier has advised that they and their NHHDC believe the EAC/AA is correct.
3	Genuine	The AA*Meter Advance Period $\leq$ 500,000kwh (PC1-4) or $\leq$ 1,000,000 (PC5-8);
4	Genuine	The DPCs for the settlement register sum to $< 0.5$ and the EAC/AA $\leq$ 500,000kwh (PC1-4) or $\leq$ 1,000,000 (PC5-8);
5	Genuine	The EAC/AA is within twice a previous EAC/AA that the Supplier has confirmed as genuine;

# Materiality Calculation



# Industry monitoring periods





# Questions?

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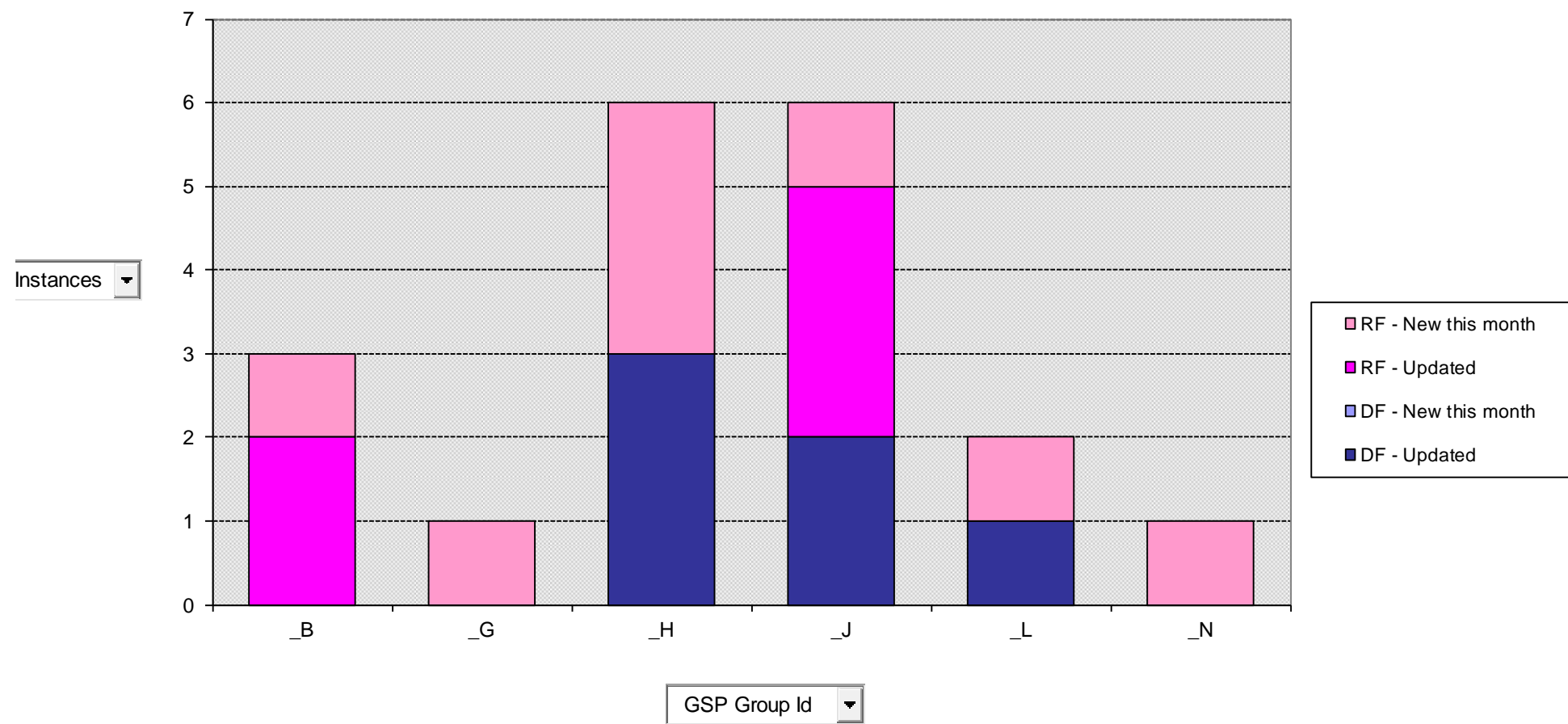
How do we prevent errors?



# Instance Report (Summary Chart)

EAC/AA Summary Graph

Report Date: 04/11/2013



# Instance Report (Summary)

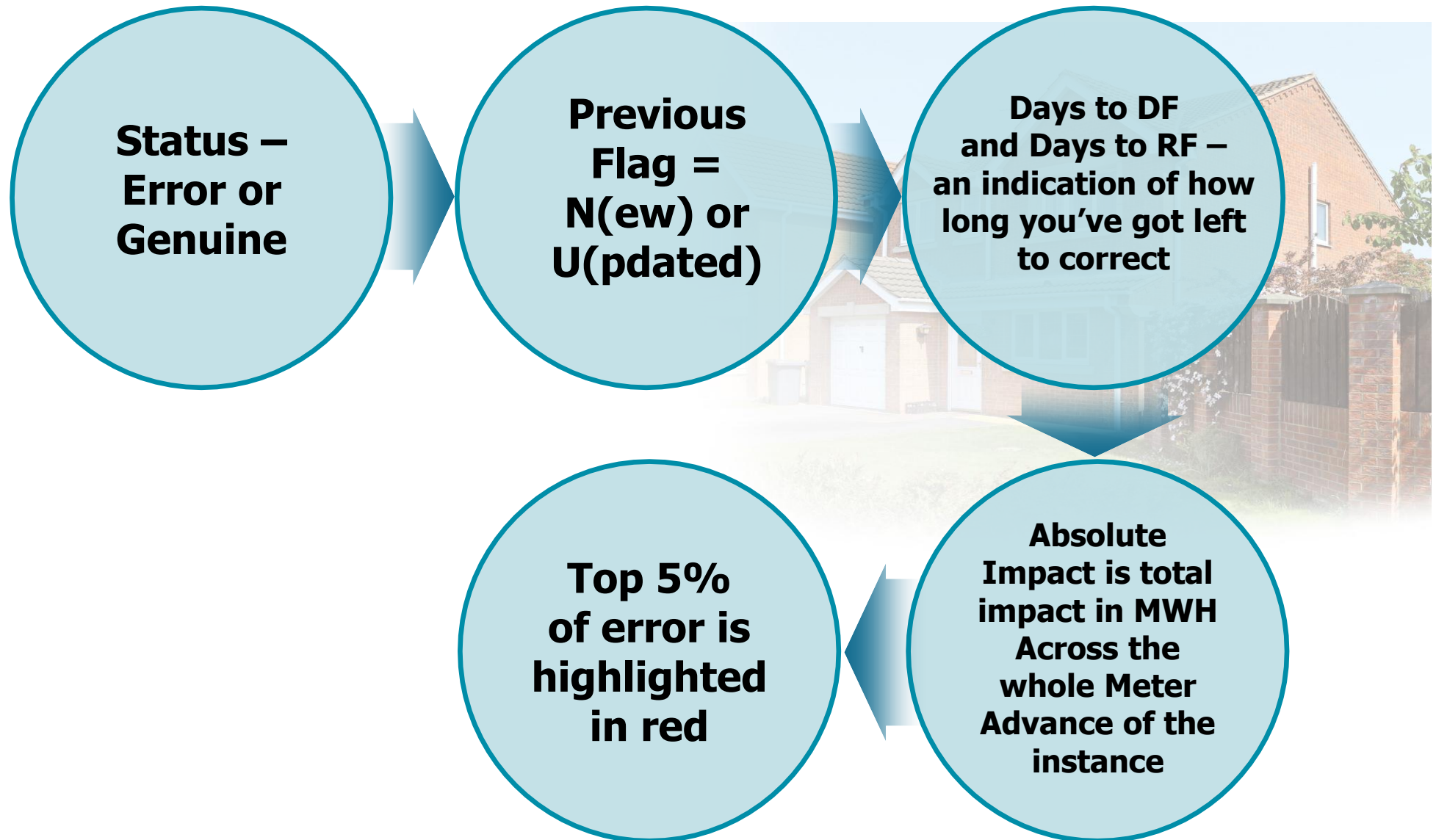
## EAC/AA Summary Report

Report Date: 04/11/2013

GSP Group Id	Count of Instances						Gross Error / MWh					
	RF		DF		Total		RF		DF		Total	
	Total	New this month	Total	New this month	Total	New this month	Total	New this month	Total	New this month	Total	New this month
B	3	1	0	0	3	1	36	12	0	0	36	12
G	1	1	0	0	1	1	3	3	0	0	3	3
H	3	3	3	0	6	3	247	206	142	0	388	206
J	4	1	2	0	6	1	188	21	28	0	216	21
L	1	1	1	0	2	1	3	3	30	0	33	3
N	1	1	0	0	1	1	344	344	0	0	344	344
Total	13	8	6	0	19	8	821	589	200	0	1,020	589

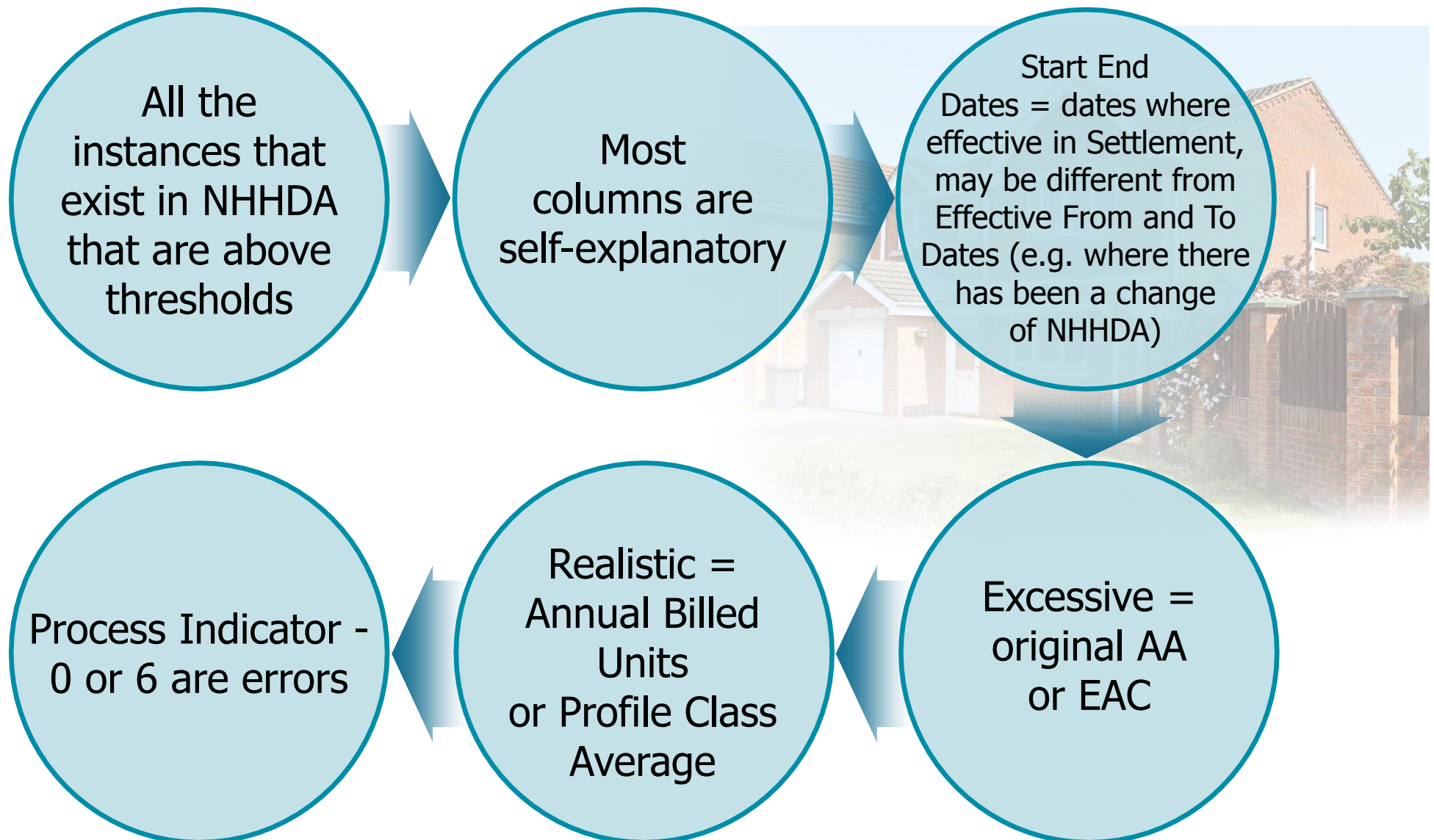
NHHDC Id	Count of Instances						Gross Error / MWh					
	RF		DF		Total		RF		DF		Total	
	Total	New this month	Total	New this month	Total	New this month	Total	New this month	Total	New this month	Total	New this month
COLL	9	6	4	0	13	6	441	233	54	0	496	233
COLL2	0	0	1	0	1	0	0	0	115	0	115	0
COLL3	4	2	1	0	5	2	379	356	30	0	409	356
Total	13	8	6	0	19	8	821	589	200	0	1,020	589

# Instance Report (continued)





# Instance Report (continued)



# Instance Report (Dispute Summary)

Disputes Summary		Report Date:	04/11/2013
GSP Groups in the Disputes Process		Exit Settlement Date (if set)	
_C	London	01/08/2011	
_E	Midlands	01/08/2011	
_F	Northern	01/08/2011	
_J	South East	01/09/2011	
_K	South Wales		
_L	South West	01/09/2011	
GSP Groups not in the Disputes Process		Entry Settlement Date (if set)	
_A	Eastern		
_B	East Midlands		
_D	Merseyside and North Wales		
_G	North Western		
_H	Southern		
_M	Yorkshire		
_N	South Scotland		
_P	North Scotland		
Latest RF Date:		17/09/2012	
Latest DF Date:		06/07/2011	

# Instance Report (continued)



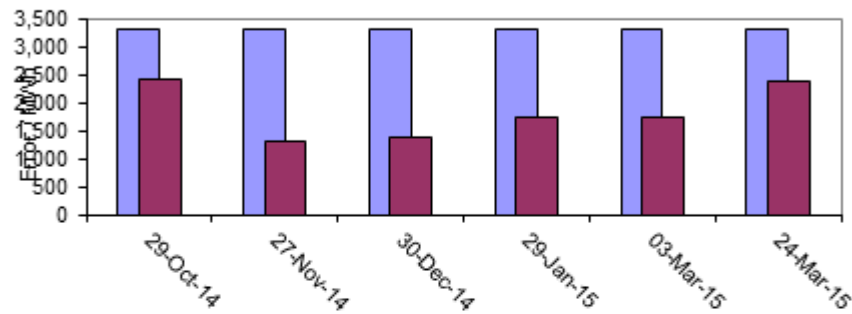
# Materiality Report (Pre-RF)

## Erroneous Large EACs and AAs

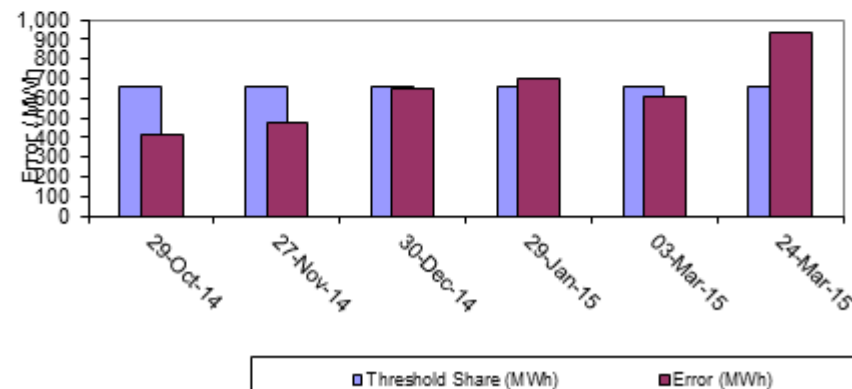
Supplier Id:

Error:

### Gross Error



### Negative Error



### Gross Error

Report Date	Threshold Share (MWh)	Error (MWh)	Peer Ranking
29-Oct-14	3,300	2,416	56/58
27-Nov-14	3,300	1,319	51/58
30-Dec-14	3,300	1,360	49/58
29-Jan-15	3,300	1,745	52/58
03-Mar-15	3,300	1,719	50/58
24-Mar-15	3,300	2,371	50/58

### Negative Error

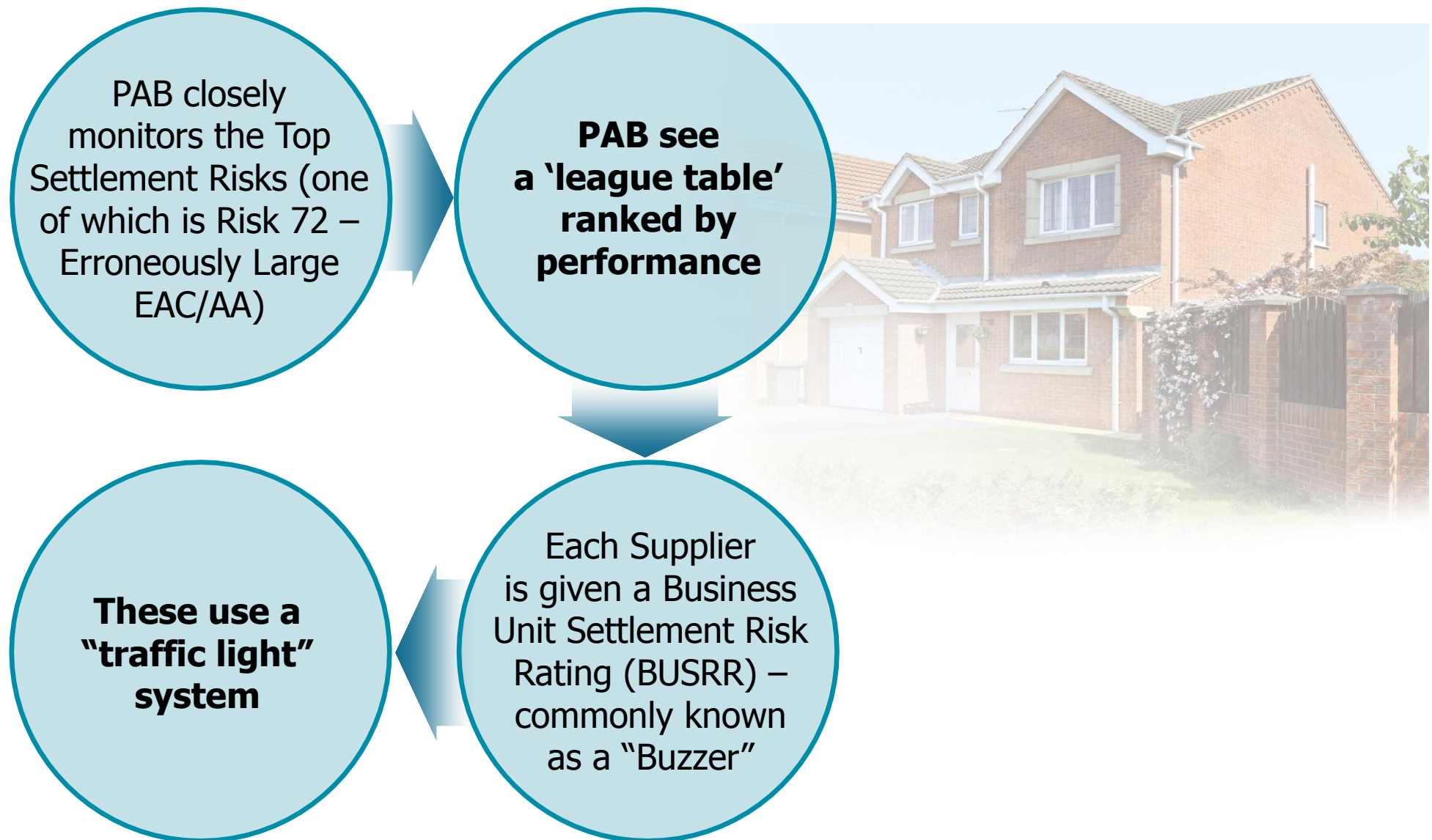
Report Date	Threshold Share (MWh)	Error (MWh)	Peer Ranking
29-Oct-14	660	409	
27-Nov-14	660	471	
30-Dec-14	660	650	
29-Jan-15	660	699	
03-Mar-15	660	607	
24-Mar-15	660	936	

Current Reporting Period: 03/11/2013 - 02/02/2015

[Print All](#)

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# What does the PAB see?



# BUSRR for EAC/AA risk



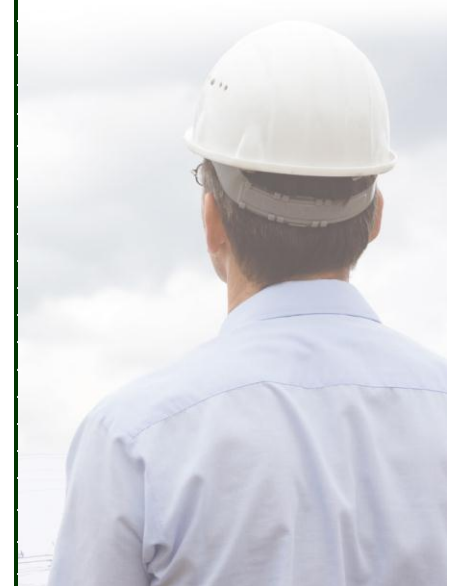
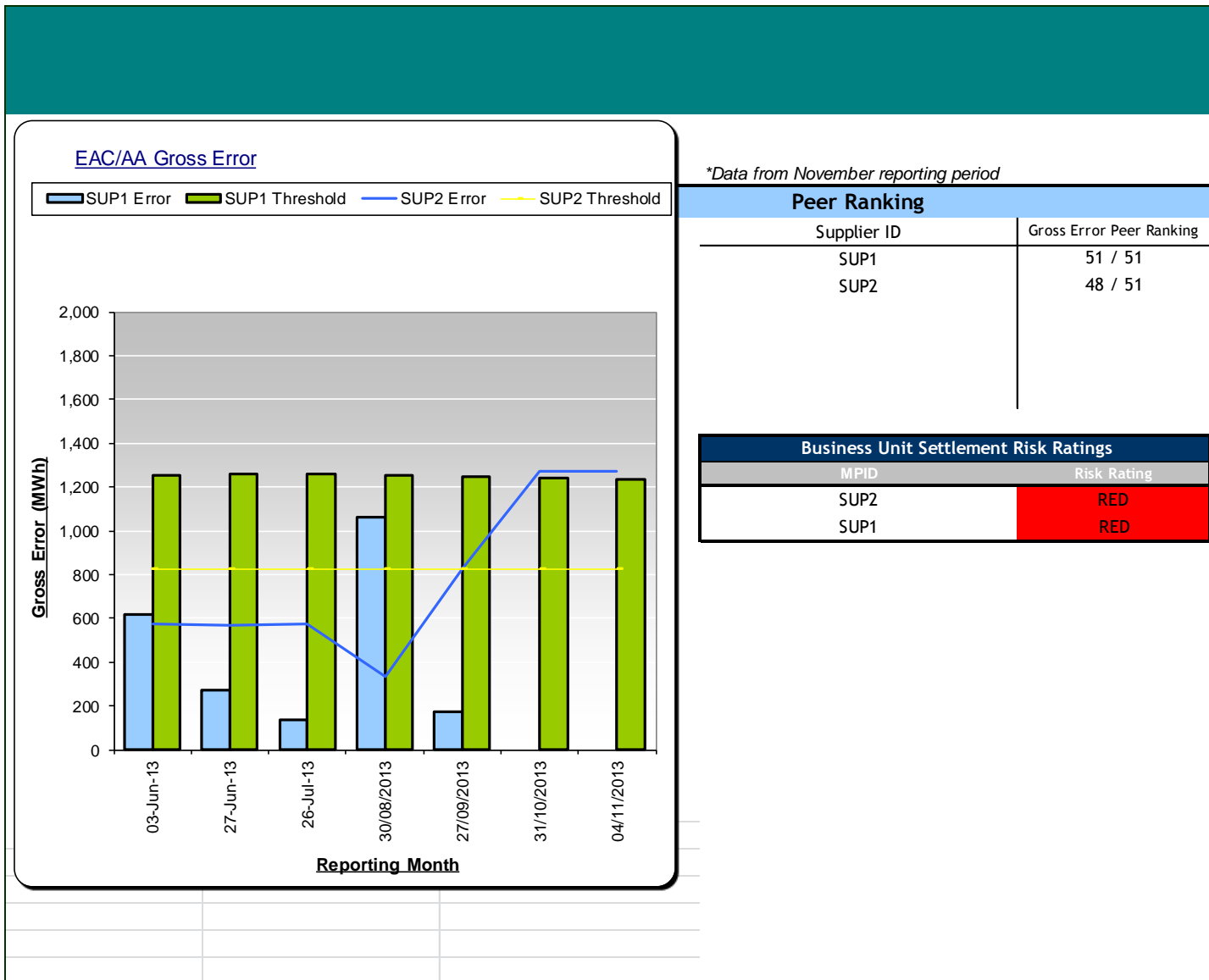
Post-RF error  $>$  threshold and/or  
Pre-RF error  $>$  threshold

Post-RF error  $<$  threshold and  
Pre-RF error  $<$  threshold





# 'Dashboard' (your view of what PAB sees)



# Materiality calculator

## Instances report

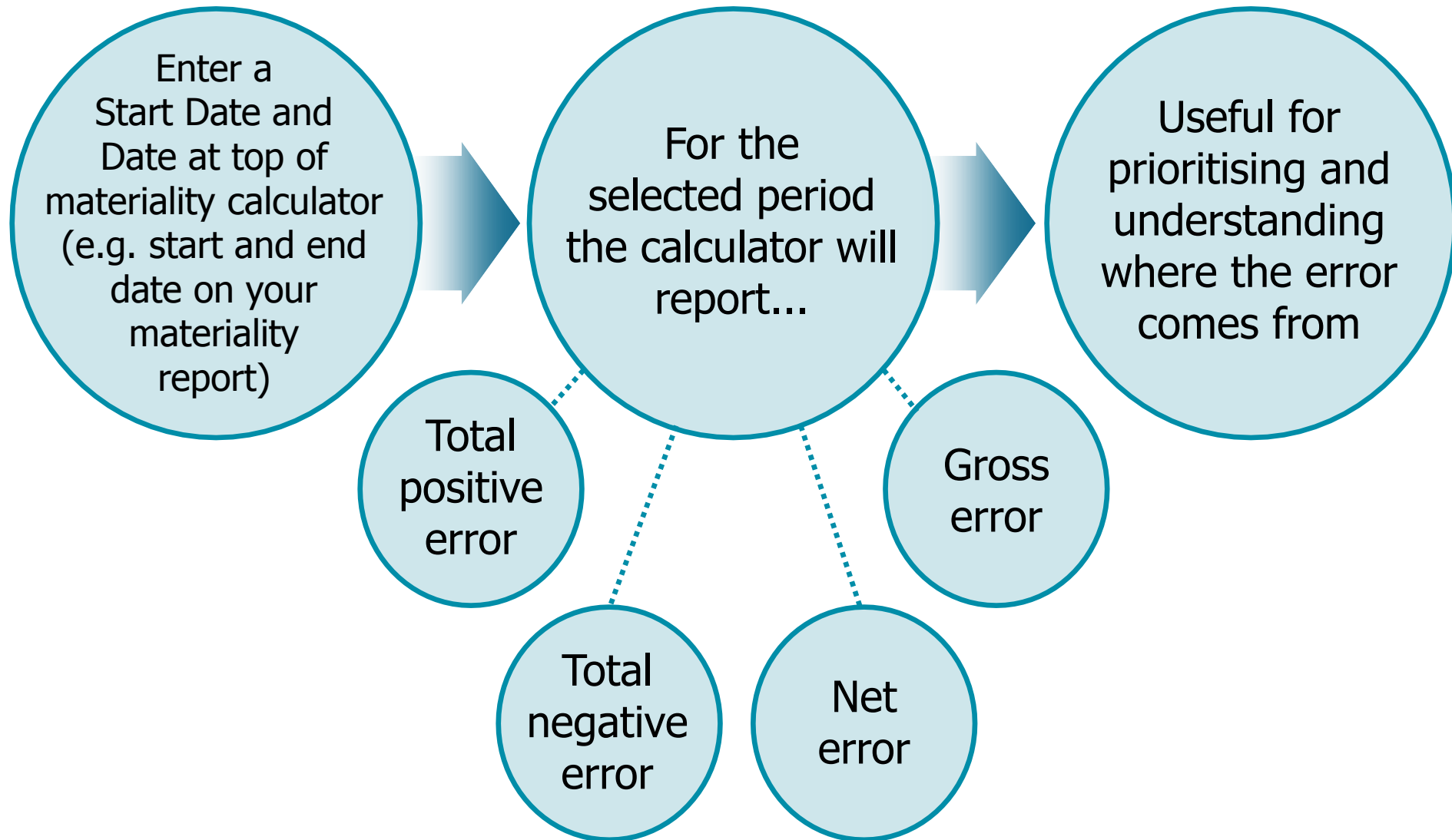
GSP Group Id	NHHD C Id	Supplier Id	MS ID	Profile Class	SSC Id	TPR Id	Effective From	Effective To	EAC/AA Indicator	Start Date	End Date	Excessive	Realistic	Status	Process Indicator
A	ZZZZ	AAAA	#####	2	151	210	29/04/2010	26/10/2010	A	29/04/2010	26/10/2010	-502117.6	7398	Error	0
L	ZZZZ	AAAA	#####	1	393	1	17/02/2011	28/07/2011	A	17/02/2011	28/07/2011	-475537.3	3562	Error	0
A	ZZZZ	AAAA	#####	2	244	40	01/12/2009	17/12/2009	A	01/12/2009	17/12/2009	1047912.4	7398	Error	0
A	ZZZZ	AAAA	#####	2	244	206	01/12/2009	17/12/2009	A	01/12/2009	17/12/2009	546747.2	7398	Error	0
A	ZZZZ	AAAA	#####	1	393	1	01/12/2009	21/12/2009	A	01/12/2009	21/12/2009	-52931.2	3562	Error	0
L	ZZZZ	AAAA	#####	2	244	40	02/12/2009	20/01/2010	A	02/12/2009	20/01/2010	-52634.7	7398	Error	0
H	ZZZZ	AAAA	#####	2	169	1059	29/12/2009	09/01/2010	A	29/12/2009	09/01/2010	139347.1	7398	Error	0
E	ZZZZ	AAAA	#####	2	205	1274	01/01/2010	02/03/2010	A	01/01/2010	02/03/2010	-51415.8	7398	Error	0
F	ZZZZ	AAAA	#####	1	393	1	15/01/2010	17/01/2010	A	15/01/2010	17/01/2010	226930.4	3562	Error	0
B	ZZZZ	AAAA	#####	1	393	1	18/01/2010	04/02/2010	A	18/01/2010	04/02/2010	-132938	3562	Error	0
A	ZZZZ	AAAA	#####	1	393	1	01/02/2010	22/03/2010	A	01/02/2010	22/03/2010	194467.2	3562	Error	0
A	ZZZZ	AAAA	#####	2	188	1192	02/02/2010	08/04/2010	A	02/02/2010	08/04/2010	175850.7	7398	Error	0
A	ZZZZ	AAAA	#####	1	393	1	15/02/2010	18/02/2010	A	15/02/2010	18/02/2010	458906.8	3562	Error	0
J	ZZZZ	AAAA	#####	1	393	1	15/03/2010	17/03/2010	A	15/03/2010	17/03/2010	349306.3	3562	Error	0
L	ZZZZ	AAAA	#####	2	186	1153	16/03/2010	25/05/2010	A	16/03/2010	25/05/2010	179612.1	7398	Error	0

## Materiality Calculator

Start Date	15-Oct-09	End Date	02-Feb-12	Total Negative	-491.2						
BETTA	01-Apr-05			Total Positive	417.7			Create SCC		Create ABU	
				Net	-73.4						
				Gross	908.9						
Paste data from your instance reports into columns A to T											
GSP Group Id	NHHD C Id	Supplier Id	MS ID	Profile Class	SSC Id	TPR Id	Effective From	Effective To	EAC/AA Indicator	Start Date	End Date
A	ZZZZ	AAAA	#####	2	151	210	29/04/2010	26/10/2010	A	29/04/2010	26/10/2010
L	ZZZZ	AAAA	#####	1	393	1	17/02/2011	28/07/2011	A	17/02/2011	28/07/2011
A	ZZZZ	AAAA	#####	2	244	40	01/12/2009	17/12/2009	A	01/12/2009	17/12/2009
A	ZZZZ	AAAA	#####	2	244	206	01/12/2009	17/12/2009	A	01/12/2009	17/12/2009
A	ZZZZ	AAAA	#####	1	393	1	01/12/2009	21/12/2009	A	01/12/2009	21/12/2009
L	ZZZZ	AAAA	#####	2	244	40	02/12/2009	20/01/2010	A	02/12/2009	20/01/2010
H	ZZZZ	AAAA	#####	2	169	1059	29/12/2009	09/01/2010	A	29/12/2009	09/01/2010
E	ZZZZ	AAAA	#####	2	205	1274	01/01/2010	02/03/2010	A	01/01/2010	02/03/2010
F	ZZZZ	AAAA	#####	1	393	1	15/01/2010	17/01/2010	A	15/01/2010	17/01/2010
B	ZZZZ	AAAA	#####	1	393	1	18/01/2010	04/02/2010	A	18/01/2010	04/02/2010
A	ZZZZ	AAAA	#####	1	393	1	01/02/2010	22/03/2010	A	01/02/2010	22/03/2010
A	ZZZZ	AAAA	#####	2	188	1192	02/02/2010	08/04/2010	A	02/02/2010	08/04/2010



# Materiality calculator



# Questions?

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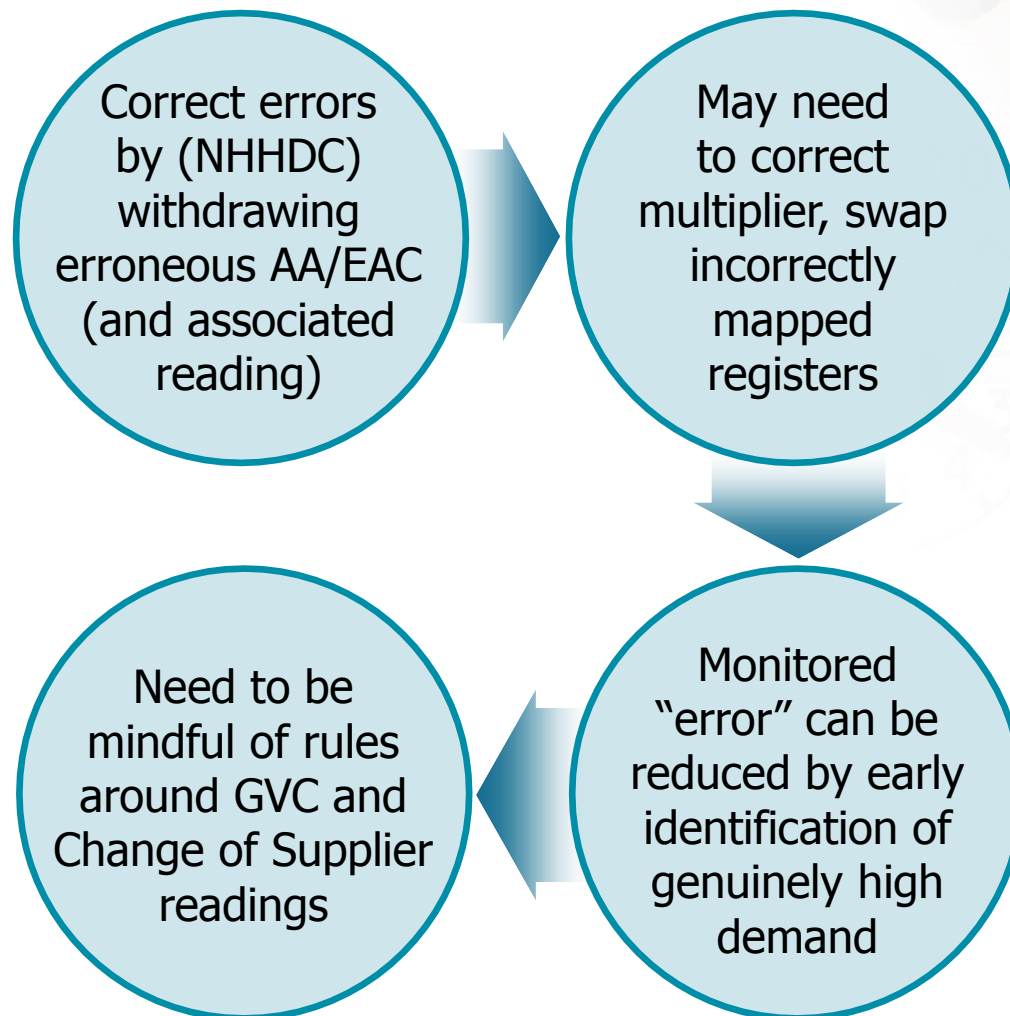
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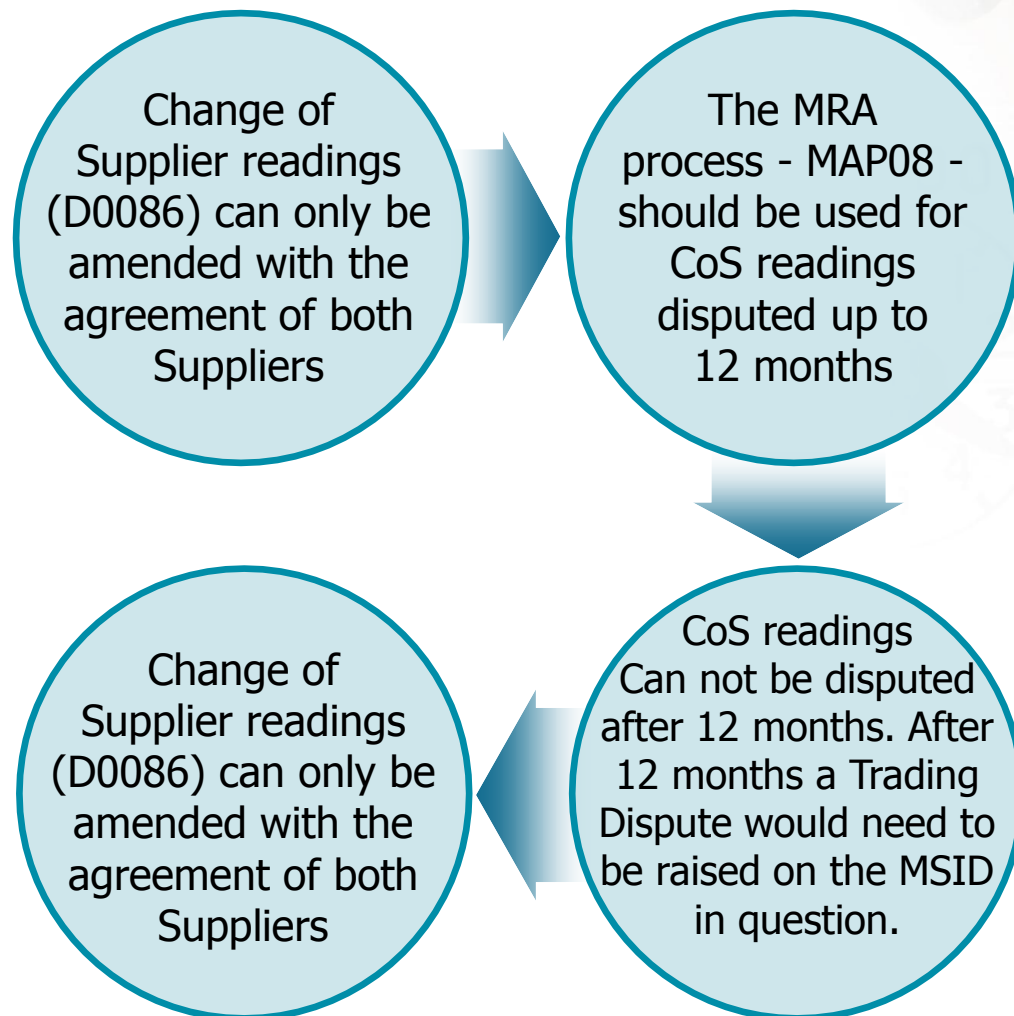


# Correcting Errors

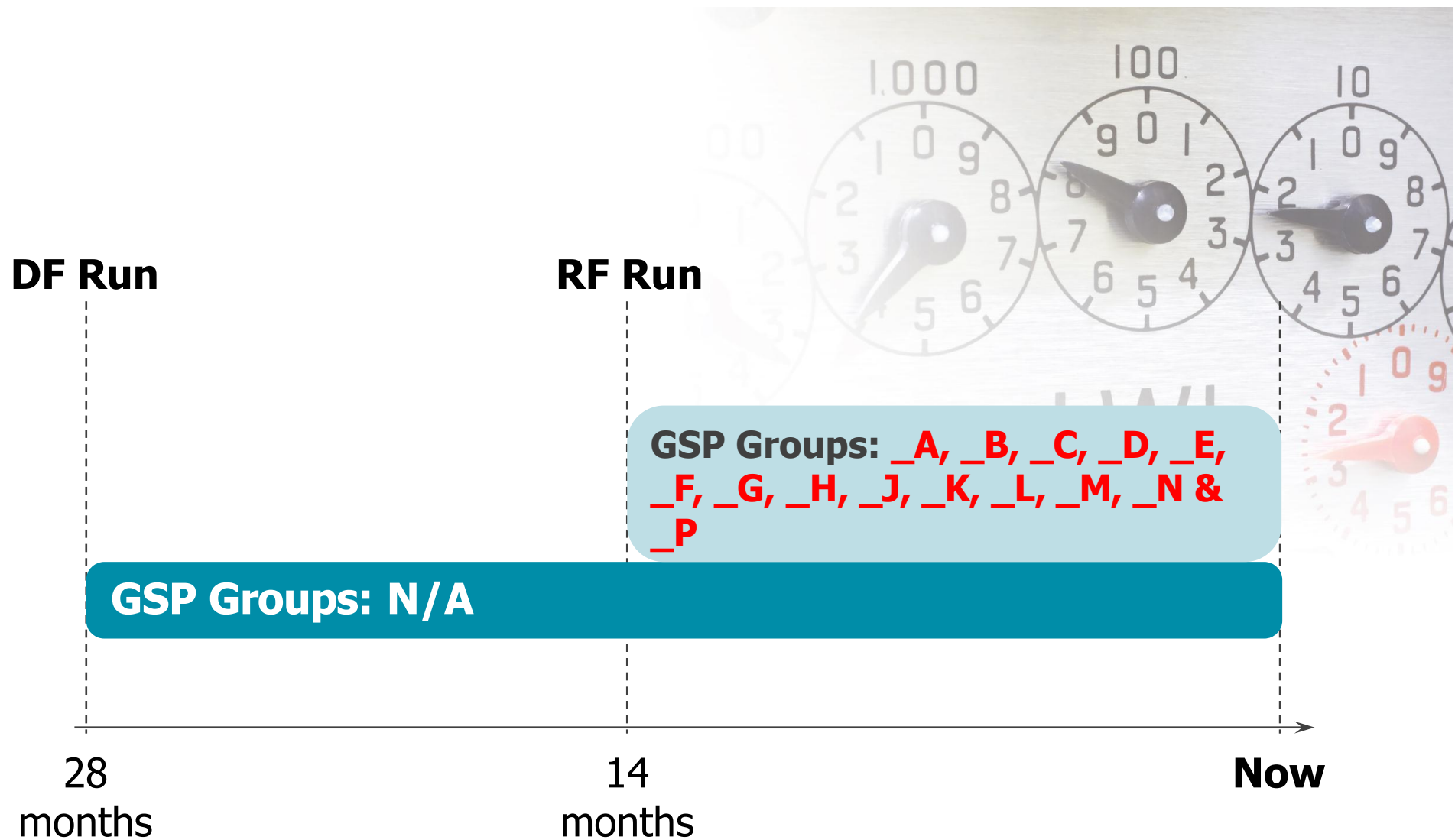




# Change of Supplier readings



# Which EAC/AAs can I correct?



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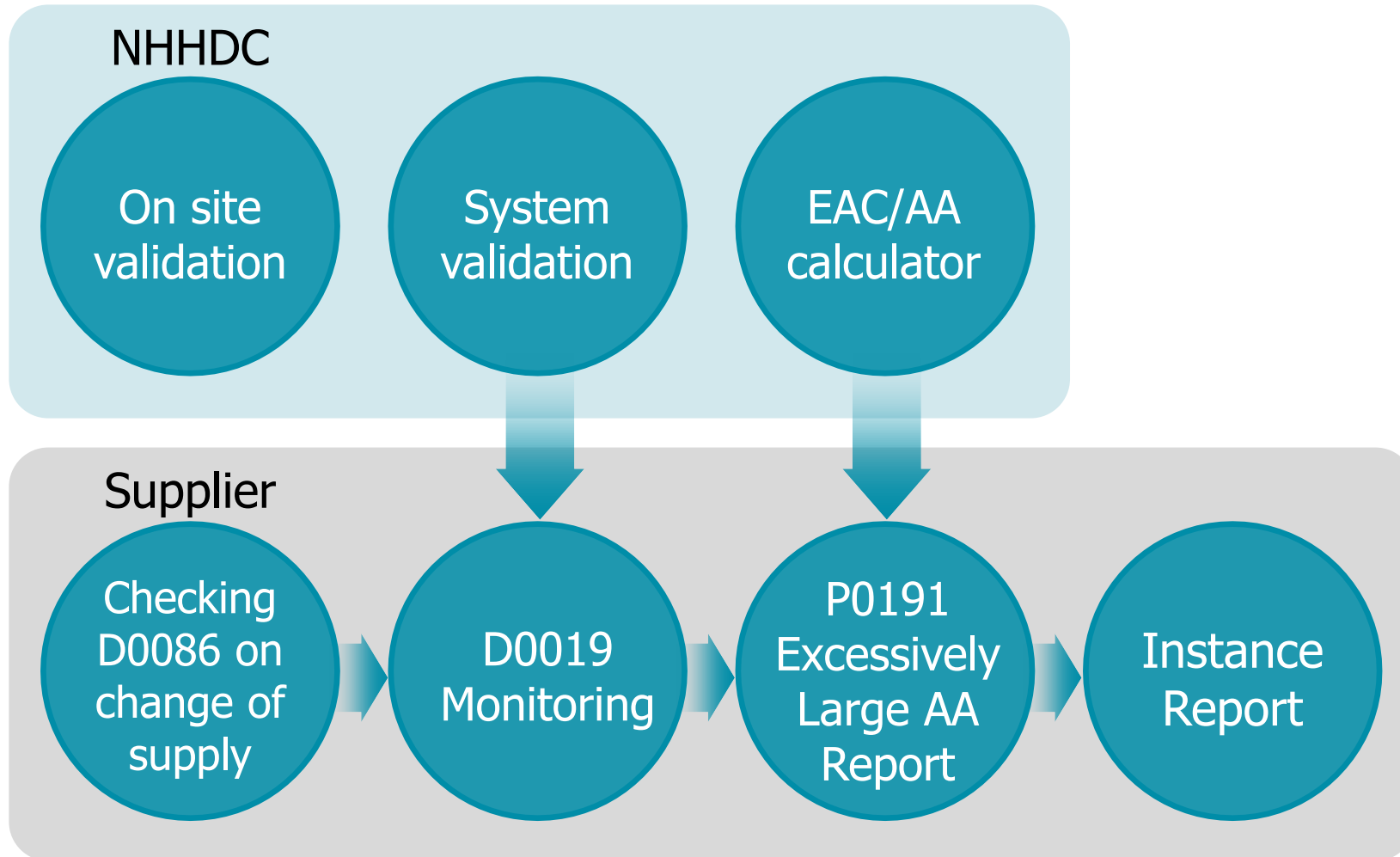
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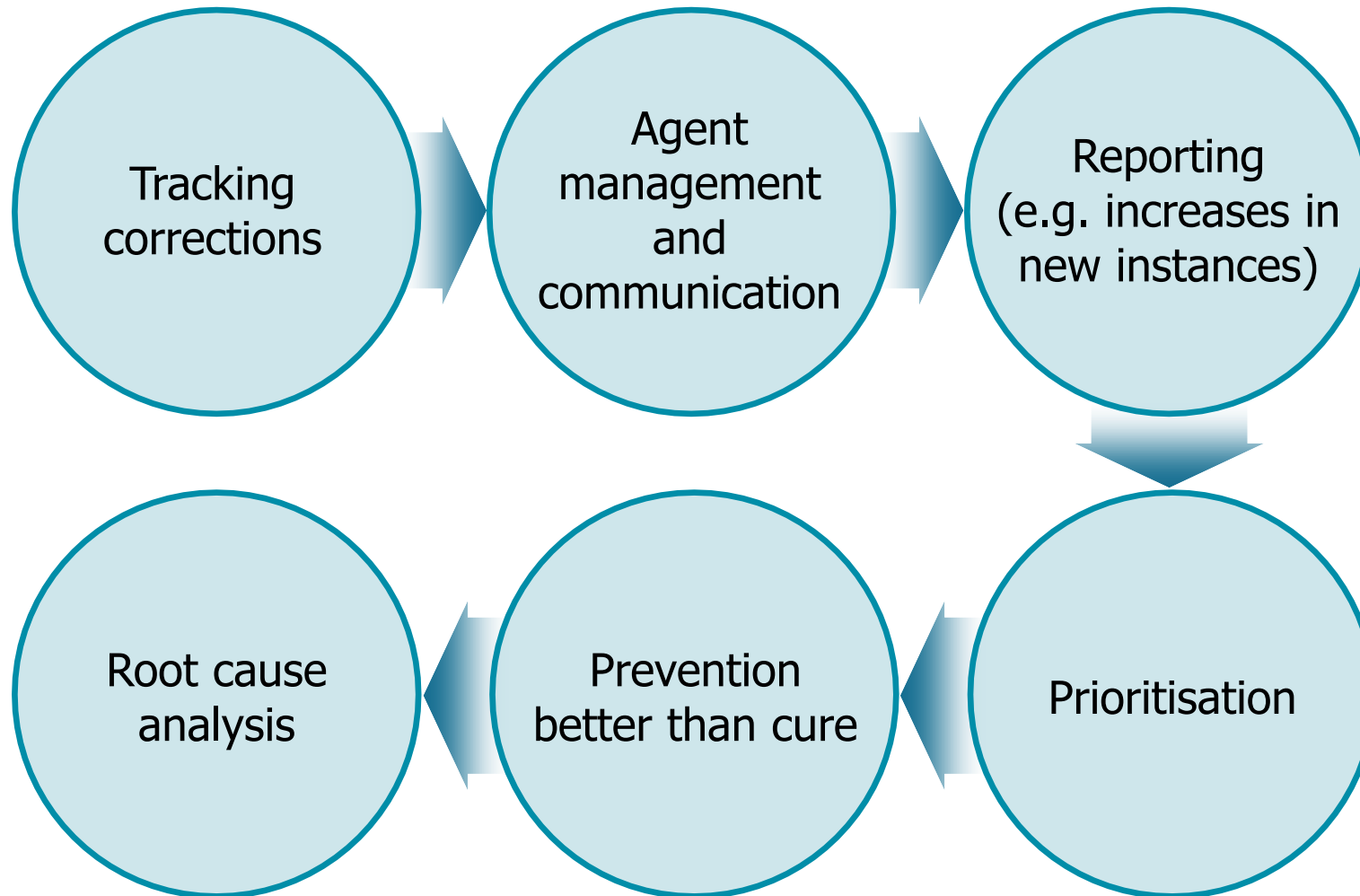
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# Control points



# Work management






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