



*SEMO's Response to the Regulatory Proposal
for Key Performance Indicators*

01 February 2019

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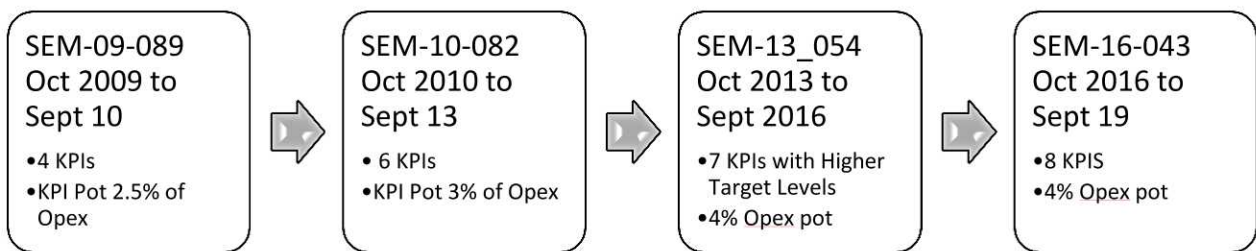
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Introduction

1. On 13 February 2018 the SEM Committee published its SEMO Price Control Final Determination Paper 2018-2021 (SEM-18-003) which set out SEMO's revenues for the carrying out of its duties under the new I-SEM arrangements.
2. SEM-18-003 referred to a set of proposed Key Performance Indicators (KPIs) which would be used to financially incentivise SEMO for its performance in the Price Control period. It was noted that these KPIs were not final and would be subject to further engagement.
3. On 16 January 2019 the Commission for Regulation of Utilities (CRU) and the Utility Regulator for Northern Ireland (UR) (collectively 'the RAs') wrote to SEMO seeking its views on the KPIs proposed in SEM-18-003 given that the new market is now operational.
4. SEMO welcomes the opportunity to set out its proposals which are set out in this brief paper below.
5. The initial proposed KPIs were set out in SEM-18-003 and again in the RAs' letter of 16 January. SEMO suggests retaining some aspects of each of the eight proposals however would note that some adjustments need to be made in order to ensure that each KPI is SMART¹ and optimises benefits for all stakeholders.
6. Under the previous market arrangements SEMO had similar KPI based incentives in place. It is important to note that these KPIs developed over multiple years as the market matured with targets increasing in line with what was achievable as seen in the graphic below². A similar approach to targets should be adopted under the new I-SEM arrangements as the market continues to develop and mature.



7. In the 16 January letter, the RAs inquired on SEMO's views on appropriate timeframes for implementation of the KPI framework. While SEMO acknowledges that there is a need to ensure it is delivering stakeholder needs, it should be understood that SEMO is currently concentrating its efforts in ensuring the stabilising of the market. While SEMO makes every effort to ensure that the metrics is delivered in as timely a manner as possible, it believes that it is proposed that actual

¹ An overview of SMART KPIs is included as Appendix 1 to this document

² A history of the development of KPI's under the previous market arrangements is included as Appendix 2 to this document

KPI incentive targets should only apply from 1 October 2019 allowing a full year for market stabilisation.

8. In relation to point 3 in the RAs letter of 16 January, SEMO is supportive of all the points made, however is of the view that measures should be taken at the end of each month in assessing the KPIs rather than quarterly.
9. In the context of the above points please find SEMO's views on each of the eight proposed KPIs set out below.

Proposed Key Performance Indicators

SEMO has considered the KPIs as outlined by the RAs against the SMART assessment criteria. It is evident that simply rolling forward the targets that had applied in the later years of the well-established and stable SEM market would not be practicable or appropriate. As such the Market Operator proposes that an increasing target should be applied for some KPIs for the three remaining periods (the 6 months (April – Sep 2019, Year 1 2019/20 and Year 2 2020/21) in the Price Control.

Key Assumptions

Assumptions to apply to each KPI:

- Where applicable, metrics should be delivered within one hour of the targeted time.
- External factors which are demonstrably outside of the Market Operator's direct control are to be excluded e.g. Limited Communication failure by Market Participant, late provision of data by the Meter Data Provider, Government policy changes, Regulatory Authorities' policy changes etc.
- In terms of assessing the KPIs, a measure is to be taken monthly using the average value of each KPI over that period to calculate any potential reward.
- No further significant workarounds are introduced into the Settlement Systems which may impact processing & publication timelines

In addition to the above a number of specific assumptions apply to certain KPIs:

KPI Assumptions - System Availability

1. This KPI excludes all
 - a. Planned outages
 - b. Planned Releases
 - c. Ad-hoc Releases
2. This metric is to be applied to Market Operator systems only. It will not apply to System Operator owned systems.
3. Any System Operator data feeds that is not operational and impacts the Market Operator Systems availability is to be excluded from this metric.

KPI Assumptions - Timely publication of key market information

1. Some of the reports outlined in Annex 2 of the 16 January letter are owned by the System Operator. The Market Operator cannot be held accountable for delayed or missed reports which are outside of its control. Therefore any System Operator delays when publishing data would need to be discounted from this incentive.

KPI Assumptions - Website availability

1. Website availability is in relation to the website availability only, and missing data or reports are not part of this metric.
2. This metric is separate to the Market Operator System availability metric.
3. The system will be available from 8am to 6pm Monday to Friday

4. This KPI excludes all
- Planned Website outages
 - Planned Website Releases
 - Ad-hoc Website Releases

KPI Assumptions - Timely and accurate data provision

The following assumptions should apply:

1. Delayed delivery of data which is the responsibility of 3rd parties to deliver will be excluded from this metric.

Invoicing, CCINS and Resettlement

Invoicing, CCINS and Resettlement processes will take several months to bed in and the target levels for a new market and new personnel should be achievable

Invoicing

SEMO KPIs	Description
Invoicing	The percentage of occurrences where invoices to participants are published on time.

The Invoicing targets refer to the percentage of occurrences where Invoices to all participants are published on time. Currently for the weekly energy Market and Variable Market Operator Charge (VMOC) invoices the target is 12:00 each Friday. Capacity is invoiced at 12:00 seven working days after the end of the month, and the Fixed Market Operator Charge (FMOC) invoices are published on the first Friday after the end of the month at 12:00.

The table below outlines the SEMO proposal for Invoicing KPIs.

Invoicing ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1st – Sept 30th 2019	0.2	75%	90%
Oct 1st 2019 – Sept 30th 2020	0.2	85%	97%
Oct 1st 2020 – Sept 30th 2021	0.2	97%	100%

Table 1 - Invoicing historical and proposed weightings and Targets

Credit Cover Increase Notices

SEMO KPIs	Description
Credit Cover Increase Notices	The percentage of occurrences where Credit Cover Increase Notices are published on time.

The Credit Cover Increase Notice targets refer to the percentage of occurrences where the CCINs (issued are part of the Credit Cover Reports) are published on time. There are three credit reports issued every working day. Currently the target time to start processing publications is 09:00am, 12:00pm & 3.30pm each day, with an estimate of 45 minutes to complete each publication. CCIN reports are used to inform Market participants that their posted collateral cover is less than their required collateral cover. They then have two working days in which to rectify this on receipt of the CCIN. The table below outlines the proposal for CCIN KPIs.

Credit Cover Increase Notices - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1st – Sept 30th 2019	0.2	90%	95%
Oct 1st 2019 – Sept 30th 2020	0.2	95%	99%
Oct 1st 2020 – Sept 30th 2021	0.2	99%	100%

Table 2 - CCIN historical and proposed weightings and Targets

SEMO Resettlement Queries

SEMO KPIs	Description
SEMO Resettlement Queries	The number of upheld formal queries from market participants which have Identified errors in settling the market which are attributed the SEMO's operations and processes. Correction of such errors is completed in either the scheduled Resettlement (M+4 and M+13) or on an ad hoc Resettlement. Measurement of this KPI is related to the number of SEMO upheld query incidents and Resettlements per Quarter.

If the Market is settled incorrectly, a Market Participant raises a query to ensure it is settled correctly. When the Market is settled incorrectly the Market Participants query is upheld and the correction is completed in either the scheduled resettlement (M+4 and M+13) or in an ad hoc resettlement. The materiality of a formal query determines whether an ad hoc resettlement run is required.

Some of these formal queries are the result of SEMO issues; however others are driven by external factors outside of SEMO's control. The proposed measure is to reduce the number of SEMO related

issues hence the number of SEMO upheld query incidents ³per quarter, to include those incidents in the quarter which will be rolled into the next scheduled resettlement.

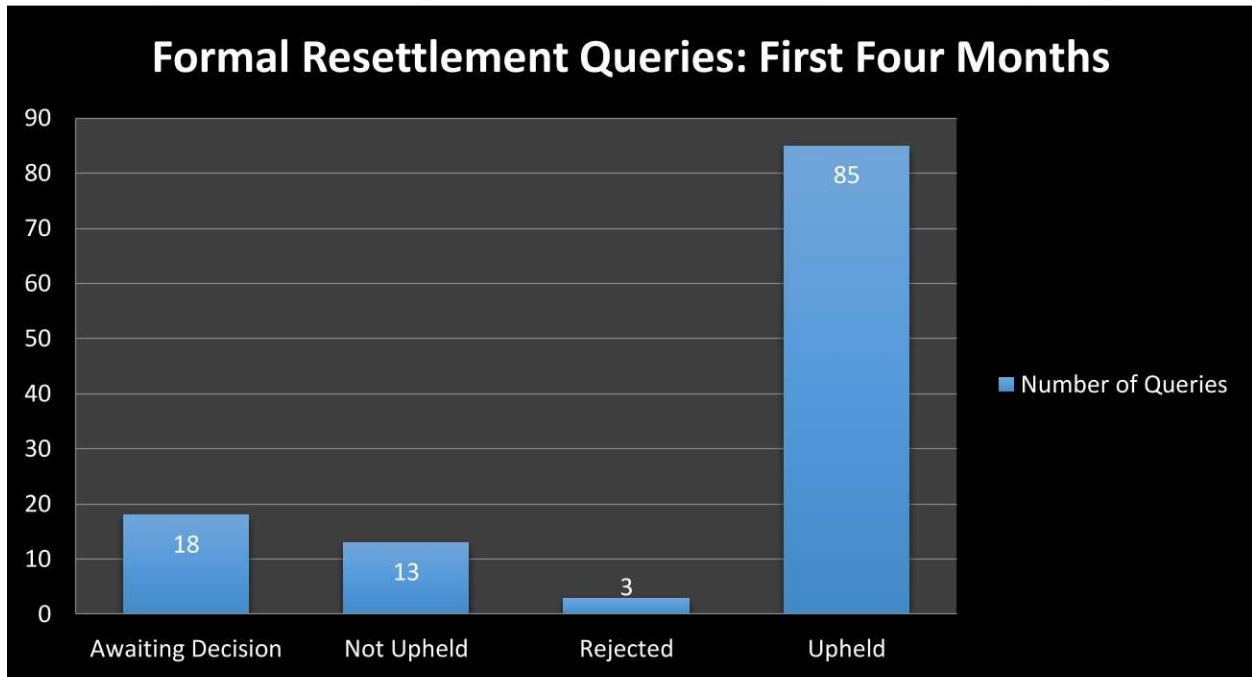
The table below outlines the proposal for Resettlement Queries.

SEMO Resettlement Queries - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.1	<50	<25
Oct 1 st 2019 – Sept 30 th 2020	0.1	<30	<15
Oct 1 st 2020 – Sept 30 th 2021	0.1	<15	<8

Table 3 - Resettlement Queries historical and proposed weightings and Targets

Data that Supports the Upper and Lower Bounds

Based on the first four months of I-SEM operations 119 Formal Queries have been raised; of these 85 have been upheld. This excludes resettlements based on upheld disputes. Most of the formal queries raised and upheld have been mainly associated with known defects, new defects and pricing issues.



Graph 1 – Formal Query Analysis breakdown for 1st four months of the ISEM market

³ Multiple Upheld Queries for one incident shall be classified as one Upheld Query Incident. A Formal Query referencing a number of days shall be classified as Multiple Upheld Queries Incidents.

General Queries

SEMO KPIs	Description
General Queries	The percentage of occurrences where a General Query is not addressed within 30 business days.

The General Queries targets refer to the percentage of occurrences where a General Query is addressed within 30 Business days. While the Trading and Settlement Code does not place a specific obligation on SEMO to respond to general queries, SEMO endeavours to answer all queries received within 30 Business days. At times, depending on the complexity, scale, resource issues and operational performance, the time taken to respond to these queries has taken more than 30 working days.

Current level of queries received is significant, 2,442 received between October 2018 and January 2019. There are 111 queries open over 30 days. This level is expected to remain high for at least the next 6 to 12 months. It is assumed that the volume of queries will remain high in the transition phase of a new market for the first 12 – 18 months. A natural downward trend is expected post this period when both Participants and the Market Operator reach a level of stability.

The table below outlines the proposal for General Query KPIs.

General Queries - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.2	85%	95%
Oct 1 st 2019 – Sept 30 th 2020	0.2	<90%	97%
Oct 1 st 2020 – Sept 30 th 2021	0.2	<97%	99%

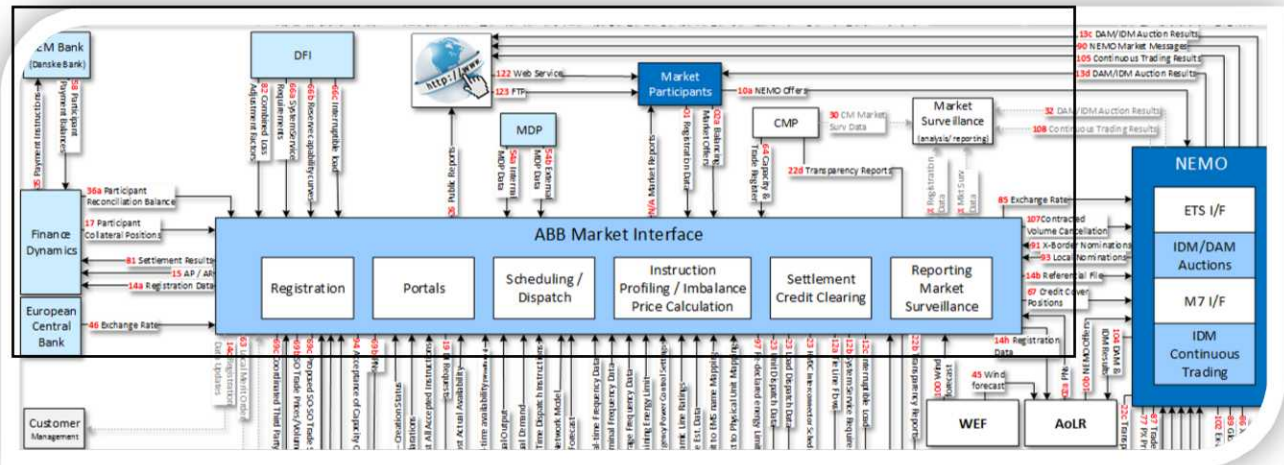
Table 4 - General Queries historical and proposed weightings and Targets

System Availability

SEMO KPIs	Description
System Availability	Availability of central market systems on a 24-hour basis Monday to Sunday. This is the ratio of the time systems are said to be In a functioning condition to the total time it is required to be available

The I-SEM Market is made up over thirty different market systems. Some of the market system are hosted and operated by external parties in external environments for which the EirGrid Group has no control over. While most of the Balancing market systems require 24 * 7 availability there are several I-SEM systems that do not require 24 * 7 support. For example the Registration system needs only be supported during working hours. The Capacity Auction platform only needs 1 week availability for each auction.

The rectangle area identified below is roughly the scope for which Market Operator systems metric are to be applied. More specific data will be required to finalise this metric.



Using the **SMART** assessment criteria the System Availability target is not specific enough or measurable to be anyway achievable or meaningful. Also which Market Systems come under the ownership and responsibility of the Market Operator needs to be clearly specified. All planned or ad hoc outages have to be removed from any availability calculations.

The table below outlines the proposal for System Availability KPIs.

System Availability - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.1	97%	99%
Oct 1 st 2019 – Sept 30 th 2020	0.1	<98%	99.5%
Oct 1 st 2020 – Sept 30 th 2021	0.1	<99.5%	99.9%

Table 5 - System Availability historical and proposed weightings and targets

Timely publication of key market information

SEMO KPIs	Description
Timely publication of key market information	Publication of ex-ante and ex-post market information In a timely manner relating to the capacity and balancing markets, as set out in the Trading and Settlement Code and I-SEM Data Publication Guide. The target refers to the percentage of occurrences where reports are published on time.

Using the **SMART** assessment criteria the current Description in relation to Timely Publication of Data is not specific enough to be measurable or achievable. The Data Publication Guide covers over a 100 reports and The Trading and Settlement code Ex-Ante and Ex-Post reports were individual KPIs in their own right in the SEM Market commanding a combined reward of 40% of the KPI reward. This KPI needs to be far more specific and reduced to a very limited set of key business reports.

SEMO can commit to publishing the reports

Report Name	MPI Ref	Website Ref
Commercial Offer Data	REPT_013: Member Public REPT_053: Member Private	BM-034
Four Day Aggregated Rolling Wind Unit Forecast	REPT_028	BM-013
Hourly Dispatch Instructions Report	REPT_102	BM-160
Imbalance Price	Settlements (30 min): REPT_009 Pricing (5-min): REPT_008	Settlements (30 min): BM-026 Pricing (5-min): BM-025
Imbalance Price Supporting Information Report	REPT_050	BM-027
Half Hourly PNs	REPT_052: PN Report – Member Public	BM-023: Final PN Report BM-020: Aggregated Final PN
LTS Operational Schedule Report	REPT_001b	BM-162
RTUC Operational Schedule Report	REPT_002b	BM-163
PN and BOD data	PN reports listed above COD: REPT_013 : COD Report, Member Public REPT_053 : COD Report, Member Private	PN reports listed above COD BM-034

Table 6 - Proposed measurable reporting to be included as part of KPI on Key Market Information

Publication of key market information - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.1	80%	90%
Oct 1 st 2019 – Sept 30 th 2020	0.1	<85%	95%
Oct 1 st 2020 – Sept 30 th 2021	0.1	<95%	99%

Table 7 - Timely Publication of Data historical and proposed weightings and Targets

Website availability

SEMO KPIs	Description
Website availability	Website availability on a 24-hour basis, Monday to Sunday from I-SEM Go-Live. This is the ratio of the time the website is said to be in a functioning condition to the total time it is required to be available.

The current website is not designed for 24 hour support. The website is supported on a working day basis. The Market Operator therefore proposes supporting the website availability from 8 am until 6pm Monday to Friday.

Website Availability - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.1	97%	99%
Oct 1 st 2019 – Sept 30 th 2020	0.1	<98%	99.5%
Oct 1 st 2020 – Sept 30 th 2021	0.1	<99.5%	99.9%

Table 8 - Website Availability proposed weightings and targets

Timely and accurate data provision for use in public user systems

SEMO KPIs	Description
Timely and accurate data provision for use in public user systems	Timely posting of accurate data to the website such that the MMU and market participants are able to smoothly automate (from the client side) the accessing of data reports from SEMO

Using the **SMART** assessment criteria the current Description in relation to *Timely and accurate data provision* is not specific enough to be measurable or achievable. Further definition and consultation with participants would be required. The Market Operator believes that a limited number of business critical publications should be chosen for this metric.

Timely and accurate data provision - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1st – Sept 30th 2019	0.1	97%	99%
Oct 1st 2019 – Sept 30th 2020	0.1	<98%	99.5%
Oct 1st 2020 – Sept 30th 2021	0.1	<99.5%	99.9%

Table 9 - Timely and accurate data provision proposed weightings and targets

Summary of the Proposed Metrics

The table below summarises all the KPI proposals Weightings, Lower and Upper bounds.

Invoicing ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.2	75%	90%
Oct 1 st 2019 – Sept 30 th 2020	0.2	85%	97%
Oct 1 st 2020 – Sept 30 th 2021	0.2	97%	100%
Credit Cover Increase Notices - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.2	90%	95%
Oct 1 st 2019 – Sept 30 th 2020	0.2	95%	99%
Oct 1 st 2020 – Sept 30 th 2021	0.2	99%	100%
General Queries - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.2	85%	95%
Oct 1 st 2019 – Sept 30 th 2020	0.2	<90%	97%
Oct 1 st 2020 – Sept 30 th 2021	0.2	<97%	99%
System Availability - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.1	97%	99%
Oct 1 st 2019 – Sept 30 th 2020	0.1	<98%	99.5%
Oct 1 st 2020 – Sept 30 th 2021	0.1	<99.5%	99.9%
Publication of key market information - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.1	80%	90%
Oct 1 st 2019 – Sept 30 th 2020	0.1	<85%	95%
Oct 1 st 2020 – Sept 30 th 2021	0.1	<95%	99%
Website Availability - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.1	97%	99%
Oct 1 st 2019 – Sept 30 th 2020	0.1	<98%	99.5%
Oct 1 st 2020 – Sept 30 th 2021	0.1	<99.5%	99.9%
Timely and accurate data provision - ISEM Market Proposal			
Tariff Period	Weighting	Lower Bound Target	Upper Bound Target
April 1 st – Sept 30 th 2019	0.1	97%	99%
Oct 1 st 2019 – Sept 30 th 2020	0.1	<98%	99.5%
Oct 1 st 2020 – Sept 30 th 2021	0.1	<99.5%	99.9%

Appendix 1 – What is a SMART KPI?

A Key Performance Indicator (KPI) is a measurable value that demonstrates how effectively the market is delivering on its key objectives. KPIs are an actionable scorecard that keeps the market strategy on track and enables the Market Operator to manage, control and achieve desired regulatory and participant goals.

KPI Format

When designing KPIs they should follow the SMART principle. These translate to:

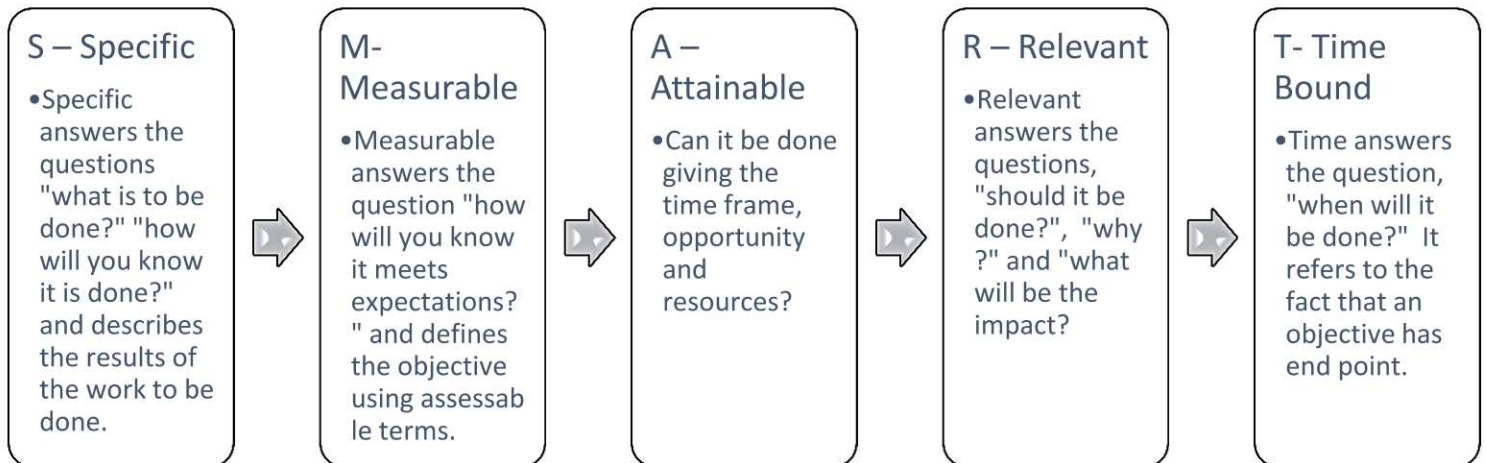


Figure 1 - KPI SMART assessment framework

Any new KPI or proposed KPI needs to have these characteristics so there is a clear understanding of expectations from an I-SEM perspective in knowing precisely what is required and when, and from a Stakeholder perspective that they also get what they expect to be a useful and beneficial. When assessing and compiling the proposed KPIs SEMO has used this SMART framework to provide justification for the weighting and targets proposed in this document.

Appendix 2 – KPIs under previous market arrangements

Below is an overview of the development of KPIs under the previous market arrangements from the first set of revenues through to the go-live of I-SEM. While direct parallels cannot be drawn between the first year of the previous market arrangements and the I-SEM arrangements, it is important to highlight that there was very much a process of development in terms of KPI targets by seeking to improve on previous performance through putting in place ambitious but achievable targets as the market continued to mature. There will also be a similar process required as the new market develops and matures and the KPI targets set out in the body of this document reflect that.

SEMO KPI Timelines

There were **no KPIs** for the first two years of SEMO. KPIs were initially introduced through the **SEM-09-089 SEMO Revenue and Tariffs decision paper**. In this paper 4 KPIs were identified and the targets were based on outturn figures from the second year of Market Operations (**red %**). These KPIs were selected by participants through the Market System Development Plan Consultation process (licence obligation within the Market Operator Licences). These targets proved to be very challenging to meet despite the market being in its third year of operation.

Metric	Weighting	Target	Upper Bound	Year to Date
Ex-Ante Pricing Report	0.2	99%	100%	99%
Ex-Post Initial Pricing Report	0.2	99%	100%	99%
Invoicing	0.4	90%	95%	87%
Credit Cover Increase Notices	0.2	98%	100%	98%

Table 1 - SEM committee Decision on KPIs for 2009 to 2010

The **SEM-10-082** decision paper introduced 2 more KPIs and increased the reward pot to 3% of Overall Opex revenue. The targets were marginally changed along with the weightings. The new KPIs were introduced to address Resettlement Queries and General Queries. These KPIs were maintained for a period of 3 years. Rewards achieved during this period ran close to 80%.

	Weighting		Target		Upper bound	
	Current	Decided	Current	Decided	Current	Decided
Ex-ante pricing report	0.2	0.2	99%	99%	100%	100%
Ex-post initial pricing report	0.2	0.1	99%	99%	100%	100%
Invoicing	0.4	0.2	90%	95%	95%	100%
Credit Cover Increase Notices	0.2	0.2	98%	99%	100%	100%
SEMO related Resettlement queries	-	0.2	-	<15 ¹	-	10 ²
General queries	-	0.1	-	97% ³	-	99% ⁴

Table 2 - SEM committee Decision on KPIs for 2010 to 2013

The **SEM-13-054** made a decision on the KPIs for the three year period from October 2013 until September 2016. This paper introduced one additional KPI to cover Market System availability from 7am until 5pm Monday to Sunday. Again four KPI targets were upped marginally and two retained their targets. Weighting were again redistributed to account for the new KPI. The pot was raised to 4% of total Opex, however during this period the total allowable Opex was reducing as the market was starting to wind down in anticipation of I-SEM.

	Weighting		Target		Upper bound	
	Current	Decided	Current	Decided	Current	Decided
Ex-ante pricing report	0.2	0.15	99%	99%	100%	100%
Ex-post initial pricing report	0.1	0.1	99%	99%	100%	100%
Invoicing	0.2	0.2	95%	97%	100%	100%
Credit Cover Increase Notices	0.2	0.1	99%	99%	100%	100%
SEMO related Resettlement queries	0.2	0.2	<15	<9¹	10	<5²
General Queries	0.1	0.15	97%	97%³	99%	99%⁴
System Availability (7am to 5pm Mon - Sun)	-	0.1	-	99.5%⁵	-	99.9%⁶

Table 3 - SEM committee Decision on KPIs for 2013 to 2016

In the **SEM-16-043** revenue decision paper a further KPI was added to cover MIUN publications. The reward was again set at 4% of total allowed Opex. However, the Opex Revenue during this period more than halved meaning that potential reward also more than halved.

	Weightings	Target	Upper Bound
Ex-ante pricing report	0.10	99%	100%
MIUN publication	0.05	99%	100%
Ex-post initial pricing report	0.10	99%	100%
Invoicing	0.20	97%	100%
Credit Cover Increase Notices	0.10	99%	100%
SEMO related resettlement queries	0.20	<9 ²⁷	<5 ²⁸
General Queries	0.15	97% ²⁹	99% ³⁰
System Availability (7am to 5pm Mon-Sun)	0.10	99.4% ³¹	99.8% ³²

Table 4 - SEM committee Decision on KPIs for 2016 to 2019

Conclusion KPI History

What is noticeable from the SEM Committee KPI decision paper is that:

1. KPIs were not introduced into an unstable market. They were introduced two years after go live with relatively stable market systems and operational processes.
2. The number of KPIs increased gradually from four to eight over an eight year period.
3. Initial weightings and targets for Invoicing and Credit Cover Increase notices were considerably lower than current proposals. This is despite the fact that the market would have been in operation for two years at that stage.
4. KPI targets were gradually raised as the market matured.