Bi-Annual Monitoring Report

on activities related to cross-border transmission capacity in the Energy Community

Results for Albania, Bosnia and Herzegovina, fYR of Macedonia, Georgia, Kosovo*, Italy, Montenegro, Romania and Serbia

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1. Introduction

1.1. Background

The present report provides an update on results of the Market Monitoring Project for South East Europe and beyond for the first six months of 2017. The Market Monitoring Project origins from the 2016 Energy Community Annual Electricity Forum ('Athens Forum') that invited the United States Agency for International Development (USAID) to support the Energy Community regulators in developing common standards for monitoring the activities of electricity transmission system operators. This resulted in development of the so-called South East Europe Market Monitoring Guidelines (hereinafter 'the Guidelines')[1], prepared the USAID financed consultant Potomac Economics under the umbrella of the Electricity Working Group of the Energy Community Regulatory Board (ECRB)[2]. The purpose of the Guidelines is to harmonize and coordinate the activities of National Regulatory Authorities (hereinafter 'regulators' or NRAs) in to monitoring electricity transmission grid activities to ensure that network users are granted access to the maximum amount of transmission transfer capacity on a non-discriminatory basis. This also includes monitoring the control of transmission transfer capacity by individual participants in order to identify potential market power.

The Guidelines define the data required to implement market monitoring, specific monitoring indicators, thresholds to establish reasonable range for the indicator values and actions for regulators when the indicator is outside the threshold ranges:[3]

- Indicator 1 - The Base Case Exchange (BCE) Indicator: compares Base Case Exchange assumptions in the Network Model to Cross-Border schedules.
- Indicator 2 - The Already Allocated Capacity (AAC) Indicator: Compares AAC to peak commercial schedules.
- Indicator 3 - Critical Facilities Indicator: Compares estimated flows on critical facilities in the Network Model to actual flows on the facilities.
- Indicator 4 - Load Forecast Indicator: Compares forecast load in the Network Model to actual load.
- Indicator 5 – Generation Forecast Indicator: Compares forecast generation in the Network Model to actual generation;
- Indicator 6 – Transmission Reliability Margin (TRM) Indicator: Compares actual TRM values to proxy TRM values calculated using control area balance data and net exchanges.
- Indicator 7 – Market Share Indicator: Calculates market shares using auction data on cross-border interconnections;

[1] https://www.energy-community.org/dam/jcr:6ff463f1-4c0f-4c3f-943b-f769f2c065f9/ECRB_market_monitoring.pdf. Approved by ECRB in April 2014.

[2] The Energy Community Regulatory Board (ECRB) operates based on the Energy Community Treaty. As an institution of the Energy Community. ECRB advises the Energy Community Ministerial Council and Permanent High Level Group on details of statutory, technical and regulatory rules and makes recommendations in the case of cross-border disputes between regulators. The Energy Community comprises the EU and Albania, Bosnia and Herzegovina, Macedonia, Kosovo*, Moldova, Montenegro, Serbia and Ukraine. Armenia, Georgia, Turkey and Norway are Observer Countries. [Throughout this document the symbol * refers to the following statement: *This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Advisory Opinion on the Kosovo declaration of independence*]. For more details on the Energy Community and ECRB see: www.energy-community.org.

[3] The individual data requirements referred to as part of the Guidelines are in line with the Energy Community acquis communautaire.

Necessary data for carrying out monitoring by the regulators in line with the Guidelines shall be provided by the national Transmission System Operators (TSOs). Regulators shall direct TSOs to provide the data required by the Guidelines, complete the indicators on regular basis and intervene in cases of sustained variance from the predefined thresholds.

In monitoring access to the grid, the Guidelines focus on methods and data used by TSOs in establishing the Net Transfer Capacity (NTC) on cross-border interconnections. Monitoring access to the grid is intended to verify the methods and data are being used in estimating transfer capability are consistent with EU regulations and directives. It should not be interpreted to signal a present doubt about the conduct of TSOs.

In monitoring control of transfer capacity by individual participants pursuant to market activities, the Guidelines seek to identify circumstances that are consistent with a hypothesis of market power. However, the Guidelines are not intended to establish definitive conclusions regarding market power. Such conclusions are best addressed through referral to the competition authorities.[4]

1.2. Methodology

Along with the Guidelines, USAID supported development of the so-called South East Europe Automated Market Monitoring System (SEEAMMS). SEEAMMS allows the TSOs to upload data to a web-based interface where the data is stored, processed, and reported to regulators. A dry run of the SEEAMMS started in since 2010. The ECRB approval of the Guidelines in April 2014 marked an important step supporting cooperation among NRAs on market monitoring in accordance with Regulation (EC) 714/2009[5] and Directive 2009/72/EC[6]. It ratified the project's dry run which expanded the capacity of regulators to oversee and monitor key activities of TSOs. SEEAMMS operates on regional basis with regulators acting as regional monitor centre on a rotating basis.

The present report was prepared by ECRB to summarize the periodic regional SEEAMMS results for January to June 2017. It summarizes recent results and explains the consequences of the various market monitoring indicators. It is based on the six predefined monitoring indicators plus the indicator of cross-border transmission capacity auction data.

The report covers those jurisdictions for which national TSOs submitted data to SEEAMMS, namely: Albania[7], Bosnia and Herzegovina[8], fYR of Macedonia[9], Georgia[10], Kosovo*[11], Italy[12], Montenegro[13], Romania[14] and Serbia[15]. TSOs of Croatia, Bulgaria, Greece, Hungary, Moldova, Slovenia, Turkey and Ukraine did not participate in SEEAMMS.

[4] Cf Guidelines, p. 2.
[5] OJ L 211/15 of 14.08.2009. For Contracting Parties referring to the version adapted and adopted by Decision 2011/02 of the Ministerial Council of Energy Community
[6] OJ L 211/55 of 14.08.2009. For Contracting Parties referring to the version adapted and adopted by Decision 2011/02 of the Ministerial Council of Energy Community
[7] National electricity transmission system operator OST.
[8] Independent electricity transmission system operator NOSBiH.
[9] National electricity transmission system operator MEPSO.
[10] National electricity transmission system operator GSE.
[11] National electricity transmission system operator KOSTT.
[12] National electricity transmission system operator TERNA. Data for Italy is only partly available.
[13] National electricity transmission system operator CGES.
[14] National electricity transmission system operator Transelectrica.

15 National electricity transmission system operator EMS.

2. Findings

In April 2017, ECRB approved recommendations regarding harmonizing cross-border transmission capacity calculations in electricity[16], including two measures concerning the Base Case Exchange (BCE) Indicator and the Transmission Reliability Margin (TRM) Indicator. In order to prepare these recommendations NRAs issued a number of inquiries to TSOs regarding variances in the market monitoring indicators that made it apparent that there exists certain inconsistencies in the TSOs' understanding and harmonization of the BCE and the TRM indicators. The following findings of the indicator interpretation and establishes a basis for the recommendations.

2.1. Base Case Exchange Indicator

The main metric for cross-border trading capacity is the Net Transfer Capacity (NTC), established by TSOs using the Network Model. The BCE indicator monitors BCE assumptions in the Network Model. BCE assumptions are forecasts of commercial schedules in the Network Model. The purpose of the BCE indicator is to monitor the accuracy of the BCE assumptions in order to help ensure an accurate Network Model and, consequently, accurate NTC values. It is important that the BCE value represent an accurate forecast of expected cross-border exchanges. If not, the NTC value will be inaccurate and may underestimate the cross-border transmission capacity, and thereby reduce opportunities for market activity.

The BCE Indicator calculates a percentage forecast error between BCE values (the forecast) and the actual cross-border commercial schedules. There is a lack of consistency throughout the region for the interpretation of the BCE value. TSOs disagree whether the BCE assumption represents a forecast of cross-border schedules or not. The related conclusions of this report are based on review of ENTSO-E documents[17] as well as discussion between regulators and TSOs of the analyzed markets. It is recommended that the BCE value should reflect the best forecast of net commercial exchanges between two TSOs.

According to SEEAMMS records there are **58 BCE violations within the first six month of 2017** towards different interconnectors. The violations are distributed among TSOs in the following manner:

[16] https://www.energy-community.org/dam/jcr:0bceb87b-83c0-4bd7-ac70-147f7c6d6502/ECRB_crossborder_tramission.pdf
[17] https://www.entsoe.eu/publications/market-reports/Documents/entsoe_proceduresCapacityAssessments.pdf

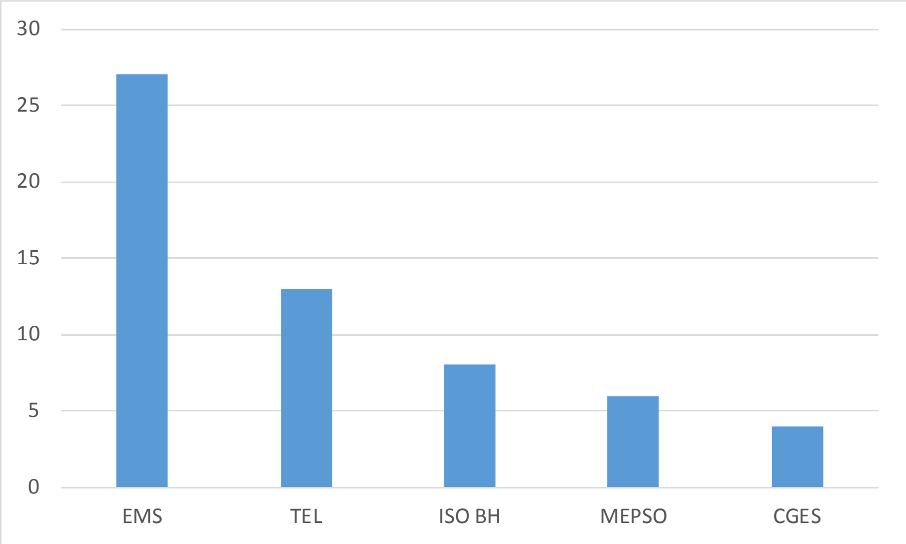

Figure 1 Distribution of BCE indicator violations among TSOs

Explanations on the violations were provided by CGES, EMS and NOSBiH as follows:

- **NOSBiH**: The main reason behind the deviation of the BCE indicator is the fact that the system operators estimate one value of BCE for the whole month while the BCE indicator is calculated for every hour of that month separately based on maximum net commercial exchange for each border separately. In order to achieve better projection accuracy, daily or hourly BCEs must be estimated.
- **CGES:** Differences between BCE and realized schedules refer to comparison of real time values and the forecast values.
  - Actual exchanges may be affected by electricity price in the region and increasing imports more than planned, depending on weather conditions, so for that reasons it may happen that actual values can differ from forecasted values. BCE values are provided according to the agreed BCE values in the region South East Europe[18], agreed in the month M-2 for a day in the month of M.
  - Namely, there is practice that for each month another TSO has the role of the coordinator whose obligation is BCE harmonization and producing of the regional model which is further used for the calculations. Each TSO creates its initial BCE, based on forecast of national generation/load totals or historical exchanges. The coordinator harmonize these BCE values, produce the regional model which is further used for the calculations and send TSO table with proposed BCE values for confirmation.
- **EMS:** the forecasted values of exchanges are harmonized in the month M-2 for the month M for which the NTC is calculated. In the South East European region there is the practice that for each month, another TSO has the role of the coordinator, whose obligation is BCE harmonization and producing of the regional model which is further used for the calculations. Each TSO creates its forecasted exchanges, based on the totals which were received from its BRPs, in the Serbian case

[18] Understood as the regional subgroup for Congestion Management and Market Integration under ENTSO-E.

it is PE EPS, and these calculations are communicated to that month's coordinator, who is coordinating them afterwards. EMS proposes BCE values based on historical exchanges. Coordinator harmonize BCE values, produce the regional model which is further used for the calculations and send TSO table with proposed BCE values for confirmation. No other explanations where received during the reporting period regarding BCE indicator.

In general, explanations by TSOs refer to the fact BCE values are forecasted two months ahead while BCE indicator is calculated on hourly basis and as such is exposed to real time factors that influence cross border exchange.

The BCE indicator is a way to measure the accuracy of the BCE assumption used in the month-ahead network model. Because the BCE value on a border is intended to reflect the cross-border exchange of power, the BCE is a forecast of that exchange and, as a result, the BCE indicator is formulated as a forecast error. Therefore, the market monitoring indicator for the BCE was constructed to allow substantial discrepancy in the forecast error before SEEAMMS reports a variance. When the forecasted BCE value reveals a lack of correspondence to the peak exchange on the relevant interface, it raises the question what the forecasted value is intended to reflect and how accurate the network model for establishing cross-border capacity indeed is. Specifically high violations have been monitored for EMS in this respect. This is mainly the result of the fact that EMS has a large number of interconnections that are monitored, compared to other systems.

In October 2016 ENSTO-E proposed using "net-positions" approach for creating a common grid model. This is slightly different from BCE as it calculates the net position considering all interconnections. Regulators would benefit if EWG would request a report or presentation by TSOs explaining the new approach. In light of this it may be necessary to replace the BCE indicator of the Guidelines with net positions indicator that would measure the forecast error in net positions in the entire control area rather than the current approach in measuring the forecast error on each interconnection individually. ECRB should further investigate on that.

Recommendation: Given NRAs' responsibilities to monitor the activities for TSOs relating to cross-border NTC values, regulators shall require BCE values based on a forecast of net commercial schedules, using recent historical data, unless good cause exists to use other methods. ECRB should further evaluate the need to use the net positions indicator in line with the recommendations of ENTSO-E.

2.2. Transmission Reliability Margin Indicator

TRM is an amount of cross-border capacity set aside for TSOs to respond to frequency deviations and emergencies exchanges and other uncertainties. Because it consumes cross-border capacity, the higher the TRM value, the lower the NTC value and thus the possibilities for cross-border trade. The purpose of the indicator is to monitor the accuracy of TRM.

This TRM Indicator calculates a metric that is intended to track the ENTSO-E TRM formula[19], which is also approved in the Market Monitoring Guidelines:

[19] https://www.entsoe.eu/publications/market-reports/Documents/entsoe_proceduresCapacityAssessments.pdf

TRM should be either $U_E + U_r$ or Max($U_E + U_r$), which means that TRM is (at maximum) the sum of: $U_E + U_r$, where

- U_E is the cross-border capacity set aside on an interconnection for emergency exchanges.
- U_r is $k * \sigma$

Where:

σ is the standard deviation of Area Control Error (ACE). ACE is the hourly difference between control area load and total supply (generation plus net imports). The standard deviation of ACE (σ) should be on hourly ACE deviations in a moving six-month time series;

k = 3, (3 standard deviations)

This ENTSO-E metric is compared to the actual TRM used by the TSO and any significant variance is identified.

The TRM indicator is often found to be in variance in the analyses jurisdictions. In many instances the TRM values is not calculated in accordance with the recommended ENTSO-E approach. In some instances the TRM is agreed upon between TSOs as a fixed value that does not depend on the key operating statics.

According to SEEAMMS records there are **46 TRM violations caused only by two TSOs**, namely EMS (29 times) and Transelectrica (17 times). According to the explanations given by EMS there is the practice in the South East European region that TRM values are defined in by TSOs bilaterally on yearly basis. This explanation reveals that current practice of calculation of TRM is not done in line with the ENTSO-E guidelines and instead the values are fixed regardless of the anticipated margin needed for reliability under changing conditions. Issue requires further discussions. No response was given by Transelectrica despite several approaches for explanation.

Recommendation 2: NRAs should start working with their TSOs to adopt the ENTSO-E TRM formula based on ECRB Recommendation on Harmonising Cross-Border Transmission Capacity Calculations in Electricity. In many instances, this would improve access to the interconnectors.

2.3. Already Allocated Capacity Indicator

Already Allocated Capacity (AAC) is the cross-border capacity that is reserved by market participants. The AAC indicator compares the reserved values to the values actually scheduled in the operating period. The purpose of the indicator is to detect whether participants are withholding capacity from the market by buying the capacity and not using it. Part of the capacity that is reserved but that is not scheduled on a sustained basis either causes transmission capacity to be withheld from other participants or require other participants to wait to for release of this capacity (which occurs only near in time to the operating horizon). Monitoring capacity usage will deter participants from withholding capacity from the market and will tend to open the market to wider competition.

The approach in this indicator involves identifying the hour with the greatest volume of commercial schedules (monthly peak schedules). This hour should be matched and compared to the corresponding reservations, i.e. the AAC, for that day.

The Indicator confirms that **withholding cross-border capacity is generally not a problem in the region**. A summary of AAC indicator violation in first six month of 2017 year is shown in the table below.

Interconnection	Indicator Month	Entity in Variance	Counterparty
CGES-OST	2017-02	OST	CGES
CGES-OST	2017-03	OST	CGES
EMS-NOSBiH	2017-03	EMS	ISO BH
EMS-NOSBiH	2017-02	ISO BH	EMS
EMS-NOSBiH	2017-03	ISO BH	EMS
CGES-OST	2017-03	OST	CGES
CGES-OST	2017-05	OST	CGES
EMS-NOSBiH	2017-04	EMS	ISO BH
EMS-NOSBiH	2017-04	ISO BH	EMS

Table 1 Summary of AAC indicator violations

Concerning the spring 2017 result, NOSBiH informed its regulator ex ante of potential problems resulting from a change in allocation at the border Serbia-Bosnia and Herzegovina. NOSBiH pointed out that the AAC value on the interconnection may have been double counted due to the change from the 50-50 split for allocation of cross-border capacities to joint auction of interconnection capacity in 2015. The AAC indicator in SEEAMMS combines the AAC from adjacent systems in constructing the AAC indictor to reflect the prevailing application of 50-50 allocations in the region at the time when SEEAMMS was introduced. In the case of the NOSBiH-EMS interconnection now applying joint allocations, the SEEAMMS will produce a double counting to the extent both system report the full AAC. In this case, the AAC indicator should be revised to reflect the alternative practice. As a result, the AAC indicator variation for April 2017 on the border Serbia-Bosnia and Herzegovina requires no further explanation from NOSBiH.

Due to the challenge faced by regulators in monitoring the complex process of TSO cross-border capacity calculations, the Guidelines recommends contacting the TSO as a first step when an indicator is in variance. This first step was designed to clarify circumstances leading to the observed statistics. In the case of the April 2017 variance of the AAC indicator, the system worked as designed – the TSO reviewed the outcomes and explained the likely source of the data. In this case, it was an **error in the SEEAMMS, which should be corrected**. The regulators of Serbia and Bosnia and Herzegovina should request that the TSO only report half of the capacity allocated on the border in each direction.

NOSBiH also questioned whether the regulator should act on the AAC indicator variance given that it occurred within a single month and not in consecutive months. The Guidelines do not require that an indicator be in variance in consecutive months. It only stipulates that the indicator may be in variance in two of three months which may not be consecutive. Nonetheless, the SEEAMMS database indicates that the AAC indicator on the NOSBiH-EMS interconnection was indeed indicated to be in variance in all three months February, March, and April.

Recommendation 3: NRAs should ensure that cross-border capacity withholding is dis-incentivized via market based allocation mechanism. As an example, the use-it-or-sell-it mechanism should be applied in all borders to ensure that capacity is given back to the market.

2.4. Critical Facilities Indicator

Critical facilities are electrical facilities, usually transmission facilities that create a security issue when transferring power between TSOs. The Critical Facilities (CF) Indicator monitors simulated power flows on key transmission elements in the Network Model to determine if these key elements are the limiting elements in actual system operations. The purpose of the indicator is to detect whether transmission constraints in the Network Model that limit NTC values are constraints that actually occur in real-time operations. The monitoring is intended to ensure accurate Network Model and, consequently, accurate NTC values.

This Indicator identifies "critical facilities" in the network model that limit NTC values. The base case flow on these critical facilities in the Network Model is compared to the peak flow in actual operations on these facilities. The critical facilities could be a transmission facility that is part of the interconnection or it could be a transmission facility internal to the transmission network.

In the reporting period the Critical Facilities Indicator has produced results that support a hypothesis that **internal congestion may be overestimated in many cases**. Over the last 12 months, 30 percent of the indicator values measured for the analyzed Interconnections have shown an indicator (forecast error) of at least 50 percent or higher. This means that a relatively significant number (30 percent) of TSO's estimated internal congestion to have been at least 50 percent higher than the actual flows on the those internal facilities. In addition, over the last 12 months 20 percent of the indicator values measured have shown an indicator (forecast error) of at least 100 percent or higher. This means the TSO's estimated flow on the congested facilities is overestimated for more than twice than the actual flow. In 10 percent of the observed values, the TSO's estimated flows are 6 times higher than the actual flows. In these extreme cases, the model assumptions will likely lead to over estimating internal congestion and underestimating NTC values. Table 2 demonstrates the distribution of Critical Facilities Indicator values for the last 12 months. It shows that there are **also extreme values in the negative direction**: 20 percent of the observations have negative values higher than 100 percent, meaning the modeling assumptions underestimate the actual flows by more than 100 percent. Table 2 shows related results.

Table 2: Distribution of Critical Facilities Indicator Values

Percentile	Value
10%	-238%
20%	-144%
30%	-79%
40%	-56%
50%	-39%
60%	-12%
70%	52%
80%	126%
90%	552%
100%	7400%

Table 2 shows the distribution of the CF indicator values assessed over a period of 12 months. The 'Value' column of Table 2 shows the percentage of the CF indicator values and its distribution on the percentile rank. The data from first row show that in 10% of all the values, the CF indicator value was lower than -238%. Second row shows that in 20% of all the values, the CF indicator value was lower than -144%. Eighth row shows that in 80% of all the values, the CF indicator value was lower than 126%. Tenth row shows that in 100%[20] of all the values, the CF indicator value was lower than 7400%.

Recommendation 4: Given these results, it is recommended that the NRAs engage directly with TSOs to better understand the source of these errors and consider potential follow-up activities at the ECRB EWG.

The Serbian TSO explained variations for its interconnections by stating that they produce the base regional model which is further used for the NTC calculations. EMS develops several network models which refer to different network topology and it sends only one value for critical facility calculated on the base regional model. This value is compared with real-time values on the critical element for the whole month. In many cases in real time the network topology is different from the topology of the base regional model. The argument brought forward by EMS has the same background as the remark raised related to BCE, namely that these values are calculated for one single hour and injected in the network model while SEEAMMS compares that single value to 720 hour values of a month.

It is to be noted that the CF indicator is designed to measure the accuracy of the assumption used in the month-ahead network model for the peak regime. As mentioned above, CF indicator was constructed to allow substantial discrepancy in the forecast before SEEAMMS flags a variance.

[20] 100% is due to rounding. The 100% is an absolute figure in percentile therefore the real figure is between 99.9% and 100%.

2.5. Load Forecast Indicator and Generator Forecast Indicator

The Load Forecast Indicator and the Generator Forecast Indicator are indicators that measure the accuracy of the load and generation forecast used in the network models. Accuracy of these forecasts help ensure accuracy in the Network Model and, consequently, accuracy in NTC values. These Indicators calculate a percentage forecast error between forecast load and the actual load.

Results show that the **forecast used in the Network Model are relatively accurate**, with small variation from the actual values. Variance of this indicator is presented in the table below. TSOs did not provide any explanation.

Data Provider	Month	Actual Peak Load	Forecast Load	%Error	Threshold
CGES	2017-01	654	500	-23.50%	±8.6%
EMS	2017-01	7,429	5,996	-19.30%	±8.6%
EMS	2017-02	6,510	5,925	-9.00%	±8.6%
EMS	2017-04	5,885	4,768	-19.00%	±8.4%
EMS	2017-05	5,091	4,370	-14.20%	±8.4%
EMS	2017-06	4,924	4,220	-14.30%	±8.4%
NOSHBiH	2017-01	2,189	1,980	-9.50%	±8.6%

Table 3 Summary of load forecast deviations by TSOs

Data Provider	Generator	Month	Actual Peak Output	Output in Network Model	%Error	Threshold Lower
EMS	HE Djerdap 1	2017-03	936	680	-27.40%	±27.1%
EMS	RHE Bajina Basta	2017-03	542	0	-100.00%	±27.1%
EMS	RHE Bajina Basta	2017-04	535	200	-62.60%	±27.1%
EMS	TE Kolubara	2017-04	170	0	-100.00%	±27.1%
EMS	TE Nikola Tesla A	2017-04	1,576	1,115	-29.30%	±27.1%
EMS	TE Kosovo B[21]	2017-04	527	250	-52.60%	±27.1%
GSE	Enguri HPP	2017-05	1,089	694	-36.30%	±27%
NOSBiH	HE Grabovica	2017-02	79	55	-30.40%	±27.3%
NOSBiH	HE Grabovica	2017-06	62	35	-43.50%	±27%
NOSBiH	HE Rama	2017-06	160	70	-56.20%	±27%
NOSBiH	HE Salakovac	2017-02	170	85	-50.00%	±27.3%
NOSBiH	HE Salakovac	2017-06	135	35	-74.10%	±27%
NOSBiH	HE Trebinje	2017-02	73	95	30.10%	±27.3%

[21] Both EMS and KOSTT report data on the Kosovo unit in SEEAMMS. Current indication of TK Kosovo B power plant is a result of variance in the data uploaded by EMS.

NOSBiH	HE ViÅ¡egrad	2017-02	306	170	-44.40%	±27.3%
NOSBiH	HE ViÅ¡egrad	2017-06	294	180	-38.80%	±27%
MEPSO	KOZJAK	2017-05	26	55	111.50%	±27%
MEPSO	MAVROVO	2017-05	11	100	809.10%	±27%
MEPSO	SPILJE	2017-04	21	45	114.30%	±27.1%
TEL	Generator 10	2017-06	531.338	246	-53.70%	±27%
TEL	Generator 2	2017-06	875	280	-68.00%	±27%
TEL	Generator 5	2017-06	360	250	-30.60%	±27%

Table4 Summary of generator forecast deviations by TSOs and by Generators

EMS' explanation on generation forecast variance for the month of March 2017 is that such occurred because the forecasted generation values were taken from the Electric Power Industry in Serbia (EPS) scheduling plan/generation plan which is sent to EMS two months before the actual month. In this particular case, variances were caused by a wrong forecast by the generation company. Other TSOs did not provide explanations.

Recommendation 5: TSO should ensure that the data necessary to create network model are checked and to the extend possible correct the potential errors.

2.6. Market Share Indicator

The Market Share Indicator monitors the share of cross-border capacity controlled by market participants. The calculation indicates the share of import capacity controlled by individual transmission buyers combined for all interconnections. The purpose of the indicator is to measure market shares of import capacity and generation ownership. Market shares indicates potential market power. This statistic is important for the purpose of monitoring. However, the SEEAMS software is not currently configured to combine the values with the generation ownership.

Recommendation 6: Carry out improvements[22] on the tool to address this issue.

3. Conclusions and next steps

NRAs should seek for responses from national TSOs concerning the recommendations flagged in the present report.

The Critical Facilities Indicator has shown a very high degree of forecast errors in the estimates of internal congestion. This is one of the most difficult problem to monitor as regulators and market participants have very little insight into how internal congestion affects cross-border capacity. NRAs should aim to understand this indicator as a potential area affecting cross-border capacity calculations.

The present market monitoring activity continued to rely on advice and guidance from the consultants previously assigned by USAID to this project. ECRB believes that such continued advice and

[22] Improvements of the tool are subject to additional funding as indicated in the conclusions.

guidance will be useful also in the future. As a result, ECRB recommends identifying a funding mechanism to support a moderate level[23] of consulting service to support the continuation of market monitoring activities and further improvement of the SEEAMMS tool.[24]

[23] The previous consultant has indicated that €15.000/ year would provide an adequate level of continued support.
[24] Because the monitoring is closely associated with the regional transmission allocation, Coordinated Auction Office South East Europe might be a potential source of funding.