



European Network of  
Transmission System Operators  
for Electricity

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# COMPLIANCE OVERSIGHT REPORT 2012

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ENTSO-E REGIONAL GROUP  
CONTINENTAL EUROPE  
COMPLIANCE MONITORING PROGRAM 2012

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## 1 SUMMARY

The objective of the Compliance Monitoring Process is to encourage TSOs' to be compliant with the Operation Handbook (OH) standards of the ENTSO-E Regional Group Continental Europe (RGCE). The aim of these standards is to ensure a high level of security of supply in the RGCE synchronous area. The Compliance Monitoring Program 2012 was put in place after introducing improvements to the methodology, which resulted from the Compliance Monitoring Processes of 2006–2011.

The Compliance Monitoring Program 2012 was approved by the ENTSO-E Regional Group Continental Europe Plenary on 30 November 2011. The program focussed on (TSO) self-assessment declarations and Compliance Audits by the RGCE subgroup Compliance Monitoring and Enforcement (SG CME).

This Compliance Oversight Report 2012 contains the results of monitoring the compliance with the RGCE OH Policy 4 with the self-assessment method. The self-assessment process was carried out using a questionnaire that was issued in spring 2012.

The report further contains a summary of each of the six onsite Compliance Audits performed in 2012. The Compliance Audits were, for the third time, part of the mandatory regular Compliance Monitoring Process. The target was to check the quality of the TSOs' answers in the previous year's self-assessment process and to help TSOs to improve their self-assessment process and operational procedures. In 2012, the SG CME Audit Teams checked onsite a selected set of standards from the RGCE OH Policy 5 (Emergency Operations). The Compliance Audits were accomplished in good cooperation with the audited TSOs:

1. Rede Eléctrica Nacional, S.A. (REN)
2. Terna - Rete Elettrica Nazionale SpA (TERNA)
3. Réseau de Transport d'Electricité (RTE)
4. Elektro Slovenija d.o.o. (ELES)
5. Red Eléctrica de España: S.A. (REE)
6. Creos Luxembourg S.A. (Creos)

The complete audit reports are provided as annexes to this report.

The method of the self-assessment process together with the Compliance Audits, as used in the 2012 campaign, provided valuable insight in the TSOs' practices in terms of assessing their compliance level and the increasing reliability of the interconnected system operation. It is recommended to use these two elements also in the 2013 campaign.

It is recommended to assess in 2013 the status of the improvement and mitigation plans that are in the SG CME database because it is of no value producing this kind of plans in case the progress is not monitored.

The Compliance Monitoring Program could only be successfully executed thanks to the high level of commitment of the SG CME members and the ENTSO-E Secretariat but also thanks to the effort put in by the RGCE TSOs.

## 2 SELF-ASSESSMENT PROCESS 2012 IN GENERAL

The self-assessment process 2012 was managed via a web-based questionnaire. The TSOs had to declare their compliance levels with all assessable standards in OH Policy 4: fully compliant, sufficiently compliant, non-compliant or not applicable. In the case of a sufficient/non-compliant declaration, the TSO must provide an improvement/mitigation plan with its declaration.

The TSO may declare full compliance only if it fulfils the monitored RGCE OH standard in all details.

The TSO may declare sufficient compliance only if it fulfils the monitored RGCE OH standard in its essential parts, but not in all details.

The TSO must declare non-compliance if it does not fulfil at least one essential requirement specified in the monitored RGCE OH standard

The choice between non-compliant and sufficiently compliant has to be considered with a risk analysis approach, with a particular focus on the impact on the security of the European interconnected network or on the neighbouring TSOs.

Not applicable applies when a given RGCE OH standard does not concern the TSO (e.g. it is directed to a Control Block while a TSO performs only the role of a Control Area).

A brief explanation was asked for each compliance declaration; for standards that were not self-supportive enough additional questions were asked. The process was steered and coordinated by the SG CME and supported by ENTSO-E Secretariat. The time schedule for the self-assessment is given in Table 1.

<b>1</b>	Approval and publication of Compliance monitoring program 2012	<b>November 2011</b>
<b>2</b>	Delivery of the self-assessment Questionnaire to member TSOs	<b>March</b>
<b>3</b>	Return of self-assessment by member TSOs	<b>June</b>
<b>4</b>	Analysis of self-assessment results	<b>July – November</b>
<b>5</b>	Draft Compliance Oversight Report 2012	<b>December</b>
<b>6</b>	Presentation of the final Compliance Oversight Report 2012 to the RGCE Plenary	<b>Plenary meeting in 2013</b>

TABLE 1. TIME SCHEDULE FOR THE SELF-ASSESSMENT PROCESS IN 2012

### 3 SELF-ASSESSMENT COMPLIANCE DECLARATIONS

#### 3.1 Delicate standards

Table 2 below presents the five standards that are considered the most difficult to comply with because they received non-compliance declarations from different TSOs. Below the list the text of the standards concerned is given.

Company	AT - APG	BA - ISO BIH	BE - Elia	BG - ESO EAD	CH - swissgrid	CZ - CEPS	DE - 50Hertz	DE - Amprion	DE - EnBW	DE - Tennet	DK - Energinet.dk	ES - REE	FR - RTE	GR - HTSO/DESMIE	HR - HEP-OPS	HU - MAVIR	IT - Terna	LU - Creos	ME - CGES	MK - MEPSO	NL - TenneT	PL - PSE-O	PT - REN	RO - Transselectrica	RS - JP EMS	SI - ELES	SK - SEPS	
P4-A-S2.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	NC	FC	SC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	SC
P4-C-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	NC	N/A	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC
P4-C-S4.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	NC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S7	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	NC	FC	FC
P4-C-S9	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

**Compliance level:**  
 FC = fully compliant (this implies that no mitigation plan is needed)  
 SC = sufficiently compliant (an improvement plan to reach full compliance is necessary)  
 NC = non-compliant (a mitigation plan to remove non-compliance is obligatory)  
 N/A = The particular standard is not applicable to the TSO

**Colour coding:**  
 Colour code for FC  
 Colour code for SC  
 Colour code for NC  
 Colour code for N/A

TABLE 2. POLICY 4 STANDARDS WITH NON-COMPLIANCE DECLARATIONS

#### 3.2 Description of the delicate standards

##### P4-A-S2.1. Critical elements.

A subset of relevant elements which are considered to have a major influence on the operational management of the neighbouring systems has to be agreed among involved TSOs. The scheduling of the outages of these elements must be agreed among the TSOs involved on a regional basis. This set must include at least the elements considered in the EXTERNAL CONTINGENCY LIST (P3-A) determined by each of the TSOs involved in the region.

##### P4-C-S3. Data collection.

Each TSO collects DACF files from the EH-ftp server and constructs a network model (i.e. the DACF merging process) that represents the most probable state of the forecast time. That model can include all ENTSO-E networks, but a TSO can also disregard the data sets of TSOs whose influence on its network is deemed negligible. This process can be done in a centralized way (organized by any TSO that volunteered). Alternatively this process can be done in a centralized way by a TSO, a regional group or a TSO initiative.



**P4-C-S4.1. Quality of data set and merging process:**

TSOs follow the rules included into the document “Quality of datasets and calculations”.

**P4-C-S7. Datasets for DACF.**

Daily data sets will be supplied for at least the reference times 3:30, 07:30, 10:30, 12:30, 17:30 and 19:30 (C.E.T.).

**P4-C-S9. Security check.**

All TSO of the ENTSO-E RG CE shall carry out DACF N-1 security calculations according to Policy 3 A1-S3.

### 3.3 Analysis of the delicate standards

Generally there are only five non-compliance declarations in all questionnaires from the TSOs.

For P4-A-S2.1, Energinet.dk declared non-compliance but will make this list and coordinate it with neighbour TSO (TenneT) in the mid of 2013.

For P4-C-S3, Energinet.dk declared non-compliance and there is no a valid mitigation plan.

For P4-C-S4.1, Energinet.dk declared non-compliance but they will implement a firm procedure until the end of 2013.

For P4-C-S7, only EMS declared non-compliance because they produce only four models daily for the DACF process and they were expected to achieve the compliance at the end of June 2012. EMS bought a new software tool for this purpose.

For P4-C-S9, Creos declared non-compliance arguing that due to the small size of the Creos grid the N-1 security calculation, was not necessary to be implemented in their SCADA system. Creos is upgrading the SCADA system and it should be in operation by mid of 2013.

### 3.4 Statistical analysis of self-assessment data

The statistical analysis chapter contains four figures which present the collected self-assessment data from various perspectives for RGCE OH Policy 4 standards. Some of the standards from Policy 4 are omitted due to measurability problems, e.g. the standard is only a title or statement.

Figure 1, 2 and 3 present the compliance level declarations to each standard of RGCE OH Policy 4. They all share the same colour coding legend: green, yellow and red. Green represents excellent situation to which all TSOs should strive for. Yellow colour tells that the

TSO is faring quite well but there is room for improvement. Red colour indicates an alarm that something is seriously wrong and might even endanger the system security.

Figure 4 is a result of SG CME detailed analysis of each compliance level declaration explanation which TSOs have given in the self-assessment process. The green colour shows that a TSO has given clear and precise explanation for the declared compliance level and the additional questions ( if additional questions were set for this standard) It allows SG CME to support the declared compliance level. Yellow colour indicates that explanation was not complete, it might have been slightly off topic or other way insufficient to reach green grade. Red colour highlights that SG CME has serious doubt about the declared compliance level; it may also mean that an explanation was missing. Detailed analysis of each explanation can be found in Annex 1 (the assessment on credibility of compliance level declaration explanations).

	AT - APG	BA - ISO BIH	BE - Elia	BG - ESO EAD	CH - swissgrid	CZ - CEPS	DE - 50Hertz	DE - Amprion	DE - TransnetBW	DE - TenneT	DK - Energinet.dk	ES - REE	FR - RTE	GR - IPTO	HR - HEP-OPS	HU - MAVIR	IT - Terna	LU - Creos	ME - CGES	MK - MEPSO	NL - TenneT	PL - PSE-O	PT - REN	RO - Transelectrica	RS - JP EMS	SI - ELES	SK - SEPS	
P4-A-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	
P4-A-S2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	SC
P4-A-S2.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	NC	FC	SC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	SC
P4-A-S2.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-A-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S4	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-A-S4.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC
P4-A-S4.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	SC
P4-A-S4.3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	SC
P4-A-S5	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S6	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S4	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S4.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S4.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-B-S5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-B-S6	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S6.1	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-B-S6.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-B-S6.3	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-B-S6.4	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-B-S6.5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-B-S7	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S8	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	SC	FC	FC	FC	FC	FC	FC
P4-C-S2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-C-S2.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S2.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S2.3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S2.4	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S2.5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-C-S2.6	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-C-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	NC	N/A	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC
P4-C-S4	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-C-S4.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	NC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S4.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-C-S5	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S6	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S7	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S8	FC	N/A	FC	FC	FC	FC	N/A	FC	N/A	N/A	N/A	FC	FC	FC	FC	FC	FC	N/A	FC	N/A	FC	FC	N/A	FC	FC	FC	FC	FC
P4-C-S9	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S10	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
P4-C-S11	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

FIGURE 1. COMPLIANCE DECLARATION MATRIX ON POLICY 4 STANDARDS PER TSO  
 FC (FULLY COMPLIANT) SC (SUFFICIENT COMPLIANT) NC (NON-COMPLIANT) N/A (NON-APPLICABLE)  
 NM (NOT MONITORED)

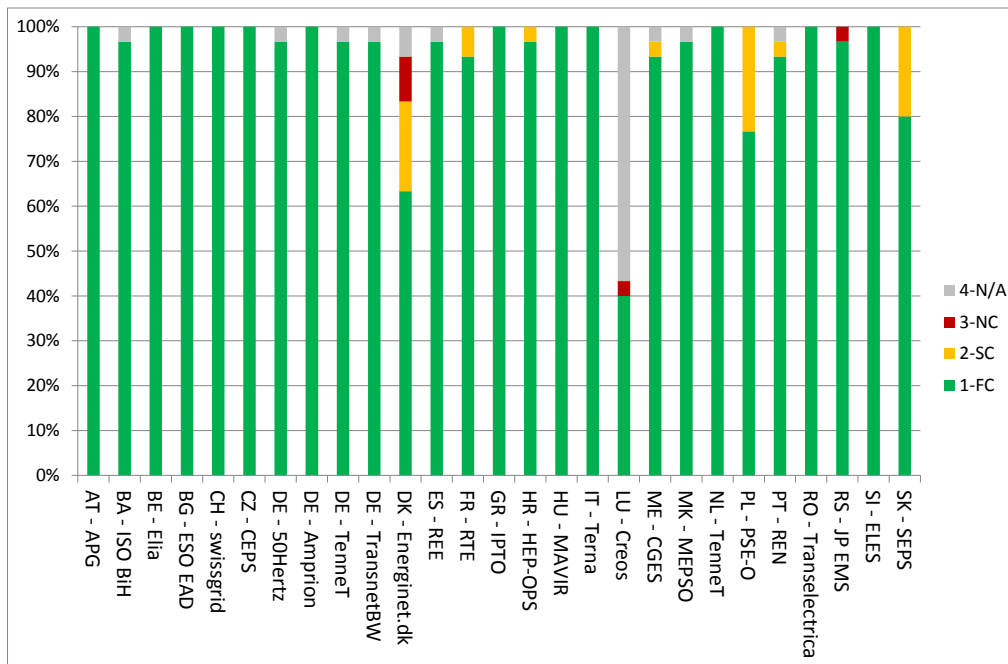


FIGURE 2. COMPLIANCE DECLARATION LEVEL DISTRIBUTION PER TSO IN POLICY 4  
FC (FULLY COMPLIANT) SC (SUFFICIENT COMPLIANT) NC (NON-COMPLIANT) N/A (NON-APPLICABLE)

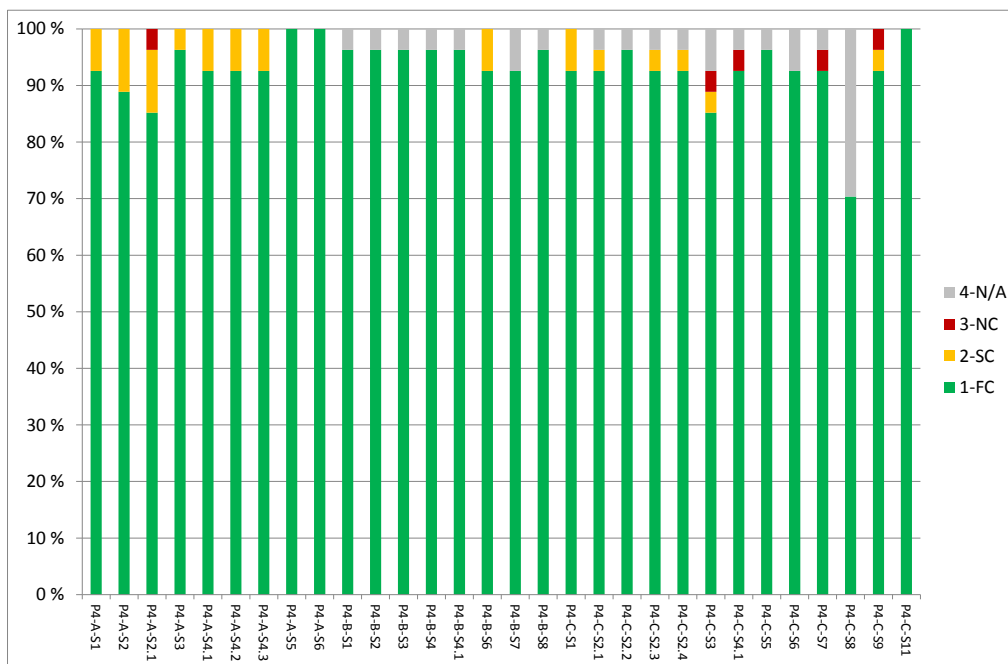


FIGURE 3. COMPLIANCE DECLARATION LEVEL DISTRIBUTION PER STANDARD IN POLICY 4  
FC (FULLY COMPLIANT) SC (SUFFICIENT COMPLIANT) NC (NON-COMPLIANT) N/A (NON-APPLICABLE)

Company Standard	Company																											
	AT - APG	BA - ISO-BIH	BE - Elia	BG - ESO EAD	CH - swissgrid	CZ - CEPS	DE - 50Hertz	DE - Amprion	DE - Tennet	DE - TransnetBW	DK - Energinet.dk	ES - REE	FR - RTE	GR - HTSO/DESMIE	HR - HEP-OPS	HU - MAVIR ZRT.	IT - Terna S.p.A.	LU - Creos	ME - CGES	MK - MEPSO	NL - Tennet	PL - PSE-Operator SA	PT - REN	RO - Transselectrica	RS - JP EMS	SI - ELES	SK - SEPS	
P4-A-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	
P4-A-S2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S2.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S4.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S4.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S4.3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S5	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-A-S6	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S4	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S4.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S6	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S7	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-B-S8	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S2.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S2.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S2.3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S2.4	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S4.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S5	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S6	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S7	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S8	FC	N/A	FC	FC	FC	FC	N/A	FC	N/A	N/A	N/A	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S9	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P4-C-S11	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC

Compliance level:  
 FC = fully compliant (this implies that no mitigation plan is needed)  
 SC = sufficiently compliant (an improvement plan to reach full compliance is necessary)  
 NC = non-compliant (a mitigation plan to remove non-compliance is obligatory)

Colour coding:  
 Credible: good and precise answer  
 Some doubts: answer is a little bit off topic  
 Not plausible: missing answer or completely off topic

FIGURE 4. SG CME ASSESSMENT ON CREDIBILITY OF COMPLIANCE LEVEL DECLARATION EXPLANATIONS  
 FC (FULLY COMPLIANT) SC (SUFFICIENT COMPLIANT) NC (NON-COMPLIANT) N/A (NON-APPLICABLE)

## 4 COMPLIANCE AUDITS 2012

### 4.1 General approach

Periodic compliance audits are performed by SG CME on a 5-year basis in every RGCE member TSO, to verify compliance with a chosen set of RGCE OH standards. TSOs that have returned improper or insufficiently completed self-questionnaires in the previous year are selected first for the following year audits. The remaining auditable TSOs are chosen at random to attain six audits annually. In 2012, the following TSOs were selected for Compliance Audits: REN, TERNA, RTE, ELES, REE and Creos. SG CME Audit Teams audited a selected set of 18 standards from RGCE OH Policy 5 (Emergency Operations), which was subject of the previous year' self-assessment. The set of standards was the same for each audited TSO and the delicate standards identified during the previous year' self-assessment were included.

The target of the Compliance Audits was to check the quality of the TSOs' answers in the previous year's self-assessment process and to help TSOs to improve their self-assessment process and operational procedures. In practice, an Audit Team visits the audited TSO onsite at its control room and checks hard evidence that backs up the TSO's compliance declaration. Table 3 defines the generic audit schedule. This schedule was used in 2012's onsite audit process, with one exception: 6 weeks after the audits, only "temporary" final audit reports were sent to the TSOs. The reason was the difficulty encountered by the Audit Teams in assessing the compliance level of standard P5-C-S3.7 "RECONNECTION OF GENERATORS AFTER ABNORMAL FREQUENCY EXCURSION".

With the approval of the RG CE Plenary, the SG CME used for this standard P5-C-S3.7 a self-developed clear criterion during the onsite audits while waiting for a new criterion to be developed by the SG SPD, in order to take this in consideration and finalise the audit reports. In the meantime, all audit reports were considered "temporary" final, as stated in the Minutes of the RG CE Plenary Meeting in London, September 5<sup>th</sup>, 2012. After detailed discussions on this matter, the RG CE Plenary decided on November 28<sup>th</sup>, 2012 that no other criterion will be used, but a different understanding of this standard will be considered: "This standard applies only to conventional big generation units and not also to non-conventional dispersed generation". Since re-evaluation of the compliance with this standard was not feasible, the SG CME Audit Teams assessed finally not being in condition to state an audited compliance level for this standard. All the audit reports were finalized accordingly.

Compliance Audit questionnaire(s) sent to the TSO involved in the audit by the ENTSO-E Secretariat	<b>7 weeks prior to audit</b>
Compliance Audit questionnaire(s) returned to the ENTSO-E Secretariat by the TSO	<b>3 weeks prior to audit</b>
Initial findings of the Audit Team sent to the TSO with a preliminary review of its answers	<b>2 working days prior to audit</b>
Audit report draft sent to the TSO review by ENTSO-E Secretariat	<b>2 weeks after audit</b>
Audit report draft returned to the ENTSO-E Secretariat by the TSO	<b>4 weeks after audit</b>
Final audit report sent to the TSO	<b>6 weeks after audit</b>

TABLE 3. GENERAL TIME SCHEDULE FOR COMPLIANCE AUDITS IN 2012

## 4.2 REN audit

The audit was conducted on May 3-4, 2012 at the National Control Centre of REN in Lisbon.

REN was excellently prepared for the audit. All necessary documentation was easily available during the audit. Documentation was also available to the Audit Team in the preparation phase with translation of all relevant parts from Portuguese to English and that fact has significantly eased the audit process. The REN representatives answered all questions in a competent way and gave detailed explanations.

The Audit Team confirmed that REN is fully compliant with all 17 standards that were monitored: P5-A-S1, P5-A-S2, P5-A-S3, P5-B-S1, P5-B-S3.1, P5-B-S5.2, P5-B-S6.3, P5-B-S6.4, P5-B-S6.4.1.1, P5-B-S6.4.1.2, P5-B-S6.4.1.3, P5-C-S1.2, P5-C-S1.2.1.1, P5-C-S1.2.1.2, P5-C-S1.2.1.3, P5-C-S2.3 and P5-C-S3.6.

For the standard P5-C-S1.2.1.1 the Audit Team recommended creation of reports from lessons learned during DTS courses even though assessed the standard fully compliant.

The Audit Team also noticed that REN had followed the recommendations made at the audit performed in 2009 which showed REN's committed attitude to constantly improve its practices. Communication with the neighbouring constrained TSO was improved by implementation of traffic light system with REE and tie-line opening policy with REE was formalized in a written document.

The Audit Team wants to stress its full satisfaction with the performance of REN both in the preparation phase and during the compliance audit.

### 4.3 TERNA audit

The audit was conducted on May 22-23, 2012 at the National Control Centre of TERNA in Rome.

TERNA was well prepared for the audit. All necessary documentation was easily available during the audit and request for additional material was promptly met. Big part of the documentation was also available to the Audit Team in the preparation phase with translation of most of the relevant documents in English.

TERNA estimates that its staff needed about 330 man hours for the preparation of the compliance audit.

The Audit Team confirmed that TERNA is fully compliant with all 17 standards: P5-A-S1, P5-A-S2, P5-A-S3, P5-B-S1, P5-B-S3.1, P5-B-S5.2, P5-B-S6.3, P5-B-S6.4, P5-B-S6.4.1.1, P5-B-S6.4.1.2, P5-B-S6.4.1.3, P5-C-S1.2, P5-C-S1.2.1.1, P5-C-S1.2.1.2, P5-C-S1.2.1.3, P5-C-S2.3 and P5-C-S3.6.

As a complementary outcome from the audit visit the Audit Team suggested TERNA to check the adequacy of its current document management system in order to ensure that only approved and updated documents are the available ones in the control room based on the evidence of that the available issues in Control Room related with the Milan Restoration Plan and the RGCE OH were out of date.

In case of the TERNA Compliance Audit, all preconditions for a successful audit were fulfilled and the Audit Team wishes to express its gratitude to the TERNA company management.

### 4.4 RTE audit

The audit was conducted on June 5 and 6 2012 at the control centre of RTE in Paris, France.

RTE was perfectly prepared for the audit. All necessary documentation was easily available. This has significantly eased the audit process only one day being enough for the Audit Team to evaluate all the standards involved. The RTE representatives answered all questions in a competent way and gave detailed explanations.

RTE estimates that its staff needed about 180 man hours for the preparation of the compliance audit.

The Audit Team confirmed that RTE is fully compliant with all 17 standards monitored: P5-A-S1, P5-A-S2, P5-A-S3, P5-B-S1, P5-B-S3.1, P5-B-S5.2, P5-B-S6.3, P5-B-S6.4, P5-B-S6.4.1.1, P5-B-S6.4.1.2, P5-B-S6.4.1.3, P5-C-S1.2, P5-C-S1.2.1.1, P5-C-S1.2.1.2, P5-C-S1.2.1.3, P5-C-S2.3 and P5-C-S3.6.

The Audit Team made the experience that RTE is an excellently organized TSO with a very high level of expertise. The Audit Team wishes to express its gratitude to the RTE company management for fulfilling all preconditions for an excellent and successful audit.



## 4.5 ELES audit

The audit was conducted on September 18-19, 2012 at the National Control Centre of ELES in Ljubljana.

The Audit Team found that ELES is fully compliant with all audited standards.

ELES was excellently prepared for the audit. All necessary documentation was easily available. The ELES' representatives answered all questions in a competent way and gave detailed but comprehensive explanations.

The Audit Team visited the ELES control room at the beginning of the audit. All questions of the Audit Team were answered in a very precise manner. The evidence presented in the control room helped the auditors to better understand the organisation of the work and the processes in ELES.

The Audit Team made the experience that ELES is an excellently organized TSO with a very high level of expertise.

## 4.6 REE audit

The audit was conducted on October 2-3, 2012 at the National Control Centre of REE in Madrid.

The Audit Team found that REE is fully compliant with 15 out of 17 audited standards. REE estimates that its staff needed about 200 man-hours for the preparation of the compliance audit. The Audit Team visited the REE control room at the beginning of the second audit day. The evidences presented in the control room helped the auditors to better understand the organisation of the work and the processes.

REE was very well prepared for the audit. All necessary documentation was easily available during the audit. Documentation was also available to the Audit Team in the preparation phase and the necessary translation of all relevant parts from Spanish to English provided. The REE representatives answered all questions in a competent way and gave detailed explanations.

The Audit Team confirmed REE sufficient compliance level in case of the two standards P5-B-S6.4.1.3 and P5-C-S1.2.1.3 due to following reasons:

- due to new regulation from 2009 (load reduction service) REE is currently implementing a recalibration of load shedding relays and other systems and thus the load shedding plan has not been issued since the last three years
- according to the present regulation, REE does not have legal mandate to demand black start tests from the producers.

In case of the REE Compliance Audit, all preconditions for an excellent and successful audit were fulfilled and the Audit Team wishes to express its gratitude to the REE company management.

## 4.7 Creos audit

The audit was conducted on October 16-17, 2012 at the National Control Centre of Creos in Heisdorf.

Creos was well prepared for the audit. All necessary documentation was easily available during the audit. A comprehensive presentation of Creos, Creos' grid and visiting Creos' control room in Heisdorf helped the auditors to better understand the special position of Creos.

The Audit Team found that Creos is fully compliant with 6 of 17 audited standards (P5-A-S3, P5-B-S1, P5-B-S5.2, P5-B-S6.4.1.3, P5-C-S1.2.1.1 and P5-C-S1.2.1.2), sufficiently compliant with 3 standards (P5-B-S6.4.1.1, P5-C-S1.2 and P5-C-S3.6) and non-compliant with 4 standards (P5-A-S1, P5-A-S2, P5-B-S3.1, P5-B-S6.4.1.2). Audit Team decided that 4 standards (P5-B-S6.3, P5-B-S6.4, P5-C-S1.2.1.3 and P5-C-S2.3) related to over/under frequency management, black start capability tests and LFC mode are not applicable for Creos while these services are outsourced to Amprion.

The Audit Team downgraded Creos from the level of fully compliant to the level of non-compliant for 3 standards (P5-A-S1, P5-A-S2 and P5-B-S3.1) and from the level of fully compliant to the level of sufficiently compliant for 2 standards (P5-C-S1.2 and P5-C-S3.6).

For the standard P5-A-S1 the Audit Team downgraded Creos from fully compliant to non-compliant, because Creos does not have N-1 security analysis tool. The new SCADA will include N-1 analysis by the end of 2013. Creos will also review the agreement to include written criteria for the appreciation of system states by the mid of 2013.

For the standard P5-A-S2 the Audit Team downgraded Creos from fully compliant to non-compliant, because Creos does not have written rules for appreciation of system states which makes it impossible to communicate them to Amprion. Together with Amprion, Creos will review the agreement to include written criteria for the appreciation of system states by the mid of 2013.

For the standard P5-B-S3.1 the Audit Team downgraded Creos from fully compliant to non-compliant, because the back up control room cannot be proved as operation due to missing tests and written procedure for transferring the control centre functions to the back-up control room. The deadline for the implementation of the mitigation plan is by the mid of 2014.

For the standard P5-C-S1 the Audit Team downgraded Creos from fully compliant to sufficiently compliant, because of having top-down approach but no bottom-up approach. Creos will integrate this bottom-up approach in its restoration plan by the end of January 2013.

For the standard P5-C-S3.6 the Audit Team downgraded Creos from fully compliant to sufficiently compliant, because of lacking formal agreements with Luxembourgian DSOs on reconnection rules after load shedding. Creos supplied necessary documentation to complete their improvement plan and achieve fully compliant status after onsite audit during Audit Report drafting process but due to CME Audit practices the Creos compliance level for the standard in the report will remain SC.

The Audit Team confirmed Creos sufficiently compliant with the standard P5-B-S6.4.1.1 due to small demand in Creos' grid and manual load shedding but missing automatic load shedding. The deadline for the implementation of the improvement plan is by the end of 2013.

The Audit Team confirmed Creos non-compliant with the standard P5-B-S6.4.1.2 due to missing automatic load shedding. The deadline for the implementation of the mitigation plan is by the end of 2013.

While Creos has a small demand (peak in 2011 was 770 MW), a few small production units in its grid and only two doubled 220 kV tie-lines to Amprion it is assumed that Creos can not endanger the synchronous area Continental Europe.

The Audit Team wishes to express its gratitude to the Creos company management for fulfilling all preconditions for an excellent and successful audit.

## 4.8 Summary of compliance level modifications

The audit process for an audited TSO starts with receiving an Audit Worksheet seven weeks before the audit. The Audit Worksheet contains the Compliance Audit Questionnaire (CAQ) and also answers from previous year's Self-Assessment Questionnaire (SAQ) on standards which will be audited. The TSOs fill in the CAQ with updated compliance level information prior to the audit.

During the audit, the Audit Team reviews all standards which were part of the Audit Worksheet and gives its suggestion for the (new) compliance levels. Figures 5 and 6 below contain the above mentioned data: SAQ and CAQ columns contain TSO self-assessment and Audit column contain Audit Team assessment. The green colour indicates that the compliance level was upgraded from the previous assessment, red colour points out a downgrade and grey colour indicates a non-assessment.

Two major facts should be emphasised with regards to the compliance level modifications:

- A) The non-feasible re-evaluation of the TSO's compliance with the standard P5-C-S3.7. Although the 2012 onsite Audit Program includes this standard within those to be audited onsite, Audit Teams decided to omit any statement on the compliance level of this standard:

During the onsite audit the Audit Teams focused on the dispersed generation aspects, the critical issue concerning this standard according to the SG CME criteria. However, in

the RG CE Plenary it was later decided (in the meeting on November 28<sup>th</sup>, 2012) that this standard does not apply to non-conventional dispersed generation but only to conventional large generation units connected to TSO grids.

As a result the Audit Teams considered that re-evaluation of the compliance with this standard is not feasible for the following reasons:

- an assessment about the compliance level based on unfocussed onsite gathered materials would be unfair
- an assessment about the compliance level based on additional information provided ex-post by the TSO, not onsite, would be a biased process
- it is not possible to repeat the onsite audit process for this standard, due to the large effort required both from the Audit Team and the audited TSO.

Thus, the Audit Teams decided not being in condition to state an audited compliance level for this standard.

- B) The downgrade from the previous assessment of the compliance level of Creos to six standards. It should be noted that:

The non-compliances are mainly related to the standards linked to SCADA system (N-1 security analyses, system states and back-up functions). Creos plans to solve those non-compliances in the next year (2013) with the implementation of the upgraded SCADA system. The most critical topic is load shedding: Creos is currently not able to fulfil the related standards as the national load shedding plan does not allow Creos to disconnect the domestic loads automatically. Whereas Creos has a plan for manual load shedding with an amount of one third of the demand, the Audit Team proposed to change the national load shedding plan and to start implementing the load-frequency protection relays in the system.

Event Standard	TSO			REN			TERNA			RTE		
	SAQ 2011	CAQ 2012	Audit 2012	SAQ 2011	CAQ 2012	Audit 2012	SAQ 2011	CAQ 2012	Audit 2012	SAQ 2011	CAQ 2012	Audit 2012
P5-A-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-A-S2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-A-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S3.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S5.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S6.3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S6.4	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S6.4.1.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S6.4.1.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S6.4.1.3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S1.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S1.2.1.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S1.2.1.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S1.2.1.3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S2.3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S3.6	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S3.7												

FIGURE 5. COMPLIANCE LEVEL MODIFICATION DURING SELF-ASSESSMENT AND AUDIT PROCESSES  
FC (FULLY COMPLIANT) SC (SUFFICIENT COMPLIANT) NC (NON-COMPLIANT) N/A (NON-APPLICABLE)

Event Standard	TSO			ELES			REE			CREOS		
	SAQ 2011	CAQ 2012	Audit 2012	SAQ 2011	CAQ 2012	Audit 2012	SAQ 2011	CAQ 2012	Audit 2012	SAQ 2011	CAQ 2012	Audit 2012
P5-A-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	NC
P5-A-S2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	NC
P5-A-S3	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S3.1	FC	FC	FC	FC	FC	FC	FC	FC	SC	FC	FC	NC
P5-B-S5.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-B-S6.3	FC	FC	FC	FC	FC	FC	FC	FC	N/A	N/A	N/A	N/A
P5-B-S6.4	FC	FC	FC	FC	FC	FC	FC	FC	N/A	N/A	N/A	N/A
P5-B-S6.4.1.1	FC	FC	FC	FC	FC	FC	FC	FC	SC	SC	SC	SC
P5-B-S6.4.1.2	FC	FC	FC	FC	FC	FC	FC	FC	SC	NC	FC	NC
P5-B-S6.4.1.3	FC	FC	FC	FC	FC	SC	FC	FC	FC	FC	FC	FC
P5-C-S1.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC
P5-C-S1.2.1.1	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S1.2.1.2	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC
P5-C-S1.2.1.3	FC	FC	FC	NC	SC	SC	N/A	N/A	N/A	N/A	N/A	N/A
P5-C-S2.3	FC	FC	FC	FC	FC	FC	FC	FC	N/A	N/A	N/A	N/A
P5-C-S3.6	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	FC	SC
P5-C-S3.7												

FIGURE 6. COMPLIANCE LEVEL MODIFICATION DURING SELF-ASSESSMENT AND AUDIT PROCESSES  
FC (FULLY COMPLIANT) SC (SUFFICIENT COMPLIANT) NC (NON-COMPLIANT) N/A (NON-APPLICABLE)

## 5 WORKLOAD EVALUATION

SG CME continues to monitor the time consumed for the compliance monitoring process by the RGCE TSOs. Figure 8 below shows the work put in the self-assessment questionnaire by a TSO and Figure 9, the time consumed by a TSO for an onsite audit is presented.

For the self-assessment questionnaire 24 TSOs gave a feedback to the workload. Three TSOs took less than 10 hours, as maximum one TSO needed 140 hours. Strictly arithmetical we get an average value of 36 hours.

One possible reason for the different time assessment may be, that in a few cases only the time for answering the questions of the self-assessment and fill in the data in the web-based tool was taken into account and recorded, in other cases additional the time for internal and external coordination and confirmation of the answers and the assessment of the bilateral standards to avoid mismatches was taken into account.

Furthermore, it should be mentioned that the time for handling these standards which need a bilateral matching is very noteworthy, especially for TSOs which have several direct neighbours.

The six audited TSOs used as minimum 100 hours and as maximum 330 hours for the onsite audit 2012, in average, the TSOs used 210 hours. So the onsite audit process took in general six times more resources from a TSO than the self-assessment process.

Due to the resulting time spread and possibly incomplete or inaccurate data an in-depth analysis of the workload is not possible.

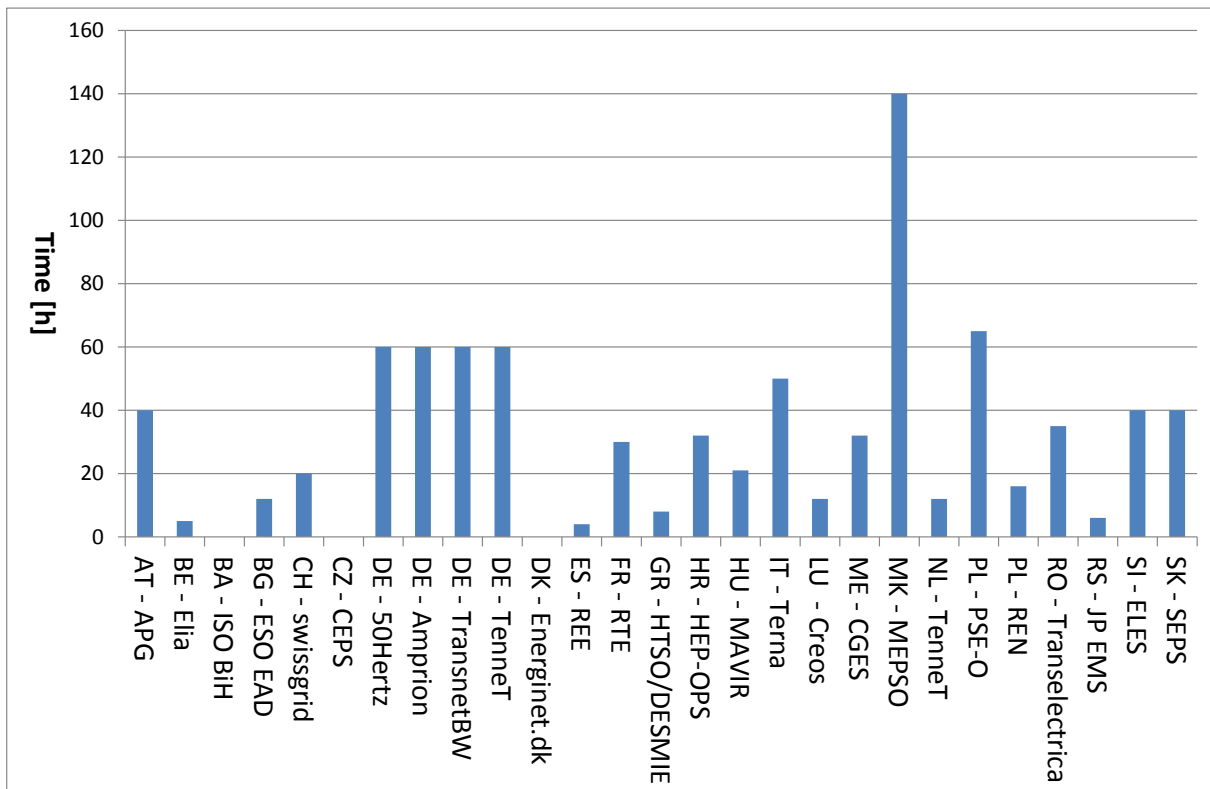


FIGURE 7. TIME TO COMPLETE THE SELF-ASSESSMENT QUESTIONNAIRE 2012

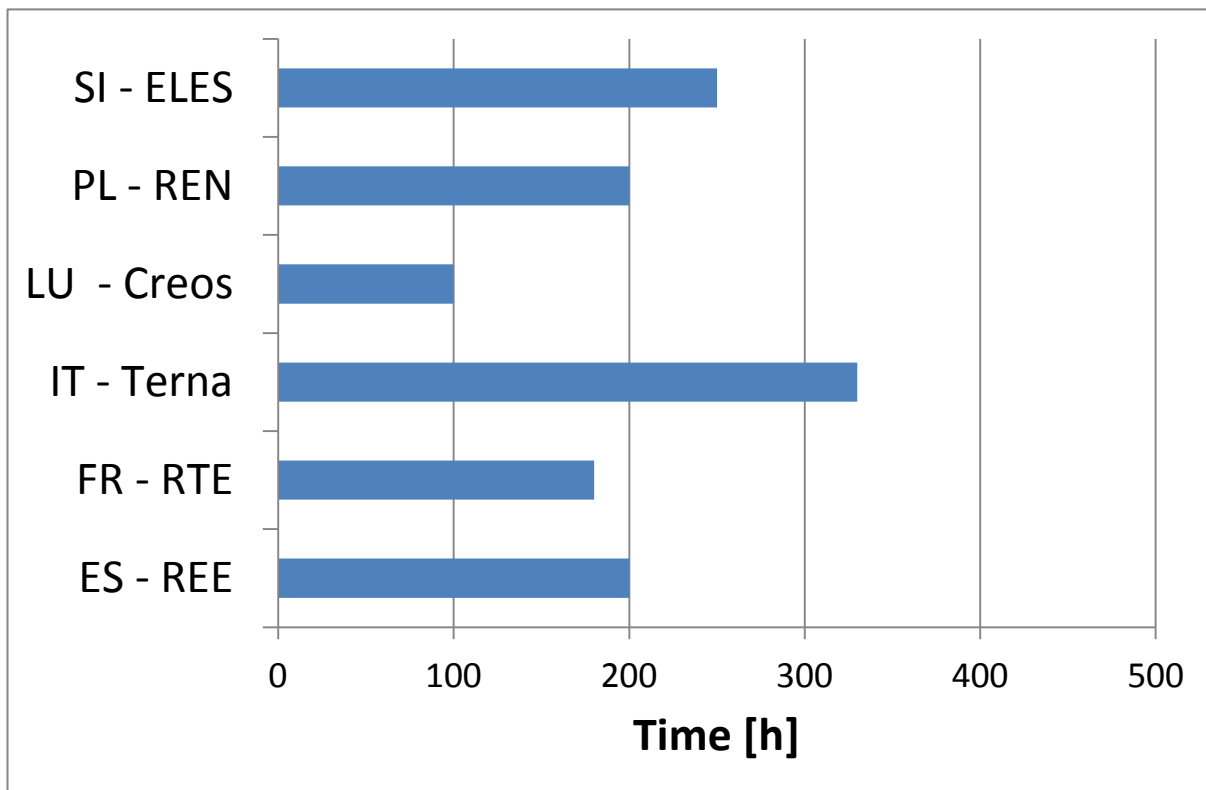


FIGURE 8. TIME FOR TSO TO PREPARE FOR AN ONSITE AUDIT IN 2012

## 6 MAIN FINDINGS AND CONCLUSIONS

### 6.1 Main Finding

Main finding of the 2012 Compliance Oversight Process has been the verification of its expected efficiency and adequacy to the purpose for quality improvement within the ENTSO-E community activities, showing its usefulness as control function and trigger point for the improvement loop.

This is evident when looking at the standard P5-C-S3.7 that handles the reconnection of generators after abnormal frequency excursions. The 2012 audit process outcomes resulted in the assumption by the Plenary of the need in a found revision of the standard, which includes the launch of a deep and broadly scoped investigation appointed to the SG SPD.

### 6.2 Self-assessment process

Main findings and conclusions reached by the SG CME from the 2012 self-assessment process are

#### 6.2.1 Most difficult standards to comply with

Measuring the difficulty to comply with a standard by the number of non-compliance declarations, it can be considered that, generally speaking, there are not big difficulties to comply with the standards self-assessed in 2012. Just one non-compliance level case per standard occurred in five standards out of 30.

By number of times that TSOs declare sufficient compliant instead of fully compliant, standards P4-A-S2 and P4-A-S2.1 result to be more difficult to fully accomplish with. These standards state the need of regional agreements among involved TSOs on network elements which influence two or more TSOs while being out of operation or that have a major influence on the operational management of the neighbouring systems.

On the other hand, the standard for which biggest number of TSOs declare non-applicable (eight TSOs) the P4-C-S8, which establishes the use of Vulcanus for managing the DACF process, is quite relevant due to this outcome pointed out the opportunity in revising whether it is a real standard or the adequacy of its current statement.

The fact that out of the total 27 non-applicable situations, 17 have been declared by Creos suggest the convenience of stating technical requisites that are sensible to the function, the dimension, the capacity, the operative significance, etc. of the TSO instead of fixing one same common rule for all MLA signers.



## 6.2.2 Non-compliance with standards

Five non-compliant declarations were collected: Energinet.dk for P4-A-S2.1 elements that have a major influence on the operational management of the neighbouring systems, P4-C-S3 construction of a forecasted network model and P4-C-S4.1 to follow the rules included into the document “Quality of datasets and calculations”; JP EMS for P4-C-S7 Daily supply of datasets for DACF for at least the reference times and Creos - for P4-C-S9 about to carry out DACF N-1 security calculations.

None of them but the one of JP EMS is preceded by any *addendum* issued at the time of approving the Policy 4, having each of them its corresponding mitigation plan now.

## 6.2.3 Answer harmonization on multilateral standards (mismatches)

The analysis of results in relationship with multilateral standards, for which the compliance level is twice done, one time by each of interconnected TSOs, detected mismatches are listed in Table 4 below.

SUMMARY	TSO A	CL	TSO B	CL
P4-A-S2 agreements among involved TSOs on network elements which influence two or more TSOs	RTE	SC	swissgrid	FC
P4-A-S2.1 agreements among involved TSOs on network elements which have a major influence on the operational management	swissgrid	FC	RTE	SC
	Energinet.dk	NC	TenneT TSO GmbH	FC
P4-A-S3 TSOs collect and share information about planned outages and review at the Weekly Operational Teleconference	Energinet.dk	SC	TenneT TSO GmbH	FC
P4-B-S2 TSOs perform capacity assessments for different time frames in advance of corresponding capacity allocation procedures.	Transnet BW	N/A	APG-Austrian Power Grid AG	FC
	Amprion	N/A	APG-Austrian Power Grid AG	FC
	Amprion	N/A	Creos	FC
	APG-Austrian Power Grid AG	FC	TenneT TSO GmbH	N/A
P4-B-S7 In case there is a joint capacity allocation procedure, TSOs calculate and harmonize the ATC values	Amprion	N/A	Creos	FC
	Crnogorski elektroprenosni sistem AD	N/A	ISO BiH	FC
	JP EMS	N/A	Transelectrica	FC
	JP EMS	N/A	ESO EAD	FC
	JP EMS	N/A	HEP-OPS	FC
	JP EMS	N/A	ISO BiH	FC
	JP EMS	N/A	MEPSO	FC

CL.. - TSO A and TSO B Compliance Level Self Assessments about A-B Interconnection:  
FC (Fully Compliant) SC (Sufficient Compliant) NC (Non-Compliant) N/A (Non-Applicable)

TABLE 4. DETECTED MISMATCHES

This year 2012 the SG CME did not launch any process intended to solve mismatches having been up to the neighbouring TSOs criteria to determine the need and the effort put on matching their answers.

Most of the mismatches resulted from diverging appreciations about the applicability or not of standards. This situation is clearly relevant in the JP EMS case, whose vision considers the standard P4-B-S7 about harmonization of the NTC values as non-applicable for all their interconnections with its neighbour TSOs but one (MAVIR ZRt, not in the Table), while all these neighbours assessed a Fully Compliance level. JP EMS and MAVIR ZRt (the matching interconnected TSO) assess a same fully compliant level at their common interconnection.

#### **6.2.4 Additional questions**

In CMP 2012, TSOs were asked for assessing 30 standards and for answering 22 additional questions. These questions were included in order to orient the TSOs when assessing the compliance level and the answers used by the SG CME for evaluating the credibility of the compliance level self-assessed by each TSO (additionally together with explanations, plans and other complementary information provided by the TSOs).

Outcomes of this evaluation are precisely reported in section 3.4 statistic analysis of self-assessment data. In summary: out of 810 final compliance level self-assessments done by TSOs, only 40 of them resulted in some doubts and in 14 cases the CME group decided the assessment to be non-plausible in relationship with credibility.

#### **6.2.5 Workload for TSOs**

A recurrent concern within the ENTSO-E CE community is the issue of how adequate the design of the CME process is considering its benefits, TSOs contributed to the evaluation on this issue by reporting their effort put in performing self-assessment. The effort is measured by man hours and conclusion is that per reporting TSOs (four of them did not provide feedback on this topic) self-assessment workload has lasted from a minimum four hours to a maximum 140 hours, on average 36 hours (8, 111 and 42 hours respectively in year 2011 process).

### **6.3 Compliance onsite Audit process**

#### **6.3.1 General**

As already identified in the 2011 Self-Assessment Process, out of the collection of standards self-assessed that year, the standard P5-C-S3.7 that handles the reconnection of generators after abnormal frequency excursions is one of the most difficult to deal with. The main outcome of the onsite Audit Process run in 2012, whose scope has been the same set of standards self-assessed in 2011, confirms this.

In addition to the difficulties in accomplishing with this standard, the 2012 onsite Audit Process evidenced how indispensable it is to set a technical criterion in the form of a quantitative requisite for the issue. This not only for the sake of deciding the compliance level but for defining mandatory improvement and mitigations plans as well. Regarding standard P5-C-S3.7 the 2012 onsite Audits were performed recurring to a technical criterion proposed by the SG CME that focussed on dispersed generation. Finally the RGCE Plenary decided the standard does not apply to dispersed generation and the Audit Teams decided not to give a compliance level assessment to it.

Another outcome of the 2012 onsite Audit processes, particularly that performed at Creos Luxembourg where the Audit Team concluded that four standards were non-applicable and downgraded the TSO self-assessment in other five standards, confirms and reinforces one of the conclusions from the 2012 self-assessment. This one about the convenience of assign different technical requisites based on function, dimension, capacity, operative significance, etc. of the TSO instead of fixing the same common rule for all MLA signers.

### **6.3.2 Workload for both the TSO audited and for the Audit Teams**

As on self-assessment it is still a concern within the ENTSO-E RGCE how adequate the design of the CME process is considering its benefits, TSOs contributed to the evaluation on this issue by accounting their effort put in being audited. The effort is measured by man hours and, for the six audits performed in 2012, per reporting TSOs audit workload has lasted from a minimum 100 hours to a maximum 330 hours, on average 210 hours (200, 450 and 260 hours respectively in year 2011 process).

For the SG CME Compliance Audit Teams the effort to perform this visit is estimated at one full week per person at least. This consists normally in a three day travel and another 2 days for preparing and completing the reporting. Normally the leader of the Audit Team will spent more time than the ordinary members.

Finally the ENTSO-E Secretariat Compliance Monitoring Advisor spent also at least one full week per Compliance Audit in organising the audit and supporting during the audits for reporting.

## **6.4 ENTSO-E Secretariat support level**

The 2012 Compliance Monitoring Program was executed with a partial assistance of the Compliance Monitoring Advisor of the ENTSO-E secretariat due to the long lasting process run for staff replacement without overlapping phase. During the gap the CME group did not count with any support, having to perform tasks under burdening conditions.

Notwithstanding the time gap without formal Advisor the participation and support of the Secretariat was complete for onsite audit reports.

In addition in 2012, it again was not possible to improve neither the functionality nor performance of the IT Tool.

## 6.5 Recommendations for the RGCE OH

The SG CME recognises reconnection of generators after abnormal frequency excursions as a critical issue for the security of supply, especially in the light of the increasing penetration of dispersed generation. Therefore the SG CME suggests the development of the necessary efficient rules intended to promote the secure operability of the synchronous zone by the RGCE Plenary. From a technical point of view, it is important to remind that the issue is well taken into account by the SG SPD, which is analysing the problem and looking for solutions at the Continental Europe level.

Discussions in 2012 within SG CME members on outcomes from self-assessment and onsite audit processes have frequently dealt with the issue of applicability of the Policies in cases where the TSO performs a reduced set of functions in comparison with the common ones. Also when those functions are performed by another TSO based on agreements or not having relevant impact in the interoperability that those are not performed.

Current RGCE OH Policies but Policy 2 Scheduling and Accounting, establish standards in an indiscriminate way. Only Policy 2 differentiates requisites by Control Area, Control Bloc, Coordination Centre and Time Control; the rest of the Policies do not consider the possibility of exceptions nor differences in requisites depending on the fact such as function, dimension, capacity, operative significance, etc. of the TSO.

At a first stage of regulation, the RGCE OH was developed for a simple community where there were no technical differences between the members. After several years of efficient implementation of the current Policies, they are currently the object of a revision process intended to correct identified mistakes and to improve contents. It would be worth to call the attention of the revision teams to explore the possibility of advantages in a standards definition approach which enlarges the applicability of the standards to all kind of members (big, small, central, peripheral, etc.).

## 6.6 Recommendations for the Compliance Monitoring Program 2013

Since the first self-assessment process and first onsite audit were launched and as a result of them many improvement and mitigations plans were defined in addition to those already previously issued during the MLA signing process when addenda were accepted.

While the progress in mitigation plans coming from MLA signing process has been monitored in 2012, there has never had an outlook on the progress in the rest of plans.

Having no sense in producing plans which progress is not monitored, it is time for monitoring and updating if necessary the set of plans formally in force and for evidencing and reporting what is the TSO member commitment in complying with the standards at the full level.

## 7 TERMS, DEFINITIONS AND ABBREVIATIONS

In the following the most important terms used in this document as well as in the written and verbal communication within the scope of the Compliance Oversight Report are defined:

<b>Assessment</b>	An evaluation that allows a conclusion to be reached or a decision to be made that may or may not involve an analysis or simulation.
<b>Audit Team</b>	An investigating group set up among the SG CME members and, if necessary, other RGCE member TSOs' experts appointed with the task of conducting a <b>Compliance Audit</b> . The members of the group must be free of interest conflicts and must not belong to the investigated TSO and its neighbours. Furthermore, they must comply with the ENTSO-E confidentiality provisions.
<b>Compliance</b>	Conformity with the <b>RGCE Operation Handbook standards</b> .
<b>Compliance Audit</b>	An onsite audit performed on the premises of an RGCE member TSO to verify compliance with the <b>RGCE Operation Handbook standards</b> . It is conducted either as a regular process (on a five-year basis) or as an exceptional process (if deemed necessary by the RGCE Plenary).
<b>Compliance Audit Questionnaire (CAQ)</b>	<b>Compliance Audit Questionnaire</b> contains all standards and <b>questions</b> which will be examined at an onsite audit.
<b>Compliance level</b>	The degree to which a RGCE member TSO complies with a specific <b>RGCE Operation Handbook standard</b> . Three levels (categories) are defined: <b>fully compliant</b> , <b>sufficiently compliant</b> and <b>non-compliant</b> .
<b>Compliance Monitoring Advisor</b>	An employee of the ENTSO-E Secretariat whose task is to support the Compliance Monitoring Process from the technical and administrative point of view as well as to support the <b>SG CME</b> at its work.
<b>Compliance Monitoring Process</b>	The process of assessing whether the RGCE member TSOs are compliant with the <b>RGCE Operation Handbook standards</b> . It consists of the regular processes of <b>self-assessment</b> and <b>Compliance Audits</b> and the exceptional process of <b>Compliance Audits</b> .
<b>Compliance Monitoring Program (CMP)</b>	The document that delineates the <b>Compliance Monitoring Process</b> and points out the <b>RGCE Operation Handbook standards</b> to be checked and the TSOs to be audited during a period of one calendar year as well as describes the procedures to be followed and the demands to be responded to by each RGCE member TSO.
<b>Compliance Oversight Report (COR)</b>	The annual document in which the current compliance status of the RGCE member TSOs is presented based on <b>self-assessment</b> and <b>Compliance Audits</b> conducted by <b>Audit Teams</b> according to the annual <b>Compliance Monitoring Program</b> . For <b>non-compliant</b> TSOs it details the findings, the <b>mitigation plans</b> and <b>progress reports</b> . It may also contain proposals on how to improve the <b>RGCE Operation Handbook</b> and recommendations concerning the development of the <b>Compliance Monitoring Process</b> .

<b>Control Area Manager (CAM)</b>	The person who is officially responsible for the <b>Compliance Monitoring Process</b> on behalf of an RGCE member TSO – a single point of contact of the TSO with respect to the <b>Compliance Monitoring Process</b> . <b>Control Area Managers</b> are appointed in the RGCE Multilateral Agreement.
<b>Compliance Self-Assessment Question (COSAQ)</b>	<b>Compliance Self-Assessment Question</b> is an additional question related a RGCE OH standard to help a <b>TSO</b> to assess its compliance level in the Self-assessment Process on a proper way.
<b>Fully compliant – full compliance</b>	The TSO may declare full compliance only if it fulfils the monitored OH RGCE standard in all details.
<b>Improvement plan</b>	A set of measures submitted by a “ <b>sufficiently compliant</b> ” RGCE member TSO that will lead it to full compliance with an <b>RGCE Operation Handbook standard</b> . It contains a description of actions and a deadline (schedule) for the accomplishment of these actions.
<b>Mitigation plan</b>	A list of measures submitted by an RGCE member TSO concerning a <b>non-compliance declaration</b> that will lead to compliance with an <b>RGCE Operation Handbook standard</b> . It contains a description of <b>temporary remedial measures</b> (if anything of that kind is feasible), a description of actions that will allow the removal of the <b>non-compliance</b> and a deadline (schedule) for the accomplishment of these actions.
<b>Non-compliance declaration</b>	The formal communication within the scope of the <b>self-assessment</b> of an RGCE member TSO to the <b>SG CME</b> that it is <b>non-compliant</b> with an <b>RGCE OH standard</b> . The <b>non-compliance declaration</b> must be accompanied by a correct <b>mitigation plan</b> .
<b>Non-compliant – non-compliance</b>	A <b>TSO</b> must declare <b>non-compliance</b> if it doesn't fulfil at least one essential requirement specified in the monitored OH RGCE standard.
<b>Not applicable (N/A)</b>	<b>Not applicable</b> applies when a given RGCE OH standard does not concern the TSO, e.g. it is directed to a Control Block while a TSO performs only the role of a Control Area.
<b>Regional Group Continental Europe (RGCE)</b>	Regional group of the ENTSO-E System Operation Committee, which takes care of power system operation matters in the Continental European Synchronous System.
<b>RGCE Operation Handbook (OH) standards</b>	Conformity standards resulting from the RGCE Operation Handbook.
<b>Self-assessment</b>	The practice of a TSO to review its compliance with a chosen set of RGCE Operation Handbook standards on a regular basis and to notify the ENTSO-E <b>Compliance Monitoring Advisor</b> and the <b>SG CME</b> of its level of compliance with each Operation Handbook standard.

<b>Self-assessment questionnaire (SAQ)</b>	The self-assessment questionnaire contains selected standards of the RGCE Operation Handbook and additional questions (COSAQs) on standards defined by the SG CME. These questions aim at guiding the TSO in its self-assessment process for standards that are not self-supportive.
<b>Subgroup Compliance Monitoring &amp; Enforcement (SG CME)</b>	A RGCE Working Group acting as the Compliance Monitoring Body of the RGCE. Its main task is to define and establish the processes and procedures for monitoring the <b>compliance</b> of the RGCE member TSOs with the <b>Operation Handbook standards</b> , and to propose enforcement and/or remedial measures to the RGCE Plenary, if necessary.
<b>Sufficiently compliant – sufficient compliance</b>	A <b>TSO</b> may declare <b>sufficient compliance</b> only if it fulfils the monitored RGCE Operation Handbook standards in its essential parts, but not in all details. The choice between <b>non-compliant</b> and <b>sufficiently compliant</b> also has to be considered with a risk analysis approach, with a particular focus on the impact on the security of the European interconnected network or on the neighbouring <b>TSOs</b> .
<b>Temporary remedial measures</b>	A list of actions stated in a <b>mitigation plan</b> in order to decrease the risk during the period of <b>non-compliance</b> in which the corresponding mitigation actions will be realized. The temporary measures are not equal to the mitigation actions and do not replace them.
<b>Transmission System Operator (TSO)</b>	A member of ENTSO-E, regardless of its internal legal structure (e.g. ISO, ITO, TSO).

## **LIST OF ANNEXES**

Annex 1. Assessment on credibility of compliance level declaration explanations

Annex 2. Compliance Audit report: REN

Annex 3. Compliance Audit report: TERN

Annex 4. Compliance Audit report: RTE

Annex 5. Compliance Audit report: ELES

Annex 6. Compliance Audit report: REE

Annex 7. Compliance Audit report: Creos