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COMPLIANCE AUDIT REPORT SWISSGRID AG

13. – 14.10.2010

**COMPLIANCE AUDIT CONDUCTED IN LAUFENBURG BY
THE ENTSO-E RG CE SG COMPLIANCE MONITORING &
ENFORCEMENT
AT THE CONTROL CENTRE OF THE ENTSO-E MEMBER
TSO SWISSGRID**

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DISCLAIMER

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1 EXECUTIVE SUMMARY

1.1 COMPLIANCE MONITORING IN ENTSO-E RGCE

The mission of the Regional Group Continental Europe (RGCE) is to improve the reliability and security of the interconnected power system in the continental part of Europe through developing and enforcing Operation Handbook standards, monitoring the interconnected power system and assessing its future adequacy. The RGCE member TSOs are subject to compliance with all approved Operation Handbook (OH) standards. The Compliance Monitoring Program (CMP) is the RGCE program that monitors and assesses compliance with these standards via:

- the yearly processes of self-assessment, which is applied to all TSOs, as well as
- the yearly process of mandatory on-site Compliance Audits, which is applied to a certain number of TSOs chosen on a rotating base either directly (in case of doubts that a certain TSO complies with OH Standards) or by random.

SG Compliance Monitoring & Enforcement (SG CME) is in charge of performing these processes.

The year 2010 is the first year of conducting mandatory Compliance Audits. Before this, in 2008 and 2009 Voluntary Compliance Audits have been performed at altogether 4 volunteering TSOs. Through this, the SG CME gained first experiences with this kind of process.

1.2 AUDITED TSO

The RGCE member TSO swissgrid was chosen for a Compliance Audit in 2010. SG CME conducted the audit on 13-14[td] of October in 2010 at the control centre of swissgrid in Laufenburg.

1.3 AUDITED OH STANDARDS

The Compliance Audit encompassed all 14 standards of Operation Handbook Policy 8 which is related to operational training of dispatchers. In 2009 swissgrid made 14 compliance declarations in the self-assessment process.

swissgrid declared full compliance with the following standards:

- P8-A-S1, P8-A-S2, P8-B-R1, P8-C-S1,

swissgrid declared sufficient compliance with the following standards:

- P8-A-R1, P8-A-R2, P8-A-R3, P8-A-R4, P8-B-S1,

 swissgrid declared non compliance with the following standards:

- P8-C-S2, P8-C-S3, P8-C-S4, P8-C-S5 (all covered with valid addendums) and P8-C-S6 (not covered with an addendum)

1.4 SWISSGRID APPROACH TO THE AUDIT

The representatives of swissgrid were well prepared for the audit. All the necessary documentation was available and very well organised. The representatives of swissgrid clearly demonstrated that they are familiarized with the content of every single document. The Audit Team particularly wishes to stress the easiness and quickness with which all required evidences were presented and explained.

A visit to the swissgrid control room helped the Audit Team members to better understand the processes implemented at swissgrid.

In the beginning of the audit the representatives of swissgrid presented the organisation of swissgrid, how the grid looks like and where it is interconnected, and the general policies of swissgrid related to

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the implementation of the OH standards, especially Policy 8, and to internal organizational aspects which are of importance for achieving and/or maintaining compliance.

The readiness of the swissgrid representatives to explain and discuss openly all subjects covering Policy 8 and beyond contributed to convince the Audit Team members that the compliance declarations of swissgrid are correct and based on sound reasoning.

1.5 RESULTS

The Audit Team found that the evidence presented by swissgrid during the audit is adequate and that swissgrid is fully compliant with all of 14 investigated OH requirements and standards.

For the requirements P8-A-R1, P8-A-R2, P8-A-R3, P8-A-R4 and standard P8-B-S1 the audit team proposed to increase the compliance levels declared by swissgrid in 2009 from sufficiently compliant to fully compliant and for the standards P8-C-S2, P8-C-S3, P8-C-S4, P8-C-S5 and P8-C-S6 from non compliant to fully compliant.

The Audit Team recommends (i.e. these measures are not decisive for determining the compliance levels):

- to add in the main document "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching" in the part which is related to the continuous program that simulator training is performed regularly

- greater involvement of dispatchers to common international training and more frequent sessions with neighbouring TSOs.

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2 AUDIT REPRESENTATIVES

2.1 CME AUDIT TEAM STRUCTURE

The Audit Team has the task to prepare and perform the Compliance Audit as well as to write the corresponding Audit Report. The Audit Team consists of the following members:

- Audit Team Leader – a member of the SG CME not belonging to the audited TSO and its neighbouring TSOs

- Up to two Control Area Managers (CAMs) or members of the SG Coordinated System Operation (CSO) excluding the CAM and representatives of the audited TSO as well as those of the neighbouring TSOs

- Two members of the SG CME not belonging to the audited TSO and its neighbouring TSOs

- One observer/supporter from the ENTSO-E Secretariat.

In this particular case the Compliance Audit was conducted without participation of a Control Area Manager or a member of the WG CSO.

2.2 CME AUDIT TEAM FOR SWISSGRID

Audit Team Role	Name	Role in the Compliance Audit Process	Company (TSO) or ENTSO-E
AT Leader	Vladimir Ilic	Member of the SG CME	JP EMS
AT Member	Luka Spoljar	Member of the SG CME	HEP-OPS
AT Member	Zoltan Feleki	Member of the SG CME	MAVIR
AT Member	Lasse Konttinen	Compliance Monitoring Advisor	ENTSO-E Secretariat

A TSO subject to an audit may object any member of the Audit Team on grounds of a conflict of interests or the existence of other circumstances that could interfere with the impartial performance of his or her duties. The audited TSO is obligated to express its concerns with the proposed team member prior to the team's arrival on-site. swissgrid didn't make any such objection.

2.3 SWISSGRID AUDIT STAFF

Name	Function at swissgrid
Andreas John (Absent)	Head of System Management (CAM)
Hans-Jörg Schneider	Head of System Operations (substitute CAM)
Rainer Storf	Team leader System Operations Management
Georges Bossert	Support Team for System Management
Husnija Mürset	Grid Operations Planning
Bernd Geissler	Team Leader Ancillary Services Operation
Christian Welti	Team Leader Grid Operations Coordination
Alexander Mondovic	CME member of swissgrid
Roman Berther	System Management Support

An initial letter and an audit schedule were sent to swissgrid on 30th June 2010. This letter included an audit questionnaire. swissgrid submitted the completed audit questionnaire on 4th of October in 2010.

They didn't require any explanations related to the audit questionnaire and other material received from the Audit Team.

A reminder and the first draft of the Compliance Audit Report containing the general layout of the report text and the methodology of the Compliance Audit were sent to swissgrid on 12th of October in 2010.

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3 AUDIT PLAN

3.1 OBJECTIVES

In 2010 the objective of Compliance Audits is to check all 14 RGCE OH standards of Policy 8. These standards were also monitored in the 2009 regular process via the self-assessments.

Furthermore, at performing the Compliance Audit the Audit Team makes recommendations to the audited TSO so as to enhance the evidence or documentation on compliance with the audited OH standards.

3.2 SCOPE

The scope of a compliance audit encompasses:

- issues which are directly related to the compliance of the audited TSO with the audited RGCE OH standards
- issues which make a general background for the implementation of the OH at the audited TSO

Directly related issues

Issues directly related to the audited RGCE OH standards are the following:

- Existence of TSO's addenda and/or non-compliance declarations/non-compliance self-reports
- Follow-up of the TSO's mitigation plans to remove the declared non-compliances
- 2009 self-assessment questionnaires stored at the ENTSO-E Secretariat related to swissgrid concerning the audited OH standards
- Information and explanations which the Audit Team receives on site
- Implementation of the knowledge of the audited OH standards in the training of dispatchers and operators

General background

The Compliance Audit also encompasses issues of general nature listed below:

- Reference system of rules existing at the audited TSO: general policies of swissgrid, related set of rules and procedures for the control centre(s) of swissgrid
- Procedures to control the application of the audited OH standards and their follow-up
- Procedures to improve the compliance with the audited OH standards
- Existence of any TSO's internal report related to the implementation of the audited OH standards
- Existence of TSO's internal audits and/or documentation concerning implementation of OH standards
- Existence of TSO's internal bodies (forums, panels) for the implementation of the OH standards

3.3 METHODOLOGY

The SG CME prepared an audit schedule defining the chronological order of the compliance audit, which swissgrid accepted without comment.

The Audit Team reviewed the existing material on swissgrid and its neighbouring TSOs already collected through the self-assessment process in the 2009 self-assessment questionnaires. It also inspected the answers in the 2010 audit questionnaire filled in by swissgrid.

The methodology includes audit criteria and expectations based on best practices. The criteria are objective, measurable (if possible), complete and relevant to the objectives. At defining the audit

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methodology the auditors identify the potential sources of audit evidence and estimate the amount and type of evidence needed.

The Audit Team used an Audit Worksheet (AW) (see chapter 4) for reviewing the audited OH standards. The purpose of the AW is to help to ensure consistency and fairness. By using the AW the Audit Team documented the material reviewed and the observations made.

As swissgrid declared full compliance and sufficient compliance for the most of the audited OH standards, the Audit Team communicated to the swissgrid Control Area Manager all evidences of possible deviation from this assessment.

In fact, one of the main reasons for an on-site visit is to review the existing documentation and to interview the staff. Thus, the auditors obtain "objective evidence" which support (or not) the self-assessed claims of the audited TSO. The audit team determine whether the evidence presented by the TSO is sufficient. They do this by assessing the relevance, validity and reliability of the information and documentation presented.

It is the responsibility of the audited TSO to provide evidence of compliance with all audited OH standards.

In most cases the evidence is in written form like documents, plans, programs or records. In some cases the evidence is a review of computerized records or additional supporting material provided at interviews with the staff of the audited TSO.

3.4 EVALUATION PRINCIPLES

The evaluation principles of the audit at swissgrid were the following:

Preparatory phase:

- Inspecting the exact wording of each audited OH standard and of additional questions formulated by the SG CME

- Identification of documents and other material the TSO has to present to the auditors in order to demonstrate its full compliance with each OH standard

- Identification of remaining discrepancies (inconsistencies) with neighbouring TSOs (by considering the answers of the latter in the 2009 self-assessment questionnaires concerning their relationship to swissgrid)

- Analysing the explanations/comments swissgrid made in the 2009 self-assessment and 2010 audit questionnaires by using a marking system (see below) in order to evaluate the quality of explanations/comments in general

- Determining to which needed documents and other material an explanation/comment is actually given (this equals to the identification of the missing explanations)

- Inventorying of the evidences i.e. of the reference documents swissgrid stated in the 2009 self-assessment and 2010 audit questionnaires by using a marking system (see below) in order to evaluate the quality of statements (not of evidences themselves, because the Audit Team will see them only during the audit)

- Analysing the quality of mitigation plans and improvement plans swissgrid stated in Addenda (if existing), and in 2009 self-assessment and 2010 audit questionnaire in case of non compliance and sufficient compliance

Audit phase:

- Demanding from swissgrid to give additional explanations, especially related to documents and other material which were not or not fully addressed by documents and other material mentioned in the 2009 self-assessment and 2010 audit questionnaire

  o the goal is to heighten the quality of explanations to the highest mark of the marking system (if possible i.e. if swissgrid is able to give adequate explanations)

- Demanding from swissgrid to present that evidence and, if necessary, additional evidence, in printed or electronic form

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- o the goal is again to heighten the quality of evidence to the highest mark of the marking system (if possible i.e. if swissgrid is able to present relevant documents or other material)
- o this can be achieved by determining whether the presented material is relevant to the audited OH standard at all,
- o by remarking the titles of all presented documents, their relevant chapters and even relevant passages extracted from them as well as
- o by writing down explanations related to the presented material

The results of the preparatory and audit phase are given in chapter 4.In the following a description of the marking system is given:

Quality of explanation (it is always applied to the entirety of stipulations of an OH standard **and** to additional questions formulated by the SG CME):

Missing = TSO **doesn't give any explanation**.

e = TSO gives only a **short explanation** which is mostly **only (slightly) related to the stipulations of the OH standard**, but not also to the additional questions in the 2009 self-assessment questionnaire and 2010 audit questionnaire.

d = TSO gives a **broader explanation**, but which is mostly only **related to the stipulations of the OH standard**, but not also to the additional questions in the 2009 self-assessment questionnaire and 2010 audit questionnaire.

c = TSO gives a broader explanation which is enlarged to **some explicit details asked in the additional questions**.

b = TSO gives a broader explanation which is **enlarged to the most of the explicit details asked in the additional questions**.

a = TSO gives a broader explanation which is **enlarged to all explicit details asked in the additional questions**.

Quality of list of references (it is always applied to the entirety of stipulations of an OH standard **and** to additional questions formulated by the SG CME):

Missing = TSO **doesn't give any list of references or gives an elusive answer**.

e = TSO lists documents which are **only indirectly** related to the question.

d = TSO lists some documents for which **one can reasonably assume** that they are related to the question, **but an explanation is needed**.

c = TSO lists some documents which are **obviously** related to the question, **but the exact document titles are missing**.

b = TSO lists some documents which are **obviously** related to the question and **the document titles seem to be complete**.

a = TSO lists some documents which are **obviously** related to the question, **the document titles seem to be complete and an additional explanation is given**.

Compliance level, mitigation/improvement plan - the compliance level the TSO declared and the quality of corresponding mitigation plan or improvement plan to remove non-compliance or sufficient compliance, respectively, are also considered within the scope of the Compliance Audit:

Compliance level the audited TSO declared:

FC = fully compliant (this implies that neither a mitigation nor an improvement plan is needed)

SC = sufficiently compliant (this implies an improvement to reach full compliance plan is obligatory)

NC = non-compliant (a mitigation plan to remove non-compliance and reach full compliance is obligatory)

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N/A = not applicable

Quality of mitigation/improvement plan:

Missing = TSO **doesn't specify a mitigation/improvement plan**.

b = TSO specifies a **mitigation/improvement plan**.

a = TSO specifies a **in depth mitigation/improvement plan**.

Deadline missing (additionally to marks "a" and "b", if applicable) = TSO specifies an **(in depth) mitigation/improvement plan, but without a deadline**.

3.5 CONFIDENTIALITY

By signing this report the Audit Team members assure that they will maintain the confidentiality of information obtained during the Compliance Audit and drafting of the Audit Report. Moreover, they express their readiness to sign a confidentiality agreement in the future should swissgrid assert such a claim.

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4 AUDIT RESULTS

4.1 P8-A-R1: TRAINING PROGRAM

PREPARATORY PHASE

OH standard	Training program. Each TSO provides its dispatchers with a structured training program that is designed to develop and improve their skills. This program includes initial and continuous parts. The training has to be permanently adapted to the operational evolutions. All the issues of the training have to be regularly checked and updated.	
N°1: P8-A-R1		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation / improvement plan:	SC **Actions taken to reach compliance:** At present we have mostly high skilled dispatchers. The establish of a detailed national dispatcher education program will be completed by end 2009. Addendum P8-C-S2. **Deadline:** 12\2009

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE	
N°1: P8-A-R1	**Compliance Level:** SC	
	Actions taken to reach compliance:	
	At present we have mostly high skilled dispatchers. The establish of a detailed national dispatcher education program will be completed by end 2009. Addendum P8-C-S2.	
	Deadline:	12\2009
	Explanation of the declared compliance level:	
	Swissgrid has taken over high skilled dispatchers from regional control centers. There are continuous theoretical and practical trainings, but there is no defined long term training program. It will include an initial and continuous part and the criteria will currently adjusted to the new operational challenges.	
	Additional Questions	
	Do you have a training program including both initial and continuous part?	no

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Do you adapt permanently the training program?	yes
Do you have criteria to check whether the training program is in accordance with the current operational challenges ?	yes

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE

N°1: P8-A-R1	**Do you have an Addendum to the rule: Yes ☐ No ☒**
	
	In case of Yes:
	
	    List of Evidences of Mitigation Plan. Comments:
	
	--- 	
	
	1.1 DO YOU HAVE A TRAINING PROGRAM INCLUDING BOTH INITIAL AND CONTINUOUS PART?
	
	Yes ☒ No ☐
	
	List of Evidences. Comments:
	
	The Swissgrid training program for dispatchers is divided into different parts for each of the roles in the control center. Some parts are the same for each role, while others specialise for each role. There are initial parts which teach tools and the current versions of the processes, while the continuous parts are made up of updates of tools and processes as well as repetitions of unchanged material, as well as recent events and future developments.
	
	1.2 HOW OFTEN DO YOU CARRY OUT THE CONTINUOUS TRAINING PROGRAM?
	
	Instances per year: There are 2 workshops of 2 days each every year, and monthly scheduled instructions.
	
	List of Evidences. Comments:
	
	Presentations of the monthly scheduled instructions
	Agendas of workshops
	
	1.3 DO YOU ADAPT THE TRAINING PROGRAM ON A REGULAR BASIS AND IF YES HOW OFTEN?
	
	Yes ☒ No ☐
	
	List of Evidences. Comments:
	
	The training program is adapted after events with possible impact to processes as well as changes in processes and tools. New version are created if necessary.
	
	Presentations of the monthly scheduled instructions
	Agendas of workshops
	
	1.4 DO YOU HAVE CRITERIA TO CHECK WHETHER THE TRAINING PROGRAM IS IN ACCORDANCE WITH THE CURRENT OPERATIONAL CHALLENGES?
	
	Yes ☒ No ☐
	
	List of Evidences. Comments:
	
	    Training programs are adapted whenever there is an event in operations, or when a change in procedures or processes will happen.
	
	Presentations of the monthly scheduled instructions
	Agendas of workshops
	
	1.5 DO YOU DIVERSIFY THE TRAINING CONTENTS ON THE BASE OF THE DISPATCHER ASSIGNMENT (OFF-DEMAND BALANCE, NETWORK SECURITY, ETC.)?
	
	Yes ☒ No ☐

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List of Evidences. Comments:
There are separate programs for each role. We encourage every role to participate in parts of other programs.
Training Program for auxiliary systems, scheduling or system planning

AUDIT PHASE

Question	Response
1. P8-A-R1: Training program Does the TSO have evidences to confirm self-assessment? Finding: "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching" signed by Andreas John on 12.10.2010. The document contains initial and continuous training programs. Also additional training on specific cases is covered on the document. Swissgrid also provided information on previous revisions of the document on 3.8.2010 and 11.10.2010. The first version of the document was created from older training documents prior to creation of Policy 8. Swissgrid also presented additional training programs for four dispatcher positions which are specific for each team: "Ausbildungsplan Funktion Systembetrieb Verfugbarkeitsplanung", "Ausbildungsplan Funktion Systembetrieb Fuhrung", "Ausbildungsplan Funktion Systembetrieb Koordination", "Ausbildungsplan Funktion SDL-Einsatz" All documents contained high level information on required training for the certain dispatcher specialisation. Swissgrid also presented detailed training process flowcharts and descriptions on previously mentioned documents. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Audit team proposed to add four above mentioned additional training programs as annexes to "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching" Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.2 P8-A-R2: INITIAL PROGRAM

PREPARATORY PHASE

OH standard	Initial program. The initial program consists of a theoretical part and on-the-job part complemented by simulator sessions.	
N°2: P8-A-R2		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	SC **Actions taken to reach compliance:** At present we have mostly high skilled dispatchers. The establishment of a detailed national dispatcher education program will be completed by end 2009. Addendum P8-C-S2. For the only one how wasn't higt skilled, we made an initial program consisting of both theoretical and on-the -job part. **Deadline:** 12\2009

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE	
N°2: P8-A-R2	**Compliance Level:** SC	
	Actions taken to reach compliance:	
	At present we have mostly high skilled dispatchers. The establishment of a detailed national dispatcher education program will be completed by end 2009. Addendum P8-C-S2. For the only one how wasn't higt skilled, we made an initial program consisting of both theoretical and on-the -job part.	
	Deadline:	12\2009
	Explanation of the declared compliance level:	
	Swissgrid has taken over high skilled dispatchers from regional control centers. swissgrid has only recently needed to train new dispatchers.	
	Additional Questions	
	Does your initial program consist of both theoretical and on-the-job part?	yes
	Does your initial program include simulator sessions as well?	no
	How long does the initial program on-the-job part (education) last before the new candidate is certified to take the respective dispatcher position? (How many months) (3 / 6 months - as defined in A-G1)	months: 6

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OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE
N°2: P8-A-R2	**Do you have an Addendum to the rule:** Yes ☐ No ☒ **In case of Yes:** **List of Evidences of Mitigation Plan. Comments:** -- **2.1 DOES YOUR INITIAL PROGRAM CONSIST OF BOTH THEORETICAL AND ON-THE-JOB PART?** **Yes ☒ No ☐** **List of Evidences. Comments:** New operators are at first instructed in a theoretical part, which consist of the existing procedures and processes. After that there is an on-the-job part which lasts between 6 to 12 months, depending on the role. Training program **2.2 DOES YOUR INITIAL PROGRAM INCLUDE SIMULATOR SESSIONS?** **Yes ☒ No ☐** **List of Evidences. Comments:** At the moment there is simulator training on our EMS system in simulation mode. Roco-Berichte (Training for reenergising the system after a black-out) **2.3 HOW LONG DOES THE INITIAL PROGRAM ON-THE-JOB PART (EDUCATION) LAST BEFORE THE NEW CANDIDATE IS CERTIFIED TO TAKE THE RESPECTIVE DISPATCHER POSITION? (HOW MANY MONTHS?) (3 / 6 MONTHS - AS DEFINED IN A-G1)** **Time:** **List of Evidences. Comments:** The on-the-job part lasts at least 3 to 12 months, depending on the role. Training program **2.4 DO YOU HAVE CRITERIA TO CHECK WHETHER THE TRAINING PROGRAM IS IN ACCORDANCE WITH THE CURRENT OPERATIONAL CHALLENGES?** **Yes ☒ No ☐** **List of Evidences. Comments:** Training programs are adapted whenever there is an event in operations, or when a change in procedures or processes will happen. Presentations of the monthly scheduled instructions Agendas of workshops **2.5 DO YOU DIVERSIFY THE TRAINING CONTENTS ON THE BASE OF THE DISPATCHER ASSIGNMENT (OFF-DEMAND BALANCE, NETWORK SECURITY, ETC.)?** **Yes ☒ No ☐** **List of Evidences. Comments:** There are separate programs for each role. We encourage every role to participate in parts of other programs. Training Program for auxiliary systems, scheduling or system planning

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AUDIT PHASE

Question	Response
2. P8-A-R2: Initial program Does the TSO have evidences to confirm self-assessment? Finding: Initial training program is described in detail on "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching" signed by Andreas John on 12.10.2010. It contained all components mentioned in P8-A-G2 and its sub guidelines. Swissgrid also presented additional training programs for four dispatcher positions which are specific for each team: "Ausbildungsplan Funktion Systembetrieb Verfugbarkeitsplanung", "Ausbildungsplan Funktion Systembetrieb Fuhrung", "Ausbildungsplan Funktion Systembetrieb Koordination", "Ausbildungsplan Funktion SDL-Einsatz". Currently swissgrid does not perform switching operations because of the work division between national and regional control centres. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.3 P8-A-R3: CONTINUOUS PROGRAM

PREPARATORY PHASE

OH standard	Continuous program. The continuous program is applied to all dispatchers as soon as they are certified and nominated to a dispatcher position. The main aim of the continuous program is to keep and extend the dispatchers' knowledge and competences. The continuous program is established to complement the initial program with: - advanced theoretical parts; - learning of new rules and procedures; - additional simulator sessions.	
N°3: P8-A-R3		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	A
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	SC **Actions taken to reach compliance:** swissgrid will intiate a simulator training of its own dispatchers probably in Dsseldorf or Lyon. **Deadline:** 12\2011

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE
N°3: P8-A-R3	**Compliance Level:** SC **Actions taken to reach compliance:** swissgrid will intiate a simulator training of its own dispatchers probably in Dsseldorf or Lyon. **Deadline:** 12\2011 **Explanation of the declared compliance level:** Dispatchers have been continuously trained on theoretical and practical issues, but there is no defined long term training program. swissgrid organized a dispatcher Training in April 2008 with a simulation of a System Restoration after collapse. However, this was performed with the existing SCADA system witch can be used as a simulator, without jeopardizing or influencing its operational functionality. As a simulator, it has all the functions of the normal operational mode including N-1 calculations. The frequeny of these trainings will be part of the future training program. This training involved the National Dispatching Centre and Regional Dispatching Centers. **Additional Questions** Do you provide advanced theoretical parts? — yes Do you provide teaching of new rules and procedures? — yes How often do you provide simulator sessions? — months: 0 Do you train dispatchers to work under new conditions affecting network operations (new network elements or power units)? — yes

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE
N°3: P8-A-R3	

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Do you have an Addendum to the rule: Yes ☐ No ☒

In case of Yes:

List of Evidences of Mitigation Plan. Comments:

3.1 DO YOU PROVIDE ADVANCED THEORETICAL PARTS? IN CASE YOU DO, PLEASE DESCRIBE SHORTLY ITS CONTENT.

Yes ☒ No ☐

List of Evidences. Comments:

We have had lectures on protection systems or certain phenomena which may occur in the power grid, like voltage collapse or the details of frequency jumps.

Diverse Presentations of training.
Grundlagen der Systemsicherheit (booklet for System security)

3.2 DO YOU PROVIDE TEACHING OF NEW RULES AND PROCEDURES?

Yes ☒ No ☐

List of Evidences. Comments:

New rules and procedures are taught as soon as they are finalised. Existing rules and procedures are trained as well.

Presentations of the monthly scheduled instructions (e.g. 10./11. July 2010)
Agendas of workshops

3.3 HOW OFTEN DO YOU PROVIDE SIMULATOR SESSIONS?

Annually to each dispatcher:

List of Evidences. Comments:

The last training session was in 2008. Before that, there have been regular training sessions once a year.

Roco-Unterlagen (Training for reenergising the system after a black-out)

3.4 DO YOU TRAIN THE RESTORATION AFTER A BLACKOUT?

Yes ☒ No ☐

List of Evidences. Comments:

The last simulator session in 2008 was the restoration after a blackout. The new training program will include this.

Roco-Unterlagen (Training for reenergising the system after a black-out)

3.5 DO YOU CARRY OUT EXCEPTIONAL TRAINING SESSIONS WITHIN THE SCOPE OF THE CONTINUOUS TRAINING IN CASE OF NEW/CHANGED PROCEDURES?

Yes ☒ No ☐

List of Evidences. Comments:

It is generally not necessary to schedule exceptional training sessions, since there are monthly sessions which are intended to train these changes.

Presentations of the monthly scheduled instructions

3.6 DO YOU TRAIN YOUR DISPATCHERS ONE BY ONE OR AS A COMPLETE SHIFTING TEAM?

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Single training ☐ **Shifting team training** ☐

List of Evidences. Comments:

> Depending on the training, there is individual training or training of a whole shift team. Generally, simulator sessions would be done with a whole shift team, while training on specific topics is done for each role.
>
> Workshop (role-playing) März/April 2009

3.7 DO YOU TRAIN DISPATCHERS TO WORK UNDER NEW CONDITIONS AFFECTING NETWORK OPERATIONS (NEW NETWORK ELEMENTS OR POWER UNITS)?

Yes ☒ **No** ☐

List of Evidences. Comments:

> Every introduction of a new network element is duly communicated and its impact on the network operation taught.
> Presentations of the monthly scheduled instructions (Ausbildung Systembetrieb vom Juli &August 2009)

AUDIT PHASE

Question	Response
3. P8-A-R3: Continuous program Does the TSO have evidences to confirm self-assessment? Finding: Continuous training program is described in detail on "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching" signed by Andreas John on 12.10.2010. It contained all components mentioned in P8-A-G3 and its sub guidelines. Swissgrid presented training schedules of different training teams, training agendas and actual training material which were evidence for commenced continuous training. Each dispatcher takes part in the continuous training once a month. Audit team was presented in detail swissgrid's national disturbance simulation "ROCO" which was conducted in cooperation with regional control centres. Swissgrid has commenced DTS training at RTE (with other TSOs as well in the future) in Lyon. Evidence on DTS training was presented in a form of agenda, presentation and future plan for DTS training. Currently swissgrid does not perform switching operations because of the work division between main and regional control centres. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Swissgrid performs simulator training regularly, but it is not mentioned on the continuous program which should be updated. Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.4   P8-A-R4: ENGLISH TRAINING

PREPARATORY PHASE

OH standard	English training. Dispatchers in contact with neighbouring control areas shall have sufficient knowledge of English and operational terms to carry out their tasks, ensuring the safe and smooth flow of information in an international environment using clear expressions in order to ease an immediate understanding.	
N°4: P8-A-R4		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	A
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	SC **Actions taken to reach compliance:** Testing of dispatchers' English skills for operational purposes. **Deadline:** 12\2010

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE	
N°4: P8-A-R4	**Compliance Level:** SC	
	Actions taken to reach compliance:	
	Testing of dispatchers' English skills for operational purposes.	
	Deadline:	12\2010
	Explanation of the declared compliance level:	
	English courses are provided in house. Dispatchers have sufficient knowledge of English and English operational terms to carry out their tasks in contact with neighboring control areas. However, their English skills have not yet been verified.	
	Additional Questions	
	Do you verify English speaking skills of your dispatchers?	no
	Does the learning of English technical terms relevant to system operation make a part of the dispatcher training?	yes
	Does each shift team have at least one dispatcher who speaks English?	yes

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE	
N°4: P8-A-R4	**Do you have an Addendum to the rule:** Yes ☐ No ☒	
	In case of Yes:	
	List of Evidences of Mitigation Plan. Comments:	

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4.1 DO YOU VERIFY ENGLISH SPEAKING SKILLS OF YOUR DISPATCHERS?

Yes ☒ **No** ☐

List of Evidences. Comments:

Before the introduction of P8 there was no formal test on this. Since its introduction, dispatchers either have to provide evidence of their English skills or have to take part in an English course, with at least the goal of reaching a BEC certificate until December 2011.
participation list
BEC_Preliminary_Information

4.2 DOES THE LEARNING OF ENGLISH TECHNICAL TERMS RELEVANT TO SYSTEM OPERATION MAKE A PART OF THE DISPATCHER TRAINING?

Yes ☒ **No** ☐

List of Evidences. Comments:

All dispatchers already have knowledge of necessary English terms. A list of technical terms in English and German is available in the control room.

4.3 DO YOU ALSO TRAIN DISPATCHERS TO ON PHONE CONVERSATION IN ENGLISH?

Yes ☒ **No** ☐

List of Evidences. Comments:

A part of the BEC course is conversation.

BEC_Preliminary_Information

4.4 DOES EACH SHIFT TEAM HAVE AT LEAST ONE DISPATCHER WHO SPEAKS ENGLISH?

Yes ☒ **No** ☐

List of Evidences. Comments:

On each shift there is one person who speaks English.

4.5 DO YOU MAINTAIN THE EXISTING SKILLS OF DISPATCHERS TO SPEAK LANGUAGES OF NEIGHBOURING COUNTRIES IN ADDITION TO ENGLISH? IN CASE YOU DO WHICH LANGUAGES ARE CONCERNED?

Yes ☐ **No** ☒

List of Evidences. Comments:

Currently, our focus is on English. There will be additional training in foreign languages in the future. There have been some dispatchers who have trained French for this purpose. We will provide courses in French or Italian.

AUDIT PHASE

Question	Response

Question	Response
4. P8-A-R4: English training Does the TSO have evidences to confirm self-assessment? Finding: Swissgrid employs an English teacher on permanent basis for system operation department and also provides training for BEC certification. Swissgrid also presented their English training schedule. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.5 P8-A-S1: TRAINING PROGRAMS

PREPARATORY PHASE

OH standard	S1: **Training programs. The initial and continuous program has to consider the relevant parts of the UCTE Operation Handbook and mutual agreements between TSOs. Each TSO defines its specific requirements for the initial program and the continuous program and their duration.** S1.1: **Initial program: The initial program has to include at least the knowledge of components of the power system, the operation of the power system, the tools for operation and respective on-the-job-practice.** S1.2: **Continuous program. The continuous program has to focus on theoretical and practical aspects of operation as well as on respective boundary conditions. The inter-TSO training as defined in chapter B is part of the continuous training.**	
N°5: P8-A-S1		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	FC

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE
N°5: P8-A-S1	**Compliance Level:** FC **Explanation of the declared compliance level:** Dispatchers are continuously trained with respect to the swissgrid Operational Handbook. This Handbook has been adapted in accordance to the relevant parts of the UCTE Operational Handbook. The relevant agreements are: trilateral procedure RTE/Terna/swissgrid and pentalateral procedure RTE/Terna/swissgrid/APG/ELES. **Additional Questions** Is the inter-TSO training part of your continuous training program? yes Does your training program cover agreements between TSOs? yes Does your training program consider the relevant parts of the UCTE OH? yes

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE
N°5: P8-A-S1	**Do you have an Addendum to the rule:** Yes ☐ No ☒ **In case of Yes:** **List of Evidences of Mitigation Plan. Comments:** --- **5.1 DOES YOUR TRAINING PROGRAM CONSIDER THE RELEVANT PARTS OF THE RG CE OH?** Yes ☒ No ☐

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List of Evidences. Comments:

> The Swissgrid Operations Handbook is based on the OH. Therefore, the training program does consider the relevant part of these policies.

5.2 DO YOUR DISPATCHERS HAVE TO ACCESS TO RG CE OH?

Yes ☒ No ☐

List of Evidences. Comments:

> The dispatchers have access to the website.
> A paper version is also provided in the control room.

5.3 IS THE INTER-TSO TRAINING PART OF YOUR CONTINUOUS TRAINING PROGRAM?

Yes ☒ No ☐

List of Evidences. Comments:

> We have exchanges with neighbouring TSOs. Common training workshop on scheduling with Swissgrid, EnBW TNG, E.ON Netz, RWE TSO, VE-T, VKW-Netz, TIWAG-Netz in 2009. Inter-TSO-Workshop in 2010 at EnBW with Amprion, 50Hz, Swissgrid, VKW, TIVAG, APG. 2009 guest at a training session with Terna and RTE. There have been exchanges of dispatchers with Amprion, ELES. Most of our newer dispatchers (started since 2008) still have to take part in an exchange.
>
> Agendas und participation list of Inter-TSO-Workshop

5.4 DOES YOUR TRAINING PROGRAM COVER AGREEMENTS BETWEEN TSOs?

Yes ☒ No ☐

List of Evidences. Comments:

> The regular training sessions also cover these agreements.
>
> Presentations of the monthly scheduled instructions

AUDIT PHASE

Question	Response
5. P8-A-S1: Training programs Does the TSO have evidences to confirm self-assessment? Finding: Initial and continuous program are described in detail on "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching". Audit team was also presented "Betriebfurungshandbuch Neztbetrieb CH" which incorporates UCTE handbook material on fitting parts. More specific details on training programs may be found in P8-A-R1, P8-A-R2 and P8-A-R3 assessments' on this report. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC**	☒ Yes ☐ No ☐ Needs Improvement

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Question	Response
Remark: Improvement/mitigation plan with deadline (if needed):	

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4.6 P8-A-S2: TSO REFERENCE LIST OF ENGLISH TECHNICAL TERMS

PREPARATORY PHASE

OH standard	TSO reference list of English technical terms. Each TSO makes available a reference list of technical terms in English with translation to the mother language of dispatchers for operation and for training based on the existing UCTE reference list (see Appendix 8).	
N°6: P8-A-S2		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	FC

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE	
N°6: P8-A-S2	**Compliance Level:** FC	
	Explanation of the declared compliance level:	
	English technical terms are provided for the dispatchers directly at their working places.	
	Additional Questions	
	Do you have and make available to dispatchers a list of English technical terms relevant to system operation, with translation into their native language?	yes

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE	
N°6: P8-A-S2	**Do you have an Addendum to the rule:** Yes ☐ No ☒	
	In case of Yes:	
	List of Evidences of Mitigation Plan. Comments:	
	--	
	6.1 DO YOU HAVE AND MAKE AVAILABLE TO DISPATCHERS A LIST OF ENGLISH TECHNICAL TERMS RELEVANT TO SYSTEM OPERATION, WITH TRANSLATION INTO THEIR NATIVE LANGUAGE?	
	Yes ☒ No ☐	
	List of Evidences. Comments:	
	This list is available in an electronic or printed format.	

AUDIT PHASE

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Question	Response
6. P8-A-S2: TSO reference list of English technical terms Does the TSO have evidences to confirm self-assessment? Finding: Swissgrid presented their RGCE OH Appendix 8 translation from English to German which is available for dispatchers. They have also supplementary dictionaries from BBC and ABB. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.7   P8-B-R1: EXPERIENCE EXCHANGE

PREPARATORY PHASE

OH standard	Experience exchange. TSOs have to exchange the operational experience with their neighbours in order to cope with normal and abnormal situations in a coordinated way.	
N°7: P8-B-R1		
	Mismatches with neighbouring TSOs:	None
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	FC

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE
N°7: P8-B-R1	**Compliance Level:** FC **Explanation of the declared compliance level:** swissgrid exchanges operational experience with its neighboring TSOs. This is done by participation in several meetings as: - "DACH"-meetings are held to exchange the operational experience with RWE, EnBW, APG and VKW. - With RTE and Terna Meetings are regulary held to exchange the operational experience. The result of these meetings are a part of dispatcher training. **Additional Questions** Do you organize the exchange of the operational experience with your neighbors?

VERBUND APG	**VKW-Netz AG**	**RWE Tr. Netz Strom**	**EnBW Transportnetze**	**RTE**
yes	yes	yes	yes	yes

Terna S.p.A.
yes

Do your dispatchers take part in that exchange?   yes

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE
N°7: P8-B-R1	**Do you have an Addendum to the rule:** Yes ☐ No ☒ **In case of Yes:** **List of Evidences of Mitigation Plan. Comments:** -- **7.1 DO YOU ORGANIZE THE EXCHANGE OF THE OPERATIONAL EXPERIENCE WITH YOUR NEIGHBOURS?** Yes ☒ No ☐ **List of Evidences. Comments:**

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There are regular meetings between EnBW and Swissgrid, there are also the DACH-meetings with the German, Austrian and Swiss TSOs (inter-TSO-Workshop, see above). Swissgrid is part of the TSC group. There are several trilateral meetings every year between Terna, RTE and Swissgrid, as well as the meetings of the technical task force for the Italian northern interconnection with APG, Swissgrid, Terna, RTE and ELES. There are also meetings on outage planning every year not only with the directly neighbouring TSOs, but also with those further away. Weekly teleconference (APG, Amprion, EnBW, Terna, RTE, and others), operated and prepared by dispatchers, with review and preview of the last and next week, respectively. Workshop at VKW is being prepared.

Agendas and participation list of Inter-TSO-WS 2010 and trilateral Meetings

7.2   DO YOUR DISPATCHERS TAKE PART IN THAT EXCHANGE?

Yes ⊠ No ☐

List of Evidences. Comments:

Dispatchers take part in these exchanges if the hierarchy level of the exchange allows for this. At the inter-Workshop in 2010 at EnBW and the visit at the Terna-RTE training session in 2009, dispatchers took part. Th weekly conference calls, in which all Swissgrid neighbours take part and which are attended, at Swissgrid, by There have been exchanges organized for the dispatchers, this will be continued.

AUDIT PHASE

Question	Response
7. P8-B-R1: Experience exchange Does the TSO have evidences to confirm self-assessment? Finding: Swissgrid presented several agendas, minutes, participation lists and presentations from bi- and multilateral meetings and workshops with neighbouring TSOs. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Improvement/mitigation plan with deadline (if needed):	⊠ Yes ☐ No ☐ Needs Improvement

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4.8 P8-B-S1: COMMON TRAINING

PREPARATORY PHASE

OH standard	Common training. Each TSO implements at least one of the four actions defined in guidelines P8-B-G3 to improve communication and coordinated measures between neighbouring TSO dispatchers. The actions taken have to be chosen depending on the mutual level of risks for secure system operation with the first (or further) neighbouring TSO. **G3. Inter-TSO common training.** - G3.1. Cross visits between neighbouring TSOs dispatchers - G3.2. Common training workshops - G3.3. On-shift cross period - G3.4. Common DTS training sessions	
N°8: **P8-B-S1**		
	Mismatches with neighbouring TSOs:	None
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	SC **Actions taken to reach compliance:** In conjunction with the future national dispatcher education program, we are going to implement cross visites and/or workshops (DTS training) that at least one dispatcher of each on -shift team has taken part with all adjacent TSOs. **Deadline:** 12\2010

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE
N°8: **P8-B-S1**	**Compliance Level:** SC **Actions taken to reach compliance:** In conjunction with the future national dispatcher education program, we are going to implement cross visites and/or workshops (DTS training) that at least one dispatcher of each on -shift team has taken part with all adjacent TSOs. **Deadline:** 12\2010 **Explanation of the declared compliance level:** Cross-visits are organized or in the process of being scheduled -With Terna the program included an on-shift periode with the inclusion of a night shift. -With RWE cross visits was done. -Some EnBW dispatchers also visited swissgrid - With RTE it is scheduled in the 1st semester 2009 that some dispatcher/operators of Swissgrid will attend to a DTS training session at RTE in order they learn how that runs with a view to discuss about an extension of the common DTS training RTE-TERNA to Swissgrid or another solution". Swissgrid and VKW-Netz are going to implement corss visits of dispatchers on a regular basis, envisaged to start second half of 2009. In conjunction with the future national dispatcher education program, we are going to implement cross visites that at least one dispatcher of each on -shift team has taken part with all adjacent TSOs. **Additional Questions**

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Which actions defined in guidelines P8-B-G3 do you implement? (To answer this question border by border).

VERBUND APG	**VKW-Netz AG** P8-B-G3.1	**RWE Tr. Netz Strom** P8-B-G3.1	**EnBW Transportnetze**	**RTE** P8-B-G3.4
Terna S.p.A. P8-B-G3.3				

OH standard	**EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE**
N°8: P8-B-S1	**Do you have an Addendum to the rule:**　　Yes ☐ No ☒

In case of Yes:

　　List of Evidences of Mitigation Plan. Comments:

8.1　WHICH ACTIONS DEFINED IN GUIDELINES P8-B-G3 DO YOU IMPLEMENT? (PLEASE ANSWER THIS QUESTION BORDER BY BORDER)

Neighbour	P8-B-G3.1.	P8-B-G3.2.	P8-B-G3.3.	P8-B-G3.4.
RTE	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☒ No ☐
Amprion	Yes ☐ No ☐	Yes ☒ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
APG	Yes ☐ No ☐	Yes ☒ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
VKW	Yes ☐ No ☐	Yes ☒ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
Terna	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☒ No ☐
EnBW	Yes ☐ No ☐	Yes ☒ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐

List of Evidences. Comments:

　　We envisage to implement regular on-shift cross periods with all neighbours (G3.3). An exchange has taken place with EnBW, APG, VKW and Amprion in spring 2010 (inter-TSO-WS, G3.2), and another one is being prepared with VKW (G3.2). An exchange has taken place with Terna and RTE in 2009 (G3.4).

8.2　DO YOU CARRY OUT COMMON TRAINING ONLY SPORADICALLY OR ON A REGULAR BASIS? HOW OFTEN IF REGULAR?

Yes ☒ No ☐

List of Evidences. Comments:

　　Exchanges at the moment take place on a sporadic basis. We envisage to have at least one exchange scheduled with each neighbour, ideally in the form of on-shift cross periods, so that all dispatchers on shift will have at least one exchange every year.

　Operational Training Koordinationsmatrix 2008 |

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Question	Response
8. P8-B-S1: Common training Does the TSO have evidences to confirm self-assessment? Finding: Swissgrid presented several agendas, minutes, participation lists and presentations from the bi- and multilateral meetings and workshops with neighbouring TSOs. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Audit team suggested greater involvement of dispatchers to common international training and more frequent sessions with neighbouring TSOs. Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.9 P8-C-S1: COORDINATION OF THE TRAINING

PREPARATORY PHASE

OH standard	Coordination of the training. TSO appoints a training coordination manager responsible for training organization: designing, following-up and updating the full training process.	
N°9: P8-C-S1		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	FC

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE	
N°9: P8-C-S1	**Compliance Level:** FC	
	Explanation of the declared compliance level:	
	A training coordinaton manager is appointed.	
	Additional Questions	
	Have you appointed a training coordination manager?	yes

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE	
N°9: P8-C-S1	**Do you have an Addendum to the rule:** Yes ☐ No ☒	

In case of Yes:

List of Evidences of Mitigation Plan. Comments:

9.1 HAVE YOU APPOINTED A TRAINING COORDINATION MANAGER?

Yes ☒ No ☐

List of Evidences. Comments:

Each team leader has the responsibility to organize the training for his team. They are responsible for co training of their respective teams. Furthermore, the department leader is responsible for the training of the t is also our training coordinator manager.

Funktionsbeschreibungen

9.2 DO YOU HAVE A PERMANENT BODY TO FOLLOW-UP THE TRAINING PROCESS?

Yes ☒ No ☐

List of Evidences. Comments:

Team leaders are responsible to make sure that their team is always up to date to the latest changes and

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	trained. As a group they constitute the body to follow-up the training process. Funktionsbeschreibungen	

AUDIT PHASE

Question	Response
9. P8-C-S1: Coordination of the training Does the TSO have evidences to confirm self-assessment? Finding: Swissgrid provided an annex "Dispatcher-Training Trainingskoordination " to "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching" signed by Andreas John on 12.10.2010. The annex states that the Head of System Operation has the function of Training Coordination Manager. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Audit team recommends to add list of annexes to Swissgrid's main training document "Dispatcher-Training Trainingskoordination " to "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching" to which many of the presented documents during the audit refers Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.10 P8-C-S2: ORGANIZATION

PREPARATORY PHASE

OH standard	Organization. The training coordination manager determines appropriate procedures for the training organization. These procedures shall cover: - a description of the dispatchers required qualifications (knowledge and skills); - a reference list of topics for training programs linked to the dispatchers required qualification; - the processes for the initial and continuous programs including scripts/documents; of the theoretical sessions, time-schedules, supervision, tools, support for trainees, evaluation/validation and continuous improvement of the programs; - the process of dispatchers accreditation; - trainers selection and training of trainers.	
N°10: P8-C-S2		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	NC **Actions taken to reach compliance:** Establishment of a detailed national dispatching education program. **Deadline:** 12\2009 **Temporary measures to preserve the security of interconnected system** Dispatcher with less experience are on shift only together with high skilled dispatchers. **Existing addendum for this Policy reference** yes

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE	
N°10: P8-C-S2	**Compliance Level:** NC	
	Actions taken to reach compliance:	
	Establishment of a detailed national dispatching education program.	
	Deadline:	12\2009
	Temporary measures to preserve the security of interconnected system	
	Dispatcher with less experience are on shift only together with high skilled dispatchers.	
	Existing addendum for this Policy reference	yes
	Explanation of the declared compliance level:	
	Swissgrid has taken over high skilled dispatchers from regional control centers. There are continuous theoretical and practical trainings, but there is no defined long term training program. All above mentioned procedures will be described in the future national dispatcher education program.	
	Additional Questions	

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	Do your procedures for training include a description of the dispatchers required qualifications	no
	Do your procedures for training include a reference list of topics for training programs linked to the dispatchers required qualification	no
	Do your procedures for training include the processes for the initial and continuous programs including scripts/documents; of the theoretical sessions, time-schedules, supervision, tools, support for trainees, evaluation/validation and continuous improvement of the programs	no
	Do your procedures for training include the process of dispatchers accreditation	no
	Do your procedures for training include trainers selection and training of trainers	no

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE
N°10: P8-C-S2	**Do you have an Addendum to the rule:** Yes ☐ No ☒ **In case of Yes:** **List of Evidences of Mitigation Plan. Comments:** Addendum expired in 2009. Dispatchers with less experience are on shift together with highly skilled dispatchers. Training program. -- **10.1 DO YOUR PROCEDURES FOR TRAINING INCLUDE A DESCRIPTION OF THE DISPATCHERS REQUIRED QUALIFICATIONS?** **Yes ☒ No ☐** **List of Evidences. Comments:** Every dispatcher has a detailed description of his responsibilities, and there is a description of what his training has to include so that he is qualified for his duties. **10.2 DO YOUR PROCEDURES FOR TRAINING INCLUDE A REFERENCE LIST OF TOPICS FOR TRAINING PROGRAMS LINKED TO THE DISPATCHERS REQUIRED QUALIFICATION?** **Yes ☒ No ☐** **List of Evidences. Comments:** There is a reference list of topics for external training programs at the VSE (Association of Swiss Electricity Companies), but there are no specific courses defined yet. There is also a list of topics as part of the training program. **10.3 DO YOUR PROCEDURES FOR TRAINING INCLUDE THE PROCESSES FOR THE INITIAL AND CONTINUOUS PROGRAMS INCLUDING SCRIPTS/DOCUMENTS; OF THE THEORETICAL SESSIONS, TIME-SCHEDULES, SUPERVISION, TOOLS, SUPPORT FOR TRAINEES, EVALUATION/VALIDATION AND CONTINUOUS IMPROVEMENT OF THE PROGRAMS?** **Yes ☒ No ☐** **List of Evidences. Comments:** The training program is constantly updated as soon as new systems or processes are to be trained.

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The candidates have a list of scripts and documents, and support.

10.4 DO YOUR PROCEDURES FOR TRAINING INCLUDE THE PROCESS OF DISPATCHERS' ACCREDITATION?

Yes ☒ **No** ☐

List of Evidences. Comments:

Every dispatcher has to satisfactorily complete his training schedule, and is duly evaluated by his team leader and trainers.

10.5 DO YOUR PROCEDURES FOR TRAINING INCLUDE TRAINERS' SELECTION AND TRAINING OF TRAINERS?

Yes ☒ **No** ☐

List of Evidences. Comments:

Trainers are generally either experts in their topics, experienced dispatchers or team managers, who's duty it is to make sure that their teams are properly trained. They themselves have regular training sessions or take part in the development of new procedures which have to be taught.

AUDIT PHASE

Question	Response
10. P8-C-S2: Organization Does the TSO have evidences to confirm self-assessment? Finding: Dispatcher qualifications, reference list of training topics, training procedures for initial and continuous program, accreditation process and training of trainers are mentioned on following documents on "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching", "Ausbildungsplan Funktion Systembetrieb Verfugbarkeitsplanung", "Ausbildungsplan Funktion Systembetrieb Fuhrung", "Ausbildungsplan Funktion Systembetrieb Koordination", "Ausbildungsplan Funktion SDL-Einsatz", "Dispatcher Training Aktualisierung der Ausbildungsprogramme" and "Dispatcher-Training Trainingskoordination " New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.11 P8-C-S3: EVALUATION

PREPARATORY PHASE

OH standard	Evaluation. The initial program has to be completed by an evaluation in which the knowledge and capabilities of a candidate to perform a dispatcher job are tested. This evaluation is performed by the trainers; a relevant document is forwarded to the manager of the candidate.	
N°11: P8-C-S3	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	NC **Actions taken to reach compliance:** Implementation of a test after passing the initial program for candidates to perform a dispatcher **Deadline:** 12\2010 **Temporary measures to preserve the security of interconnected system** Dispatcher with less experiance are on shift only togehter with high skilled dispatchers. **Existing addendum for this Policy Reference** yes

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE	
N°11: P8-C-S3	**Compliance Level:** NC	
	Actions taken to reach compliance:	
	Implementation of a test after passing the initial program for candidates to perform a dispatcher	
	Deadline:	12\2010
	Temporary measures to preserve the security of interconnected system	
	Dispatcher with less experiance are on shift only togehter with high skilled dispatchers.	
	Existing addendum for this Policy reference	yes
	Explanation of the declared compliance level:	
	Swissgrid has taken over high skilled dispatchers from regional control centers. swissgrid has only recently needed to train new dispatchers. The testprocedur for the dispatcher after the initial program will be described in the future national dispatcher education program. A document containing the results of the evaluation will be issued.	
	Additional Questions	
	Do you complete the initial program with a test of the knowledge of dispatches candidates?	no
	Does the trainer issue a document containing the results of the evaluation to the manager of the candidate?	no

OH	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE	

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standard	
	Do you have an Addendum to the rule: **Yes** ☒ **No** ☐

In case of Yes:

    List of Evidences of Mitigation Plan. Comments:

> At present, the Organization of the Swiss TSO is changing due to the new legislation "Federal Electricity Supply Act". Swissgrid in the past did not have the authority for the training of the regional control centres. The dispatchers of the regional centres are neither trained nor accredited by swissgrid. However, there is some continuous theoretical and practical training of those dispatchers, but there is at present no defined long term general training program for them.
>
>   Therefore, the following Addendum to Policy 8 has been submitted:
>
>   Standard 3 Evaluation;
>
> Implementation of a test after passing the initial program for candidates to perform a dispatcher, to be completed by the end 2010.

N°11: P8-C-S3

11.1 DO YOU COMPLETE THE INITIAL PROGRAM WITH A TEST OF THE KNOWLEDGE OF DISPATCHER CANDIDATES?

Yes ☐ **No** ☒

List of Evidences. Comments:

> Not yet

11.2 DOES THE TRAINER ISSUE A DOCUMENT CONTAINING THE RESULTS OF THE EVALUATION TO THE MANAGER OF THE CANDIDATE?

Yes ☐ **No** ☒

List of Evidences. Comments:

> Not yet.

11.3 DO YOU HAVE OTHER TRAINERS THAN THE TRAINING COORDINATION MANAGER?

Yes ☒ **No** ☐

List of Evidences. Comments:

> Training is done by the team leaders and the experts in the respective topics, as well as experienced dispatchers.

11.4 IS TRAINING OF THE DISPATCHERS A FULL TIME JOB FOR TRAINER?

Yes ☐ **No** ☒

List of Evidences. Comments:

> There is no full time responsible for the training of the dispatchers. Currently, training is done by experts in the respective topics and the team leaders.

11.5 DO THE TRAINER CARRY OUT THE EVALUATION OF THE DISPATCHERS?

Yes ☒ **No** ☐

List of Evidences. Comments:

> Since there is no external licensing process yet, the trainers and team leaders evaluate the dispatchers.

11.6 IS THERE ANY EXTERNAL BODY THAT DOES THE EVALUATION OF THE DISPATCHERS?

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	Yes ☐ No ☒
	List of Evidences. Comments:
	It is planned to have a licensing process in accordance with the Swiss licensing commission. The evaluation is currently done by the team leaders.

AUDIT PHASE

Question	Response
11. P8-C-S3: Evaluation Does the TSO have evidences to confirm self-assessment? Finding: Swissgrid presented dispatcher evaluation exam template "Prufungsfragen". The second part of the evaluation includes oral exam within their team and actual evaluation of dispatching. These procedures are described on "Grundlagen und generelle Regelungen zur Dispatcher-Ausbilding fur alle Funktionen im Swissgrid-Dispatching" Swissgrid has complete procedure for dispatcher evaluation, but it has not been applied because current dispatcher candidates are still in process of the initial training. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Audit Team explained to swissgrid that P8-C-S3 does only refer to national control centre dispatchers. Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.12 P8-C-S4: FIRST ACCREDITATION

PREPARATORY PHASE

OH standard	First accreditation. The TSO has to deliver a first accreditation to the dispatcher candidate that authorizes him to perform his job in the control room. The first accreditation is attributed according to defined criteria for a duration decided by the TSO as in below-mentioned guidelines.	
N°12: P8-C-S4		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	A
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	NC **Actions taken to reach compliance:** Accreditation of dispatchers. **Deadline:** 12\2011 **Temporary measures to preserve the security of interconnected system** Dispatcher with less experience are on shift only togehter with high skilled dispatchers **Existing addendum for this Policy reference** yes

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE	
N°12: P8-C-S4	**Compliance Level:** NC	
	Actions taken to reach compliance:	
	Accreditation of dispatchers.	
	Deadline:	12\2011
	Temporary measures to preserve the security of interconnected system	
	Dispatcher with less experience are on shift only togehter with high skilled dispatchers	
	Existing addendum for this Policy reference	Yes
	Explanation of the declared compliance level:	
	Swissgrid has taken over high skilled dispatchers from regional control centers. There are continuous theoretical and practical trainings, but there is no defined long term training program.	
	Additional Questions	
	Do you deliver a first accreditation to your dispatcher?	No
	Do you have criteria for accreditation of dispatcher candidate?	no

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE
N°12: P8-C-S4	

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Do you have an Addendum to the rule: Yes ☒ No ☐

In case of Yes:

List of Evidences of Mitigation Plan. Comments:

> Addendum P8-C-S4
>
> Reason for non-compliance: At present, the Organization of the Swiss TSO is changing due to the new legislation "Federal Electricity Supply Act". Swissgrid in the past did not have authority for the training of the regional control centres. The dispatchers of the regional centers aren't trained according to the requirement, checked and accredited by swissgrid.
>
> Actions to reach the compliance taken so far: Speed up the development of a Swiss national Dispatcher training organization and accreditation procedure.
>
> Mitigation plan in Addendum
>
> Action 1: Accreditation of dispatchers of Swiss TSO.
>
> Deadline for action 1: End 2010
>
> Action 2: Accreditation of dispatchers of the regional control centers. (if necessary).
>
> Deadline for action 2: End 2011
>
> Temporary Measures: Dispatcher with less experience only on shift with high skilled dispatcher.

12.1 DO YOU DELIVER A FIRST ACCREDITATION TO YOUR DISPATCHER?

Yes ☒ No ☐

List of Evidences. Comments:

> Every dispatcher has to show his familiarity with the processes of daily operation. His trainers have to assess that he has satisfactorily passed their instructions. He is then entered in the list of dispatchers on shift, which means he has the authority to perform the duties of his role without a supervisor or coach.
>
> Funktionsbeschreibungen

12.2 DO YOU HAVE CRITERIA FOR ACCREDITATION OF DISPATCHER CANDIDATE?

Yes ☒ No ☐

List of Evidences. Comments:

> Each dispatcher has to successfully complete his training. This is evaluated by experienced dispatchers and the team manager.

12.3 HOW LONG DOES THE ACCREDITATION LAST?

Time:

List of Evidences. Comments:

> There is no defined end of an accreditation. However, there is a yearly evaluation of every dispatcher's performance, with a second evaluation halfway between.

12.4 DO YOU HAVE DIFFERENT LEVELS OF ACCREDITATION?

Yes ☐ No ☒

List of Evidences. Comments:

AUDIT PHASE

Question	Response
12. P8-C-S4: First accreditation Does the TSO have evidences to confirm self-assessment? Finding: Swissgrid presented accreditations "Zulassung fur Dienst im Swissgrid Control" for all swissgrid dispatchers signed by Andreas John on 6th of October in 2010. A document for accreditation process: "Akkreditierung von Mitarbeitern fur Dienst im Dispatching". Summary of accredited Swissgrid dispatchers: "Liste der akkreditierten Mitarbeitern fur Dienst im Dispatching". New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Audit Team explained to swissgrid that P8-C-S4 does only refer to national control centre dispatchers. Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

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4.13 P8-C-S5: TRAINERS' SELECTION

PREPARATORY PHASE

OH standard	Trainers' selection. TSOs have to determine the profile of trainers with regards to their respective tasks and responsibilities in the training programs. Trainers are selected internally (experienced dispatchers) or from external bodies.	
N°13: P8-C-S5		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	NC **Actions taken to reach compliance:** Selection and training of trainers **Deadline:** 12\2009 **Temporary measures to preserve the security of interconnected system** Temporary Trainer is the former Head of Grid Operations supported by high skilled dispatchers **Existing addendum for this Policy Reference** yes

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE
N°13: P8-C-S5	**Compliance Level:** NC **Actions taken to reach compliance:** Selection and training of trainers **Deadline:** 12\2009 **Temporary measures to preserve the security of interconnected system** Temporary Trainer is the former Head of Grid Operations supported by high skilled dispatchers **Existing addendum for this Policy reference** yes **Explanation of the declared compliance level:** Swissgrid has taken over high skilled dispatchers from regional control centers. There are continuous theoretical and practical trainings, but there is no defined long term training program. **Additional Questions** Do you have determined profile of trainers? no Do you appoint external bodies for carrying outthe training programs? no

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE
N°13: P8-C-S5	**Do you have an Addendum to the rule:** Yes ☐ No ☒

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In case of Yes:

List of Evidences of Mitigation Plan. Comments:

Training is done by the team leaders and the experts in the respective topics, as well as experienced dispatchers.

13.1   HAVE YOU DETERMINED THE PROFILE TRAINERS SHOULD HAVE?

Yes ☒ No ☐

List of Evidences. Comments:

The profile of trainers is determined in the descriptions of their jobs. Funktionsbeschreibungen

13.2   DO YOU APPOINT EXTERNAL BODIES FOR CARRYING OUT THE TRAINING PROGRAMS?

Yes ☐ No ☒

List of Evidences. Comments:

There are no fixed institutions for external training programs defined yet. However, the candidates have the possibility to take part in external courses.

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13.3   DO YOU SELECT TRAINERS WITH DISPATCHING EXPERIENCE?

Time:

List of Evidences. Comments:

Our most experienced dispatchers are used as coaches for new trainees. All of those have been on shift for more than 5 years, most of them longer.

AUDIT PHASE

Question	Response
13. P8-C-S5: Trainers' selection Does the TSO have evidences to confirm self-assessment? Finding: Team leaders are automatically trainers in Swissgrid which is defined on "Regelung zur Akkreditierung". Profiles for internal and external trainers are defined on "Akkreditierung von internen und externen Trainern". Swissgrid also presented list of accredited trainers which includes experienced people who trains dispatchers: "Liste der akkreditierten Trainer". Additionally, swissgrid presented a recently announced call for a full-time job of a person responsible for dispatchers' training coordination. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark:	☒ Yes ☐ No ☐ Needs Improvement

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Question	Response
Improvement/mitigation plan with deadline (if needed):	

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4.14 P8-C-S6: TRAINING OF TRAINERS

PREPARATORY PHASE

OH standard	Training of trainers. Depending on education and previous experience, an individual training program is defined for each trainer; it can be provided by internal sessions or by outsourced training sessions.	
N°14: P8-C-S6		
	Mismatches with neighbouring TSOs:	N/A
	Quality of explanation:	a
	Quality of the list of references:	N/A
	Compliance level, mitigation/ improvement plan:	NC **Actions taken to reach compliance:** Selection and training of trainers till the end of 2009. **Deadline:** 12\2009 **Temporary measures to preserve the security of interconnected system** Temporary Trainer is the former Head of Grid Operations supported by high skilled dispatcher. **Existing addendum for this Policy Reference** no

OH standard	EXPLANATION GIVEN IN THE 2009 SELF-ASSESSMENT QUESTIONNAIRE
N°14: P8-C-S6	**Compliance Level:** NC **Actions taken to reach compliance:** Selection and training of trainers till the end of 2009. **Deadline:** 12\2009 **Temporary measures to preserve the security of interconnected system** Temporary Trainer is the former Head of Grid Operations supported by high skilled dispatcher. **Existing addendum for this Policy reference** no **Explanation of the declared compliance level:** Swissgrid has taken over high skilled dispatchers from regional control centers. There are continuous theoretical and practical trainings, but there is no defined long term training program. The individual traning program and the pedagogical program for trainers will be described in the future national dispatcher education program. **Additional Questions** Do you have individual training program for trainers? no Do you have pedagogical program for trainers? no

OH standard	EXPLANATION GIVEN IN THE 2010 AUDIT QUESTIONNAIRE
N°14:	

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P8-C-S6	**Do you have an Addendum to the rule:** Yes ☐ No ☒
	In case of Yes:
	List of Evidences of Mitigation Plan. Comments:
	Training program
	--
	14.1 DO YOU HAVE INDIVIDUAL TRAINING PROGRAM FOR TRAINERS?
	Yes ☐ No ☒
	List of Evidences. Comments:
	Training is done by the department leader and experts. Trainers are experts in their topics. Their duty it is to make sure that their teams are properly trained. They themselves have regular training sessions or take part in the development of new procedures which have to be taught.
	14.2 DO YOU HAVE PEDAGOGICAL PROGRAM FOR TRAINERS?
	Yes ☐ No ☒
	List of Evidences. Comments:
	See above. Pedagogical training is applied when the department leader deems it necessary for their personal development.

AUDIT PHASE

Question	Response
14. P8-C-S6: Training of trainers Does the TSO have evidences to confirm self-assessment? Finding: Trainers job description includes a personal development plan which contains their individual training plan. General description of training of the trainers is defined on "Ausbildung von Trainern fur Mitarbeiter im Dispatching" which also contains pedagogical parts. New mark for quality of explanation: **a** New mark for list of references: **a** Compliance level: **FC** Remark: Improvement/mitigation plan with deadline (if needed):	☒ Yes ☐ No ☐ Needs Improvement

5 CONCLUSIONS

The Compliance Audit conducted at swissgrid clearly demonstrated that the on-site checking of the TSO's compliance with the OH standards is one of the best methods for receiving clear and precise information of the audited TSO and to revise its list of evidences.

The Audit Team has a much better opportunity to outline its main intentions at asking questions then within the scope of the self-assessment process. If the audited TSO actively participate in the audit (as swissgrid did), the Audit Team always receives high quality explanations. This is also true for the list of evidences, because its quality is not measured by its completeness and the number of details it contains, but by the readiness of the audited TSO to show the evidence and to discuss its content.

The self assessment conclusions of swissgrid in 2009 were adequate. Swissgrid made a lot of effort regarding fulfilling requirements and standards from Policy 8 since the self-assessment process in 2009, and made great improvement resulting in reaching FC for all OH requirements and standards from Policy 8.

The Compliance Audit requires a very good preparation of both the Audit Team and the representatives of the audited TSO. The audit itself absorbs a lot of time, patience and full concentration of the participants. Two days audits seem acceptable from the practical point of view, but duration of the audit depends mostly of how OH standards may have to evaluated and discussed. In case of OH Policy 8 an extended on-site stay wouldn't produce better results; all OH standards were checked in depth in very efficient cooperation with staff of audited TSO.

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

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6 SIGNATURE PAGE

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Date and Place: 9th of December in Brussels, Belgium