COMPLIANCE AUDIT REPORT
Terna - Rete Elettrica Nazionale SpA

17 – 18 JUNE 2015

COMPLIANCE AUDIT CONDUCTED IN THE NATIONAL CONTROL CENTRE AND CAMPUS IN ROME BY ENTSO-E RGCE SG CME
DISCLAIMER

The present Compliance Audit Report is based on the information as provided by the audited company. This report is in no way a guarantee that security and reliability on the system of the audited company and/or on the whole synchronously interconnected system of the Regional Group Continental Europe (RGCE) is ensured. This report cannot be considered as a certification of whatever form. Finally, this report does not as such have any impact on the compliance, by the audited company and/or by any other member of ENTSO-E, with the RGCE Operation Handbook and/or any other relevant applicable standard.
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1 EXECUTIVE SUMMARY

1.1 COMPLIANCE MONITORING IN ENTSO-E RGCE

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

- The annual process of self-assessment, which is applied to all TSOs, as well as
- The annual 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 randomly.

Sub-Group Compliance Monitoring & Enforcement (SG CME) is in charge of performing above-mentioned two processes. The 2015 is the 6th year of conducting mandatory compliance audits. SG CME performed 4 voluntary compliance audits in 2008-2009 and 36 mandatory audits in 2010-2015.

1.2 AUDITED TSO

The RGCE member TSO Terna Rete Elettrica Nazionale SpA. (hereafter TERNA) was chosen for a Compliance Audit in 2015. CME conducted the audit on 17 and 18 June 2015 in two TERNA premises located in Rom, Italy: the National Control Centre (NCC) and the Campus (TERNA's training centre).

Boundary of the audit has been the training provided to the 24 operators in the NCC as far as TERNA asserts that operators working in the Regional Control Centres (RCC) and Remote Switching Centres (RSC) are not dispatchers in terms of Criteria C1, Chapter A, Policy 8\(^1\), but those in the RCC Sicily who, solely in the exceptional and temporal cases of disconnection from the mainland, acts as offer-demand balance proxy from the NCC over the electrically insular remaining area.

1.3 AUDITED OH STANDARDS

The Compliance Audit encompassed 14 requirements/standards of Operation Handbook Policy 8 Operational Training. In 2014, TERNA made compliance declarations in the self-assessment process for all standards of OH Policy 8 and revised them during the pre-audit phase updating when appropriate. Assessments have been checked against their evidence during the audit.

\(^1\) Policy 8: Operational Training. Chapter A.- Training Programs. Criteria C1.- Dispatcher. -

“A dispatcher is a person with all necessary technical and non-technical skills and qualification and technical expertise to safely operate the whole system in a regional or a national control centre and to take decisions about the switching in the transmission system. A person in charge of only switching execution is not a dispatcher.”
1.4 RESULTS

The Audit Team audited 14 requirements/standards of Policy 8 and concluded that TERNA is fully compliant with each criteria.

Additionally the Audit Team suggested TERNA to formalize the procedures described in standard P8-C-S2, Organization in the documentation system. During the onsite audit, the Audit Team had the opportunity to visit the National Control Centre, its Control Centre Room and the Campus training centre. It helped the Audit Team to better understand the organisation and processes that run TERNA activities.

TERNA was able to provide all requested evidences during the audit in both locations where the audit took place. All the documents considered as evidence were available either on paper or in an intranet platform and were a good basis for proving the compliance level of TERNA with the audited requirements/standards. TERNA has promptly met as many requests for additional material as the Audit Team asked for.

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

Table 1 describes TERNA compliance declaration in self-assessment questionnaires 2009 and 2014 and compliance audit questionnaire 2015 with compliance level suggestion by the Audit Team after reviewing the evidence for the audited standards.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>P8-A-R1 TRAINING PROGRAM</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-A-R2 INITIAL PROGRAM</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-A-R3 CONTINUOUS PROGRAM</td>
<td>FCo</td>
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<td>FCo</td>
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<tr>
<td>P8-A-R4 ENGLISH TRAINING</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
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<tr>
<td>P8-A-S1 TRAINING PROGRAMS</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-A-S2 TSO REFERENCE LIST OF ENGLISH TECHNICAL TERMS</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-B-R1 EXPERIENCE EXCHANGE</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-B-S1 COMMON TRAINING</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-C-S1 COORDINATION OF THE TRAINING</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-C-S2 ORGANIZATION</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-C-S3 EVALUATION</td>
<td>FCo</td>
<td>FCo</td>
<td>N/A</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-C-S4 FIRST ACCREDITATION</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-C-S5 TRAINERS’ SELECTION</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
<tr>
<td>P8-C-S6 TRAINING OF TRAINERS</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
<td>FCo</td>
</tr>
</tbody>
</table>
2 AUDIT REPRESENTATIVES

The Audit Team has the task to prepare and perform the Compliance Audit as well as to develop the corresponding audit report. The Audit Team composition is given in Table 2. The TSO subject to a compliance audit may object any member of the Audit Team on the basis 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 four weeks prior to the team’s arrival on-site. No objection was expressed by TERNA. TERNA personnel involved in the audit are given in Table 3.

<table>
<thead>
<tr>
<th>Audit Team role</th>
<th>Company or association</th>
<th>Name</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit team leader</td>
<td>REE</td>
<td>Jaime Sanchiz</td>
<td><a href="mailto:jsanchez@ree.es">jsanchez@ree.es</a></td>
</tr>
<tr>
<td>Audit team member</td>
<td>HOPS</td>
<td>Luka Spoljar</td>
<td><a href="mailto:luka.spoljar@hops.hr">luka.spoljar@hops.hr</a></td>
</tr>
<tr>
<td>Audit team member</td>
<td>MAVIR</td>
<td>László Galambos</td>
<td><a href="mailto:galambos@mavir.hu">galambos@mavir.hu</a></td>
</tr>
<tr>
<td>Compliance Monitoring Advisor</td>
<td>ENTSOE-E Secretariat</td>
<td>Carlos Castel</td>
<td><a href="mailto:carlos.castelconesa@entsoe.eu">carlos.castelconesa@entsoe.eu</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Function in the company</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of Real Time and Engineering of Electric System Control Area Manager</td>
<td>Enrico Maria Carlini</td>
</tr>
<tr>
<td>Responsible of Quality of Supply</td>
<td>Claudio Coluzzi</td>
</tr>
<tr>
<td>Responsible of Recruiting Selection and Education (RUO) Training Coordinator Manager</td>
<td>Elisabetta Neri</td>
</tr>
<tr>
<td>RUO Training Coordinator for Dispatchers’ projects</td>
<td>Manuela Galassetti</td>
</tr>
<tr>
<td>RUO Coordinator of training planning</td>
<td>Maria Vittoria Pulvirenti</td>
</tr>
<tr>
<td>RUO Training Secretariat</td>
<td>Vania di Francesco</td>
</tr>
<tr>
<td>National control centre Head of the National Control Room</td>
<td>Antonio Carrano</td>
</tr>
<tr>
<td>Quality of Supply</td>
<td>Roberto Giordano</td>
</tr>
<tr>
<td>Responsible of Internal Operational Processes Audit</td>
<td>Antonio Taranto</td>
</tr>
<tr>
<td>Quality of Supply</td>
<td>Silvia Moroni</td>
</tr>
<tr>
<td>National control centre</td>
<td>Martina Pede</td>
</tr>
<tr>
<td>Dispatcher National control centre</td>
<td>Roberta Fransozi</td>
</tr>
<tr>
<td>Dispatcher National control centre</td>
<td>Renzo Flore</td>
</tr>
</tbody>
</table>
3 Audit Plan

3.1 General Procedures

The audit covered a chosen set of Operation Handbook (OH) standards, which had already been monitored within the Compliance Monitoring Program 2009 and 2014 self-assessment process.

The completed Audit Worksheet was sent by email to the ENTSO-E Secretariat and carbon copies to all Audit Team members four weeks before the first audit day. The complete schedule of the audit process for TERNA is given in Table 4.

In preparation for the audit, TERNA organised its supporting compliance documentation that is the evidence of the compliance with audited standards. The ENTSO-E RGCE SG CME acknowledges a good preparation for the audit.

All documentation (evidence) required for the onsite audit of each standard was available in hard or electronic format during the audit. The Control Area Manager and/or other responsible expert personnel were available during the audit to provide guidance to the Audit Team on where to look in the documentation for compliance to the OH standard and, if requested, to give further explanation on criteria and procedures implemented.

All documentation will be considered as confidential audit records and treated as such. The Audit Team prepares this report regarding the audit findings that will be published upon decision of the RGCE Plenary.
### Table 4. Schedule for the Compliance Audit

<table>
<thead>
<tr>
<th>Event</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submittal of the audit material on behalf of the Audit Team</td>
<td>8 weeks prior to audit</td>
</tr>
<tr>
<td></td>
<td>22.4.2015</td>
</tr>
<tr>
<td>Objection or concern about audit team personnel</td>
<td>5 weeks prior to audit</td>
</tr>
<tr>
<td></td>
<td>13.5.2015</td>
</tr>
<tr>
<td>Submittal of the completed Audit Worksheet to the Audit Team by TERNA</td>
<td>4 weeks prior to audit</td>
</tr>
<tr>
<td></td>
<td>20.5.2015</td>
</tr>
<tr>
<td>Initial feedback based on the submitted Audit Worksheet sent to TERNA</td>
<td>2 working days prior to audit</td>
</tr>
<tr>
<td></td>
<td>12.6.2015</td>
</tr>
<tr>
<td>Opening meeting of the Audit Team and CAM of TERNA</td>
<td>First audit day, 17.6.2015 09:00 – 09:30</td>
</tr>
<tr>
<td></td>
<td>(1) Introduction of the Audit Team members,</td>
</tr>
<tr>
<td></td>
<td>(2) Description of how the on-site audit will be</td>
</tr>
<tr>
<td></td>
<td>conducted,</td>
</tr>
<tr>
<td></td>
<td>(3) Discussion on how confidential information</td>
</tr>
<tr>
<td></td>
<td>will be handled,</td>
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<tr>
<td></td>
<td>(4) Discussion on data access required by the</td>
</tr>
<tr>
<td></td>
<td>Audit Team,</td>
</tr>
<tr>
<td></td>
<td>(5) Announcement that TERNA will be asked to</td>
</tr>
<tr>
<td></td>
<td>provide feedback on the audit process and results,</td>
</tr>
<tr>
<td></td>
<td>(6) Presentation of the TSO and TSO’s organization.</td>
</tr>
<tr>
<td>Start of the OH standards’ review*</td>
<td>First audit day, 17.6.2015 09:30 – 17:30</td>
</tr>
<tr>
<td>Continuation of the OH standards’ review</td>
<td>Second audit day, 18.6.2015 09:00 – 12:30</td>
</tr>
<tr>
<td>Internal Audit Team meeting</td>
<td>Second audit day, 18.6.2015 12:30 – 14:00</td>
</tr>
<tr>
<td>Closing meeting with CAM of TERNA</td>
<td>Second audit day, 18.6.2015 14:00 – 15:30</td>
</tr>
<tr>
<td></td>
<td>(1) Presentation of preliminary audit findings</td>
</tr>
<tr>
<td></td>
<td>and recommendations to be included on the draft</td>
</tr>
<tr>
<td></td>
<td>audit report, with a strong emphasis on the</td>
</tr>
<tr>
<td></td>
<td>evidence for each compliance level or non-</td>
</tr>
<tr>
<td></td>
<td>compliance identified by the Audit Team,</td>
</tr>
<tr>
<td></td>
<td>(2) Discussion and feedback by TERNA with a</td>
</tr>
<tr>
<td></td>
<td>possibility to object the findings,</td>
</tr>
<tr>
<td></td>
<td>(3) In case of any non-compliance or lack of</td>
</tr>
<tr>
<td></td>
<td>evidence of compliance, first draft proposal of</td>
</tr>
<tr>
<td></td>
<td>the TSO on an adequate mitigation plan, including</td>
</tr>
<tr>
<td></td>
<td>deadline. Should such an immediate proposal not</td>
</tr>
<tr>
<td></td>
<td>be possible, the TSO must submit it afterwards in</td>
</tr>
<tr>
<td></td>
<td>written copy within seven days.</td>
</tr>
<tr>
<td>Delivery of the draft audit report to TERNA for review</td>
<td>2 weeks after the audit 2.7.2015</td>
</tr>
<tr>
<td>Remarks by TERNA</td>
<td>4 weeks after the audit 16.7.2015</td>
</tr>
<tr>
<td>Delivery of the final audit report to TERNA</td>
<td>6 weeks after the audit 30.7.2015</td>
</tr>
<tr>
<td>Acknowledgement of the final Audit Report by ENTSO-E RGCE Plenary and</td>
<td>RGCE Plenary in 2016</td>
</tr>
<tr>
<td>decision on its possible internal or external publishing.</td>
<td></td>
</tr>
</tbody>
</table>

(*) A visit in the control room and training centre has been performed by the Audit Team during the standards’ review.
3.2 Scope

The objective of Compliance Audits in 2015 is to check all the requirements/standards from OH Policy 8. These standards were also monitored in the 2009 and 2014 regular compliance processes via the self-assessment questionnaire.

The scope of a compliance audit encompasses issues which are directly related to the compliance of the audited TSO with the investigated RGCE OH standards and 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:

- 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
- Self-assessment questionnaires of 2009 and 2014 stored at the ENTSO-E Secretariat related to audited TSO concerning the audited OH standards
- Audit Worksheet (AW) 2015
- Information and explanations which the Audit Team receives on site

General background

The compliance audit also encompasses issues of general nature listed below:

- General policies of the audited TSO rules and procedures for the control centre(s) related to the audited standards
- Procedures to control the application of the audited OH standards and their follow-up
- Procedures to improve the compliance with the audited OH standards
- TSO’s internal report related to the implementation of the audited OH standards
- TSO’s internal audits and/or documentation concerning implementation of OH standards
- TSO’s internal bodies (forums, panels) for the implementation of the OH standards
- Follow-up to the Compliance Audit in 2012

3.3 Methodology

The CME group prepared an audit schedule defining the chronological order of the compliance audit, which the audited TSO accepted without comment. The Audit Team reviewed the existing material on the audited TSO and its neighbouring TSOs already collected through the self-assessment process in the 2009 and 2014 self-assessment questionnaires. It also processed (assessed) the answers in the 2015 Audit Worksheet filled in by the audited TSO.

The applied methodology includes audit criteria and expectations based on best practices. The adopted criteria are objective, measurable (if possible), complete and relevant to the objectives. At defining the audit methodology, the auditors identified the potential sources of audit evidence and estimated the amount and type of evidence needed.

The Audit Team used an Audit Worksheet (see chapter 4) for reviewing the audited OH standards. The purpose of the AW is to ensure consistency and fairness. By using the AW the Audit Team documented the material reviewed and the observations made. 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 the self-assessed declarations of the audited TSO. The Audit Team determined whether the evidence presented by the TSO is sufficient. They did this by assessing the relevance, validity and reliability of the information and documentation presented.
It was the responsibility of the audited TSO to provide evidence of compliance with all audited OH standards. In most cases the evidence was in written form like documents, plans, programs or records. In some cases the evidence consisted of a review of computerized records or additional supporting material provided at interviews by the staff of the audited TSO.

3.4 EVALUATION PRINCIPLES

Preparatory phase – activities in charge of Audited TSO

- Inspection of the exact wording of each audited OH standard and of additional questions formulated by the CME
- Fill in the audit questionnaire and submit to the Audit Team before the audit
- Identification of documents and other material to present to the auditors in order to demonstrate its compliance level with each OH standard

Preparatory phase – activities in charge of CME Audit team

- Identification of compliance level declaration inconsistency with neighbouring TSOs (Self-assessment questionnaire 2014 cross-border check regarding compliance level declarations)
- Analysis of the explanations and comments which the audited TSO made in the self-assessment 2014 and audit questionnaires 2015 in written form in order to evaluate the quality of explanations and comments
- Identification of the missing explanations in the self-assessment 2014 and audit questionnaire 2015
- Analysis of the improvements achieved during the implementation of mitigation and improvement plans declared in the MLA Addendum/Addenda, in the self-assessment questionnaire 2014, in the Audit Worksheet 2015 and in Compliance Audit in 2012 in case of non-compliance and sufficient compliance or recommendations

Audit phase

- Request to the audited TSO to give additional explanations, especially related to standards which were not or not fully addressed by documents and other material mentioned in the self-assessment questionnaire 2014 and audit questionnaire 2015.
  - The goal was to improve the quality of the explanations.
- Request to the audited TSO to present that evidence and, if necessary, additional evidence, in printed or electronic form
  - The goal was to improve the quality of the presented evidence.
  - The goal was to present material relevant to the audited OH standard at all.
- Request to the audited TSO to remark the titles of all presented documents, their relevant chapters and even relevant passages.
- Request to the audited TSO to provide further written explanations related to the presented material.

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 supplementary confidentiality agreement, if the audited TSO assert such a claim.
4 AUDIT WORKSHEET FOR 2015 ONSITE AUDIT

4.1 OH REQUIREMENT P8-A-R1. TRAINING PROGRAM

<table>
<thead>
<tr>
<th>P8-A-R1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Training program.</strong> 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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Compliance Level: FCo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concise explanation and list of evidence for declared compliance level:</td>
</tr>
<tr>
<td>Dispatchers are provided by a structured training program that includes initial and continuous part. The structure and the contents of the training program are regularly checked and updated on the basis of the operational experience and major evolutions in technical, legal or organizational framework.</td>
</tr>
</tbody>
</table>

**Additional Questions**

- Do you have a training program including both initial and continuous part?  
  - yes

- Do you adapt the training program according to the operational evolutions?  
  - yes

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

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

Do you have a mitigation plan to the requirement?  Yes ☑  No ☒

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

Since 2008 Terna applies a specific Training Program for Operators in charge of Control and Remote Operation in duty at the National Control Center, Regional Control Centres and Switching Centres.

Education goals include:
- provision of preliminary training to new Operators – training “On-the-job” for shift Leader and Assistants
- fostering the regular training on technical-professional issues – “Continuous” training
- development/enhancement of language skills
- dissemination of the best attitude suitable for the organization and the position (soft skills, e.g. team working, self-control, stress management, etc.)

Educational program includes common sessions, addressed to wide target of employees, and specific sessions, tailored for the staff committed as Operators.

The overall Training Program is designed by an ad-hoc “Faculty Campus” working group; members are (Ref. guideline LG034 “Training Terna Group”):
- process Owners, e.g. Managers and expert in the different matters
- Specialists in education methodology

In case of Terna is owner of the know-how (e.g. for the training “On-the job” and most of continuous training initiatives), fine tuning and implementation of the Training Program and procedures is in charge of the “Faculty Campus”. Contents outside the core business of Terna are outsourced to select and qualified institutes and supervised by Terna Training team.

Training programs are regularly checked and updated; contents and structure are adapted to be in line with operational evolutions and needs; priorities and topics for the Continuous training program are revised on yearly basis.

Additional Questions

Do you have a training program including both initial and continuous part?
### Do you adapt the training program according to the operational evolutions?

Yes ☑️ | No ☐

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

Yes ☑️ | No ☐

**List of evidence, comments:**

- Template “Training Program for Control and Remote Operation Operators” published in the intranet, initial page “Overview”.
- Guideline LG034 “Training Terna Group, Campus experience in the network” dealing with education model endorsed by Terna corporate business.
- Operational Instruction IO007RU “Planning, Management and Accounting of Training”.

### 4.2 OH REQUIREMENT P8-A-R2. INITIAL PROGRAM

**SELF-ASSESSMENT QUESTIONNAIRE 2014**

**P8-A-R2.**

**Initial program.** The initial program consists of a theoretical part and on-the-job part complemented by simulator sessions.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

The initial program consists of a theoretical part and on-the-job part, complemented by simulation sessions. Initial training takes 6 months maximum, depending on the initial knowledge and skill of the candidate. Each dispatcher candidate has a mentor. During the initial training program, dispatcher candidates visit critical power plants and substations, the Regional and the Switching Centers. They also spend substantial amount of time in the National control room under the supervision of a shift manager and senior dispatchers.
Additional Questions

Does your initial program consist of theoretical part? yes

Does your initial program consist of on-the-job part? yes

Does your initial program include simulator sessions? yes

AUDIT QUESTIONNAIRE 2015

P8-A-R2.

Initial program. The initial program consists of a theoretical part and on-the-job part complemented by simulator sessions.

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

Education for new Operators consists of a preliminary training “On-the-job”. For Dispatchers appointed in the National control Center, the two options are:

- training on-the-job for shift Leader – taking 90 days, 720 h
- training on-the-job for Assistants (e.g. others consoles Security Calculations, Offer-Demand Balance and Interconnection) – taking 60 days, 480 h

Training “on-the-job” encompasses theoretical and practical sessions and is held at the Dispatcher premises; each Operator has a Mentor, e.g. a senior Dispatcher designed by the Manager of the National Control Room.

Above mentioned duration is meant as a reference and may be adjusted by the Tutor according to the initial knowledge and skill of the Dispatcher.

Main contents of theoretical part and tutorial exercise is standardized for every specific position (National Control Center, Regional Control Center and Switching Center), however they may be adjusted time after time by the Tutor according to the performance of the Dispatcher.

Training on-the-job is complemented by simulation sessions.

Do you have a mitigation plan to the requirement? Yes ☐ No ☒

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

Additional Questions
<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your initial program consist of theoretical part?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Does your initial program consist of on-the-job part?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Does your initial program include simulator sessions?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**List of evidence, comments:**

- List of participants to the preliminary training “on-the-job” between 2008 and 2014, which provides an overview on the latest recruitments (in detail: n. 1 neo-Dispatcher for console Offer-Demand Balance and n. 4 neo-Dispatchers for the console Interconnection).
- Signature registers of Dispatchers attending the preliminary “training-on-the-job”.

**AUDIT PHASE**

**COMPLIANCE AUDIT 2015**

**Compliance Level suggestion by the audit team:** FCo

**Explanation for the suggested compliance level:**

The audit team checked in the *Percorso formativo turnisti dispacciamento e conduzione April 2015* that the initial program includes theoretical part, on-the-job part and simulator sessions.
### 4.3 OH REQUIREMENT P8-A-R3. CONTINUOUS PROGRAM

#### SELF-ASSESSMENT QUESTIONNAIRE 2014

<table>
<thead>
<tr>
<th>P8-A-R3.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Continuous program.</strong> 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.</td>
</tr>
<tr>
<td><strong>Compliance Level:</strong> FCo</td>
</tr>
<tr>
<td><strong>Concise explanation and list of evidence for declared compliance level:</strong></td>
</tr>
<tr>
<td>Already qualified system and grid engineers take part to the continuous education program. Therefore they participate in simulation sessions, internal workshops for new rules and procedures, restoration tests, external workshops, inter-TSO cross visits, English courses, etc.</td>
</tr>
</tbody>
</table>

**Additional Questions**

| Are your dispatchers taught on advanced theoretical parts in the continuous training program? | yes |
| Are your dispatchers taught on new rules and procedures in the continuous training program? | yes |
| Do your dispatchers perform additional simulator sessions in the continuous training program? | yes |

#### AUDIT QUESTIONNAIRE 2015

<table>
<thead>
<tr>
<th>P8-A-R3.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Continuous program.</strong> 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.</td>
</tr>
<tr>
<td><strong>Compliance Level:</strong> FCo</td>
</tr>
</tbody>
</table>
Concise explanation and list of evidence for declared compliance level:

Annex “Continuous Training” outlines the education program for the already accredited Dispatcher. Main goals are: development/enhancement technical-professional expertise, keeping Operators up-to-date on new procedures, technical issues and organization rules. Term of reference for the “Continuous Training” is sort out every year. Design and customization is supervised by the WG “Faculty Campus” which is responsible for the overall training program. Duration and contents are adapted to the most relevant evolutions in the organization, procedures and technology.

Beside this, even if not included and tracked in the Continuous training program, since 2011 Dispatchers take part to the restoration tests which are organized for training purposes every year. In detail, before the 380 kV re-energization bottom-up corridor is tested in real time, Dispatchers perform simulation sessions under realistic scenarios, scheduling and implementing ad hoc grid conditions and focusing on the manoeuvres to be implemented in operation. Off-line calculations are mandatory for Operators in the National Control Center and Switching Center which will be in shift when the real test takes place. Moreover, additional Operators, not in duty, have to attend the real time tests to ensure more staff is trained.

Next revision, WG “Faculty Campus” will evaluate the possibility to deal this initiative in the Continuous training program.

Do you have a mitigation plan to the requirement? Yes ☐ No ☑

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

Additional Questions

Are your dispatchers taught on advanced theoretical parts in the continuous training program? Yes ☑ No ☐

Are your dispatchers taught on new rules and procedures in the continuous training program? Yes ☑ No ☐

Do your dispatchers perform additional simulator sessions in the continuous training program? Yes ☑ No ☐

List of evidence, comments:

Template “Training Program for Control and Remote Operation Operators” published on the intranet - annex “Continuous training”. Continuous training programs including list of topics, scripts/documents of the theoretical sessions, time-schedules, Trainees for the year 2014 and 2015. Signature registers of Dispatchers attending the “Continuous” training.
Compliance Level suggestion by the audit team: FCo

Explanation for the suggested compliance level:
The audit team checked that TERNA provides continuous training program adapted to the current needs and procedures.

TERNA provided lists of dispatchers who attended the courses e.g. Modulo Continuous Training CNC/CR/CTI Cagliari-Rondissone 2014-15

TERNA provided the training history of some dispatchers at random selection by the Audit team.
## 4.4 OH REQUIREMENT P8-A-R4. ENGLISH TRAINING

### SELF-ASSESSMENT QUESTIONNAIRE 2014

| --- |

### English training

Dispatchers in contact with neighboring 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.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

For each "Interconnector" shift engineer an English training is mandatory. English lessons are outsourced to international certified organization and are held by a native speaker, the participants are chosen regarding their individual level of English skills and contents focus on the technical terms of every day procedures. An official certificate of participation is delivered to the dispatcher.

### Additional Questions

**Do you verify English speaking skills of your dispatchers who are in contact with neighbouring control areas?**

Yes

**Does the learning of English technical terms relevant to system operation make a part of the dispatcher training for those dispatchers who are in contact with neighboring control areas?**

Yes
**P8-A-R4.**

**English training.** Dispatchers in contact with neighboring 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.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

- Education program for Dispatchers includes English training; an ad-hoc annex "Foreign languages" provides implementation guidelines.
- Dispatchers may attend full immersion training courses (5 days) or regular classes outsourced to highly recommended language schools. Beside this, in 2015 and 2016 Dispatchers will also attend telephone and web lessons.
- Evaluations are performed on a regular basis to test Dispatchers English skills.

**Do you have a mitigation plan to the requirement?**  Yes ☐  No ☑

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

**Additional Questions**

Do you verify English speaking skills of your dispatchers who are in contact with neighbouring control areas?  Yes ☑  No ☐

Does the learning of English technical terms relevant to system operation make a part of the dispatcher training for those dispatchers who are in contact with neighbouring control areas?  Yes ☑  No ☐

List of evidence, comments:

- Template “Training Program for Control and Remote Operation Operators” published on the intranet - annex “Foreign languages”.
- Evaluation tests of Dispatchers in duty at the National Control Room performed in 2015.
- List of English training courses attended by Dispatchers in the National control room.
COMPLIANCE AUDIT REPORT
TERNA - 17-18 JUNE 2015

COMPLIANCE AUDIT 2015

Compliance Level suggestion by the audit team:
FCo

Explanation for the suggested compliance level:

TERNA provided the results of the English test performed by all dispatchers in May 2015. This test has been certified by the British School Group.

*Modulo Lingua Inglese, April 2015* describes in detail the English training program.

During the visit in the control room, the audit team was able to keep fluent English conversation with dispatchers in shift.
## 4.5 OH STANDARD P8-A-S1 TRAINING PROGRAMS

### SELF-ASSESSMENT QUESTIONNAIRE 2014

**P8-A-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.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

The relevant parts of the ENTSO-E Operation Handbook and bi/multilateral agreements between Terna and all neighbouring TSOs are included initial training program. Dispatchers are always informed when documentation is updated. If necessary, additional training sessions are organized.

**Additional Questions**

- Does your initial training program cover agreements between TSOs? **Yes**
- Does your initial training program consider the relevant parts of the UCTE OH? **Yes**
- Does your continuous training program cover agreements between TSOs? **Yes**
- Does your continuous training program consider the relevant parts of the UCTE OH? **Yes**
- Do you define specific requirements and duration of the initial program and the continuous program? **Yes**

### AUDIT QUESTIONNAIRE 2015

**P8-A-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.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

As already stated, Continuous training aims at the enhancing/developing/updating of the knowledge and technical-professional capabilities of Dispatchers to perform their job; the structure and the contents of the training program are regularly checked and updated on the basis of the operational evolutions and lesson learned by a specific WG set it up with Specialists in education methodology and process Owners. Within this framework, covering of the relevant parts of the UCTE Operation Handbook and inter-TSOs agreements is assured.
Moreover, back to the complementary recommendation from the Audit visit in 2012, in order to “check the adequacy of current document management system”, (only) the approved and updated documents are published in the corporate intranet area “Conoscere/Area tecnica/Documentazione tecnica DSC” which is made available to the control room.

**Do you have a mitigation plan to the standard?**  
Yes ☐  No ☒

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

<table>
<thead>
<tr>
<th>Additional Questions</th>
<th>Yes ☒</th>
<th>No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does your initial training program cover agreements between TSOs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does your initial training program consider the relevant parts of the UCTE OH (ENTSO-E RGCE OH)?</td>
<td>Yes ☒</td>
<td>No ☐</td>
</tr>
<tr>
<td>Does your continuous training program cover agreements between TSOs?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does your continuous training program consider the relevant parts of the UCTE OH (ENTSO-E RGCE OH)?</td>
<td>Yes ☒</td>
<td>No ☐</td>
</tr>
<tr>
<td>Do you define specific requirements and duration of the initial program and the continuous program?</td>
<td>Yes ☒</td>
<td>No ☐</td>
</tr>
</tbody>
</table>

**List of evidence, comments:**  
Intranet website, area “Conoscere/Area tecnica/Documentazione tecnica DSC”, confidential section “Estero” and public section “Regolamentazione europea”.

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**COMPLIANCE AUDIT 2015**

**Compliance Level suggestion by the audit team:**  
FCo

**Explanation for the suggested compliance level:**  
The audit team checked that:
- the *Modulo continuous training (MCT) CNC 2015* includes a training for the new OH Policy 4
- *Initial training program Modulo on the job preliminare neo capo turno 2015* includes training on ENTSO-E Operation Handbook
- *MCT CNC 2009* includes a training on inter TSO agreement between TERNA and APG
## 4.6 OH STANDARD P8-A-S2 TSO REFERENCE LIST OF ENGLISH TECHNICAL TERMS

### SELF-ASSESSMENT QUESTIONNAIRE 2014

<table>
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<th>P8-A-S2.</th>
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</thead>
</table>

**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).

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

A reference list of technical terms in English, based on the existing appendix of OH Policy 8, with translation to Italian language, is available to all dispatchers.

**No Additional Questions**
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).

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

Reference list of technical terms in English with translation to Italian is available in the control room and published in the corporate intranet area.

Do you have a mitigation plan to the standard?  
Yes ☐  No ☒

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

Reference list of technical terms in English with translation to Italian.
Intranet website, area “Conoscere/Area tecnica/Documentazione tecnica DSC”, public section “Regolamentazione europea”.

**COMPLIANCE AUDIT 2015**

Compliance Level suggestion by the audit team: FCo

Explanation for the suggested compliance level:
The audit team checked that a reference list of English terms is available for dispatchers in the control room, both hard copy and digital format (on the intranet).
4.7 OH REQUIREMENTS P8-B-R1. EXPERIENCE EXCHANGE.

SELF-ASSESSMENT QUESTIONNAIRE 2014

P8-B-R1.

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.

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

Terna exchanges the operational experience with all its neighbours in order to cope with normal and abnormal situations in a coordinated way, and dispatchers (occasionally) take part in this exchange. Dispatchers regularly take part to international workshops with all neighbour representatives. Beside that there are 1) cross visits between dispatchers in RTE, Swissgrid and ELES, 2) on-shift cross periods with Swissgrid and 3) common DTS session with RTE in training center Lyon. Additional common training sessions are performed with RTE in the framework of Coreso. Furthermore, Terna is a member of ENTSO-E Academy initiative.

Additional Questions

Do your dispatchers participate in the exchange of the operational experience with neighbouring TSOs? Yes

AUDIT QUESTIONNAIRE 2015

P8-B-R1.

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.

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

The exchange of operational experience with all Neighbours in order to cope with normal and abnormal situations in a coordinated way takes place regularly via several actions, mainly international workshops hosted time after time by the participating TSOs, on-shift cross periods between neighbouring TSOs Dispatchers, common training workshops in Coreso, participation to the ENTSO-E Academy initiatives, etc. These actions, not always included and tracked in the Exchange these operational experiences, is considered as usual business and thus not always tackled in the Continuous training database.

In detail, the following actions took places since 2004:

- cross visits between TERNA and Swissgrid and Eles Dispatchers
- common DTS training sessions between TERNA and RTE in training centre Lyon
- ENTSO-E Academy common training workshops (i.e. Dynamic Rating, PST)
- EAS workshop

Do you have a mitigation plan to the requirement? Yes ☐ No ☒
In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

Additional Questions

Do your dispatchers participate in the exchange of the operational experience with neighbouring TSOs?  

Yes ☒  
No ☐

List of evidence, comments:

Scripts/documents of the theoretical sessions, time-schedules of cross visits, common training workshops, on-shift cross periods and common DTS training sessions (actions not always tracked in the Continuous training program).  
Signature registers of Dispatchers attending to the aforementioned exchanges of operational experiences.

COMPLIANCE AUDIT 2015

Compliance Level suggestion by the audit team: FCo

Explanation for the suggested compliance level:
The audit team checked that TERNA has common training action with all its neighbours (see explanation in next standard).

N.B. Notwithstanding TERNA reported in the 2015 audit questionnaire (P8-B-R1) performance of on-shift cross visits between neighbouring TSOs Dispatchers, this experience did take place in 2003, before the Italian black out. The table of action implemented reported in additional questions in P8-B-S1 does not take into account any action before 2004.
4.8 OH STANDARD P8-B-S1 COMMON TRAINING

SELF-ASSESSMENT QUESTIONNAIRE 2014

P8-B-S1.

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.

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

Common training procedures to improve communication and coordinated measures between neighboring TSOs dispatchers include all 4 options envisaged by P8-B-G3. Last actions: cross visits between between Terna and Swissgrid in 2013, common training workshops on ENTSO-E Awareness System whit over 40 participants from all Europe hosted by Terna in February 2014, on-shift cross periods with SWissgrid in 2003 and common DTS training sessions with RTE in 2004. Moreover, together with RTE, dispatchers take part to the workshops held by Coreso twice per year. In 2014 Terna also participated in Dutrain common training as an observer.

Additional Questions

Which actions defined in guidelines P8-B-G3 do you implement?


APG SWISSGRID RTE IPTO ELES
G3.2 G3.1 G3.2 G3.3 G3.1 G3.2 G3.3 G3.2 G3.1 G3.2
**P8-B-S1.**

**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.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

See P8-B-R1.

Continuous training database for Dispatchers in the National Control Centres, annex "Inter-TSOs", grants the following actions: common training workshops between Terna and RTE (year 2007, 2008 and 2009), cross visits between TERNA and Swissgrid (2013) and ENTSO-E common training workshops (2014 and 2015).

**Do you have a mitigation plan to the standard?** Yes ☐ No ☒

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

**Additional Questions**

Which actions defined in guidelines P8-B-G3 do you implement?


<table>
<thead>
<tr>
<th>Neighbour</th>
<th>G3.1</th>
<th>G3.2</th>
<th>G3.3</th>
<th>G3.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>APG</td>
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<td>☐</td>
</tr>
<tr>
<td>SWISSGRID</td>
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<tr>
<td>RTE</td>
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<td>ELES</td>
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</table>

List of evidence, comments:

See P8-B-R1.

Layout "Training Program for Control and Remote Operation Operators" published on the intranet - annex "Inter TSOs".

Signature registers of Dispatchers attending cross visits between TERNA and Swissgrid (2013) and ENTSO-E common training workshops on EAS (2014).
ENTSOE Dynamic Line Rating workshop where all neighbours were present

<table>
<thead>
<tr>
<th>COMPLIANCE AUDIT 2015</th>
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</thead>
<tbody>
<tr>
<td><strong>Compliance Level suggestion by the audit team:</strong></td>
</tr>
<tr>
<td>FCo</td>
</tr>
<tr>
<td><strong>Explanation for the suggested compliance level:</strong></td>
</tr>
<tr>
<td>The audit team checked evidences from:</td>
</tr>
<tr>
<td>• Detailed program (3 days) from a cross visit with Swissgrid in 2013.</td>
</tr>
<tr>
<td>• Detailed program from cross visit with ELES in 2006.</td>
</tr>
<tr>
<td>• Common training workshop on EAS with all neighbours in 2014. List of participants was shown where APG was missing.</td>
</tr>
<tr>
<td>• Detailed program and list of participants from Common DTS training session with RTE in 2009. <em>Modulo common training RTE-TERNA.</em></td>
</tr>
<tr>
<td>• Common workshop on Dynamic Line Rating hosted by ENTSO-E Academy in 2015 (APG was included).</td>
</tr>
</tbody>
</table>

N.B. Please refer to the previous standard for further explanation.
## 4.9 OH STANDARD P8-C-S1 COORDINATION OF THE TRAINING

### SELF-ASSESSMENT QUESTIONNAIRE 2014

**P8-C-S1**

**Coordination of the training.** TSO appoints a training coordination manager responsible for training organization: designing, following-up and updating the full training process.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

Terna formally appointed a Training Coordination Manager responsible for designing, following-up and updating the full dispatchers training process. His working position/functions in Terna is: head of the Training department.

**No Additional Questions**
### Coordination of the training

TSO appoints a training coordination manager responsible for training organization: designing, following-up and updating the full training process.

### Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

Corporate division “Corporate Affairs/Direzione Risorse Umane e Organizzazione/ Funzione Recruiting Selezione e Formazione” CA RUO RSF (in English: Corporate Affairs/HR/Recruiting, Job Interview and Education) is in charge of training all staff in Terna group. Therefore, budget, supplier provisions, planning, administration, designing and management of all the corporate training initiatives is handled by CA RUO RSF. Miss Elisabetta Neri is head of CA RUO RSF.

Main information on education format are published on the “Portale Campus”, available on the intranet (e.g. list of topics for training programs, detailed layouts for the specific trainings, scripts/documents of the theoretical sessions, time-schedules and ex-post training reports, ex post surveys, etc.). The website is administered by CA RUO RSF.

Since 2008 “Campus Esperienze in Rete” is brand for education in Terna group (same of “Corporate University” in other Utilities).

There are 2 training centers in Terna placed in Rome and Viverone (Biella, Turin area).

“Campus Esperienze in Rete” pay-off shows the peculiar format of Terna education, strongly aimed at domestic knowledge sharing and inside transfetting.

In order to 1) keep, transfer and enhance the best know-how for our core business and 2) boost right attitude within the corporate (e.g. social identity and membership) process Owners, Managers and Expert in the different matters perform as designers and Trainers in the “Faculty Campus”.

Several cooperations with universities, business schools and, more in general, the best awarded institutes take places to allow benchmarking with the external challenges.

Education format consists of 3 main clusters: **Contesto&Business Model, Education and Training**. The extra cluster “Percorsi” is for gathering several initiatives from the 3 previous clusters and envisages mid-long term pedagogical iter. Training Program for Control and Remote Operation Operators belongs to “Percorsi”. Same of every training initiative, it is in charge of CA RUO RSF and compliant with guideline LG034 and operational instruction IO007RU.

Design and implementation of the educational program is under the responsibility of CA RUO RSF in coordination with WG “Faculty Campus”. Process Owners for Dispatching and Control, together with designed Expert in the different matters are members of “Faculty Campus” and are appointed Tutor in the “Continuous” training and designer and design most of the initiatives belonging to the cluster Training.

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**Do you have a mitigation plan to the standard?**

Yes [ ]

No [x]

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

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**Additional Questions**

Who has the role of Training Coordination Manager in your TSO?

(please provide first and second name)
Terna corporate has a Training Coordination Manager: the head of Recruiting, CA RUO RSF department (e.g. Miss Elisabetta Neri)

List of evidence, comments:

- CA RUO RSF organization chart and Term of Reference.
- Website “Portale Campus”, available on the intranet.
- Guideline LG034 “Training Terna Group, Campus experience in the network”.
- Operational Instruction IO007RU “Planning, Management and Accounting of Training”.
- List of Members of WG “Faculty Campus”.

**COMPLIANCE AUDIT 2015**

**Compliance Level suggestion by the audit team:**

FCo

**Explanation for the suggested compliance level:**

It was explained to the audit team that:

The Manager for recruitment and training department (Recruiting, Selezione e Formazione) at Terna group (Miss Elisabetta Neri) is responsible for the training of employees from all the companies belonging to Terna group. Thus, this Manager is implicitly appointed as training coordination manager in Terna - Rete Elettrica Nazionale SpA.

The audit team checked:

- *Schema Organizzativo SO-T-10* describes the human resources organization within Terna group.
- *LG034 Guidelines Formazione group Terna* describes the design and updating processes of the training programs in Terna group.
4.10 OH STANDARD P8-C-S2 ORGANIZATION

SELF-ASSESSMENT QUESTIONNAIRE 2014

P8-C-S2

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.

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

Two official job descriptions are developed: one for the shift leader and one for the assistant. Qualification criteria include: education degree, previous operational experience and any other specific requirement needed to manage the tasks and the responsibilities foreseen by the role.

The training programs are based on the required qualifications. 2 clusters are envisaged: neo and experienced dispatchers. The continuous training is continuously updated on the basis of the operational evolutions and the development of new tools and procedures.

The reference list of topics for training programs and the training sessions schedules are available on the intranet. The operational validation and the continuous improvement of the training programs are supervised by a WG (members: training manager, head of the National Control Center, head of the Regional control centres).

The dispatcher accreditation is based on an “on-the-job” training period whit specific duration (different for shift leader and assistant).

Trainees are selected on the basis of their knowledge and experience on the specific issues. Dispatchers’ trainers are members of Terna “Academy” (Faculty).

Additional Questions

Do your procedures for training include a description of the dispatchers required qualifications? Yes

Do your procedures for training include a reference list of topics for training programs linked to the dispatchers required qualification? Yes

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

Do your procedures for training include the process of dispatchers accreditation? Yes

Do your procedures for training include trainer selection and training of trainers? Yes
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.

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

Developing the education program for Dispatcher involves 2 main workflows:

- overall design of the iter: definition of number and features of initiatives, specific pedagogical goals of each initiative, target employers, main contents and implementation procedures.
  This task is performed by WG “Faculty Campus” attended by CA RUO RSF Experts, Dispatching Managers, process Owners and Expert in the different matters (ref. to annex “Percorsi” for nomination and rules). The plan is revised on yearly basis

- fine tuning, planning, organization and management of the individual initiatives

Follow-up, customization, supervision and administration (accounting, budget, follow-up, etc.) of the initiatives outsourced to the select and qualified institutes (e.g. soft skills, English training) are in charge of CA RUO RSF.

In case of Terna is owner of the technical-professional know-how, initiatives are developed by internal Resources, e.g. members of the “Faculty Campus”; tailoring and implementation is demanded to a WG “Faculty Campus” which is led by CA RUO RSF and participated by ad-hoc designed Experts in the different matters.

In Terna there’re not full-time Trainers; as already mentioned internal Trainers are process Owners and acknowledged Experts belonging to several departments who perform design of training initiatives on demand and spot teaching. Not resorting to full-time Trainers is meant as an intentional strategy of Terna aimed at maintaining close link to the business and proper education dynamics.

CA RUO RSF Expertise makes provisions for implementation of suitable pedagogical methodologies.

Qualification criteria for Trainers include communication and tutorial skills (on the matter, please consider the capability to share and transfer know-how is a main KPI during both the recruitment process and regular evaluation of Terna staff).

There’s a standard format for training sessions (e.g. baseline templates and default editorial graphic) which includes time-schedules, scripts/documents of the theoretical sessions, support for Trainees, material made available during the class and ex-post, reports on lesson learned and, in some cases, evaluation tests, etc. Documents are stored in a confidential directory deserved to members of the “Faculty Campus”. Planning, organization, management and administration of the concerned activities are also in charge of CA RUO RSF.

Do you have a mitigation plan to the standard? Yes ☐ No ☒

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:
## Additional Questions

Do your procedures for training include a description of the dispatchers required qualifications?  
- Yes ☑️  
- No ☐

Do your procedures for training include a reference list of topics for training programs linked to the dispatchers required qualification?  
- Yes ☑️  
- 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?  
- Yes ☑️  
- No ☐

Do your procedures for training include the process of dispatchers accreditation?  
- Yes ☑️  
- No ☐

Do your procedures for training include trainer selection and training of trainers?  
- Yes ☑️  
- No ☐

### List of evidence, comments:

- Dossier on the training initiative “SCCT” (new SCADA system), release for Dispatchers in the National and Regional Control Centre, edition 2013 and 2014.
- Dossier on the training initiative “Synchronous condenser plant in Codrongianos”, part 3 Dispatching and Remote Operation.

## COMPLIANCE AUDIT 2015

### Compliance Level suggestion by the audit team:

FCo

### Explanation for the suggested compliance level:

TERNA showed to the audit team good practice in the organization of trainings. Responsible parties for the different procedures were present in the audit. They proved the accomplishment with some examples of training programs (*Modulo on the job preliminare neo capo turno*)

### Recommendations:

The audit team recommends formalizing the described procedures in the documentation system. E.g. description of the dispatcher required qualification, process of dispatcher’s accreditation, trainer’s selection and training of trainers.
### 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.

**Compliance Level:** FCo

<table>
<thead>
<tr>
<th>Concise explanation and list of evidence for declared compliance level:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The initial program is completed with an exam in which candidate's knowledge and capabilities to perform dispatcher’s job are tested. The evaluation consists of verbal and, if needed, a written part. A formal report is produced by the examination committee and forwarded to the System Operation Division Management.</td>
</tr>
<tr>
<td>The evaluation of the dispatcher is performed during the “on-the-job” training period and, in case of need, the duration of this period can be extended.</td>
</tr>
<tr>
<td>The candidate is continuously informed on his progress during the “on-the-job” period and on the result of the final evaluation.</td>
</tr>
</tbody>
</table>

### Additional Questions

- Do you complete the initial program with a test of the knowledge of dispatches candidates?  
  - Yes
- Do the trainers issue a document containing the results of the evaluation to the manager of the candidate?  
  - Yes
**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.

**Compliance Level:** N/A

Concise explanation and list of evidence for declared compliance level:

Operators are recruited via an internal selection, thus it’s not possible to appoint a new employee as a neo-Dispatcher. To comply with collective labour agreement Ccl Art. 24 23/04/1969, Candidates must perform a job interview. Recruitment process aims at 1) evaluating the professional knowledge and capabilities of the Candidate and 2) test the soft skills which most fit for the position and, more in general, for Terna organization.

Candidates belong to the limited Departments purposely dealing with Operation and are detected by their Managers in coordination with CA RUO RSF. Qualification criteria for Candidates also include: graduation, organization role, knowledge and capabilities background, soft skills, seniority, career fields.

In case of any vacant position, Terna group provides prompt written notification to the trade unions (e.g. Rappresentanza Sindacale Unitaria RSU and regional administrative offices).

Training “On-the-job” do not hire neo Operators to perform a dispatcher job because, in line with Ccl Art. 24 23/04/1969, this training is provided to those Dispatchers already accredited during the recruitment process.

After successful fulfilment of the training “On-the-job”, the Tutor releases formal declaration to steer the neo-Dispatcher towards a new job contract. Standard procedure foresees the following steps:

- 1) Tutor informs the Dispatcher Manager (e.g. head of the Control Room)
- 2) Dispatcher Manager issues the request to HR department for a new job contract for the neo-Dispatcher
- 3) by receiving an official accreditation letter, the neo-Dispatcher gets authorization to perform his job in the control room

During the overall training on the-job process Dispatchers receive continuous informal evaluations. Even if not tracked, regular “in itinere” tests of their performances take place to assure successful fulfilment of the training program. For this reason, final evaluation is not needed.

**Do you have a mitigation plan to the standard?**  Yes ☐  No ☑

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

**Additional Questions**

Do you complete the initial program with a test of the knowledge of dispatches candidates?  
Yes ☐  No ☑

Do the trainers issue a document containing the results of the evaluation to the manager of the candidate?  
Yes ☐  No ☑
List of evidence, comments:

- Accreditation letters issued by HR.
- E-mail exchanges among Tutors/Dispatchers Manager/Training Coordination Manager.

**COMPLIANCE AUDIT 2015**

**Compliance Level suggestion by the audit team:**

FCo

**Explanation for the suggested compliance level:**

Terna self-assessed in the 2015 audit questionnaire the compliance level as N/A. Additional questions were answered with “NO”.

The audit team considers that no TSO shall assess N/A for this standard.

The audit team considers that TERNA is FCo with this standard because the initial program includes a final informal evaluation performed by the tutor who reports to the control room manager. Thereafter, the control room manager communicates to human resources staff that the initial training is completed.

Sequence of emails from 2010 between trainers, control room manager and human resources department were provided as evidence.
4.12 OH STANDARD P8-C-S4 FIRST ACCREDITATION

**SELF-ASSESSMENT QUESTIONNAIRE 2014**

**P8-C-S4**

**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.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

After a positive assessment by the training committee members, an official "first accreditation" certificate is delivered to the dispatcher candidate that authorizes him to perform his job in the control room.

Criteria for accreditation: the candidate successfully performs during all phases of the "on-the-job" training period (and, in case of a neo dispatcher, preliminary period).

**Additional Questions**

Do you deliver a first accreditation to your dispatcher? **Yes**

Do you have criteria for accreditation of dispatcher candidate? **Yes**

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**AUDIT QUESTIONNAIRE 2015**

**P8-C-S4**

**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.

**Compliance Level:** FCo

Concise explanation and list of evidence for declared compliance level:

HR delivers a first accreditation letter which represents a new job contract for the neo-Dispatcher and authorization to perform his job in the control room.

Accreditation is maintained forever unless

- The job position disappears due to a change of Company organization
- Inability to perform the work on shift due to Health problems

**Do you have a mitigation plan to the standard?**

Yes ☐

No ☒

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:
### Additional Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you deliver a first accreditation to your dispatcher?</td>
<td>☑️</td>
<td></td>
</tr>
<tr>
<td>Do you have criteria for accreditation of dispatcher candidate?</td>
<td>☑️</td>
<td></td>
</tr>
</tbody>
</table>

List of evidence, comments:

See P8-C-S3.

### COMPLIANCE AUDIT 2015

**Compliance Level suggestion by the audit team:**

FCo

**Explanation for the suggested compliance level:**

The audit team checked an official letter sent by human resources department to the candidate authorizing him to perform dispatching activities in the control room.
4.13 OH STANDARD P8-C-S5 TRAINERS’ SELECTION

SELF-ASSESSMENT QUESTIONNAIRE 2014

P8-C-S5

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.

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

Usually, trainers are selected internally. Internal trainers are experienced system engineers or senior dispatchers. In case of specific issue (e.g. new tool, new equipment, etc.) trainings are outsourced to external bodies.

Trainer profile includes: specific knowledge on the training contents, well consolidated operational experience and communication skills and leadership/management of classes.

Additional Questions

Have you determined the profile of trainers? Yes

AUDIT QUESTIONNAIRE 2015

P8-C-S5

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.

Compliance Level: FCo

Concise explanation and list of evidence for declared compliance level:

As already mentioned there’re not full-time Trainers in Terna.

Qualification criteria for internal Trainers are defined by the WG “Faculty Terna” for each individual training initiative. Trainer selection is demanded to process Owners, Experts in the matter and CA RUO RSF staff in charge of designing the specific project.

Trainers selection is in charge of CA RUO RSF when training initiatives is in outsource. Qualification criteria for external Trainers are: best compliance to the organizational requirements belonging to the most awarded institutes.

Do you have a mitigation plan to the standard? Yes ☐ No ☒

In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:
Additional Questions
Have you determined the profile of trainers?  

Yes ☒  No ☐

List of evidence, comments:
Training supporting material, scripts/documents with detailed profile of Trainers.

COMPLIANCE AUDIT 2015

Compliance Level suggestion by the audit team:
FCo

Explanation for the suggested compliance level:
Audit team checked that Percorso Formativo Turnisti Modulo Continuous Training – Nuovo SCCT 2011-14 Premessa (Progetto Formativo, Roma 2011) describes the requisites for trainers.
### 4.14 OH STANDARD P8-C-S6 TRAINING OF TRAINERS

#### SELF-ASSESSMENT QUESTIONNAIRE 2014

**P8-C-S6**

**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.

**Compliance Level:** FCo

- Concise explanation and list of evidence for declared compliance level:
  - Internal trainers permanently adapt their knowledge to the operational evolutions participating to international WGs (e.g. ENTSO-E Academy, Pentalateral TTF, ENTSO-E, Cigré), common training WSs and Dutraining (as observers). Individual training program is not officially defined for trainers.
  - Ad-hoc internal trainings of trainers are set up in case of new tools and procedures (e.g. new SCADA system).

**No Additional Questions**

#### AUDIT QUESTIONNAIRE 2015

**P8-C-S6**

**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.

**Compliance Level:** FCo

- Concise explanation and list of evidence for declared compliance level:
  - As already mentioned there’re not full-time Trainers in Terna.
  - Trainers are process Owners and Experts in the matter usually involved in the design of training initiatives.
  - In case of Trainers do not take part to the development of training initiatives, they must attend ad-hoc classes aimed at the transferring the overall project features.

**Do you have a mitigation plan to the standard?**   **Yes ☐  No ☑**

- In case of an existing Addendum or a Non Compliance Declaration; list of evidence for a mitigation plan, comments:

**List of evidence, comments:**

- Dossier on the training initiative “SCCT” (new SCADA system), release for Dispatchers in the National and Regional Control Centre, edition 2013 and 2014.
COMPLIANCE AUDIT 2015

Compliance Level suggestion by the audit team:
FCo

Explanation for the suggested compliance level:
Audit team checked that *Percorso Formativo Turnisti Modulo Continuous Training – Nuovo SCCT 2011-14 Modulo per tutor* describes the training for trainers.
5 CONCLUSIONS

The general impression of the Audit Team is that TERNA has good practice in dispatcher training as a result from its serious commitment to, and remarkable investment in, the continuous education of all its employees.

The Audit Team audited 14 requirements/standards, finding out that TERNA is fully compliant with all of them.

Additionally, in order to improve the organization, the audit team recommends formalizing the described procedures in the documentation system (P8-C-S2). E.g., description of the dispatcher required qualification, process of dispatchers’ accreditation, trainers’ selection and training of trainers.

TERNA reports that their staff needed 155 person-hours for the preparation of the compliance audit.

In the case of this Compliance Audit, all preconditions for a successful audit were fulfilled and the Audit Team expresses its gratitude to the TERNA staff involved in the Audit and the company management.
6 SIGNATURE PAGE

ENTSO-E Audit Team Members:

Jaime Sanchiz (Audit Team Leader)

Luka Spoljar (Audit Team Member)

László Galambos (Audit Team Member)

Carlos Castel (Compliance monitoring Advisor)

Date and Place: 31.07.2015, Brussels, Belgium