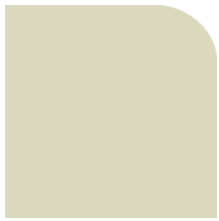


ETSON PROGRESS REPORT

2014



FOREWORD

As safety and security are a growing concern to the public and to policy makers, in Europe and elsewhere, it is essential that the technical and scientific basis for regulatory decisions reaches the highest achievable level of quality and reliability. The development of Technical Safety Organisations (TSOs) contributes to this objective by providing in depth knowledge-based expertise in the field of nuclear and radiation safety and security.

The aim of the European Technical Safety Organisations Network (ETSON) is to promote principles, values and good practices that guarantee the independence of judgment in safety assessments produced by TSO's, and the quality of their services and of their research activities in the field of nuclear safety and security. By so doing, ETSON also contributes to the European harmonisation of nuclear safety practice on the basis of scientific excellence.

An expanding network

A number of European Countries and the European Commission have made significant efforts over the last decades in order to build up a sustainable TSO capacity in the EU. The

development of ETSON emphasises the importance of the European dimension of nuclear safety assessment practice, and encourages initiatives to further bring together expertise and research. End 2014, ETSON consists of 13 members, including three associate members, and is integrating one new member, from the UK. Thus, the role of TSOs is more and more internationally recognized, notably by the European Commission and the IAEA community. Through its expert working groups, ETSON elaborates and makes publicly available Technical Safety Assessment Guides which provide concrete harmonized guidance for the assessment of safety files, and contributes to the establishment of a European strategic research agenda for nuclear safety in the context of the H2020 EURATOM Framework Programme of the European Commission. The recent adoption of a reinforced European directive on nuclear safety, which *inter alia* identifies the importance of science based expertise, paves the way for new initiatives by ETSON and its members to contribute to European achievements in this field.

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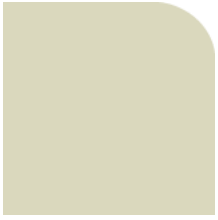
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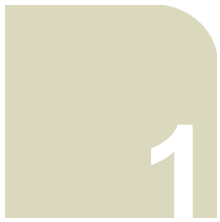
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ORGANISATIONAL MATTERS

1.1 ETSON network extension

During the General Assembly meeting in Cadarache, on 9th & 10th of July 2014, NRA explained the changes in the Japanese nuclear safety organization. The two previous institutes, the safety authority NISA (Nuclear and Industrial Safety Agency) and the TSO JNES (Japan Nuclear Energy Safety Organization) have been merged in one Institute (Japan Nuclear Regulation Authority, NRA). Because JNES was previously an ETSON associated member, NRA accepted to maintain its position as associated member in ETSON organization.

Discussions are engaged with other European TSOs to enlarge the network.



ETSON General Assembly Meeting, Cadarache (France), 9 July 2014

1.2 General Assembly and Board meetings

The year 2014 was an opportunity to further strengthen the overall functioning of the association.

Two General Assemblies coupled with Board meetings were held:

- On the 9th and 10th of July in Cadarache (France);
- On the 28th of October 2014, in Beijing (China), on the fringe of the IAEA TSO Conference 2014.
- A new Board has been elected in 2015. The previous Board members (until July 2015) were:

M. Jacques Repussard (IRSN): President
M. Frank-Peter Weiss (GRS): Vice President
M. Ihor Shevchenko (SSTC): Vice President
M. Sigita Rimkevicius (LEI): Secretary
M. Benoît De Boeck (Bel V): Treasurer

1.3 Accounting and fee payment

The Association has collected the annual fees of 2000 Euros from all ETSON members. The money is dedicated to the external promotion of ETSON.

A 2000 € extra contribution has been asked to each member to organize dedicated events during the IAEA TSO Conference in Beijing (2014).

2

ETSON ACTIVITIES

2.1 ETSON Technical Board on Reactor Safety - Expert Groups

All ETSON members stressed the importance of the ETSON expert groups. The Technical Board on Reactor Safety (TBRS) proposed generic terms of reference. The main role of the TBRS is to manage the different expert groups and to propose to the General Assembly the Technical Safety Assessment Guides for validation before publication. The ETSON organization (after the 2015 Board renewal) is presented in Annex 1.

ETSON Expert Groups exist for the following topics:

EX N°	Technical issue
1.	OEF, including Incident and Precursor Analysis
2.	Mechanical Systems
3.	Electrical Systems
4.	Severe Accidents
5.	Environmental qualification
6.	Safety Fluid Systems, including auxiliary systems
7.	Human and Organizational Factors
8.	PSA
9.	Lifetime-Management
10.	Thermal Hydraulic Analyses (Transients, Accidents)
11.	Safety concepts, Defense-in-Depth
12.	Core Behavior (operational and accident conditions)
13.	Emergency Preparedness
14.	Decommissioning and Waste Management

The new expert group dedicated to Decommissioning and Waste Management organized a meeting in May 2014 where the work programme and the Terms of Reference were adopted. Each

ETSON member presented its own research activities at national and international level.

Three main points have been identified for ETSON collaboration:

- Feedback on the treatment processes for the sustainable management of the radioactive waste including innovative techniques
- The specificities of hazard management during the operational phase of a geological disposal facility, including the technical approaches and criteria for assessing operational safety, and the key parameters and techniques to monitor geological disposal behavior,
- The strategies for the decommissioning of nuclear facilities: immediate, deferred (including periodic safety review content), entombment

The work program is expected to be completed within three years. Each topic will be conducted in parallel and start when the working material is made available to members of the group (initial contributions, feedback information...). The organization of the workshop on waste treatment processes is planned to be the first action completed and expected to be held by the end of 2015.

2.2 ETSON Publications

Technical Safety Assessment Guides (TSAG):

In 2014 ETSON maintained efforts on finalisation and publication of technical assessment guides.

In 2014 the TSAG dedicated to “Transient and Design Basis Accident Analyses” has been released.

All the published TSAGs can be freely downloaded on ETSON website (www.etsong.eu)

Progress Report::

ETSON published the 2013 ETSON Progress Report. It is also available on the ETSON Website.

2.3 ETSON Research Group

A methodology has been prepared to coordinate the answers to the H2020 EURATOM call in order to promote ETSON projects.

The relevant topics for ETSON are: Gen II-III safety, Emergency tools, Innovative NPPs (Gen III+, Gen IV).

ETSON Research Group is in charge of ETSON coordination concerning the H2020 call.

The ERG organized a successful Research project management training (in relation with H2020 organization) performed by IRSN and GRS beginning of April 2014.

2.4 ETSON Knowledge Management

Members have pursued the ETSON

Database project ; The main goal is to promote access of all the databases of the ETSON members through an unique tool connected to all ETSON members databases.

The Joint Research Center has been contacted and a meeting has been organized to present the project of the creation of an European Database dedicated to nuclear safety analyses and radioprotection (meeting in May 2014).

2.5 ETSON PING

The PING continues to promote a place for exchanges.

Eugenijus Uspuras (LEI) has been elected as the new PING Chairman. The members agreed on the future INSC project process for RISKAUDIT (European Economic Interest Grouping) in cooperation with ETSON.

ETSON members will collaborate with RISKAUDIT to answer to the INSC calls. In order to promote the European nuclear safety approach, the European tenders should make reference to the ETSON guides.

2.6 ETSON JSP

The ETSON Junior Staff Programme (JSP) brings together young experts from all ETSON members and associates. The JSP aims at improving the long-term partnership of the member TSOs, establish a network for cooperation between young expert from different countries, and to encourage

intercultural interaction. The main yearly events within this framework are the ETSON Junior Staff Summer Workshop.

trainees participated from 6 ETSON members with 5 trainers.

JSP SUMMER WORKSHOP 2014 (25-29.08.2014)

- Subject: Fuel Management
- Attendees: 26 from 11 TSOs
- Lectures and working groups: 32 presentations by the young professionals themselves
- Location: Helsinki in Finland, hosted by VTT

It was decided that PSI (Switzerland) will host the ETSON JSP Summer Workshop 2015. The general topic will be "Material properties aspects in nuclear safety".



JSP in Finland (August 2014)

2.7 ETSON Workshops

The ETSON Research Group (ERG) organized a workshop dedicated to the H2020 and the way to answer to the European calls (3-4 April 2014). 18

3 ETSON RELATED INITIATIVES

As part of their activities, ETSON members have been involved in different initiatives in 2014.

3.1 EUROSAFE Forum

Because of the IAEA TSO Conference organized in Beijing in October 2014, it has been decided to cancel the EUROSAFE Forum in 2014 (same dates). The next Forum will take place in Brussels in November 2015.

3.2 EUROSAFE Tribune

All ETSON members participated in the publication of two issues of the EUROSAFE Tribune in 2014:

- EUROSAFE Tribune #25, published in July 2014. The overall theme of this issue was: "Radioactive waste: standing the test of time".
- EUROSAFE Tribune #26, published in October 2014. This issue focuses on "Thriving ETSON. A contribution to the IAEA TSO Conference 2014 hosted by the government of China".

The preparation of the EUROSAFE Tribune #27 and #28 are on the way.

3.3 ENSTTI

In 2010 the main goal of ENSTTI was the training and tutoring of European TSOs and Regulators Authorities.

In 2014, ENSTTI opened its offer to non-European organizations at the request of the European Commission and IAEA. Moreover ENSTTI is also involved in European projects (SITEX II, CONCERT, and ANETTE).

In 2014, ENSTTI organized 25 training courses (29 weeks of activity) with 377 trainees (241 trainers). In 2014, 37 months of tutoring, representing tutoring periods for 14 tutees, were implemented.

4 ETSON EXTERNAL RELATIONS

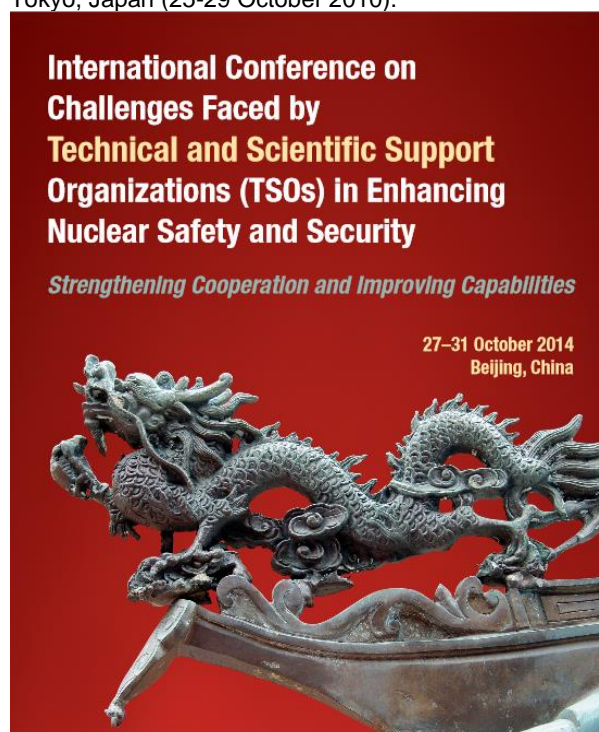
4.1 European institutions

The ETSON General Assembly recognized the need to consolidate the relations with the European Commission.

ETSON sent the TSO position about the new European safety directive to the Commissioners and to ENSREG.

ETSON is in contact with the European Commission. The Commission is in complete agreement with the ETSON approach to harmonize nuclear safety in Europe from a technical basis. Although nuclear safety is a national prerogative of each state, ETSON members can work together to consolidate harmonization with common approaches among TSOs. This work is in connection with the implementation of the new safety directive.

occurred in Aix en Provence, France (23-27 April 2007) and the second one in Tokyo, Japan (25-29 October 2010).



4.2 IAEA

ETSON took part in the following IAEA activities:

- TSO Forum: Vienna 27 March 2014
- General Conference: Vienna 22-26 September 2014
- IAEA TSO Conference: Beijing (China) 27-31 October 2014

ETSON member TSOs were particularly active during the IAEA TSO Conference in Beijing, with lectures, meetings, poster sessions, a booth, side events...

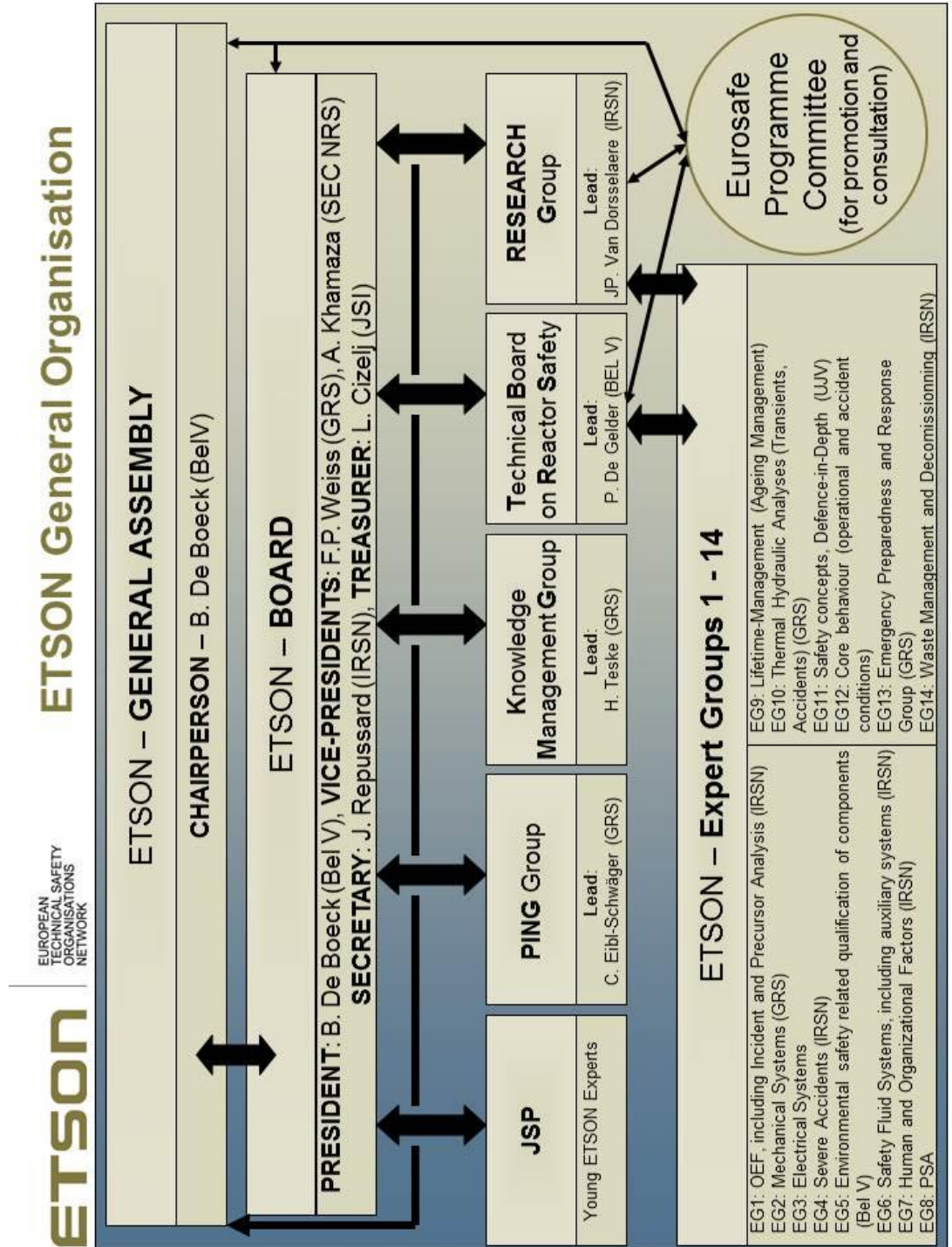
This conference is the third international conference dedicated to the Technical Safety Organizations. The first one

The conclusions of the conference can be summarized in 7 points :

1. The role of TSO functions : a critical component of regulatory systems
2. The IAEA as a driving force: guidance on TSO functions is critically needed for progress in regulatory control
3. TSO needs and functions are particularly crucial for newcomers
4. Special efforts are needed to develop and maintain the knowledge and competence base
5. There is a widely shared concern that developing and maintaining capacities is not always adequately resourced
6. The TSO Forum has created a momentum among MS and must continue to be one of the driving forces for enhancing safety
7. Need for a fourth conference

5 ANNEX

Annex : 2015 ETSO organization



ETSON

EUROPEAN
TECHNICAL SAFETY
ORGANISATIONS
NETWORK

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