

EUROPEAN TECHNICAL SAFETY ORGANISATIONS NETWORK



After the waves around the Covid-19 pandemic began to calm down, the year 2022 was marked by the war in Ukraine and the energy crisis. This did not go unnoticed by ETSON:

- The activities of SEC NRS, the Russian TSO, was suspended in April 2022 until further notice,
- The IAEA TSO Conference, originally planned in St. Petersburg for October 2022 and organized with the support of ETSON members, was postponed.

Despite all adversities, the work in ETSON continued undiminished and the TBRS's Expert Groups organized meetings in workshops, e.g. on SMR and Artificial Intelligence.

The 1. ETSON Conference was held in Munich (Germany), with about 60 members of ETSON and invited speakers from IAEA, the European Commission and WENRA for the panel discussion. The first day ended with the science slam and the presentation of the ETSON award, organised by the JSP. On the second day, the experts from the ETSON expert groups presented current projects and reports. In the afternoon, the participants could choose between several parallel side events, i.a. the visit of the research reactor FRM II, the ETSON/ IAEA-TSO cooperation on the self-assessment tool TOSCA and the workshop on SMR; the Conference ended on the third day with reports of the respective members on their current challenges for nuclear safety.

The JSP Summer Workshop which was originally scheduled to take place in Kiev, now took place in France with the title "Radioactive material dissemination – sea and atmosphere radioactive waste". 23 people from 9 countries participated in the workshop and visited the EPR Flamanville and the IRSN laboratories "Laboratory for sea ecology and radioactive material dispersion".



Uwe Stoll ETSON President

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# ORGANISATIONAL MATTERS

#### 1.1 ETSON Membership

In 2022, a total of 16 technical safety and support organizations (TSO), mainly from the European Union but also from Japan, Russia, UK and Ukraine, belonged to the ETSON network.

In April 2022, ETSON suspended the activities with SEC NRS, the Russian TSO until further notice due to the Russian aggression in Ukraine.

No new TSO joined the ETSON network.

### 1.2 General Assembly and Board Meetings

Two General Assembly meetings together with Board meetings were held on 07 July 2022 and during the 1. ETSON Conference on 11-13 October 2022. Additonal Board meetings were held on 04 April, 06 May, 08 June and 15 September 2022.

All meetings except the meetings in October took place as virtual meetings.

During the General Assembly meeting in October 2022, Frederic Wheeler from Jacobs was voted as acting vice president of the associated members (see also Annex).

#### 1.3 ETSON Strategy

ETSON continues to develop and deepen relations with international nuclear safety organizations such as DG ENER, JRC, SNETP and WENRA in order to increase the effective use of ETSON expertise in technical safety assessments and nuclear safety research management in Europe.

Since the TSO Conference, which was planned in October 2022 was postponed, ETSON organized the 1. ETSON Conference in Germany (see Chap. 2.6). The ETSON Award, which was organized by the JSP, took place during the Conference. Furthermore, the ETSON groups had the opportunity to present their work and every ETSON member presented current activities in its corresponding country.

Additionally, a JSP Summer Workshop was organized in France in October 2022.

# 1.4 Accounting and Fee Payment

The Association collected the annual fees of 2000 Euros from the 16 ETSON members. The funds are dedicated to the ETSON Award, the promotion of ETSON and limited research actions among ETSON members.

At the General Assembly meeting in October 2022, it was decided to increase the annual fee from 2000 to 3000 Euro from 2023.

### 2.1

# Technical Board on Reactor Safety - Expert Groups

The Technical Board on Reactor Safety (TBRS) provides Technical Safety Assessment Guides (TSAGs) and technical reviews of proposed publications and workshops. It also provides recommendations on the technical programme and strategy of ETSON.

The TBRS oversees the 14 expert groups (EG) of ETSON. Each EG is dedicated to a specific field of competence where ETSON members seek an in-depth exchange of knowledge and experiences:

N°	Technical issue
1.	OEF Including Incident and Precursor Analysis
2.	Mechanical Systems
3.	External Hazards (Man-Made, Natural)
4.	Severe Accidents
5.	Environmental Safety Related Qualification of Components
6.	Safety Fluid Systems, including Auxiliary Systems
7.	Human and Organizational Factors
8.	Probalistic Safety Assesment (PSA)
9.	Decommissioning
10.	Thermal Hydraulic Analyses
11.	Safety Concepts, Defense-in-Depth
12.	Fuel Behaviour (operational & accident conditions)
13.	Emergency Preparedness and Response
14.	Waste Management

The expert groups focus in particular on safety assessment practices in the respective areas and identify common approaches. These common approaches are then published as TSAGs which serve as reference point for safety assessments performed by member TSOs and others. TSAGs also contribute to the harmonization of safety assessment practices. Safety assessment principles that are more general are described in the Safety Assessment Guide (SAG). Both the SAG and TSAGs can be downloaded from the ETSON webpage (www.etson.eu/).

As members of both Russian and Ukrainian TSOs were involved in the expert group activities, all such activities had to be stopped in March 2022 in order to clarify how to deal with the situation. After all General Assembly members agreed to suspend all activities with the Russian TSO until further notice, the work was resumed. For some groups, new chairs had to be appointed. of the groups had to be filled for this purpose. Nevertheless, in 2022, the following actions were done in the different expert groups:

- EG Nº 2 worked on a report on warm prestress. This report is expected to be finalized in 2025.
- EG Nº 3 worked on a report on the requirements and approaches for the assessment of external hazards impacting the safety of nuclear power plants. The work is ongoing.
- EG N° 4 prepared a TSAG on Hydrogen risk assessments in light water reactors. The work is still ongoing.
- EG N° 6 elaborated a questionnaire on how each TSO is facing the passive systems implementation in present and future reactors. Based on this preparatory work, a technical guidance on the safety assessments of passive systems is expected to be finalized in 2025.
- EG N° 7 started to prepare an operational technical report based on concrete cases with regard to human and organizational factors.

- EG N° 8 nearly finalized a report about lessons learned on, from and for PSA. Its publication is expected in early summer 2023.
- EG Nº 9 worked on a report on "Decommissioning safety aspects of LW-SMRs".
- EG Nº 10 started to work on "best estimate approach and uncertainty analysis". The work is still ongoing.
- EG Nº 11
- EG Nº 12 worked on a report on fuel assembly bowing and safety demonstration. This report is expected to be finalized in 2023.
- EG Nº 13
- EG N° 14

# 2.2 ETSON Research Group

The ETSON Research Group (ERG) shares information on the member's research programmes. Based on that, they coordinate research activities as well as identifies and prioritizes research needs within the ETSON network. The ERG also develops common positions on research strategies that are communicated towards international organizations.

In 2022, the ERG continued the work on a position paper on research needs.

## 2.3 ETSON Communication Group

The ETSON Communication Group (ECG) was fully established in 2019 in order to increase the

recognition of ETSON's values and activities at the international level as well as to support ETSON's internal and external communication.

In 2022, the ECG started to work on a concept to further expand the collaboration of the ET-SON members by using new communication platforms.

### 2.4 Knowledge Management Group

The Knowledge Management Group (KMG) is tasked to develop, implement, maintain and manage common knowledge and cooperation tools for exchange of assessment and research and development results among the member TSOs. In addition, KMG aims at developing good practices for knowledge management based on experiences gained in member TSOs.

In 2022 no activities were performed.

#### 2.5

### Junior Staff Programme

The Junior Staff Programme (JSP) brings together young experts from all ETSON members. The JSP aims to improve the long-term partnership of the member TSOs, to build a network for cooperation between young experts in different disciplines from different countries, and to promote intercultural interaction.

In 2022, the JSP organized the ETSON Award during the 1. ETSON Conference in Munich (see Chap. 2.6).

Additionally, the JSP organized a Summer Workshop which took place end of October 2022 in Cherbourg (France) (see Chap. 2.7).

## 2.6 ETSON Conference 2022

Since the TSO Conference, which was planned in October 2022 was postponed to 2024, ET-SON organized the 1. ETSON Conference on 11-13 October 2022 in Munich and Garching (Germany). For the first time, it took place as a hybrid event. Around 60 participants of 14 ETSON member organisations were present, and other participants were attending online. Despite the current war, Ukraine was able to show its presence online with a virtual keynote speech to kick off the event. In addition, experts from the European Commission and the IAEA also attended the conference.

The first day started with a welcome message of the ETSON president, who recalled the profusion of issues that ETSON members are currently facing:

- the resumption of last-minute decisions with regards to operation of nuclear facilities power plants in some countries (Germany, Belgium),
- the question of new fuel assemblies for WWERs reactors,
- the development of SMRs,

all of this in a context of war and monitoring of the situation of nuclear facilities in Ukraine. This was a good transition to the keynote speech by the head of the Ukrainian TSO.





In a panel discussion afterwards, Anna Bredford, the Director of the Division of Nuclear Installation Safety of the IAEA, Massimo Garribba, the DDG of the European Commission and the ETSON president discussed about nuclear safety in the current challenging times. In addition to the war situation in Ukraine, this also included the current energy crisis and the decisions of certain states (Germany, Belgium) to extend the operating period of nuclear power plants. Finally, the discussions focused on how TSOs have a role to play in communicating clear and neutral information to as many people as possible, in order to explain essential scientific concepts on nuclear safety.

From the discussions, the following conclusions and highlights were drawn:

- Even in these challenging times when there are tensions on the energy supply, safety of nuclear installations must be fully taken into account.
- It is the responsibility of TSOs to provide national and European decision makers with all the technical elements and scientifically based expertise, to enable them to make a safety informed decision for the operation of nuclear facilities.
- TSOs should also provide the public, in a transparent manner, with intelligible information about safety challenges, especially in the context of the ongoing energy crisis.

- TSOs should also contribute, at technical level, to the ongoing thinking on the safety of fuel supply including for VVERs reactors.
- In this overall context, international cooperation with major organisations (IAEA, EC, OECD/NEA, ENSREG, WENRA), shall remain a first priority tool for further improving safety assessment of nuclear facilities in Europe.
- A revision of the IAEA standards shall be considered to take into account the issue of safety in war situations.
- The question should be asked whether the current international legal instruments are adequate with respect to the risk to nuclear safety.

The first day ended with ETSON award, which was organised by the JSP. Within a science slam, five nominee-teams of young scientists presented their work within 7 minutes each. This year, the following topics were presented during the science slam:

- Simulations of Consequences of a Long-Term Station Blackout in a VVER-1000 during the Ukrainian Crisis (SURO)
- Retention of Radioactive Methyl lodide in the Context of Nuclear Industry: on the Quantification of Isotopic Exchange Contribution Inside Activated Carbons (IRSN)
- Fuel Cladding Integrity During Dry Storage: The Influence of Hydrides (JACOBS)
- Verification of the SP3 Solver in FENNECS with C5G7 Test Cases Using HELIOS Cross Sections (GRS)
- LOFA and LOUHS Analysis on the Energy Well SMR Using Trace Code (SURO)

This year, a young scientific from IRSN won the first price and from GRS the second price of the ETSON Award.



On the second day, the experts from the ET-SON expert groups presented current projects and reports

- Report on special topics in fatigue evaluations for NPPs (2021, EG 2). The report addresses the extension of fatigue curves to very high cycles, environmentally assisted fatigue, the analysis of mixing zones and of stratification as well as an approach to fatigue for long-term-operation of nuclear power plants. Such topics were not considered in the original design of most of the nuclear power plants that are currently in operation.
- TSAG on hydrogen risk assessments in LWR (work in progress, EG 4). As a first step, a survey on ETSON member's practices and approaches to analyse the risks associated with hydrogen and other combustible gases were done. Afterwards, ways to improve the approaches and methodologies with respect to R&D results and main issues to consider when reviewing a safety file on a power plant related to hydrogen or other combustible gases risks will be identified. Finally, the TSAG will be prepared.
- Questionnaire on how TSOs are facing passive systems implementation in present and future reactors (EG 6). The evaluation of the results of the questionnaire will start in 2023.

- Technical report about the comparison of rules-making and practices concerning safety culture oversight (2020, EG 7).
- Technical report on Lessons Learned on, from and for PSA (2023, EG 8), It came to the following conclusions:
  - PSAs got more and more complex in terms of scope and level of detail
  - Need for continuously improving and developing methodologies, specific software and acquiring suitable reliability data
  - PSA experience improves deterministic analyses by better considering, functional limitations, interdependency of systems, unit configurations, operator actions, etc.
  - Need for close cooperation between deterministic and probabilistic team needed to ensure consistent analysis interpretation
  - Different PSA purposes may require different level of details implemented in PSA model, e.g. demonstrating compliance with regulatory requirements, risk monitoring, evaluation of proposed plant modifications
- Technical report on fuel assembly bowing (2023, EG12). The following topics will be addressed
  - Review of the fuel assembly bowing and its consequences on the safety demonstration (i.a. models for evaluation of inter-assemblies water gaps distribution, safety demonstration of neutronic, thermohydraulic and mechanical effects)
  - Comparison of rules-making and practices based on feedback of each country

 Key messages based on TSOs analyses

In the afternoon, the participants could choose between several parallel side events, i.a. the visit of the research reactor FRM II, the ETSON/ IAEA-TSO cooperation on the self-assessment tool TOSCA and the workshop on SMR.



Several projects were presented in the SMR Workshop:

- EU Harmonise started in June 2022 with 17 partners. Since the legal framework and procedures in the field of nuclear power are very rigid, which limits the introduction of new technologies, the project follows the need to review the existing regulatory framework. To achieve an international harmonized approach, this project tries to identify the licensing needs and to find common approaches for licensing innovative nuclear power plants
- ECCsmart started in September 2020 with 20 partners. Its goals for supercritical water-cooled SMR are
  - the development of cladding materials to withstand the high pressure and high temperature environment
  - The establishment of a chemistrycontrol strategy to minimize waterradiolysis effect and activationproduct transport

- The optimization of the fuel assembly geometry and configuration to enhance the power output and safety characteristics
- ELSMOR started in September 2019 with 15 partners. It focusses on the safety justification methodology for potentially challenging safety features of light-water SMR.
- McSAFER started in September 2020 with 13 partners. Within these projects, experiments and simulations are planned to improve and validate simulation tools for the safety analysis of SMR.

Additionally, Jacobs and France presented their activities and views on SMR in UK and France.

On the third day, the focus was on the reports of the ETSON members about current nuclear activities in their corresponding country.

 In Czech Republic, a new unit at the Dukovany site is planned to be built by 2035. The supplier of the NPP will be selected by 2024 (Westinghouse AP 1000, KHNP APR 1200 or EDF EPR 1200). In this context, challenging tasks are among others the assessment of safety aspects of new nuclear fuel and the continuous development of human resources for the state supervision

In the operating NPPs Temelin and Dukovany, the fuel should be changed from Russian fuel to other options (Westinghouse, Framatome). So far, the design is not tested for WWER 440 reactors, corresponding investigations and safety assessments have to be done first.

 In Germany, three NPPs are still in operation and 22 NPPs are being dismantled. Since the beginning of 2022, discussions have been underway to postpone the shutdown planned for end of 2022. In September 2022, it was decided to allow these three plants to continue operating until 15. April 2023 before they are finally shut down. The necessary legislative amendments were passed in November 2022.

In **Romania**, a comprehensive refurbishment project to ensure the safe long-term operation of Cernavoda-1 is ongoing. Here, components have to be replaced soon if the plant is to continue to be operated safely beyond the estimated lifetime of 30 years.

In 2021, stage 1 of the new build of two NPPs started at the site of Cernavoda, which was originally designed for 5 units. The commissioning of the units is planned in 2030 for Cernavoda 3 and in 2031 for Cernavoda 4.

In **Finland**, the application of an operation license up to 2050 for Loviisa 1+2 was submitted to the authority in 2022 whereas the current license of Olkiluoto 1+2 will end in 2038.

For Olkiluoto 3, the commissioning is ongoing. Its operation is also planned to end in 2038.

The application for the operating license of the final disposal facility was submitted to the responsible ministry in 2021. The commissioning of the components (underground and above ground) is currently in progress. The final disposal of spent nuclear is planned to start in 2025.

In 2022, the construction license application for the planned NPP Hanhikivi was withdrawn.

In **France**, the new build of at least 6 new reactors is planned by 2050. In some of the operating 1300 MW and 1450 MW reactors, indications of stress corrosion cracking were found. So far, no similar indications were found in the 900 MW reac-

tors. An extensive investigation and maintenance programme is still ongoing.

- In **Belgium**, the new federal government confirmed in 2020 the final shutdown as foreseen. Doel 3 was shutdown in September 2022, Tihange will be shutdown in February 2023. The other NPPs are planned to be shut down in 2025. Currently, negotiations between the licensee and the government are ongoing concerning a potential life-time extension by 10 years of Doel 4 and Tihange 3.
- In Lithuania, the dismantling of both NPPs will be finalized by 2036 and the site demolition by 2038. SMR are considered as a possible solution to compensate the lack of energy generation, which arose in 2009 with the shutdown of the two NPPs Ignalina 1+2. Therefore, they are active in corresponding SMR projects.
- In Italy, public consultation has taken place in 2021 and 2022. Based on the results, a national map of suitable areas for a final disposal was drawn up. After the approval by the responsible ministry, the map will be published, and the identified regions and local authorities can express their interest. A technical investigation of these sites will be done. Based on that, the responsible ministries will issue a localization decree.
- In Switzerland, the NPP Mühleberg was finally shut down in 2019. The plant is to be free of fuel elements by 2024 and nuclear dismantling is to be completed by 2031.

In September 2022, the National Cooperative for the Disposal of Radioactive Waste (NAGRA) also announced a proposal for a final repository site.

 In Hungary, two new units (WWER 1200) will be built at the Paks site. In June 2020, the application for the construction license has been submitted to the Hungarian nuclear regulatory authority, which was issued in August 2022. The construction is expected to start within a few weeks.

- Additionally, preparations are ongoing to extend the operating license of the existing units in Paks at least by another 10 years.
- In Slovakia, two WWER-440 units each in Bohunice and Mochovce are in operation. The units Bohunice-A-1/1/2 are being dismantled and Mochovce 3/4 are under construction. Mochovce 3 will start operation in early 2023.
- In Slovenia, discussions about the new built of a research reactor started. Due to public discussions about the new built of NPPs, the number of students in nuclear engineering courses has doubled.
- In UK, the operating AGR plants will be shut down within the next 6 years. As nuclear energy is to be part of the energy mix of the future in the UK, there are plans to build new nuclear power plants and SMRs.
- In July 2022, the planning application was approved for a twin unit at Sizewell C, but funding is currently unresolved.
- In October 2022, Rolls-Royce announced that it was looking at eight possible sites in the UK to build the first of three expected factories for parts of the SMR.
- In Japan, the reviews and inspections concerning the conformity to the new regulatory requirements are still ongoing. For 10 NPPs, the review is finished and the plants are back in operating.

On the fringes of the ETSON conference, bilateral meetings took place on further cooperation, among others on potential projects with JRC and on the cooperation with the IAEA TSO Forum.

Overall, both the presentation of the topics and the new concept of the event were well received by the participants. It was therefore decided that in future, the ETSON Conference will be held regularly, alternating with the EU-ROSAFE and the IAEA TSO Conference:

- 2023: ETSON Conference
- 2024: IAEA TSO Conference
- 2025: ETSON Conference
- 2026: EUROSAFE

### 2.7 JSP Workshops

The main yearly event of the JSP presents the summer school, which was planned to be hosted by SSTC NRS, the Ukrainian TSO as one of the ETSON members. Due to the Covid-19 pandemic, this summer school could not take place in 2020 and was therefore postponed to 2021. Since the Covid-19 restrictions didn't allow a summer school in 2021 either, it was postponed again to 2022. Due to the Russian attack on Ukraine, it was not possible for SSTC NRS to organize the summer school there.



IRSN therefore agreed to organize a workshop "Radioactive material dissemination – sea and atmosphere radioactive waste" in their place. It took place on 24-28 October 2022 at IRSN in Cherbourg, France. 23 people from 9 countries participated in the workshop. In addition to the

lectures, the workshop included visits to the EPR Flamanville (scheduled for commissioning at the End of 2023) and the IRSN laboratories "Laboratory for sea ecology and radioactive material dispersion". The program includes different presentations within four sessions: Atmospheric dissemination of radioactive material; Chemistry and effect of RA material; Safety of installations and Disposal facilities.

Moreover, the workshop was enriched by two case study sessions, consisting of discussions about consequences of a long-term blackout in a VVER 1000 in Ukraine, presented by SÙRO, and about the atmosphere and sea interactions in material dissemination, presented by the IRSN.

As a social event, the museum "La Cité de la Mer Sea Ecology" was visited.



# 3 RELATIONS

#### 3.1 IAFA

#### TSO Forum

ETSON representatives from BEL V and GRS are chair and vice-chair of the TSO Forum. This forum has the following goals:

- Strengthen the role of the scientific and technical capabilities in the member states,
- support technical and scientific capabilities in countries expanding or embarking on a nuclear program,
- promote the coordination and collaboration among the members,
- foster the scientific and technical capabilities,
- share safety and security research as well as the development, experiences and lessons learned,
- share feedback of the use of IAEA safety standards and other publications.

As chair and vice-chair of the TSO Forum, the ETSON was involved in the preparation of the next TSO conference of the IAEA, originally scheduled to take place on 13-15 October in St. Petersburg and hosted by SEC NRS. IAEA decided in summer 2022 to postpone the conference to 2024.

ETSON organised the 1. ETSON Conference from 11-13 October 2022, which was attended by Anna Bredford, the Director of the Division of Nuclear Installation Safety of the IAEA.

#### TIC Conference 2022

ETSON contributed to the "International Conference on Topical Issues in Nuclear Installation Safety: Strengthening Safety of Evolutionary and Innovative Reactor Designs" which took place on 18-21 October 2022 in Vienna. The president of ETSON participated in the panel discussion on "Challenges and Path Forward". Additionally, ETSON presented itself at a virtual booth. Since the TICC was a hybrid event, all participants were able to share the ETSON Videoclip and the presentation on its activities.

#### General Conference 2022

ETSON participated in the IAEA General Conference, which took place on 26-30 September 2022 in Vienna. ETSON representatives met the DDG of IAEA, Lydie Evrard and other responsible people.

#### TOSCA

In the past, the IAEA TSO Forum has developed a self-assessment questionnaire to assess scientific and technical capabilities of a TSO focusing on the core technical areas as described in the TECDOC-1835. This questionnaire has, largely through the valuable and sustained input of ETSON members, evolved with a tool for assessing the capabilities of TSOs, i.e., the TOSCA tool.

As a first prototype, this tool has been programmed within Excel. However, a first extensive usage at the South African national workshop showed that this Excel-based tool is very fragile. Therefore, it was decided to programme a new version of the TOSCA tool as a webbased database, which will be more stable and easier to handle. At the end of 2022, the betaversion was already in the stage to be tested internally. A follow-up project is planned to continue the work in 2023.

# 3 RELATIONS

### 3.2 European Commission

### 3.3 WENRA

ETSON members plan a common project on harmonization of licensing procedures, codes and standards for future fission and fusion plants within the HORIZON-Euratom-Programme. 12 Institutions mentioned its interest, including 9 ETSON members.

ETSON representatives met the DDG of the European Commission, Massimo Garribba, at the IAEA General Conference in September 2022 in Vienna. Additionally, he participated in the ETSON Conference in October 2022.

Several areas have already been identified by the Board, including the strengthening of exchanges with the JRC/EC, as discussed with Massimo Garribba during the meeting in Garching in October 2022. This is important and serve as a useful example to further convince the authorities to develop a collaboration with ETSON.

The HARMONISE project (harmonise fusion and fission, Horizon Europe), involving many ETSON members, would also be an opportunity to highlight the contribution of ETSON and TSOs, as the latter will be presented to the ENSREG group active in the EU SMR (pre)partnership WS2 on licensing (see below).

#### JRC – Joint Research Centre

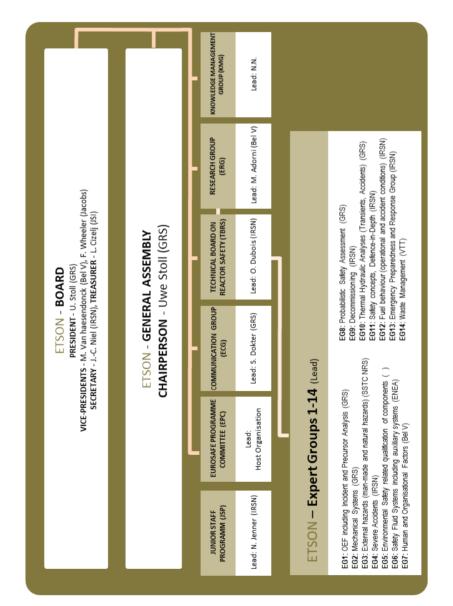
Open Access to the JRC research infrastructures: JRC publishes two calls per year to finance projects. The ERG monitors these calls. It is foreseen to deepen the cooperation in 2023. In July 2022, ETSON experts contributed to the meeting of the Reactor Harmonization Working Group (RHWG) of WENRA.

In November 2022, ETSON was invited to intervene at the 51st plenary meeting of ENSREG in Brussels. ENSREG is a European grouping of nuclear safety authorities. This invitation was an opportunity for the ETSON Board to present the activities of the organization, as well as to reflect on potential areas of common interest. Indeed, ETSON believe that there could be more synergies in their work with ENSREG and WENRA. The objective of this presentation was also to make the safety authorities understand the benefits that the work of ETSON members could bring to nuclear safety. The European Commission, represented by Massimo Garribba, supported this initiative, and welcomed the idea of a collaboration between ENSREG/WENRA and ETSON. WENRA Chair, Olivier Gupta, was supportive about this approach, mentioning moreover the relevant support of ETSON for the periodic topical review. ENSREG Chair, Marta Ziakova, welcomed this proposal for collaboration, specifying the important role of support organizations in the case safety authorities do not have appropriate deep knowledge. The Chair expressed hope that ENSREG will find for the future areas for good cooperation and noted the possibility to connect with research, as well as education. The Chair thanked ETSON organization, wished a good luck for its future activities and was hoping that ENSREG will be able to identify areas of common interest. Given the positive feedback from this discussion, ETSON Board will now plan and prepare the next exchanges with WENRA and ENSREG.



# 4.1 ETSON Organization 2022

The chart dates as of October 2022.





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