ETSON | EUROPEAN TECHNICAL SAFETY ORGANISATIONS NETWORK

Fontenay-aux-Roses, May 28th, 2021

To the attention of: Gisela STOPPA
Chairwoman of the WENRA/RHWG
Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
Robert-Schuman-Platz 3
53173 Bonn

Subject : WENRA/ETSON Collaboration - ETSON comments for 2020 WENRA reference levels Gap analysis

Dear Gisela,

I am pleased to send you the document elaborated by ETSON experts on selected issues of 2020 WENRA Safety Reference Levels for Existing Reactors.

As agreed in the frame of WENRA/ETSON collaboration, ETSON provides comments on different selected issues for the WENRA Gap analysis exercise and concludes if a revision of the issue under consideration seems to be worthwhile.

As mentioned during my presentation of the Technical Board on Reactor Safety activities to the WENRA/Reactor Harmonisation Working Group, ETSON experts are available for discussions on the attached document.

Yours sincerely,

Signature numérique de Karine HERVIOU
Date : 2021.05.28 18:55:19 +02'00'

Karine HERVIOU
ETSON/TBRS chairwoman

Copies: Olivier GUPTA, WENRA President
Uwe STOLL, ETSON President

**CONTACT PERSON:**
IRSN – France
92262 Fontenay-aux-Roses Cedex
**Karine HERVIOU**
**Chair of the ETSON/TBRS**
Phone: +33 (0)1 58 35 84 01
karine.herviou@irsn.fr

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**ETSON comments on the need for revision**
**of selected Issues of the**
**WENRA Safety Reference Level for Existing Reactors**

Issue G, Issue J and Issue O

**Disclaimer**
**The following ETSON position is discussed and agreed between the participating TSOs. The presented position reflects the process of finding a consensus amongst the ETSON partners and is not a collection of individual opinions of national TSO.**

**ETSON comments on 2020 WENRA Safety Reference Levels for Existing Reactors**

As agreed in the frame of WENRA/ETSON collaboration, ETSON provides comments on different selected issues for the WENRA Gap analysis exercise and a conclusion if a revision of the issue under considerations seems to be worthwhile. (Issue G "Safety Classification of Structures, Systems and Components", Issue J "System for Investigation of Events and Operational Experience Feedback" and Issue O "Probabilistic Safety Analysis (PSA)")

**Issue G "Safety Classification of Structures, Systems and Components"**

ETSON concluded that a revision of Issue G is worthwhile. This conclusion is based on the following observations:

- It is recommended to emphasize the review of the safety classification during the plant's lifetime in Issue G.
- IAEA published in 2014 SSG-30 which provides guidance on safety classification of structures, systems and components. In particular, the categorization of safety functions and classification of SSCs based on this categorization is addressed. ETSON recommends analysing how SSG-30 can be reflected in Issue G while considering that changes of safety classification approach of existing NPP might be detrimental to safety due to a transient period with potential coexistence of several classification systems. Practicability and advantages/drawbacks of potential modifications of safety reference levels due to SSG-30 should be carefully considered.

**Issue J "System for Investigation of Events and Operational Experience Feedback"**

ETSON concluded that a revision of Issue J is worthwhile. This conclusion is based on the following observations:

- It is recommended to emphasize, that the operating experience programme should cover the whole lifetime of an NPP.
- It could be emphasized, that in depth analyses with respect to human performance shall be performed by an independent organizational unit.
- It is recommended that Issue J shall include a requirement to survey and evaluate the effective implementation of measures derived from the OEF process.
- To consider insights to specify criteria for a self-assessment of the OEF process. It should be emphasized:
    - If the OEF process operates more than one NPP then it may also be appropriate to perform a self-assessment at the corporate level.
    - It is recommended that the self-assessment should cover a part of the whole of the following area of the OEF process:
        - Strategy (regulatory policy, guidance, scope of OE process)
        - Organization (description, resources, and procedures)
        - Activities (reporting, data processing, screening, investigation

analysis, trending, significant issue identification, review of external OE, corrective actions management)
        - Results (performance indicators, inspection/audit results, recurring and safety significant events)
        - Effectiveness monitoring (self-assessment, continuous improvement program)
    - The findings and recommendations resulting from the OEF self-assessment should be classified according to prioritization criteria. The continuous improvement program should integrate the follow-up of the required corrective action related to these finding/recommendations.
- To strengthen exchange of lessons learned from OPEX among licensees.
- To emphasize, that not only corrective actions shall be identified, but also lessons learned as part of the event investigation.
- The need for triggering additional necessary investigations (in-depth analyses/inspections, etc.) should be emphasized.
- Competence management should be emphasized for selecting staff responsible for OEF. Training as addressed in J1.4 is not sufficient, but also staffing etc.
- To emphasize, that licensee appropriate investigation methods should include human and organisational factors analysis integrated into a systemic approach focused on operational activities and their context.
- To include the requirement that available information on OPEX, on events but also on corrective actions, should be gathered to allow analyses by trends and possible quantitative comparison.

**Issue O "Probabilistic Safety Analysis (PSA)"**

ETSON concluded that a revision of Issue O is worthwhile. This conclusion is based on the following observations:

- According to the progressing state of the art PSA we recommend that PSA shall address the following:
    - internal hazards;
    - external hazards;
    - combination of hazards;
    - multi-unit aspects;
    - multi-source aspects (reactor and spent fuel pool).
- It should be emphasized that PSA should also be used to identify protection measures against internal and external hazards including combined ones.
- It may be worthwhile to check if terminology used in Issue O may be improved to be more in line with the most up to date internationally usage of terms in the area of PSA.