



ROSATOM

CORDEL regional workshop in Moscow
Session 2

Joint-Stock Company Rusatom Overseas

ROSATOM: participation to CORDEL

Alexander Bolgarov

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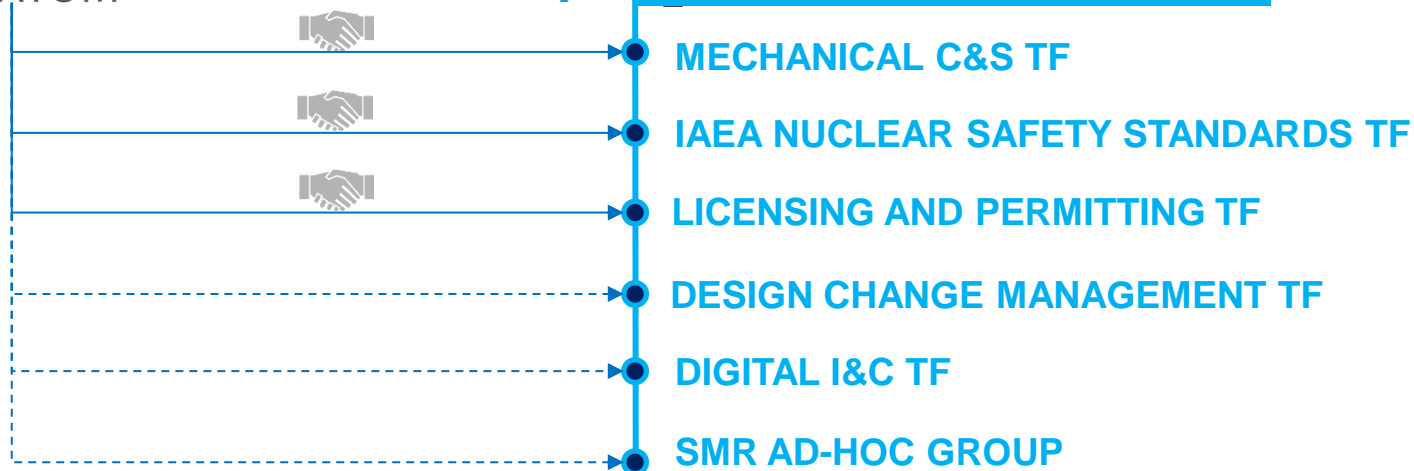
ROSATOM is an active participant of WNA Working Groups session, including CORDEL WG:



POCATOM

WORLD NUCLEAR ASSOCIATION

CORDEL



take care on voluntary efforts



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Ms. Agneta Rising
Director General, World Nuclear Association
Mr. Jerald Head
Chairman, CORDEL
World Nuclear Association
Tower House, 10 Southampton Street
London WC2E 7HA, UK
United Kingdom

June 27, 2016

Dear Ms. Rising and Mr. Head,

At a meeting between CORDEL and representatives of the MDEP Steering Technical Committee in September 2015, CORDEL requested MDEP to comment on the role and value of the WNA/CORDEL activities as they relate to the MDEP goals of enhancing regulatory cooperation on new reactor design evaluations, and increasing harmonization among standards and regulatory practices. MDEP was also asked to comment on the interaction between CORDEL and MDEP, and to provide suggestions to improve collaboration between nuclear regulators and the nuclear industry.

The MDEP Steering Technical Committee and Policy Group had previously discussed interactions with CORDEL and provided a letter to CORDEL in August 2015 in response to the CORDEL letter of February 2, 2015 letter. The Policy Group also discussed its interactions with industry stakeholders, including CORDEL at its May 23, 2016, meeting, and agreed that interactions with industry are beneficial and should continue.

Since both MDEP and CORDEL have expressed interest in and have established a goal of furthering harmonization of reactor designs, regulatory practices, and industry and international standards, the MDEP Policy Group agreed that coordination of efforts is appropriate in some cases. While coordinating efforts in areas on mutual interest, MDEP members will always retain their individual and independent regulatory roles and positions.

One area in which CORDEL is particularly useful to MDEP is in influencing standards. MDEP recognizes the CORDEL goal of developing a process for formal approval of codes and standards by regulatory authorities. In its August 2015 letter, MDEP agreed with the overall objective of code harmonization and agreed to participate in discussions with CORDEL on the principles, criteria, and processes needed to provide a regulatory authority with the capability to approve or endorse a code or standard. The manner in which regulators adopt, reference, or acknowledge industry standards varies and the decision to approve a code or standard will continue to rest with the individual regulators, consistent with MDEP policy.

MDEP agrees that CORDEL activities related to maintaining design standardization throughout the plant life cycle is a desirable goal, and that cooperation among regulators post-licensing would be beneficial. The forum through which this would take place has not yet been determined. The MDEP

Policy Group will continue to discuss the appropriate forum for regulatory cooperation in the operations phase as new plants complete construction.

MDEP members occasionally identify new generic topics that would benefit from standardization. As MDEP transitions to more of a focus on design specific working groups, it will focus more on referring these topics to other organizations in lieu of creating new MDEP working groups. Some topics may benefit from an industry lead for cooperation, and CORDEL could be one avenue for evaluating generic issues instead of, or in addition to, the MDEP-IC. While MDEP is a regulatory forum and CORDEL is an industry organization, both can benefit from communications and cooperation where the organizations share common goals. Two areas in which MDEP and CORDEL both have programs of work to increase harmonization are digital instrumentation and controls, and codes and standards. Interaction with CORDEL in these two areas is discussed below.

Feedback on the Code Convergence Activities

CORDEL's Codes and Standards Task Force, together with MDEP Codes and Standards Working Group and the standards development organizations are participating a joint venture to harmonize code requirements for pressure boundary components in nuclear power plants. At the early stage of the work, the CORDEL CSTF identified 2 areas important for code convergence: NDT personnel certification and non-linear analysis. CORDEL CSTF has made significant achievement in these areas and also actively participates in the code harmonization of weld qualification, and extensively reviews the world wide practices in performance qualification, procedure qualification, and quality assurance of welding.

The work being undertaken by CSTF is vital to speedup efforts towards potential harmonization. The results obtained are valuable for fully understanding the codes and achieving code reconciliation, and for converging code requirements. Although code convergence is a very challenging work, the high level of cooperation among CSTF, CSNRS and NRCs, code convergence will help towards achieving this goal. MDEP appreciates CORDEL's support and contribution in this fruitful cooperation, and looks forward to continuing collaboration with the CORDEL CSTF on code harmonization.

Feedback on Digital Instrumentation and Controls activities

The CORDEL Digital I&C Task Force has attended meetings of the MDEP Digital I&C Working Group during which the organizations shared information on activities being undertaken. CORDEL indicated that it was developing white papers on topics of interest to the I&CWS which would be shared with the MDEP working group. To date, the CORDEL task force has shared a draft paper on safety classification for instrumentation and control systems which will be discussed at a future meeting of the two organizations. The I&CWS is appreciative of the opportunity to review these papers, and feels the topics of proposed work useful to the work being undertaken by regulators. Continued interaction on the topics in the future will be beneficial.

In summary, both MDEP and CORDEL maintain strong interests in the harmonization of new reactor designs and design reviews, regulatory safety standards and practices, and related industry and I&C standards. Therefore MDEP values continued interaction with CORDEL to assist in achieving these

goals while each organization functions in a manner consistent with its appropriate roles and responsibilities.

Yours sincerely,



Petteri Tiippana

Chairman of the MDEP Policy Group
Director General of the Finnish Radiation
and Nuclear Safety Authority (STUK)

Eurocodes and RF normative documents' differences

Main differences

Regional features (climatology, geophysics)

- impact hardness for steel constructions' requirements are differ because of Russian individual natural and climatic characteristics of particular territories, inter alia, low negative temperatures;
- large load differences on buildings and structures;
- there are principal differences in defining of wind load pulse component because of different dynamic and correlation coefficients;
- calculated seismic loads and price in Eurocodes 1998 designing much higher in comparison with actual SNiP II-7-81 "Construction in seismic regions" at same parameters; values ratio of calculated seismic loads according Russian and European codes are 1.4 and difference in price can be 20 – 40 %

Safety requirements (design, technologies)

- the very general requirements to basements are given in Eurocodes, mainly according to constructions' types. There are no requirements to input data;
- there are practically no requirements in European codes to technologies (procedures) at performing of engineering – geological works;
- values of materials resistance coefficients are dramatically differ;
- requirements to constructions' fire resistance are different (in Russia they are higher in comparison with Eurocodes);
- there are no requirements and calculation methods in European codes for materials humidity limitation keeping in mind frost resistance;
- comparison analysis shows significant methodological and terms difference between European and Russian codes as well as differences in requirements to building materials which is arises from different operation conditions and initial components.



EUROPEAN UTILITY REQUIREMENTS
FOR LWR NUCLEAR POWER PLANTS

VOLUME 1 MAIN POLICIES AND OBJECTIVES

CHAPTER 1 INTRODUCTION TO EUR

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Thank you for your attention