

Summary record of the topical session of 11th Meeting of the IGSC

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Organisational Issues

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Annex B: SUMMARY OF THE TOPICAL SESSION: “ORGANISATIONAL ISSUES”

Introduction

The chairperson, Jürgen Wollrath (BfS), opened the session by welcoming the participants and recalling the aims of the topical session agreed in the IGSC programme of work (PoW). The aims were:

- to gather information on ongoing work in national programmes to address the key questions identified by IGSC in its PoW document (see below),
- to gain an understanding of how organisational structure and systems contribute to the development of, and confidence in, a safety case and
- starting from the key questions, to define the challenges and issues that could be of interest to, and benefit from discussion by, IGSC.

He then recalled the key questions identified by IGSC in its PoW document. These are:

- How can organisational structure and practices best contribute to building confidence in the safety case, both internally and to outside stakeholders?
- How can information be recorded and organised to ensure that data and experience from a variety of disciplines is brought to bear in a safety case?
- Given that repository development and operation can span many decades, how can be assured that institutional knowledge is not only maintained but remains accessible? This includes not only data but also the outcomes and basis for key decisions, such as selecting between design options.
- What organisational changes need to be made for an effective transition by waste management organisations from modelling and R&D organisations to construction and M&O companies, as national programmes approach implementation of disposal facilities? What changes are needed for regulators to make the parallel transition and be prepared for license review and facility oversight?
- To what extent does evidence of these measures need to be described or otherwise brought into the safety case?

Presentations on national experience

Organisational issues are directly relevant to the safety case and should not be considered peripheral. A consistent message in IGSC activities is the importance of integrating information from various disciplines and documenting the basis for decisions. How organisations are structured internally to build a safety case and what technologies and tools are applied to manage the development of a safety case are key components to effective integration of information and to building confidence. Six examples of national experience on such issues were presented focusing on different aspects:

- Nagra/Switzerland put emphasis on requirements management, organizational structure and data clearance.
- Saanio & Riekkola Oy/Finland highlighted strategic planning, requirements management and research and technical development needs.
- Andra/France stressed team structure and the repository development optimisation cycle.
- CNWRA & NRC/USA described the preparation and transition to license review for Yucca Mountain.
- CNSC/Canada called attention to their coordinated assessment and research programme (CARP) to prepare for license review.
- JAEA/Japan discussed the development of a knowledge management system (KMS).

The presentation slides are can be found in document NEA/RWM/IGSC(2009)8.

Discussions

The session chairperson (Bfs) initiated discussions by reviewing the three basic questions:

- Which are the key issues?
- Which would benefit from IGSC attention?
- Which further work is warranted by IGSC? On what time frame?

The discussions then mainly focussed on the first of these issues. A large number of viewpoints were expressed. The main points can be summarised as follows:

- Traceability is a key issue, especially considering safety cases with “miles” of documentation.
 - Archiving of information is important, but compilation of all information is not sufficient. The interpretation and conclusions based on the information must also be accessible, and there should some prioritization to help guide those who were not involved in the collection or original application of the information.
 - How to trace and access key decisions (and their justification) is an important aspect of this issue. This is especially true in view of the fact that those staff responsible for the decisions may no longer be available as the programme moves forward.
 - Another important aspect is the traceability of changes to computer codes and models.
 - A system to facilitate this should be implemented and the earlier such a system is set up, the better.

- There are challenges regarding the accessibility of information.
 - In some cases, old information is hard to access because old codes associated with that data can no longer be run on modern computers. This also leads to problems in confirming calculations or conclusions.
 - Another special problem is “hidden” information or implicit knowledge. This could be, for example, the detailed understanding and justification of approaches used in modelling. It is often people who have retired or may soon retire that hold or have access to such information. One approach to address this issue is to interview staff prior to retirement to elicit and record their decisions to which they contributed during their careers.
 - As noted regarding traceability, it is important to archive information comprehensively, but it is also necessary to effectively highlight and keep accessible the most critical information and outputs.
 - A related problem that has been encountered is that old data that are invalid or no longer needed cannot be deleted due to a lack of procedures to allow (and control) such actions. This adds to the vast information volume which makes knowledge management more difficult. There should therefore be criteria and rules set up in advance to simplify decisions on discarding invalid information.
- Regulators need to be “ready” to review safety.
 - Key issues in this context are availability of sufficient competence and resources.
- Quality assurance (QA) is a critical organisational issue that requires forward planning.
 - The planning of QA measures should start already at the project planning stage, where levels of QA are established for various project parts. As with traceability procedures, the earlier requirements are formulated, the less work will be expected to redo or revise older reports or analyses that do not conform with the QA requirements.
 - QA applies not only to data but also to codes and models.
 - Implementation of comprehensive QA holds practical challenges and can quickly become an onerous process. Not every item must be subject to the same level of QA. It is necessary to have a graded approach and a practical view on implementation. Such graded approaches should be reflected (or at least clearly allowed) in regulations.
 - Ideally, at each phase of the project, it should be specified what level of QA must be achieved and the quality levels should be clearly assigned to key items and information.
 - The design and application of a graded approach must be driven by safety. It is essential educate implementer and regulator staff so that there is a common understanding of which are safety-critical issue and which are not.
- Organisational transitions are inevitable during the development and implementation of geological information, but they must be undertaken with care.
 - During periods with large organisational transformation—such as when the implementer goes from being an R&D organisation to an M&O organisation—a lot of essential information may be lost if this transfer is too rapid. It is therefore important that such changes are planned carefully and are carried out in incremental steps. There should be a balance between stability and adjustments.
 - Another key transition is when key staff members approach retirement age. One approach to address this is to allow extra time or overlap in positions to aid the transfer of institutional knowledge to new employees.

- An example of progress in the area of organisational issues is the application of requirement handling systems, which was recommended in the reporting from the NEA EBS project.

The discussion then turned to what organisational issues would benefit from further IGSC attention and what actions might IGSC pursue. The following viewpoints were expressed:

- It was argued even though QA issues are critical for the success of disposal programmes, these issues are best dealt with in other contexts (and may actually already be a rather mature area). Any future IGSC initiative in the area of organisational issues should therefore not focus on QA (“focus on people and not paper”).
- Management issues are very important for establishing a good safety culture. Sound managerial practices have to be applied both by regulators and implementers. IGSC work should aim at documenting the current best practices but should not expect to find complete harmonization of approaches.
- Any IGSC work needs to acknowledge the differences between large programmes and small programmes, as well as the difference between the implementing position and the regulatory position. The outcome should not be formulated as a recipe but as a compilation of suggestions.
- A special challenge for the regulator is to find the essence of perhaps 80 000 pages of documentation. An increased collaboration among regulators in this area might be very valuable for future licensing reviews that are already initiated or expected within a number of years. It was suggested that such a special initiative for regulators may belong to regulators forum rather than IGSC.
- An IGSC initiative on organisational issues should address (knowledge) management tools: What are advantages and limitations? What are the main pitfalls?
- It was questioned whether IGSC members are the best suited to address organisational issues. The suggestion was made that perhaps NEA should contact high-level managers who can speak with more authority on those issues. It was, however, pointed out that IGSC members should according to the NEA recommendations be able to mobilize resources within their own organisations.
- The strong link between organisation issue and the previously proposed initiative on “achieving confidence” was highlighted during the discussions. Several participants recommended that the two initiatives should be merged. The organisational issues themes, when applied to a wider context of the safety case, fit well with the “achieving confidence” label. However, some participants pointed out that there is no full overlap in between the two issues; organisational issues are just one out of several themes under the “achieving confidence” label.
- Organisational issues are potentially much more than how to organise the compilation/review of a safety case. An example of such an issue is for instance how the shift in responsibility between waste producer and waste implementers should take place. This wider dimension could be addressed in other contexts such as FSC.

In conclusion, it was agreed that there is interest in the topic and that it falls within the IGSC mandate. Organisational issues have a clear bearing on the efficient development of (and confidence in) the safety case. There general consensus that it merits further attention from the IGSC. It was suggested that if this topic is set aside too long, momentum would be lost and, therefore, the group should aim to define any activity in the coming year. Even though questionnaire fatigue has been recognised as a potential problem, the compilation of one dealing with organisational issues might be a useful starting

point for a future initiative. There were mixed opinions regarding whether organisational issues and the achieving confidence themes should be addressed in the same activity and timeframe; eventually, it was agreed that this should be decided after (or at least concurrently) an activity is defined for organisational issues. All of these points were set aside to be discussed later in the meeting when decisions were taken on future IGSC activities (Item 17 of the agenda). In that discussion, it was finally agreed that a task group would be formed and would conduct preliminary work (including possibly a questionnaire) to further define the aspects of interest; the group will present a proposal for an IGSC project at the next meeting of IGSC (i.e., IGSC-12)

Slide Presentations

The slides for the presentations on national experience are contained in document NEA/RWM/IGSC(2009)8. The presentations were:

- a. France: emphasis on integration of information and work processes (team structure and lessons learnt and developments since Dossier 2006 to foster communication and inter-disciplinary work,
(B. Cahen, Andra)
- b. Switzerland: emphasis on integration of information and work processes (data clearance procedures and organisational structure supporting the development of geosynthesis
(J. Schneider, Nagra)
- c. Finland: emphasis on integration and organisation of work practices, organisational transformation
(M. Snellman, Saanio & Riekkola Oy)
- d. USA: emphasis on organisational transformation (preparation and transition to license review for YM)
(B. Sagar, CNWRA and A. Mohseni, US-NRC)
- e. Canada: emphasis on organisational transformation (coordinated assessment and research programme to prepare for license review, regulator/implementor dialogue)
(S. Nguyen, CNSC)
- f. Japan: emphasis on knowledge management systems (developing a comprehensive KMS, especially taking into account broader considerations regarding integration of information and organisational continuity)
(H. Umeki, JAEA)