

Notes of NUSSC Working Group on SF-1 ‘Fundamental Safety Principles’

11 – 12 September 2018, Vienna

Attendees: Austria (2), Canada (Chair) (1), Croatia (1 via WebEx), Finland (1), WNA/ENISS (1), Germany (1), Japan (1), Singapore (1), Slovakia (1), USA (1 via WebEx), IAEA staff (2).
Representatives from the other SSCs had been invited; one attended.

I. INTRODUCTION

NUSSC chair welcomed all participants and gave a brief explanation of the decision to undertake a review of the SF-1.

The starting point for this action was a 2012 UNSCEAR Report “Attributing Health Effects to Ionizing Radiation Exposure and Inferring Risks”, which had been the subject of multiple discussions during the CSS and RASSC meetings. The discussions led to the formation of a CSS Working Group whose recommendation to form a Consultancy was accepted by the CSS 42. The Consultancy met in February 2018 and reported to the CSS 43, which raised action 43.04 on the SSCs and included the Consultancy’s report as Annex VI (“The CSS recommends that the SSCs undertake a review of the SF-1 at the June/July 2018 meetings and report back at the 44th CSS meeting in November 2018.”).

The goal of this WG meeting is not to revise the SF-1 but to review it and to consider points identified in the previous meeting and outlined in the background note (see attachment). As an alternative to revising the SF-1 any possible enhancements could be handled by other means.

II. OVERVIEW OF NATIONAL APPROACHES AND COMMENTS RECEIVED FROM MEMBERS/OBSERVERS

Some attendees described the evolution of their national approach to safety or compared their regulatory approach against SF-1. A common point of view which had been provided by the Belgium representatives on the five SSCs was also considered by the Working Group.

III. TOPICS IDENTIFIED FOR INCLUSION OR FURTHER REVISION

Among the topics which, in the view of the Working Group, could be considered for addition to the descriptions of intent and purpose were:

- Continuous improvement (or making reasonably practicable safety improvements), which could be noted under Principles 1, 3, 5 or 8;
- Transparency with the public (on such matters as the right to information, public communication, participation or even consultation), which could be noted under Principle 2;
- Avoidance of a large or early release, which could be noted under Principle 5 or 8;
- Safety/security interface, which could be noted under Principle 3 or 8 (though the view of NSGC should be sought first regarding the wording);
- International cooperation (or even harmonization) and assistance, which could be noted under Principle 2;

- 'Polluter pays' principle, which is implicitly noted under Principle 1 but which should perhaps be highlighted (while avoiding mentioning liability);
- Consideration should be given to non-radiological adverse effects of protective actions in the event of an emergency, which could be noted under Principle 9;

The Working Group noted that safety assessment, which is noted under Principle 3, is a separate ONR Fundamental Principle, so could be considered as a separate Principle, including risk assessment and risk management. Alternatively, since it does not seem to fit well under Principle 3, it could be moved under Principle 8;

The Working Group noted that it may be possible to delete one or more Principles by combining, or expanding, others, as had been proposed by the CS in February 2018. In particular, the Working Group noted that Principle 7 is primarily a re-statement of the Safety Objective, so could be considered for deletion.

Other topics which were considered but which may already be adequately covered are:

- The management and eventual disposal of spent fuel (and wastes arising from remediation after an emergency) could be considered under 3.29, though not all agreed on the need to mention it specifically;
- Protection of society or the public interest seems to be adequately covered under the Safety Objective;

The Working Group also identified a number of editorial issues for SF-1 as a whole:

- The Principles should avoid use of the word 'must', since this turns them into requirements. A less mandatory term ought to be used, such as 'are to be'. It might also be clearer to use a single title, instead of a heading, then an explanation, as part of avoiding 'must';
- Consistency of terminology, both among Principles and between SF-1 and the GSRs and Safety Glossary (for example, use of 'person' vs 'individual', sometimes with 'environment' and sometimes without);
- The description of intent and purpose should not appear to limit the scope of Principles (the Working Group felt that some did);
- The descriptions of intent and purpose should be reviewed for duplication and revisions made so that each topic is included only once, in the most appropriate place;

The Working Group noted the proposal to revise SF-1 as a result of the UNSCEAR Report but felt that this should await clarification from ICRP on whether it is to revise its recommendations.

The Working Group also noted the emerging issues of Small Modular Reactors and transportable nuclear power plants but did not propose specific inclusions to accommodate them.

IV. CONCLUSION

The view of the Working Group is that no urgent need exists to revise SF-1. Although some gaps were identified, these were generally not of such magnitude as to indicate a need to add another Principle but could be filled by revising some of the descriptions of intent and purpose. This was confirmed at NUSSC 46 in November 2018.

Background note for the NUSSC WG to review SF-1

The Action to review SF-1 with which we are charged:

“The CSS recommends that the SSCs undertake a review of SF-1 at the June/July 2018 meetings and report back at the 44th CSS meeting in November 2018.”

This in turn is derived from a Recommendation of a Consultancy Meeting in February 2018: “SF-1 be reviewed to take into account the significant issues raised in this meeting...and to make it coherent and consistent with GSR Part 3 and GSR Part 7, with ICRP recommendations and with the findings of the UNSCEAR 2012 report.”

Background:

The starting point basis for this action is a 2012 UNSCEAR report “Attributing Health Effects to Ionizing Radiation Exposure and Inferring Risks” which had been the subject of multiple discussions at CSS and at RASSC. The discussions led to the formation of a CSS Working Group whose recommendation to form a Consultancy was accepted by CSS 42 and which met in February 2018 and reported to CSS 43, which raised action 43.04 on the SSCs included the Consultancy’s report as Annex VI (see [here](#)).

Discussion and recommendation:

When reviewing SF-1, we should consider such things as whether:

- any new principles are needed;
- any existing principles should be clarified or otherwise improved;
- some principles could be combined or separated;
- any principle strays into the area of offering requirements or guidance;
- the level of detail of each principle is adequate;
- any overarching requirements exist which cannot be linked back to a principle.

It is not the intent at this time to revise SF-1 but in considering the above points, we might also like to consider whether any deficiencies we identify could be handled by other means, such as by preparing a Background Note, or adding an Appendix or Annex to SF-1

Other documents which describe safety principles and hence may inform our deliberations include INSAG-12 (see [here](#)), ONR Guide ‘Fundamental Principles’ (see [here](#)), the WENRA Safety Reference Levels 2014 (see [here](#)) and CNSC Regulatory Policy P-299 ‘Regulatory Fundamentals’ (see [here](#)) ; see also the Security Fundamentals ([here](#)).

Overall, we should be very cautious in our deliberations and not propose making wholesale revisions but should carefully consider if some focussed changes or additions might be justified.