

Mr Yukiya Amano  
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Dear Director General Amano,

I am writing on behalf of the Commission on Safety Standards (CSS) in response to your letter of July 7, 2011. This letter report is intended to respond to your request for the CSS: “to review the IAEA safety standards, and report back to me within the next 12 months, with recommendations for strengthening the standards, where gaps would be identified, and for further promoting their universal application”.

This action is also addressed by the IAEA Action Plan on Nuclear Safety (GOV/2011/59-GC(55)/14), and is detailed as follows:

*Review and strengthen IAEA Safety Standards and improve their implementation*

- The Commission on Safety Standards and the IAEA Secretariat to review, and revise as necessary using the existing process in a more efficient manner, the relevant IAEA Safety Standards in a prioritized sequence. [A footnote clarifies that this review could include, inter alia, regulatory structure, emergency preparedness and response, nuclear safety and engineering (site selection and evaluation, assessment of extreme natural hazards including their combined effects, management of severe accidents, station blackout, loss of heat sink, accumulation of explosive gases, nuclear fuel behaviour and ways to ensure the safety of spent fuel storage).]

With a view to implementing this action, a first draft of a Safety Standards Action Plan was prepared by the Secretariat in the summer of 2011 and submitted to the CSS at its meeting in November 2011. The draft Safety Standards Action Plan describes the methodology for conducting the review of the IAEA Safety Standards in terms of scope, prioritization, topical approach and process, the timeline for the review, and possible options for the subsequent revision of those safety standards for which the review would conclude that there are issues to be addressed.

At the CSS meeting in March 2012 the draft Progress Report summarizing the results of the first review of the IAEA Safety Standards after consideration by the Safety Standards Committees in December 2011 and January 2012 was discussed in detail. It is my pleasure to summarize the first Progress Report for you.

There is currently a body of information related to the accident at TEPCO's Fukushima Dai-chi Nuclear Power Plant. The material used so far for the review consists of the two reports from the Government of

Japan, issued in June and September 2011, the report of the IAEA Fact Finding Mission conducted from 24 May to 2 June 2011 and the letter from INSAG dated 26 July 2011.

As additional information becomes available, including the detailed sequence of events and physical evidence from inside the facility, this list of lessons will evolve and likely expand. Some of the items in the list will need to be reassessed as well. It is important to verify the credibility of any new information, and to validate each lesson in a transparent manner. These lessons will continue to inform the review and serve for the development of the technical bases supporting changes to the IAEA Safety Standards.

At the March 2012 meeting the CSS members concluded with satisfaction that important work has been carried out so far by the Secretariat and the Committees. Nevertheless, the review and revision of IAEA Safety Standards in the light of the accident at TEPCO's Fukushima Dai-ichi Nuclear Power Plant will be long process. There is a need for an iterative process of collection of facts, understanding and learning. The step by step approach is a necessary provision for the comprehensiveness, quality and efficiency of the Safety Standards review process.

In the review process up to now, there were altogether 106 lessons analysed. No gaps or deficiencies have been identified in the 450 overarching requirements. Each overarching requirement addresses a main topical safety area and is complemented by a set of associated requirements. The first proposal to be reviewed by the Committees, the Member States and the CSS consists of the addition of 31 associated requirements and the strengthening of 20 existing ones. Most of the proposed additions are actually already covered by the Safety Guides which provide recommendations on how to implement the safety requirements.

Most significant additions identified up to now by the Secretariat and the Committees include, for example:

- Consideration of additional provisions to cope with situations involving the loss, over an extended period of time, of off-site power or the ultimate heat sink;
- Consideration of properly identified potential external hazards, including those which may affect the availability of the regional infrastructure due to extreme external events;
- The need to ensure that information on the essential safety parameters remains available in severe accident conditions.

In particular, the CSS members perceive and emphasize the necessity of staying focused on a few most significant issues that have already clearly emerged as lessons from the accident at TEPCO's Fukushima Dai-ichi Nuclear Power Plant. I would like to mention at least some of these:

- The further strengthening of defence-in-depth by better taking into account extreme natural hazards that may exceed the levels taken into account in the current design basis and in the current safety requirements. Such situations can result in the devastation and isolation of the site, an event of long duration, unavailability of numerous safety systems, simultaneous accidents at several plants including their spent fuel pools, and the occurrence of radioactive releases.
- The importance of means for maintaining containment integrity, which is critical as the last barrier to protect people and the environment against radioactive releases resulting from a nuclear accident and the importance of means for maintaining core cooling and spent fuel cooling as critical safety functions.

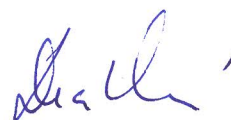
- The importance of harmonized approaches to support international trade, including for commodities and foodstuffs.
- The need for a justification process and optimization criteria for remediation and rehabilitation as well as advice on the transition from an emergency to a post-emergency phase.

The CSS members also emphasize the good evolution of the Safety Requirements over the past years as most of the lessons identified from several reports were already covered in the Safety Requirements. The current process for review and revision of IAEA Safety Standards was recognized by CSS members as an opportunity to continue to strengthen the requirements in specific areas.

It is expected that the Progress Report will continue to be updated with national, regional and international contributions, as well as with the contribution from the second Extraordinary Meeting of the Convention on Nuclear Safety in August 2012. The proposals for strengthening the Safety Requirements are going to be reviewed by the Committees and the CSS in October/November 2012 so that consultation of Member States can start at the beginning of 2013 through the process agreed by the CSS. Moreover, an effort will be made to address simultaneously the changes in the Safety Requirements and the provisions of corresponding guidance in the associated Safety Guides.

Dear Director General Amano, it will be my pleasure to report to you again with a second Progress Report after the CSS meeting in October 2012.

Dana Drabova



Chairperson of the Commission on Safety Standards