Dear Director General Amano,

I am pleased to provide you, on behalf of the Commission on Safety Standards (CSS), at your request by letter dated 18 February 2015, the CSS’s results related to the consideration, in the set of safety standards, of the technical elements contained in the Vienna Declaration on Nuclear Safety adopted by the Contracting Parties to the Convention on Nuclear Safety in February 2015.

As you noted in your letter, good progress has been achieved in the revision of the Safety Requirements, and the CSS is in a position to confirm that the technical elements of the Vienna Declaration are already well reflected in the relevant Safety Requirements: GSR Part 1 Rev. 1 on Governmental, Legal and Regulatory Framework for Safety, SSR-2/1 Rev. 1 on Safety of Nuclear Power Plants: Design, and SSR-2/2 Rev. 1 on Safety of Nuclear Power Plants: Commissioning and Operation.

The table in Annex I attached indicates where, in these Safety Requirements, the technical elements cited in the Vienna Declaration are incorporated. These three revised Safety Requirements are currently in the publication process following their approval by the Board of Governors in March 2015.

The CSS therefore focused its efforts, as you recommended in your letter, on the consideration of the relevant Safety Guides. In doing so, the CSS also consulted the Nuclear Safety Standards Committee (NUSSC).

A number of Safety Guides were already under revision at the time of the CSS meeting in April 2015 as part of the Nuclear Safety Action Plan to strengthen the safety standards in light of the Fukushima Daiichi accident. Those Safety Guides that are also relevant with regard to the Vienna Declaration are listed in Annex II attached. In response to your request, the CSS accepted the proposal from the Secretariat to consider six further Safety Guides in the list of priorities for review and possible revision which also directly or indirectly relate to the technical elements cited in the Vienna Declaration:

- SSG-25: Periodic Safety Review for Nuclear Power Plants
- NS-G-1.5: External Events Excluding Earthquakes in the Design of Nuclear Power Plants (already identified by NUSSC in June 2013)
- NS-G-1.7: Protection against Internal Fires and Explosions in the Design of Nuclear Power Plants
- NS-G-1.11: Protection against Internal Hazards other than Fires and Explosions in the Design of Nuclear Power Plants
- NS-G-2.3: Modifications to Nuclear Power Plants
- NS-G-2.6: Maintenance, Surveillance and In-service Inspection in Nuclear Power Plants
At its meeting in June 2015, NUSSC recommended that the first four Safety Guides on this list be considered priorities.

Please accept, Sir, the assurances of my highest consideration.

Dana Drábová
Chairperson of the Commission on Safety Standards

Mr Yukiya Amano
Director General
International Atomic Energy Agency
Wagramerstrasse 5 – P.O. Box 100
A-1400 Vienna
Austria
## Annex I

### Comparison between the Vienna Declaration on Nuclear Safety and the Safety Requirements content

<table>
<thead>
<tr>
<th>Vienna Declaration on Nuclear Safety</th>
<th>Safety Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New nuclear power plants are to be designed, sited, and constructed, consistent with the objective of preventing accidents in the commissioning and operation and, should an accident occur, mitigating possible releases of radionuclides causing long-term off site contamination and avoiding early radioactive releases or radioactive releases large enough to require long-term protective measures and actions.</td>
<td>SSR 2/1 Rev. 1 section 2 on Applying the safety principles and concepts, para 2.6: In order to satisfy the safety principles, it is required to ensure that for all operational states of a nuclear power plant and for any associated activities, doses from exposure to radiation within the installation or exposure due to any planned radioactive release from the installation are kept below the dose limits and kept as low as reasonably achievable. In addition, it is required to implement measures for mitigating the radiological consequences of any accidents, were they to occur. SSR-2/1 Rev. 1 section 2 on Applying the safety principles and concepts, para 2.11: … Plant event sequences that could result in high radiation doses or in a large radioactive release have to be ‘practically eliminated’¹ and plant event sequences with a significant frequency of occurrence have to have no, or only minor, potential radiological consequences. An essential objective is that the necessity for off-site intervention measures to mitigate radiological consequences be limited or even eliminated in technical terms, although such measures might still be required by the responsible authorities. ¹ The possibility of certain conditions arising may be considered to have been ‘practically eliminated’ if it would be physically impossible for the conditions to arise or if these conditions could be considered with a high level of confidence to be extremely unlikely to arise. SSR-2/1 Rev. 1 section 2 on Applying the safety principles and concepts, para 2.13 (4): The purpose of the fourth level of defence is to mitigate the consequences of accidents that result from failure of the third level of defence in depth.… The safety objective in the case of a severe accident is that only protective measures that are limited in terms of times and areas of application would be necessary and that off-site contamination would be avoided or minimized. Event sequences that would lead to an early radioactive release or a large radioactive release² are required to be ‘practically eliminated’. ² An ‘early radioactive release’ is a radioactive release for which off-site protective measures are necessary but are unlikely to be fully effective in due time. A ‘large radioactive release’ is a radioactive release for which off-site protective measures that are limited in terms of times and areas of application are insufficient for the protection of people and of the environment. SSR-2/1 Rev. 1 section 4 on Principle technical requirements, para 4.3: The design shall be such as to ensure that plant states that could lead to high radiation doses or a large radioactive release have been practically eliminated, and that there would be no, or only minor, potential radiological consequences for plant states with a significant likelihood of occurrence.</td>
</tr>
</tbody>
</table>
SSR-2/1 Rev. 1 section 5 on General plant design, para 5.21a on external hazards:
The design of the plant shall provide for an adequate margin to protect items ultimately necessary to prevent
an early radioactive release or a large radioactive release in the event of levels of natural hazards exceeding
those to be considered for design taking into account the site hazard evaluation.

SSR-2/1 Rev. 1 section 5 on General plant design, para 5.27 on design extension conditions:
… The plant shall be designed so that it can be brought into a controlled state and the containment function
can be maintained, with the result that the possibility of plant states arising that could lead to an early
radioactive release or a large radioactive release is practically eliminated. The effectiveness of provisions to
ensure the functionality of the containment could be analysed on the basis of the best estimate approach.

SSR-2/1 Rev. 1 section 5 on General plant design, para 5.31 and 5.31a on design extension conditions:
5.31. The design shall be such that the possibility of conditions arising that could lead to an early
radioactive release or a large radioactive release is practically eliminated.
5.31a. The design shall be such that for design extension conditions, protective measures that are limited in
terms of times and areas of application shall be sufficient for the protection of the public, and sufficient time
shall be available to take such measures.

SSR-2/1 Rev. 1 section 6 on Design of specific plant systems, para 6.28a on control of containment
conditions:
6.28a. Design provision shall be made to prevent the loss of the containment structural integrity in all plant
states. The use of this provision shall not lead to an early radioactive release or a large radioactive release.
2. Comprehensive and systematic safety assessments are to be carried out periodically and regularly for existing installations throughout their lifetime in order to identify safety improvements that are oriented to meet the above objective. Reasonably practicable or achievable safety improvements are to be implemented in a timely manner.

SSR-2/2 Rev. 1 Overarching Requirement 9 and associated requirements:

**Requirement 9: Monitoring and review of safety performance**

The operating organization shall establish a system for continuous monitoring and periodic review of the safety of the plant and of the performance of the operating organization.

4.33. An adequate audit and review system shall be established by the operating organization to ensure that the safety policy of the operating organization is being implemented effectively and that lessons are being learned from its own experience and from the experience of others to improve safety performance.

4.34. Self-assessment by the operating organization shall be an integral part of the monitoring and review system. The operating organization shall perform systematic self-assessments to identify achievements and to address any degradation in safety performance. Where practicable, suitable objective performance indicators shall be developed and used to enable senior managers to detect and to react to shortcomings and deterioration in the management of safety.

4.35. Monitoring of safety performance shall include the monitoring of personnel performance, attitudes to safety, response to infringements of safety, and violations of operational limits and conditions, operating procedures, regulations and licence conditions. The monitoring of plant conditions, activities and attitudes of personnel shall be supported by systematic walkdowns of the plant by the plant managers.

4.36. The persons and organization performing quality assurance functions shall have sufficient authority and organizational independence to identify problems relating to quality and to initiate, to recommend and to verify the implementation of solutions. These persons and organizations shall report to a high level of management such that the necessary authority and organizational independence are provided, including sufficient independence from costs and schedules when considering safety related matters.

4.37. The appropriate corrective actions shall be determined and implemented as a result of the monitoring and review of safety performance. Progress in taking the corrective actions shall be monitored to ensure that actions are completed within the appropriate timescales. The completed corrective actions shall be reviewed to assess whether they have adequately addressed the issues identified in audits and reviews.

SSR-2/2 Rev. 1 Overarching Requirement 12 and associated requirements:

**Requirement 12: Periodic safety review**

Systematic safety assessments of the plant, in accordance with the regulatory requirements, shall be performed by the operating organization throughout the plant's operating lifetime, with due
account taken of operating experience and significant new safety related information from all relevant sources.

4.44. Safety reviews such as periodic safety reviews or alternative arrangements shall be carried out throughout the lifetime of the plant, at regular intervals and as frequently as necessary, typically no less frequently than once in 10 years. Safety reviews shall address, in an appropriate manner, the consequences of the cumulative effects of plant ageing and plant modification, equipment requalification, operating experience, including national and international operating experience, current national and international standards, technical developments, and organizational and management issues, as well as site related aspects. Safety reviews shall be aimed at ensuring a high level of safety throughout the operating lifetime of the plant.

4.45. The operating organization shall report to the regulatory body as required, in a timely manner, the confirmed findings of the safety review that have implications for safety.

4.46. The scope of the safety review shall include all safety related aspects of an operating plant. To complement deterministic safety assessment, probabilistic safety assessment (PSA) can be used for input to the safety review to provide insight into the contributions to safety of different safety related aspects of the plant.

4.47. On the basis of the results of the systematic safety assessment, the operating organization shall implement any necessary corrective actions and reasonably practicable modifications for compliance with applicable standards aiming at enhancing the safety of the plant by further reducing the likelihood and the potential consequences of accidents.

GSR Part 1 Rev. 1
4.39a. The regulatory body shall ensure, adopting a graded approach, that authorized parties routinely evaluate operating experience and periodically perform comprehensive safety reviews of facilities, such as periodic safety reviews for nuclear power plants. These comprehensive safety reviews are submitted to the regulatory body for assessment or are made available to the regulatory body. The regulatory body shall ensure that any reasonably practicable safety improvements identified in the reviews are implemented in a timely manner.
Annex II
List of relevant Safety Guides, with regard to the Vienna Declaration, that are already under revision as part of the Nuclear Safety Action Plan

- DS479: Operating Experience Feedback for Nuclear Installations
- DS481: Design of the Reactor Coolant System and Associated Systems in Nuclear Power Plants
- DS482: Design of Reactor Containment Systems for Nuclear Power Plants
- DS483: Severe Accident Management Programme for Nuclear Power Plants
- DS484: Site Evaluation for Nuclear Installation
- DS487: Design of Fuel Handling and Storage Systems for Nuclear Power Plants
- DS489: Storage of Spent Nuclear Fuel
- DS490: Seismic Design and Qualification for Nuclear Power Plants
- DS491: Deterministic Safety Analysis for Nuclear Power Plants