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Mr. Yukiya Amano
Director General
International Atomic Energy Agency
Wagramer Strasse 5
A-1400 Vienna
Austria

Dear Director General Amano:

I am writing in my capacity as Chairman of the International Nuclear Safety Group (“INSAG”). INSAG’s terms of reference state that INSAG should provide “recommendations and opinions on current emerging safety issues” to the IAEA and others. During my term as Chairman, I have customarily sought to fulfill this obligation on behalf of INSAG by supplementing the various INSAG reports with an annual safety-assessment letter. My past letters are available at the INSAG website at <http://goto.iaea.org/insag>.

As you are aware, the world nuclear community has focused on the accident at the Fukushima Daiichi Plant and has sought to ensure that the lessons arising from that accident are learned and applied. The world community has taken strong actions to improve the safety of NPPs through “stress tests,” national action plans, strengthened safety systems, enhanced emergency planning, and many other steps. The response has been aggressive and comprehensive. At the same time, the IAEA has pursued an Action Plan in response to the Fukushima accident that includes a report planned for release at the General Conference in 2015. Various INSAG members, including me, are actively involved in the report’s review. In light of the ongoing extensive IAEA effort and the many other reports and activities that have examined the accident, this letter will not focus on it. Rather, this letter will discuss a weaknesses in some of the institutional systems for ensuring nuclear safety.

It is now widely understood that the strengthening of safety culture is a vital ingredient to achieving excellent safety performance. See, e.g., *Key Practical Issues in Strengthening Safety Culture*, 5 (2002) (INSAG-15). There are many attributes that must be pursued in order to build an appropriate safety culture, but prime among them are: (1) a commitment to continuous learning in which opportunities to improve safety are sought out and implemented, and (2) the establishment of a questioning attitude in which regulators, operators, and individuals continuously challenge the adequacy of existing conditions in order

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to identify ways to improve safety. Of course, the prime responsibility for safety must rest with the operators of nuclear power plants (“NPPs”) and, as a result, the existence of an appropriate safety culture among the operators of NPPs is a focus of scrutiny by accomplished regulators and by the World Association of Nuclear Operators (“WANO”). But do the authorities of Member States demand the same openness of themselves that they expect of the operators of NPPs? The facts are not always reassuring.

Although Member States (and the nuclear industry) have made many commendable changes in the wake of the Fukushima accident, there are some signs in the international context that the momentum for change and improvement may be waning. There was some evidence of this in connection with the Sixth review meeting of the Convention on Nuclear Safety (“CNS”) that was held on March 24 to April 4, 2014. Each Contracting Party has the obligation to prepare a report and to respond to questioning by others. This interaction among the parties is the sole vehicle provided in the CNS for assuring that its obligations are satisfied. As INSAG has commented previously:

A successful CNS process requires that all the Contracting Parties demonstrate an attitude of openness and a genuine commitment to make improvements as recommended as peers. The key goal for each Contracting Party in the review meetings should be to collect as many useful ideas and lessons as possible for further safety enhancements, rather to demonstrate their own self-perceived excellence.

Strengthening the Global Nuclear Safety Regime, 10 (2006) (INSAG-21). The Sixth Review meeting is disappointing in this respect.

Although many of the country reports were excellent, it is apparent that some countries saw full participation in the review meeting as more of a burden than a learning opportunity. The statistics are troubling: of the 76 Contracting Parties, only 69 participated in the Review Meeting; 11 did not submit a National Report; 22 submitted reports after the deadline (thereby limiting review by other Contracting Parties); and 34 did not post even a single question or comment. Of course, many of the Contracting Parties do not have nuclear power plants and may feel that their lack of engagement is justified. Nonetheless, the participation is disappointing given the reality that even countries without nuclear power plants have strong reasons to ensure the adequacy of safety performance of NPPs outside their borders. Needless to say, the Convention itself obliges the Contracting Parties to submit reports and attend the Review Meeting. CNS, Articles 5 and 24. It is troubling that full participation was not achieved at a meeting scheduled only three years after the Fukushima Daiichi accident – a time when there still are important lessons to be learned from each other.

The same lack of attention is reflected in the experience with the IAEA's review services. In my letter of last year I commented on the many benefits of the review services and expressed concern that some Member States are not employing them as extensively as would be desirable. Letter to Director General Amano from R.A. Meserve (August 21, 2013). These services provide many benefits:

- A review by outsiders with fresh eyes can bring attention to important matters that might otherwise be missed or misunderstood;
- Preparation for a review encourages a healthy self-assessment that can itself reveal safety issues;
- The review serves to broaden the experience of the participants;
- Public availability of the reports provides transparency and builds public confidence;
- Participation in a review reflects each Member States responsibility not only to its own citizens, but to neighboring countries;
- Participation demonstrates a commitment to safety; and
- Follow-up reviews ensure that lessons are applied effectively.

While we recognize that the IAEA peer review services are just one of the means to ensure a competent regulator, they are particularly useful. Unfortunately, there still are some countries that have not had the learning opportunity that these reviews can provide, although I am pleased to learn that there has been an increased demand for reviews. Some regulatory bodies in countries with NPPs have never had the benefit of an Integrated Regulatory Review Service ("IRRS") mission and some countries have made limited use of scrutiny of NPPs by an Operational Safety Review Team ("OSART"). Others have undertaken limited scope reviews that may not cover important possible vulnerabilities. This reluctance to undertake comprehensive reviews is inconsistent with a commitment to continuous learning and to the promotion of a questioning attitude that are important aspects of safety culture.

There is another dimension of the usage of the review services that deserves comment. It is the experience of several members of INSAG, many of whom have had extensive experience on review missions, that some of the beneficiaries of a review are reluctant to accept candid evaluations. It is part of the normal process to share a draft of a review with the beneficiary in order to ensure the correction of factual errors. Of course, it is fully appropriate in this

context for a country to seek the elimination of misstatements. But we understand that the resulting negotiation over the text of a review can at times go well beyond the correction of error and extend to an aggressive effort by the subject of the review to soften or suppress constructive criticism. One of the essential attributes of an appropriate safety culture is a willingness to confront the facts. As a result, this reaction to a review is deeply disappointing.

One of the overarching lessons from the Fukushima accident is the paramount need to nurture an appropriate safety culture among all those who are involved in the nuclear enterprise. This is widely acknowledged as a key ingredient for licensees. But the responsibility extends beyond licensees to encompass the authorities of Member States as well. One of the fundamental lessons of the Fukushima Daiichi accident is the need to strengthen “defense in depth” to include institutional barriers to sustain high standards of nuclear safety through a strong and vibrant safety culture. INSAG is undertaking work that we hope will provide the IAEA and others with a foundation for increased efforts in this area.

It is now three years since the adoption of the IAEA Action Plan on Nuclear Safety. In that time considerable progress has been made. It is now appropriate to reflect on how the nuclear community can maintain the momentum generated by the Action Plan and the many other efforts that have been undertaken. This should involve the reinforcement of existing mechanisms to enhance safety, as well as the development of new approaches. For example, discussion might be undertaken as to whether the existing suite of IAEA peer reviews should evolve in ways that continue the progress in the implementation of the Action Plan.

I hope that this letter is helpful. As always, please contact me if INSAG can offer assistance on this or other matters.

Best regards.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Richard A. Meserve', written in a cursive style.

Richard A. Meserve

cc: INSAG members
Denis Flory