

# **New Development in the Law of Nuclear Safety: the Vienna Declaration**

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**Regional Conference of the  
German Branch of INLA  
Nürnberg—29 September 2015**

# Background of the International Law of Nuclear Safety

- *IN THE FIRST DECADES OF NUCLEAR DEVELOPMENT, NUCLEAR SAFETY CONSIDERED ALMOST EXCLUSIVELY A NATIONAL LEGAL MATTER*
- *1986 CHERNOBYL ACCIDENT RAISED POLITICAL CONCERNS IN VIEW OF TRANS- BOUNDARY ASPECTS*
- *POST-CHERNOBYL PROPOSALS FOR AN INTERNATIONAL CONVENTION SET ASIDE*
- *1991 BREAK-UP OF FORMER USSR RAISES CONCERNS ABOUT NUCLEAR POWER SAFETY IN NIS*
- *SEPTEMBER 1991 VIENNA CONFERENCE ON NUCLEAR SAFETY CALL FOR A CONVENTION IS ADOPTED BY THE SEPTEMBER IAEA GENERAL CONFERENCE*

# Negotiation and Status of the CNS

- *INFORMAL, OPEN-ENDED WG DEVELOPS TEXT BETWEEN 1991 AND 1994*
- *JUNE 1994 DIPLOMATIC CONFERENCE ADOPTS CNS TEXT*
- *OCTOBER 1996 CNS ENTERS INTO FORCE*
- *CURRENT MEMBERSHIP IS 77 PARTIES, INCLUDING ALL NUCLEAR POWER STATES, EXCEPT IRAN*
- *FOR 2 DECADES THE CNS HAS DEFINED THE BASIC CONTENT OF THE INTERNATIONAL LAW OF NUCLEAR SAFETY*

# Basic Character of the CNS

- ***NOT A REGULATORY REGIME; NO INSPECTIONS OR INTERNATIONAL SECRETARIAT***
- ***NOT A SANCTIONS REGIME WITH PENALTIES FOR NON-COMPLIANCE***
- ***CONSIDERED AN INCENTIVE CONVENTION WITH PERIODIC PEER REVIEW MEETINGS TO ENCOURAGE MEMBER STATES TO MEET CNS OBLIGATIONS***

# Objectives of the CNS—Art. 1

- *TO ACHIEVE AND MAINTAIN A HIGH LEVEL OF NUCLEAR SAFETY WORLDWIDE*
- *TO ESTABLISH & MAINTAIN EFFECTIVE DEFENCES . . . AGAINST POTENTIAL RADIOLOGICAL HAZARDS . . . TO PROTECT INDIVIDUALS SOCIETY AND THE ENVIRONMENT FROM HARMFUL EFFECTS OF IONIZING RADIATION*
- *TO PREVENT . . . AND MITIGATE RADIOLOGICAL CONSEQUENCES OF ACCIDENTS*

# Scope of the CNS—Art. 3

- **ARTICLE 3 LIMITS COVERAGE TO “NUCLEAR INSTALLATIONS”**
- **ARTICLE 2(i) DEFINES NUCLEAR INSTALLATION:**  
**“ANY LAND-BASED CIVIL NUCLEAR POWER PLANT . . . INCLUDING SUCH STORAGE, HANDLING AND TREATMENT FACILITIES FOR RADIOACTIVE MATERIALS AS ARE ON THE SAME SITE AND ARE DIRECTLY RELATED TO THE OPERATION OF THE NPP.”**
- **RESEARCH OR MILITARY REACTORS NOT COVERED**

# Basic Obligations of the CNS

- *TO PREPARE AND MAKE AVAILABLE A NATIONAL REPORT INCLUDING A SELF-ASSESSMENT OF STEPS AND MEASURES TAKEN TO IMPLEMENT THE CNS (ART. 5)*
- *TO SUBJECT THE NATIONAL REPORT TO PEER REVIEW BY OTHER PARTIES AT PERIODIC MEETINGS AND TO TAKE AN ACTIVE PART IN THAT REVIEW AND THE REVIEW OF REPORTS OF OTHER PARTIES (ART. 24.1)*
- *TO IMPLEMENT CNS UNDER NATIONAL LAW (ART. 4)*

# Existing Nuclear Installations

## Art. 6

- TAKE “APPROPRIATE STEPS” TO ENSURE THAT SAFETY IS REVIEWED AS SOON AS POSSIBLE*
- ENSURE THAT ALL “REASONABLY PRACTICABLE IMPROVEMENTS” ARE MADE TO UPGRADE SAFETY*
- IF UPGRADING CANNOT BE ACHIEVED, PLANS FOR SHUT DOWN SHOULD BE MADE*
- SHUT DOWN MAY TAKE ACCOUNT OF WHOLE ENERGY CONTEXT, POSSIBLE ALTERNATIVES, SOCIAL, ENVIRONMENTAL AND ECONOMIC IMPACT.*



# **“Technical” Obligations**

## **Chapter 2**

***(a) General provisions***

***(b) Legislation and regulation***

***(c) General safety considerations***

***(d) Safety of installations***

# Legislation and Regulation

## Article 7

- *“establish and maintain legislative and regulatory framework*
- *Establish national safety requirements and regulations*
- *System of licensing*
- *System of regulatory inspection and assessment*
- *System of enforcement*

# Regulatory Body

## Article 8

- *Establish regulatory body with “adequate authority, competence and financial and human resources”*
- *“ensure an effective separation” between regulatory functions and those of any body concerned with promotion or utilization of nuclear energy*

*[Note: does not use term “independence”]*

# **Responsibility of Licence Holder**

## **Article 9**

- ***Prime responsibility for the safety of a nuclear installation rests with the holder of the relevant licence***

***[Note: This means the operator of a nuclear facility]***

# General Safety Considerations

*ART. 10—PRIORITY TO SAFETY*

*ART. 11—FINANCIAL AND HUMAN RESOURCES*

*ART. 12—HUMAN FACTORS*

*ART. 13—QUALITY ASSURANCE*

*ART. 14—ASSESSMENT AND VERIFICATION OF  
SAFETY*

*ART. 15—RADIATION PROTECTION*

*ART. 16—EMERGENCY PREPAREDNESS*

# Safety of Installations

***ART. 17—SITING***

***ART. 18—DESIGN AND CONSTRUCTION***

***ART. 19—OPERATION (Longest in the CNS, with  
8 sub-articles)***

# The CNS Review Process

- *EACH PARTY PREPARES A NATIONAL REPORT AND REVIEWS OTHER NATIONAL REPORTS*
- *PARTIES MAY SUBMIT REPORTS “IN THE FORM AND STRUCTURE THEY DEEM NECESSARY”*
- *GROUPS OF 6-8 COUNTRIES NOT BASED ON SUBJECT MATTER (AS ENVISAGED IN CNS DRAFT)*
- *QUESTIONS/COMMENTS THROUGH GROUP COORDINATORS*
- *REPORTS DISCUSSED AT REVIEW MEETING WITH RESPONSE TO QUESTIONS/COMMENTS*
- *ORAL REPORTS BY GROUP RAPPORTEURS*
- *CONSENSUS APPROVAL OF SUMMARY REPORT BY PRESIDENT OF REVIEW MEETING*

# Summary Report of the Meeting

- ***PARTIES MAY ADOPT DOCUMENT ADDRESSING ISSUES AND CONCLUSIONS REACHED (ART. 25)***
- ***ADOPTION BY CONSENSUS***
- ***VERY SHORT TIME FOR PREPARATION AND REVIEW OF PRESIDENT'S DRAFT***
- ***SUMMARY REPORTS ARE CONCISE: 1999 (8 pages); 2002 (11 pages); 2005 (13 pages); 2008 (7 pages); 2011 (8 pages); 2014 (10 pages with 12 in annexes)***
- ***VERY GENERAL REPORT LANGUAGE CAN BE "DE-CODED" TO REVEAL SPECIFIC CONCLUSIONS***



# CNS Review Meetings

- *1<sup>ST</sup> Meeting: 12-23 April 1999*
- *2<sup>nd</sup> Meeting: 15-26 April 2002*
- *3<sup>rd</sup> Meeting: 11-22 April 2005*
- *4<sup>th</sup> Meeting: 14-25 April 2008*
- *5<sup>th</sup> Meeting: 4-14 April 2011*
- *6<sup>th</sup> Meeting: 24 March-3 April 2014*
- *Diplomatic Conference on Proposed Amendment: 9 February 2015*

# CNS V Fukushima Aspects

- *MEETING TOOK PLACE ONLY 3 WEEKS AFTER THE FUKUSHIMA DISASTER IN JAPAN*
- *FOCUS ON FUKUSHIMA AND LESSONS TO BE LEARNED*
- *EXTRAORDINARY MEETING OF PARTIES ON FUKUSHIMA HELD IN AUGUST 2012 IN CONJUNCTION WITH ORGANIZING MEETING FOR CNS VI*
- *9 SPECIFIC TOPICS IDENTIFIED FOR FURTHER CONSIDERATION (SEE FOLLOWING SLIDE)*

# Fukushima-Related Topics

1. *NPP DESIGN AGAINST EXTERNAL EVENTS*
2. *OFFSITE RESPONSE TO EMERGENCIES*
3. *EMERGENCY MANAGEMENT & PREPAREDNESS*
4. *SAFETY OF MULTI-UNITS AT SAME NPP SITE*
5. *COOLING OF SPENT FUEL DURING SEVERE ACCIDENTS*
6. *TRAINING OF NPP OPERATORS FOR SEVERE ACCIDENTS*
7. *RADIOLOGICAL MONITORING AFTER SEVERE ACCIDENTS*
8. *PUBLIC PROTECTION EMERGENCY ACTIONS*
9. *COMMUNICATIONS IN EMERGENCY SITUATIONS*

# CNS VI—2014

- **69 of 76 Parties attended**
- **11 Parties did not submit reports**
- **13 cross-cutting issues identified (see next slide)**
- **Switzerland proposes amendment (new para. iv in Article 18 on Design and Construction—see slide after cross-cutting issues)**
- **Calls for Diplomatic Conference to consider the Swiss proposal**

# CNS VI—Cross-cutting issues

- Independence of regulatory bodies
- Transparency
- Safety oversight within licensees
- Safety Culture
- Knowledge management—maintain competence and knowledge
- Quality and availability issues in the supply of materials and services
- Instrument & control systems
- Long term operation
- Reduction of radioactive releases
- Severe accident management/emergency preparedness
- Bilateral cooperation between regulatory bodies
- Peer reviews

# **Text of Proposed Swiss Amendment**

## **Add new para. iv to CNS Article 18 (Design and Construction)**

**“Nuclear power plants shall be designed and constructed with the objectives of preventing accidents and, should an accident occur, mitigating its effects and avoiding releases of radionuclides causing long-term off-site contamination. In order to identify and implement appropriate safety improvements, these objectives shall also apply at existing plants”**

# 2015 Diplomatic Conference

- **72 parties attended to consider proposed Swiss amendment to Article 18**
- **Conference rejected the amendment**
  - Current Article 18 deemed adequate
  - Ratification by required 2/3 for EIF would be difficult
  - Lack of meaningful enforcement measures
  - Objectives could be achieved through other means
- **Adopted Vienna Declaration on Nuclear Safety—  
published as IAEA Document INFCIRC/872 (18  
February 2015)**

# Vienna Declaration on Nuclear Safety

- **6 paras in Preamble cite background (Fukushima, new IAEA guidance documents, IAEA Action Plan)**
- **3 principles adopted**
  - **(1) mirrors language of Swiss Amendment**
  - **(2) conduct regular safety assessments**
  - **(3) national standards to take into account IAEA standards and best practices**
- **Further decisions**
  - **7<sup>th</sup> CNS Review Meeting to address Declaration principles**
  - **CNS reports to reflect principles (special focus on CNS Article 18 and 6, 14, 17 and 19)**
  - **Safety objectives to be integral part of CNS Review meetings**
- **IAEA Director General to transmit Declaration to IAEA Commission on Safety Standards and publish it as an INFCIRC document**



# VIENNA DECLARATION—A *DE FACTO* AMENDMENT OF THE CNS?

- *VDNS CLEARLY NOT A FORMAL TREATY AMENDMENT UNDER CNS ARTICLE 32*
- *ILLUSTRATES THE DIFFICULTY OF AMENDING NUCLEAR CONVENTIONS—ENTRY INTO FORCE TYPICALLY REQUIRES AGREEMENT OF 2/3 OF THE PARTIES*
- *HOWEVER, IF APPLIED CONSISTENTLY BY THE CNS PARTIES IN REVIEW MEETINGS, IT COULD BE CONSIDERED AS CUSTOMARY INTERNATIONAL LAW UNDER ICJ STATUTE ARTICLE 38.1(b)*
- *CODIFICATION AS IAEA DOCUMENT AND TREATMENT BY IAEA SECRETARIAT (E.G. IN SAFETY ASSESSMENT MISSIONS) AND INSAG ALSO RELEVANT TO ITS STATUS*
- *GIVEN BASIC CHARACTER OF INTERNATIONAL LAW, THE SIGNIFICANCE OF THE VDNS IS NOT DEPENDENT ON ITS LEGAL STATUS UNDER THE CNS*

# Practical Implications

- ***SINCE 1999 THE CNS REVIEW MEETINGS HAVE PROVIDED A USEFUL FORUM FOR SHARING SAFETY RELATED EXPERIENCE***
- ***THE BASIC ELEMENTS OF THE CNS PROVIDE A COMPREHENSIVE FRAMEWORK FOR NPP SAFETY***
- ***CNS REPORTS, QUESTIONS AND COMMENTS AND MEETINGS PROVIDE VALUABLE INFORMATION AND TRANSPARENCY CONCERNING SAFETY ISSUES***
- ***THE CNS PROCESS IS A STRONG INCENTIVE FOR STATES TO CONTINUOUSLY IMPROVE NUCLEAR SAFETY***
- ***THE CNS ENCOURAGES STATES TO IDENTIFY COMMON ISSUES AND APPROACHES, INCLUDING PRIORITIES FOR PROMPT CORRECTIVE ACTION***
- ***WITH A GLOBAL NUCLEAR INDUSTRY THE CNS PROCESS ENCOURAGES HARMONIZATION OF STANDARDS AND PROCEDURES FOR SAFETY***

# Practical Implications (2)

- *THE CNS REVIEW MEETINGS HAVE NOTED A HIGH DEGREE OF COMPLIANCE WITH CNS OBLIGATIONS*
- *HOWEVER, THE FUKUSHIMA EVENT DEMONSTRATES THE NEED FOR CONTINUING SAFETY ENHANCEMENTS*
- *THE AVAILABILITY OF A FORUM OF TECHNICAL EXPERTS FOR ASSESSING FUKUSHIMA IMMEDIATELY FOLLOWING THE EVENT DEMONSTRATES THE PRACTICAL VALUE OF THE CNS*
- *ADOPTION OF THE VIENNA DECLARATION PROVIDES ANOTHER PRACTICAL EXAMPLE OF ADDRESSING NUCLEAR SAFETY ISSUES AND PRACTICES*
- *UNIVERSAL ADHERENCE TO THE CNS BY ALL NPP STATES, PARTICULARLY NEW ENTRANTS, WILL BE IMPORTANT FOR MAINTAINING SAFETY WORLDWIDE*

# CNS Website

The website established by the IAEA for the CNS provides very useful information on issues of nuclear reactor safety, including national reports of the parties.

<http://www-ns.iaea.org/conventions/nuclear-safety.asp#1>