Future Directions for Nuclear Safeguards and Verification

7th INMM-ESARDA Joint Workshop
Aix en Provence, 17-20 October 2011
Opening Plenary Session

Keynotes by Etienne Pochon,
Director for Security and Non Proliferation
Military Applications Division
Alternatives Energy and Atomic Energy Commission (CEA, France)

Supporting non proliferation and Global Security efforts

Dear Participants,
Dear Colleagues,
Ladies and Gentlemen
Mr. Chairman,

Good Morning.

It is with great pleasure that I join the Deputy Director General of Safeguards of the International Atomic Energy Agency, the Director for Nuclear Safeguards of the Directorate for Energy of the European Commission, the Vice President of the Institute of Nuclear Material Management (INMM), the Vice President of the European Safeguards Research and Development Association (ESARDA) and the Deputy Director for International Relations of the CEA to welcome you in Aix-en-Provence on behalf of the Director of the Military Division Application of the CEA to the seventh INMM-ESARDA joint workshop to consider the future of nuclear safeguards and verification taken in large perspective and the associated challenges.

This workshop is held at the right time. It comes one year after the 2010 review conference of the Non Proliferation Treaty and the Nuclear Security Summit. To improve its efficiency and effectiveness, the IAEA safeguards department is considering ways on how to implement the
objectives of the long term strategic plan 2012-2023 and is currently developing an R & D long term strategic plan to define and acquire the technologies and methods needed for future safeguards with the support of member states support programmes. In that framework, the Agency has engaged a reflection on the evolution of Safeguards from the criteria approaches to a State-Specific approach driven by all information available to the Agency and a reflection on a future role in disarmament verification in a broader perspective.

The workshop comes also at a time the European Union is looking on how to improve internal and external security and to better contribute to global stability through the implementation of tools like the Instrument for Stability, the CBRN plans, the development of the 8th Framework Programme in Security.....

CEA contribute as a major actor of France's action against nuclear proliferation and to the strengthening of nuclear security at national level as European and International levels, in particular through the support of the IAEA activities in nuclear non-proliferation with the French Support Programme for the IAEA safeguards system and security with the contribution to the IAEA Nuclear Security Plan and cooperation projects with the European Commission. Therefore, we are pleased to organize the 7th INMM-ESARDA workshop in cooperation with the Joint Research Centre of the European Commission and the support of all our partners.

To proceed in these directions, the international communities and international organisations as IAEA and EU are in needs of innovative ideas and support from member states. Within France's policy, the CEA will continue to provide expert and technical support to these evolutions.

At that stage, let me present the CEA with some facts and figures. The CEA is a French
government-funded technological research organization, organized around 5 branches: Nuclear Energy, Technological Researches, Defence, Material Sciences and Life Sciences which operate over 10 sites and the support which comprises 9 functional divisions. Globally, CEA employs 15900 staff with an annual budget of 4,3 Billions €. Within the scope of its activities, the CEA cover most of the research areas and techniques in nuclear non-proliferation and security. The CEA is also the advisor of the French Government on nuclear policy and the Director for International Relations is also the Governor for France at the Board of Governors of the IAEA.

As the defence branch of the CEA, the Military Applications Division (DAM) is a technical body of 4700 staff an a budget of 1.8 Billion €.The missions of the Military Application Division (DAM) consist in the manufacture and maintenance of operational nuclear warheads; the dismantling of nuclear warheads retired of service; the simulation program and Basic science and technology studies. Regarding nuclear propulsion the DAM develops and maintains nuclear steam supply systems for submarines and aircraft carriers and ground based facilities, The DAM bear the responsibilities of the management of nuclear materials for weapons the production of which has been definitely stopped a decade ago and for nuclear propulsion, the clean up of facilities and waste management. Treaty monitoring and the development and implementation of non proliferation and global security programs is also an important mission of DAM which rely on nuclear weapons manufacture and past testing experience, the research and development areas of the other divisions of the CEA and the support of Industry.

The DAM is organised in four project directions (nuclear weapons, nuclear materials, nuclear propulsion, security and non proliferation) and operational departments supported by
administrative directions. Activities are carried out over five operational sites: Ile de France, Valduc, CESTA, Le Ripault and Gramat (cf. the map). Each one is dedicated to a specific aspect of the mission.

The CEA/DAM as technical body is fully committed to support France efforts to counter proliferation and strengthen nuclear security as those of European institutions and International organizations, essentially the IAEA. The programmes on non proliferation and global security carried out to fulfil that mission cover the following areas:

Development of monitoring and detection methods and equipments, country profiles and nuclear stockpiles assessment, arms control instruments, proliferation resistance of nuclear fuel cycle, monitoring of nuclear tests, operation and maintenance of national detection capabilities and contribution to CTBT verification systems.

Within working groups, several speakers will illustrate French activities in non proliferation and security and set them in the perspective of the future directions for international safeguards, verification technology and broader scope in nuclear verification, stressing the importance of education and training for upcoming generations.

The DAM provides support to the IAEA through expert advices, technical assistance and through the French Support Programme for the IAEA Safeguards (FRESPAS). To help the agency to acquire the tools: technologies and methodologies necessary to perform its evolution: getting to more information driven safeguards and implementing the state-level approach. The expertise covers the following areas:

Nuclear fuel cycle activities cover general concepts, description of proliferation paths, indicators & signatures; detection and measurement systems

Open sources activities cover different types of satellite imagery and imagery, data collection &
information processing

Environmental and nuclear analysis includes, traces detection, NRC and ultra traces, support of IAEA analytical capabilities by supporting IAEA Seibersdorf Analytical Laboratory and the IAEA Network of Analytical Laboratories (NWAL). Currently three laboratories of CEA are or will be certified. Projects are developed in cooperation with European Commission laboratories (ITU, IRMM) and forensics.

With the view to strengthen export control, supporting nuclear trade analysis for safeguards purpose both nationally and through European Union.

CEA/DAM address also in cooperation with other French stake-holders the issue of proliferation resistance assessment and risk analysis.

Since the 1950s, the CEA/DAM is responsible for the Monitoring of nuclear tests relying on the operation of the National detection capabilities and recently for the French contribution to CTBT verification system (IMS). CEA/DAM has been designated as technical expert to the French authority for the implementation and the operation of the CTBT monitoring stations under French responsibility and the National data Centre.

Henceforth, the technical and scientific expertise acquired in the development and operation of nuclear test monitoring networks contribute to civilian security with the setting up of a centre dedicated to maintain a 24 a day monitoring earthquake alert and tsunami warning.

Regarding nuclear security, the mission of CEA/dam comprises the fight against nuclear and radiological terrorism threats and emergency response, ensuring nuclear security at major events, intervention in case of weapons accident, support to national defence authorities, assistance to French authorities (Police, Customs, Justice, ...) in case of illicit trafficking and external cooperation on forensics (EU members, European Commission, IAEA, ITWG,...),
development of tools for characterization and neutralization of suspicious objects, development of key technologies for security, detection and identification of CBRN-E agents, crisis management, transportation and sites security, information systems.

The competences in Response plus the competence in nuclear analysis has allowed CEA to set up forensics researches and activities directed including attribution capabilities. Forensics activities includes collection of sample, Radionuclides and chemical compounds characterisation: composition, morphology, age determination. International Round-Robin exercises are regularly carried out as research on reference material with other laboratories; NIST – NBL – CETAMA - IRMM

After the closure of the workshop on Thursday afternoon, The CEA has organized an extra event at Marcoule Centre, to visit the new information showroom, settled inside the building of the former G2 reactor.

This visit which is dedicated to the French action in favour of nuclear disarmament and focus on dismantling of weapon fissile material production plants, is in continuity with the topics addressed specifically in working group 3 "Broader Perspective on Nonproliferation and Nuclear Verification". The visit will be introduced by M. Jean Michel Chaput, Director, Head of the Fissile Material and Environment project division, during the closing plenary, Thursday morning.

The programme of the workshop is very dense, comprehensive and promising. All the working groups have matters to discuss in depth. We hope the workshop will be fruitful, providing ideas which offer new avenues of reflexion and development to help the IAEA the European Union and the international community to curb nuclear proliferation and strengthen global security.

Directly in line with the French policy, the CEA will continue to support the IAEA and the
European Union institutions to help them to explore and implement thses avenues by providing expertise and know-how.

Dear colleagues, we wish you a fruitful meeting and a very pleasant stay in Aix- en-Provence, enjoying the city and the landscape of Provence.