

National Progress Report: Chile

March 31, 2016

Since the 2014 Nuclear Security Summit, Chile has carried out the following activities to enhance the global nuclear physical security architecture.

1. Strengthening Nuclear and Other Radioactive Material Security

Accomplishments

- **Radiological Emergency Security Commission (CONSER)**

CONSER was established by Decree N° 647 of 2015, of the Ministry of the Interior and Public Security, as a presidential advisory commission of permanent technical nature. The Commission has an inter-ministerial and inter-sectoral composition. Its objective is to propose measures to strengthen national capacities to jointly address the different stages of an event that may endanger nuclear or radiological physical security, advise on adequate inter-sectoral coordination, and suggest actions aimed at disseminating international know-how and standards on nuclear and radiological security. This new national entity, of a preventive nature, will contribute to promote knowledge of international norms among public institutions and will advise ministerial authorities on appropriate decision-making when facing these types of events.

Commitments

- ***Center for Excellence: Design and Implementation of the Nuclear Physical Security Support Center***

This Center has a physical plant located in Lo Aguirre Nuclear Center and will be focused on the formation of human resources in nuclear physical security. The design of its training programs and the implementation of the required equipment are currently taking place.

- ***Preparation of “Regulations on the Physical Protection of Radioactive Sources”.***

The Regulations are awaiting approval from the competent regulating organs (Ministry of the Interior and Public Security, Ministry of Health, and the Chilean Commission on Nuclear Energy).

- ***Preparation of a Plan on Strengthening the Security Culture.***

The plan is being developed by the Nuclear and Radiological Authority, which involves Physical and Radiological Security in operators at the national level.

2. Minimizing Nuclear and other Radioactive Materials

Accomplishments

- **Contribution to the minimization of Highly Enriched Uranium (HEU)**

Chile has converted its reactors to less than 20% of enriched uranium (LEU) and does not possess highly enriched uranium (HEU) nuclear fuel. Moreover, Chile does not consider plutonium separation as part of its activities of the nuclear fuel cycle. All research and development initiatives do not consider the use of highly enriched uranium.

Commitments

- ***Development of a remote centralized system of radioactive source monitoring***

A centralized system of radiological, environmental, and operational monitoring of the nuclear and radioactive installations of the Chilean Commission on Nuclear Energy is being developed. They store the most important radioactive sources at the national level.

With respect to environmental monitoring, radiological surveillance of the nuclear centers is ongoing, by means of 10 monitoring stations (5 in each center). Regarding operational monitoring, to date there are 11 stations that allow for the measuring of dose rates, distributed in both nuclear centers.

In addition, Chile started the implementation of a national network of environmental radiological monitoring. It has 6 stations that permit the measuring of environmental dose rates in real time, with centralized information in the La Reina Nuclear Center. The national network's monitoring stations are distributed in the cities of Arica, Iquique, Antofagasta, La Serena, Valparaiso, and Santiago, located in the meteorological parks of their respective airports and/or airfields. There are

plans to expand the network to the cities of Concepcion, Temuco, and Puerto Montt in 2016, thus completing the 9 stations programmed for its first stage.

3. Countering Nuclear Smuggling

Accomplishments

- **MERCOSUR Specialized Working Group on Illicit Trafficking of Nuclear and/or Radioactive Material (GTETIMNR)**

Chile's participation in this group has resulted in the generation of the capacity to prevent, detect, and respond to situations of radiological risk, with an emphasis on border control points.

Commitments

- ***Border Strengthening Project***

During 2014 Customs, *Carabineros* (National Police), and the Chilean Commission on Nuclear Energy (CCHEN) formally committed to participate in this project offered by the IAEA, derived from the Appraisal Mission of the International Nuclear Security Advisory Service (INSServ). The project considers the implementation of the detection of radioactive material in selected border points, including those that transport large amounts of cargo and persons (Port of San Antonio, Santiago Airport, and Los Libertadores Border Complex) and "green borders" (border area between two border checkpoints) in northern Chile. It was officially launched in March 2015 and is currently being implemented.

4. Supporting Multilateral Instruments

Chile has declared its international commitment to the physical protection of its nuclear and radioactive installations with regard to the non-authorized removal of nuclear or radioactive material and sabotage. Several treaties and agreements signed by the Government are a testament to this, such as the Convention on the Physical Protection of Nuclear Material (CPPNM – 1994) and its Amendment, the Treaty on the Non-Proliferation of Nuclear Weapons (1995), support for

the Code of Conduct on the Safety and Security of Radioactive Sources (2001), and the International Convention for the Suppression of Acts of Nuclear Terrorism (2010).

Adhesion to international instruments

- **Signing of the Convention on the Physical Protection of Nuclear Material (CPPNM) and acceptance of its Amendment**

Chile has participated in the promotion, in the Latin American sphere, of the signing of these instruments, which has been supported by the IAEA and the Global Initiative to Combat Nuclear Terrorism (GICNT)

- **Ratification of the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT)**

Commitments

- ***Chile and its incorporation process to the Wassenaar Arrangement (WA)***

In 2015 Chile requested admission to the Wassenaar Arrangement (WA), and it is working with the aim to fulfill the Arrangement requirements by the 2017 plenary session.

Chile's commitment to the WA evolved from its national policy to promote international transparency, develop efficient systems of cooperation and information sharing, and encourage greater responsibility in the foreign trade of defense and dual use material, avoiding the stockpiling of arms that could endanger global security.

- ***Chile's request for incorporation into the Nuclear Suppliers Group (NSG)***

Chile requested for entry into NSG in May 2015, in accordance with its commitment to contribute to the non-proliferation of nuclear weapons.

5. Collaborating with International Organizations

Accomplishments

- **Contribution to IAEA activities related to Physical Nuclear Security**

Chile has adopted the recommendations of IAEA documents regarding Security and has made a political commitment on the implementation of the Code of Conduct on the Safety and Security of Radioactive Sources in national practices and the strengthening of RAIS (Regulatory Authority Information System). Likewise, in order to improve its infrastructure on nuclear physical security in all spheres, Chile adhered to NUSIMS (Nuclear Security Information Management System). This is a voluntary system conceived to help IAEA Member States examine the state of their national infrastructure on physical nuclear security and support its development.

- **Member of the Global Alliance against the proliferation of Weapons of Mass Destruction**

Chile has consistently supported forums that promote real progress in the field of non-proliferation and disarmament. In this regard, in February 2015 decided to join the Global Alliance, in the framework of the G7.

- **Joint Bilateral Exercise between Chile and Argentina on Trans-border Radiological Emergency under the Global Initiative to Combat Nuclear Terrorism (GICNT) - “Paihuen”**

This exercise, conducted in August 2014, helped to improve the communication channels between both countries to address trans-border radiological emergencies.

Commitments

- ***Implementation of the Integrated Nuclear Security Support Plan (INSSP) of the IAEA***

The scheduled activities of the Plan have continued, centered on training of national organisms that comprise the CONSER.

- **Implementation of the recommendations of the INSServ mission of the IAEA (Evaluation of Physical Nuclear Security at the national level).**

This task is being carried out, headed by the Ministry of the Interior and Public Security.

- **Joint Bilateral Exercise Chile - Argentina on Trans-border Radiological Emergency – Paihuen 2**

There are conversations with Argentina to conduct a second exercise to improve coordination and sharing information mechanisms between both countries emergency agencies.

6. Partnering with External Stakeholders

Accomplishments

- **Physical protection of the two research nuclear reactors**

The strengthening of the physical protection of nuclear installations has continued, with the participation of the Chilean Army and CCHEN as the operating entity. The United States Department of Energy (DOE), through the Office of Radiological Security (ORS, ex Global Threat Reduction Initiative (GTRI)) has collaborated in this endeavor.

- **Enhancement of the public-private partnership in relation to the industrial irradiation facilities.**

Regarding the industrial irradiation, nuclear medicine, and radiation therapy installations (regulated and overseen by the competent authorities), the control of its sources concerning its physical security is carried out, including the application of protection measures and systems, tracking of use and destination, and improvement of the security culture, for its permanent strengthening.

Commitments

- ***Adhesion to the Nuclear Security Information Management System (NUSIMS).***

Designation of the points of contact that facilitates the coordination between different competent authorities in the area of physical nuclear security, in order to work in collaboration to self-assess national capacities in physical nuclear security, in the framework of NUSIMS.

- ***Physical security of medicinal radioactive and industrial installations.***

The process of strengthening the physical security systems in the 5 large-scale radiological installations has continued, in the areas of medicine and industry in the country, with radioactive sources greater than 1000 Ci. In this regard, we have had the support of the United States Department of Energy, through the ORS (ex GTRI), with the participation of CCHEN as facilitator of the process.