

# MEASURES TO PREVENT BREACHES IN THE SECURITY OF RADIOACTIVE MATERIALS

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## Abstract

*The objective of this paper, which is the result of the co-operation between the Swedish Board of Customs, the Swedish Radiation Protection Institute, The Security Police and the Swedish Nuclear Power Inspectorate, is to give an idea of the national prevention system as to illicit trafficking of nuclear materials and other radioactive sources.*

## 1. Definitions

When using the term "nuclear materials" in this text we refer to products and materials that are used to produce nuclear power energy.

Other "radioactive sources" do not include fissile materials used in the production of nuclear power energy but comprise all other radioactive material including contaminated scrap material and radioactive waste.

## 2. The national prevention system

The Swedish opinion is that the fundamental pillars of an international or national prevention system against illicit trafficking of nuclear material and other radioactive sources are proper safeguards, physical protection, export and import control and traditional anti-trafficking measures, all of which must be adequately covered by the legal system of the state. These four regimes interact and provide information to the overall system. Furthermore measures and actions by the involved competent parties should as far as possible be coordinated.

At a national level the efforts to prevent illicit trafficking is coordinated by a reference group consisting of representatives from the different authorities and agencies involved. This group consists inter alia of

- The Swedish Board of Customs
- The Swedish Radiation Protection Institute
- The Swedish Nuclear Power Inspectorate
- The Security Police
- The Defense Research Institute
- The Swedish Coastguard
- The National Inspectorate of Strategic Products

## 3. Administrations involved

### 3.1 The board of customs

The duties of the Swedish Customs are laid down in the Swedish Customs Ordinance. One of the overarching objectives for customs activities is

- to supervise and control the trade of goods to and from other countries, so that the provisions on imports and exports of commodities are complied with.

Nuclear material is part of what is classified as dual-use goods. These goods are of course subject to a licensing procedure and the licensing authority is the Ministry of Environment or the Swedish Nuclear Inspectorate.

According to the Swedish regulations the customs authority must be advised **one week in advance** about when the goods are to be exported. As to dual-use goods (including nuclear

material) the license and accompanying documents, if any, must be presented to the customs authority in connection with the customs clearance procedure.

The border crossing activities are, with some limitations, controlled by Customs, partly on a routine basis, but of course also as a result of received information regarding suspected illicit traffic activities. As to nuclear materials Customs are not only entitled to control a shipment entering or leaving the European Union but it is also our responsibility to control goods being shipped from Sweden to other Member States. Normally a control of the documents combined with a limited control of the goods is conducted.

### **3.2 The Swedish radiation protection institute**

The Swedish Radiation Protection Institute (SSI) is a governmental authority with the task to protect people and the environment from the harmful effects of radiation. The SSI ensures that the risks and benefits inherent to radiation and its use are compared and evaluated. The legal basis is the Radiation Protection Act, which requires licences for the manufacture, import, transport, sale, transfer, leasing, acquisition, possession or use of radioactive substances. The main task of the SSI is to issue directives, perform inspections, give information, advice and education, perform research and administer external research projects. The SSI participates through different organisations, such as ICRP, IAEA, OECD-NEA and UNSCEAR in the field of radiation protection. The SSI is also responsible for co-ordination activities in Sweden should an accident involving radiative material occur.

### **3.3 The Swedish nuclear power inspectorate (SKI)**

SKI is the regulatory and supervisory body for nuclear activities. In the field of illicit trafficking the responsibility covers:

- safeguards of nuclear material,
- physical protection of nuclear facilities, including storages of nuclear material,
- physical protection of transports of nuclear material,
- export licensing of nuclear material and equipment especially designed and prepared for nuclear use.

The legal basis for the work of SKI is the Act on Nuclear Activities and the EU regulation (EC 3381/94) on export control of dual use goods.

The full responsibility to maintain systems for safeguards and to take appropriate physical protection measures rests with the licensee. The role of SKI is to make sure that the level of security is acceptable. For this purpose inspections at nuclear facilities are carried out on a routine basis and, if needed, on an ad hoc basis. Furthermore SKI is the national point of contact for matters concerning the IAEA Illicit Trafficking Database.

### **3.4 The security police**

The main task of the Security Police is to prevent and detect subversive activities that may threaten the national security. The most important measures are those of a preventive character. In order to prevent and detect subversive activities the Security Police has to collect intelligence on circumstances, which may be of importance to both the internal and the external national security. Intelligence is also of vital importance in the combat of terrorism. These tasks, carried out by the Security Police, are normally referred to as "the security intelligence service".

The Security Police has been involved in the combat of preventing proliferation of weapons of mass destruction since 1992, the year when the Reference Group also was founded (See paragraph 2). The Reference Group meets at least twice a year with the Security Police as co-ordinating administration. The secretariat of the Security Police also convenes the meetings of the reference group.

## **4. Measures taken when radioactive material is seized**

Should radioactive material be seized, the customs authority closes the area around the seized material whereafter it immediately contacts the radiation protection officer on duty

(TSI) at the Swedish Radiation Protection Institute (SSI). Depending on the situation and the type of material, in situ non-destructive gamma measurement could be performed by staff from the Swedish Radiation Protection Institute or radiation protection staff from a nearby nuclear installation, in order to make a preliminary identification of the emitting radio nuclides.

In this connection it could be mentioned that most of the Swedish border crossing points have a radiation monitoring equipment that could give an indication whether a suspected shipment may contain radioactive material or not. With the assistance of the Studsvik Research Center the radioactive material will then be transported to an authorised storage in Studsvik. The Studsvik Research Center has the necessary competence to analyze the material. An investigation will be started up by the responsible customs authority.

## **5. Account of the development in sweden**

### **5.1 General**

Since the early nineties there has been a downward tendency as to illicit trafficking of radioactive material and other radioactive sources.. It is true that some seizures have been made in our immediate vicinity, but on the whole the illicit trafficking in the aforementioned materials and substances has decreased to a minimum level. Furthermore we have observed a declining interest in such materials and substances among the so called "business men", who were previously engaged in attempts to mediate in the trade of i.a. valuable earth metals and radioactive substances. This development has no doubt contributed to the downward tendency in illicit trafficking.

A former prevailing false notion among those business men was that there was a great deal of money to be made, if only it was possible to find a buyer of the material offered on the market.

Today this "over-confidence" has almost disappeared. One reason is most likely the "awareness programme" that was carried out by the Small Reference Group and particularly as a result of the common efforts made by the Swedish Board of Customs, the Security Police and the National Inspectorate of Strategic Products.

Below, please, find a presentation of the statistics from 1992 to 1997 on reported offers of radioactive material and other radioactive sources as well as seizures of such materials, which have been made as a result of the collaboration between the Swedish Board of Customs and the Security Police.

### **5.2. Table: Statistics on offers and seizures**

<b>Known cases</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
Offers of nuclear material and other radio- active sources	5	11	13	5	2	3
Seizures of nuclear material and other radio- active sources	1	1	1	0	0	0
Seizures of weapongrade nuclear material	0	0	0	0	0	0

## **6. Exchange of information**

As to the possibilities of the Swedish Customs to exchange information regarding seized nuclear materials, this exchange is made within the framework of the Council Regulation 1468/81 of May 19, 1981, as well as the bi- and multilateral agreements of administrative assistance in customs matters that the Swedish Government has signed with a number of countries.

The Customs authorities shall, upon request, supply to each other all information which may help to ensure accuracy in the implementation of import and export prohibitions and restrictions, such as the restrictions concerning import and export of nuclear materials and other radioactive sources.

Information regarding seizures of nuclear material and other radioactive sources, such as

- type of substance,
- name of the substances,
- detection,
- details of offenders,
- source of information,
- consignor and consignee

is also sent to the World Customs Organization where it is available to the Member States via the Customs Information System (CIS).

Information of seizures of nuclear material and other radioactive sources is reported to the IAEA-Illicit Trafficking Database by the the Swedish Nuclear Power Inspectorate.

## **7. Conclusion**

The Swedish method to combat the illicit trafficking of nuclear material and other radioactive sources through a close co-operation between the different administrations involved has proved to be successful and it is our firm conviction that future increased efforts and closer co-operation will make the Swedish combat even more efficient.