International Atomic Energy Agency
GENERAL CONFERENCE

GC(40)/15
20 August 1996

GENERAL Distr.
Original: ENGLISH

Fortieth regular session
Item 17 of the provisional agenda
(GC(40)/1)

MEASURES AGAINST ILLICIT TRAFFICKING IN NUCLEAR MATERIALS AND OTHER RADIOACTIVE SOURCES

Report by the Director General to the General Conference

I. INTRODUCTION AND BACKGROUND

1. The background to the Agency's programme in measures against illicit trafficking in nuclear materials and other radioactive sources has been provided in the previous progress report given at the thirty-ninth General Conference (GC(39)/19). At the thirty-ninth regular session, the Director General was invited to continue working in accordance with the conclusions of the Board of Governors and requested to submit a report to the General Conference at its next regular session on activities undertaken by the Agency in the intervening period (GC(39)/RES/18).

II. SECRETARIAT ACTIONS SINCE SEPTEMBER 1995

2. The Deputy Director General for Safeguards is the co-ordinator of the Agency's overall programme on measures regarding illicit trafficking in nuclear materials and other radioactive sources. Projects under this programme are the responsibility of relevant Departments/Divisions throughout the Secretariat. A description of the IAEA's role in combating illicit trafficking of nuclear materials and other radioactive sources is provided in Annex 1. As stated in this description, the IAEA's co-operation with Member States fall into four broad categories of support:

> *prevention*, which involves assisting States to enhance relevant national infrastructures in the areas of legislation, physical protection, accounting for and control of nuclear material, control and security of radioactive sources, and export/import control;

response, which involves assisting States, when requested, to detect and respond to cross-border movements and to analyze confiscated materials and utilizing the Agency's data base on illicit trafficking to provide reliable and authoritative information in a timely manner to States and the media;

training, which involves developing and providing training in both prevention and response; and

exchange of information, which is accomplished through international and interagency meetings and conferences.

Activities since the last General Conference are described in paragraphs 5-15 below.

3. While some of the Agency assistance in the area of illicit trafficking is specifically designed to deal with these issues, other such assistance to Member States results from the Agency's Technical Co-operation activities. For example, the Secretariat has identified 101 projects for 38 Member States where some aspects relate to illicit trafficking. In addition, the IAEA together with Donor States have developed "Co-ordinated Technical Support Plans" (CTSP's) for the Newly Independent States (NIS) to help them meet their obligations for control and accounting of nuclear materials. This support covers a range of topics applicable to trafficking in two of the broad areas mentioned above: prevention and training. The Agency will continue to be active in these on-going efforts.

4. For 1996 the approved regular budget resources amounted to $333,000, with extrabudgetary contributions of approximately $1M. For 1997, a programme has been separately identified in the Agency's Programme and Budget, "Programme M: Security of Material," with a regular budget of $560,000 and expected extrabudgetary contributions of $1.2M. These resources will ensure the operation of a database, assist Member States in efforts to improve physical protection and control of nuclear material, provide border control measures, and support the adoption by States of the Basic Safety Standards norms that pertain to illicit trafficking. An important part of this programme is also carried out by the Department of Technical Co-operation.

III. PREVENTION

5. In May 1996 agreement was reached with the International Group of Legal Experts established to co-ordinate the Group's Co-operative Programmes in the NIS with the Agency's current and future projects on legislative assistance. The Group has activities in seven countries - Belarus, Georgia, Kazakstan, Latvia, Lithuania, Moldova, and Ukraine -

and invitations from three more countries- Armenia, Kyrghyzstan, and Uzbekistan - to establish comprehensive, up-to-date systems of nuclear laws, ordinances, and regulations. Through the co-operative agreement, the Group has access to the expert and logistic resources within the Agency. The Technical Secretary of the Group is an Agency staff member.

6. In October 1995 several Eastern European States and the Russian Federation were invited to propose projects for improvements in physical protection. A number of proposals have been received and discussions have been initiated with several countries. Some elements of these requests, particularly those in the area of training, are being implemented.

7. A consultants' meeting was held in Vienna in October 1995 to develop the concept of an International Physical Protection Advisory Service (IPPAS). This Agency advisory service, which was announced in April 1996, will arrange, when requested, to have an international team of experts review the effectiveness of national regulatory programmes and the physical protection of nuclear material at particular facilities. One request has been received and interest has been expressed by several States. Missions are expected to begin this fall.

8. Documents are being developed to facilitate the implementation of physical protection measures. A draft Physical Protection System Design Handbook describing physical protection principles and practices has been reviewed by a group of experts and revisions are in progress. In addition, a consultants meeting was held in June 1996 to develop Agency guidance for the implementation of INFCIRC/225/Rev.3. Experts from seven countries reviewed the INFCIRC and developed the first draft of a document providing additional guidance for implementing the portions of the INFCIRC document which may be difficult to interpret.

9. In July 1996 the Agency along with the World Customs Organization (WCO) hosted a joint Technical Committee Meeting on Detecting and Responding to Illicit Cross-border Movement of Radiation Material. The committee meeting reviewed documents dealing with detecting and responding to cross-border trafficking of radioactive material established by previous consultants services meetings and expert group meetings, and drafted a safety practice document on detection instrumentation and training of border control personnel. A number of recommendations for future Agency and WCO actions which resulted from the meeting are attached as Annex 2.

IV. RESPONSE

10. The Agency data base on illicit trafficking incidents has been used to generate a summary listing of confirmed incidents of illicit trafficking in nuclear materials and other radioactive sources for distribution to all Member States in September 1996. It is planned that summary listings will be issued quarterly. Based on the experience gained during the past year, Member States have been informed of changes made in the way information on trafficking incidents is handled (Circular Letter N4.11.42 Circ., dated 21 August 1996). The changes will provide for improvements in notification of trafficking incidents through a revised incident notification form that can be sent by fax or electronic mail directly to the Agency's Trafficking Database Office.

11. The number of Member States expressing their interest in the sharing of information about illicit trafficking incidents has increased during the past year. To date, 30 countries have identified their point of contact for matters concerning illicit trafficking incidents to the Agency.

V. TRAINING

12. The IAEA co-ordinates international and regional training of State System of Accounting and Control (SSAC) staff and facility personnel. A regional training session was conducted in Japan in November 1995 and an international session was conducted in St. Petersburg in June 1996.

13. Training courses administered by the Agency in the area of physical protection during the past year have ranged from the international to the local level. The Secretariat is preparing for the next regular session of the three-week long International Training Course on Physical Protection in Albuquerque in April 1997. The first Regional Training Course on Physical Protection of Nuclear Facilities and Materials was held in Brno, Czech Republic in November 1995. This course was attended by 30 participants from the Russian Federation, the NIS and Eastern European countries and another course is scheduled for November 1996. A more general one-week course covering physical protection and various aspects of illicit trafficking to be held in Kiev, Ukraine in January 1997 is being designed specifically for Ukraine regulators, facility operators, customs officials, and law enforcement personnel.

VI. INFORMATION EXCHANGE

14. In the area of information exchange, the first Interagency Meeting on Illicit Cross-Border Movement of Nuclear Materials and Other Radioactive Sources was held in Vienna in September 1995. Ten international organizations attended. Conclusions from this meeting were reported in GC(39)/19/Add.1. The success of this meeting led to a second meeting to be held in late August 1996 with representatives from 18 international organizations expected to attend. These meetings facilitate and expand the co-ordination and co-operation among international organizations in the prevention, detection, and response to incidents involving illicit trafficking of nuclear materials and other radioactive sources.

15. Further, in the area of information exchange, consultants met in Vienna in January 1996 for initial planning of the International Conference on Physical Protection of Nuclear Materials: Experience in Regulation, Implementation, and Operations to be held in Vienna on 10-14 November, 1997.

ANNEX 1

THE IAEA'S ROLE IN COMBATING ILLICIT TRAFFICKING OF NUCLEAR MATERIAL AND OTHER RADIOACTIVE SOURCES

Introduction And Background

Illicit trafficking involves unauthorized movement of nuclear material and other radioactive sources. The term, "nuclear material" comprises radioactive material which could contribute primarily to the production of nuclear weapons and which may have adverse health effects, while the term "other radioactive sources" refers to radioactive material that can cause adverse health effects but has little or no value for nuclear weapon proliferation. Reported trafficking cases have involved both nuclear material and radioactive sources, and the concerns raised have related to both the threat of proliferation and the threat to public health. The reported cases have created public anxiety and threaten to undermine the credibility of established control systems both for nuclear material and for radioactive sources.

Legitimate trade in nuclear material and radioactive sources is conducted under the authority and within the limitations of State regulation. States have the direct responsibility to assure proper security for, and the handling, control and accounting of, nuclear material and radioactive sources. This requires a solid regulatory infrastructure.

The Director General brought the problem of illicit trafficking to the attention of the September 1994 Session of the IAEA General Conference, which adopted a resolution calling upon States to "take all necessary measures to prevent illicit trafficking in nuclear material". The Conference confirmed that national governments and authorities will continue to carry the main responsibility in this field; however, the importance of close co-operation between Member States was stressed, and the IAEA was invited to intensify its support to Member States in this area.

In March 1995, the Director General submitted proposals for the intensification of the IAEA activities which had been discussed at the December 1994 meeting of the Board of Governors, and the Board asked for the continuing development of a programme in the area of illicit trafficking. Thus, through its Board of Governors and the General Conference, the IAEA has a mandate to assist Member States in a number of activities relevant to:

— *prevention*, which involves assisting States to enhance relevant *national infrastructures* in the areas of legislation, physical protection, accounting for and control of nuclear material, control and security of radioactive sources, and export/import control;

— *response*, which involves assisting States, at their request, to detect and respond to cross-border movements and to analyse confiscated nuclear materials and radioactive sources and utilizing the Agency's *data base on illicit trafficking* to provide reliable and authoritative information in a timely manner to States and the media about illicit trafficking incidents;

— *training*, which involves developing and providing training in both prevention and response; and.

— *exchange of information*, which is accomplished through international and interagency meetings and conferences.

In April, 1996, at the Nuclear Safety and Security Summit held in Moscow, participants reaffirmed the need for the safe management of fissile material as a safeguard against the risk of illicit trafficking in nuclear material. They also recognized the need for nations to co-operate bilaterally, multilaterally and through the IAEA to ensure that national systems for controlling nuclear material remain effective. Of particular interest to the Agency, the summit participants noted that international efforts to suppress illicit trafficking should address: safe and secure storage of nuclear material and effective protection, control and accounting to prevent its diversion; co-operative intelligence, customs and law enforcement efforts to prevent the transportation and sale of diverted material; and joint efforts to identify and suppress illicit supply of, and demand for, nuclear material and to deter potential traffickers.

Although the Agency has neither the mandate nor the resources to bring about the modernization of national regulatory infrastructures, it can and does play a useful role by co-ordinating the efforts of certain Member States in this field, identifying various problems and concerns, providing expert services, developing international consensus guidance, fostering the exchange of information, and both encouraging and conducting necessary training. These activities are fashioned to complement the extensive bi-lateral support that is being provided by a number of States which are providing resources to combat illicit trafficking in various materials.

The Deputy Director General for Safeguards is the coordinator of the Agency's overall programme on measures regarding illicit trafficking in nuclear materials and other radioactive sources. Projects under this programme are the responsibility of relevant Departments/Divisions throughout the Agency.

Prevention

The most important precondition for preventing illicit trafficking is the existence of effective *national systems for control of nuclear material and radioactive sources.* The IAEA programme is, therefore, focussed on assisting States to establish and/or strengthen national control systems and to implement measures that would prevent or deter unauthorized use or handling of such material and sources.

The national control systems must be based on *legislation and regulations* that incorporate modern standards and meet the State's obligations and commitments arising from international treaties and conventions to which the State is a party.

Also, the national control systems must include measures on the State level for preventing, detecting and deterring unauthorized activities. Nuclear materials require systems and procedures for *physical protection*, *accountability*, and *export/import control*, whereas relevant measures for control and security of radioactive sources must include, in addition to *export/import control*, an infrastructure for (i) *notification, registration, licensing and inspection* of radioactive sources, and (ii) *prevention of theft or any other third-party interference* that may jeopardize the control of the sources.

An example of Agency assistance relevant to illicit trafficking control and non-proliferation has been the formulation and implementation of "Co-ordinated Technical Support Plans" (CTSPs) for the Newly Independent States (NIS) of the former Soviet Union. Since 1992, IAEA staff have conducted fact-finding missions and technical visits to the NIS, through which information about the individual State's needs has been compiled and distributed to potential donors. Recipient States, together with Donor States and the IAEA, have then developed agreed CTSPs to provide co-ordinated technical support with the objective of helping the NIS to meet their obligations under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) to control and account for nuclear material. The programme has established CTSPs for all the NIS. CTSP Donor States include Australia, Finland, Hungary, Japan, Norway, Sweden, the UK and the USA.

Legislation and Regulations

The foundation of a strong national control system is appropriate legislation and regulations. For the IAEA Member States, the basic international obligations for nuclear material are contained in the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the Safeguards Agreements with the IAEA (INFCIRC/153 and 66). In States where a safeguards agreement is in force with the Agency, the Agency is obliged to verify the presence of the nuclear material subject to safeguards under the agreement, and the State is obliged, among other things, to report to the Agency if the State believes there is or may have been a loss of nuclear material.

Previous legislative systems in the NIS were identical to, or based upon, the Soviet system. This circumstance and the gradual accession of the NIS to international treaties and conventions, as non-nuclear weapon States, motivated the NIS to adopt programmes for improving their legislation based on principles designed to establish the duties and responsibilities of regulatory bodies, facility operators and individuals in the implementation of both non-proliferation and safety measures, which would meet with international standards and procedures.

Legislation support activities, which were requested by and agreed with the NIS, have been identified and co-ordination of such activities between donor countries is being promoted. Four Donor countries have established an International Group of Legal Experts, in which the IAEA is represented.

Support activities in the area of legislation and regulations are undertaken to assist in the development of a legal and regulatory framework that meets international standards, taking into account commitments by individual States to international conventions and agreements, such as the NPT, the safeguards agreements with the IAEA, the Convention on the Physical Protection of Nuclear Material, the Vienna Convention on Nuclear Liability, and the Convention on Nuclear Safety. With respect to the basic laws, the areas covered by the support work include nuclear material accountancy and control, physical protection, export/import control, liability, transport of radioactive material, safety, and radiation protection.

In the NIS, the fundamental objective is the establishment of a complete nuclear legislative system, that covers both nuclear non-proliferation and nuclear safety. The laws, ordinances and regulations must comprise provisions for (a) the *licensing* of all nuclear activities, including sanctions/penalties; (b) the *responsibilities* of both management and individuals within the facility organizations, including requirements on facility operator systems and procedures for preventing failures and proliferation; (c) the functions and responsibilities of an independent and competent *State regulatory body*, including organizational and administrative systems for ensuring safety and non-proliferation.

Significant progress is being made in this support effort. To date, work is underway in Belarus, Lithuania, Latvia, Kazakhstan, and Ukraine, and initial contacts have been established with Armenia, Georgia, Kyrgyzstan, Moldova and Uzbekistan.

Physical Protection

Physical protection against the theft or unauthorized diversion of nuclear material and against sabotage of nuclear facilities by individuals or groups is a matter of national and international concern. Although responsibility for establishing and operating a comprehensive physical protection system for nuclear material and facilities within a State rests entirely with the Government of that State, the IAEA has long contributed in this area.

The IAEA was involved in the development and subsequent review of two instruments on physical protection which have relevance to the problem of illicit trafficking: the Convention on the Physical Protection of Nuclear Material (INFCIRC/274/Rev.1), hereinafter referred to as the Convention, and the IAEA "Recommendations on the Physical Protection of Nuclear Material" (INFCIRC/225/Rev.3), which were prepared by a panel of experts convened by the Director General and first published in 1972.

The Convention, which entered into force in 1987 and currently has 54 States Parties, defines levels of physical protection to be applied to nuclear material used for peaceful purposes while in international transport. States Parties are also obligated to:

— make the commission of certain acts (e.g., theft of nuclear material, threat to use nuclear material to cause harm) punishable offenses under national law,

— extradite or prosecute persons alleged to have committed any such act, and

— provide assistance to other Parties to the Convention in the event of an incident.

However, there is no obligation on the Parties to the Convention to ensure the protection of nuclear material used for peaceful purposes while in *domestic* use, storage and transport. Also, the Convention does not apply to (i) nuclear material used for military purposes, (ii) nuclear facilities or (iii) other radioactive sources.

INFCIRC/225/Rev.3 provides guidance and recommendations for the physical protection of nuclear material in use, storage and transport, whether domestic or international and whether peaceful or military, and contains provisions relating to the sabotage of facilities. The guidance contained in INFCIRC/225/Rev.3 details the elements needed in a State's system of physical protection. It also recognizes the adverse health and safety consequences arising from the theft of nuclear material and the sabotage of facilities (and potential release of radioactivity). Most industrial and developing countries have used these recommendations in the establishment and operation of their physical protection systems.

In order to assure that adequate physical protection is provided, State systems must establish conditions which (i) minimize the possibilities of unauthorized removal of nuclear material or of sabotage, (ii) provide rapid and comprehensive measures to locate and recover missing nuclear material, and (iii) minimize the effects of sabotage. Physical protection regulations and associated procedures must thus be designed to thwart any attempted theft and to promptly detect an actual theft.

For some time, the Agency has given *technical support* to Member States by providing experts to conduct missions to advise States in the area of physical protection. Now, the Agency is prepared to expand this technical support to States with particular physical protection concerns and to procure some specialized equipment, in cases of urgent need, where the facilities are not covered by an ongoing Donor programme.

Technical support may comprise both *advisory services* and *technical guidance*. In April 1996, the Agency announced a new *advisory service* to be known as the International Physical Protection Advisory Service (IPPAS). It will provide to Member States, upon request, an international team of experts to review national regulatory programmes for the physical protection of nuclear material and/or for the implementation of physical protection systems at specific nuclear facilities.

Technical Guidance includes development of a basic reference manual on physical protection principles and practices is proceeding. The Agency will also develop additional guidance for implementing portions of INFCIRC/225/Rev.3 which may be difficult to interpret.

Donor assistance to Member States in the area of physical protection is of particularly high priority when high-enriched uranium (HEU) and plutonium are involved. Donor assistance is provided for establishing a State's policy on physical protection and for addressing these needs at particular facilities. A report, which serves as a basic blueprint for needed physical protection improvements at nuclear installations, is usually prepared by experts from two or three Donor countries. Installation of physical protection equipment at facilities is provided

by Donors and to some extent supported by the recipient State. Installation of systems and equipment is at various stages of completion in Belarus, Georgia, Kazakhstan, Latvia, Lithuania, Ukraine and Uzbekistan.

Accounting for and Control of Nuclear Material

A primary deterrent to the theft of nuclear material is a strong State System of Accounting and Control (SSAC) that recognizes the complementary nature of material accounting and control and physical protection regulations and associated procedures. Material accounting and control is designed to assure that the location of all nuclear material in a State is known and confirmed through periodic inventory taking.

States that are signatories to the NPT are under an obligation to conclude safeguards agreements with the IAEA. A fundamental requirement in such an agreement is the establishment of an SSAC. When needed and requested, the Agency will assist States in establishing procedures and routines for the SSAC, both at the State and facility levels. This is normally done in connection with the initial implementation of safeguards inspections at State offices and nuclear facilities.

Extensive assistance in setting up and implementing SSACs in the NIS has been given by Donor States under the Co-operative Technical Support Programs (CTSPs). That assistance covers additional components of State and facility activities, such as national and bi-lateral requirements. The needs of the individual State for assistance with infrastructure development and equipment have been identified.

The Donors' assistance has resulted in the provision of expertise and know-how, as well as hardware, software, specialized equipment, office and communication equipment, relevant procedures and instrumentation used by State inspectors.

Work has been completed or is underway in Belarus, Georgia, Kazakhstan, Latvia, Lithuania, Ukraine, and Uzbekistan. Work is still to be initiated in the remaining NIS. These efforts have provided an adequate basis for the initial phase of IAEA safeguards implementation in the NIS.

Control and security of radioactive sources

With regard to legislation relating to radioactive sources other than nuclear material, there are no internationally binding legal instruments through which Parties commit themselves to ensure the control and security of radioactive sources and, in particular, to report the loss or theft of such sources to the IAEA and\or other international organizations. However, the most recent revision of the Basic Safety Standards (BSS)[1/] on international radiation safety

1 International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources (BSS), Safety Series No. 115, IAEA, Vienna.

standards has recently been approved by the IAEA Board of Governors and by five other sponsoring organizations.[2] Many States tailor their national regulatory systems to the general guidance provided by the BSS.

Adoption of the BSS by Member States and international organizations establishes a general obligation that activities utilizing radioactive material (including nuclear material) are carried out in accordance with the BSS, unless the radiation exposure caused by the source is excluded from the BSS or the source is exempted by the regulatory authority. The BSS, moreover, provide that the transport of radioactive sources should be performed in accordance with the requirements of the IAEA Regulations for the Safe Transport of Radioactive Material[3]. These requirements may be made mandatory through applicable international conventions or national legislation.

Requirements of the BSS that are relevant to illicit trafficking are those of notification and authorization by registration or licensing, as well as those related to the security of radioactive sources. The latter require that sources shall be kept secure by registrants and licensees so as to prevent theft or damage and to prevent any unauthorized use of such sources. Independent verification by an established national Regulatory Authority is an essential condition of compliance with the BSS requirements. Thus, although the BSS are intended to place requirements on registrants and licensees, who have the primary responsibility for applying them, Governments have the responsibility for their enforcement, generally through a national infrastructure that includes the necessary Regulatory Authority.

Additionally, as part of the general assistance to States to develop and maintain strong and effective systems for the registration, licensing and control of radioactive sources, a number of Member States are being assisted in assembling a complete inventory of the sources on their territory and to ensure that they are under responsible control.

Export/Import Control

Control of States' exports and imports seeks to prevent unauthorized movement of nuclear material and radioactive sources across borders and is established within each country by means of legislation and State systems for control of handling and use of such materials. The measures that have been described above in the chapters about legislation, physical protection, accounting and control of nuclear material and radioactive sources are all links in the chain of an efficient export/import control. In addition to the systems and procedures specifically implemented in the area of nuclear activities (e.g. SSACs), conventional components in a State's infrastructure must be engaged in nuclear export/import control, e.g. police and customs. The extent to which such components are utilized and the way in which they are organized and co-ordinated, depends on the specific conditions in each country.

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2 The Food and Agriculture Organization of the United Nations (FAO), the International Atomic Energy Agency (IAEA), the International Labour Organization (ILO), the Nuclear Energy Agency of the Organization for Economic Co-operation and Development (OECD/NEA), the Pan American Health Organization (PAHO) and the World Health Organization (WHO).

3 The latest edition of the IAEA Regulations for the Safe Transport of Radioactive Material was published as IAEA Safety Series No. 6, IAEA, Vienna (1990).

Within the CTSPs for the NIS, Donor States are committed to assist in establishing "State concepts" for export/import control.

Response

National authorities or the media are the first to detect and investigate trafficking incidents. Under its safeguards system, the Agency receives information from States about the quantity and location of nuclear material under that State's jurisdiction or within its territory. Disappearance of nuclear material in particular, e.g. through a theft, in a State with comprehensive safeguards must be reported to the Agency.

Considerable progress has been made by the Agency in developing guidance for national authorities, and specifically for border officers, on the procedures to be used in the detection of illicit movements of radioactive materials and the appropriate response to such detection.

Analysis of Confiscated Material

In case of illicit trafficking in nuclear material or radioactive sources, or in case of suspicion of such a trafficking incident, the Agency may provide a State, upon its request, the service of performing analyses on confiscated material. Such analyses may then be used by the State (i) to identify or confirm the nuclear nature and properties of confiscated materials; (ii) to evaluate the radiological hazards that may have resulted from their illicit handling; and (iii) possibly to provide clues about the origin of the confiscated material.

The IAEA laboratories have capabilities and a long practice in the analysis of materials encountered throughout the nuclear fuel cycle. It is also possible to determine the chemical nature of the major components, the nature and content of minor constituents, and the nature and content of chemical and radiological trace components. These latter measurements can provide generic information about the mode and time of production of the confiscated materials. Such information may be useful for States' investigations regarding the origin of the material.

IAEA analysis assistance to States can also be provided by performing qualitative and quantitative assays directly in the "field", using portable or transportable instruments such as gamma ray spectrometers, neutron counters or X-ray fluorescence analyzers.

Data Base on Illicit Trafficking

With the increase in the number of reported trafficking incidents, the Agency has been requested by its Member States to expand its existing data base in order to provide a reliable global overview of the illicit trafficking situation.

In August 1995, the Agency informed Member States that it had upgraded its "Summary of Incidents" data base to create the "Illicit Trafficking Data Base", that it was prepared to accept information on illicit trafficking, and that it would begin issuing periodic summary reports. At that time, the Agency invited each Government to indicate its interest in participating in

this programme and to identify its point of contact for the data base. The Agency's current Illicit Trafficking Data Base accumulates incidents reported by media sources and State authorities.

Its primary function is to provide reliable, accurate, and timely information on all trafficking incidents *at three levels of use*: the States',the Agency's and the public's. It facilitates an individual State's determination of which facts about specific illicit trafficking incidents are pertinent to its own interests. Also, it allows the Agency to maintain details of trafficking incidents with a view to determining common themes and trends to be used to support Member States' programmes to combat illicit trafficking. Finally, it contributes to the public welfare by providing reliable and timely information about illicit trafficking incidents to the media.

Since 1993, 168 events involving the illicit trafficking of nuclear materials and other radioactive sources reported by States or published in the media have been included in the IAEA data base. The data available are not yet sufficient to determine any trend in the frequency of these occurrences. Any apparent reduction may be due in part to potential traffickers finding that there is little genuine market for the materials involved in past incidents. However, as long as there remains a potential for theft due to poor security conditions, there is a strong possibility that clandestine groups may seek these materials for illicit purposes. Lingering security weaknesses make the illicit trafficking in nuclear substances a possibility that the international community must continue to deal with.

A breakdown of the 168 incidents recorded in the database at the end of July 1996 is shown by percentage and category in the following Table:

MATERIAL		RADIOACTIVE MATERIAL
NUCLEAR		
U (High Enriched) Plutonium	U (Low Enriched U (Natural) U (Depleted) Thorium	Radioactive sources and others, e.g.: Cs^{137} Industrial Gauge Source Am^{241} Fire Detector Foil Co^{60} Medical Source
9%	56%	35%

In 1996, the Agency will begin to provide quarterly information summaries of trafficking incidents to States. Initially the summary will include all incidents contained in the Agency data base that meet the general trafficking description above. Subsequent quarterly summaries will contain information about new significant incidents and modifications to previously reported incidents.

Training

IAEA activities that contribute to improving national systems of control and security of sources include the provision of *training* courses, either provided by the Agency generally or provided to the Member States to allow them to train themselves.

The development of a strong SSAC requires training of SSAC staff and facility personnel. The IAEA co-ordinates international and regional SSAC training programmes sponsored by a number of Member States, i.e., Argentina, Australia, Brazil, Japan, Russia and the USA. Two or three programmes have been offered per year to State authority and facility personnel, in order to assist with the establishment of new SSACs and/or to enhance the effectiveness of existing State systems. More than 900 Member State personnel have attended these programmes over the last 20 years.

The IAEA, through the Technical Co-operation Programme, has administered an interregional training course on physical protection for the past 20 years; over 300 individuals from various Member States have been trained in this course. The objective of the course is to familiarize professionals involved in the establishment of integrated State systems of physical protection of nuclear facilities with current concepts and technology, thereby assisting Member States in developing and implementing their State system with reference to system engineering, state-of-the-art technology and facility analysis.

With the intensification of activities in physical protection, the IAEA will be providing additional training opportunities for countries which seek to upgrade the security of nuclear material. The IAEA held a Regional Training Course on Physical Protection of Nuclear Facilities and Materials in the Czech Republic in November 1995 for 30 individuals from the Russian Federation, the Newly Independent States of the former Soviet Union (NIS) and Member States in Eastern Europe. This was the first time that the course was given in Europe, and the first with simultaneous interpretation and instructional material in English and Russian. This course, as well as additional courses, will be offered again in 1996 and future years.

Under the CTSPs to the NIS, extensive training of NIS personnel, provided through Donor assistance, is incorporated in all areas of the NIS support activities, including concepts, procedures and the use of equipment.

The Agency convened three Consultants Services Meetings (CSMs) in 1995 to address various elements of the Agency's programme concerned with the illicit movement of radioactive sources. One group drafted guidance on strengthening the Basic Safety Standards and improving State programmes for the security of radioactive sources. Several such programmes that have already been implemented by Member States were included in the report to serve as examples. The results of that report were considered at an Advisory Group Meeting held in January 1996. The second CSM held in 1995 drafted guidance on monitoring the illicit movement of radioactive sources, particularly across borders or at airports. The third developed guidance on training of personnel likely to become involved in the control of illicit trafficking, who are not familiar with the characteristics of the materials of national concern, e.g., border officials and airport security personnel. The reports of these latter two meetings were studied at the Technical Committee Meeting convened in July 1996. The

output of some of these efforts will be particularly useful to the World Customs Organization in training customs officials on the detection of, and response to, the illicit movement of radioactive materials.

Exchange of Information

Preparations are now underway to conduct the Agency's first International Conference on Physical Protection in Vienna from 10 - 14 November 1997. Additionally, in keeping with its important role of acting as a focal point for technical information in a number of nuclear fields, the Agency is actively co-ordinating its physical protection activities with a number of Donor States and international organizations.

In June 1995, the IAEA held a technical committee meeting in Vienna concerned with the safe transport of radioactive materials. This meeting included representatives from 20 Member States plus EUROPOL and the World Customs Organization. The representatives considered actions that should be taken to combat the illicit movement of materials. Several recommendations were made to the Agency related to information sharing, coordination of activities, detection of materials at borders, utilization of the Agency illicit trafficking data base and notifications of incidents.

To further address these and other concerns of national authorities and customs officers, the Secretariat in September, 1995 held an Interagency Co-ordination Meeting with international organizations concerned with the cross-border movement of radioactive materials, including nuclear material, i.e., the United Nations, the European Union (EU), EURATOM, INTERPOL, the World Customs Organization, EUROPOL, the International Maritime Organization and the International Civil Aviation Organization. This initial meeting was primarily used to exchange information about the activities of each of the organizations in this area and to assess the current and future support to States for combating the illicit movement of these materials. Based on the usefulness of that meeting, a second and expanded meeting was held in August 1996.

The IAEA also maintains close ties with the EU and EURATOM. The European Commission and its Member States have worked closely with the IAEA and other specialist organizations regarding the common interests of the EU, the countries of Central and Eastern Europe, and the former Soviet republics.

In connection with the CSTPs, in June 1995, the IAEA convened a Donors' meeting in Vienna to review the experience gained with the programmes and identify areas where additional assistance is needed by recipient NIS States. Participants at the meeting encouraged the IAEA to continue its activities in monitoring support tasks through established IAEA databases.

Considerations for the Future

During 1995, the Board of Governors and the Secretariat of the IAEA have continued to define the Agency's role in assisting States to combat the illicit trafficking of nuclear material and radioactive sources. Activities identified by the Member States encompass several Agency departments and are consistent with the Agency's traditional tasks, i.e. training, technical support and guidance, information exchange, and co-ordination and identification of needs.

In 1996, through the voluntary contributions of a number of Member States, activities already begun include: increasing the number of training courses on physical protection and initiating the International Physical Protection Advisory Service (IPPAS); establishing or up-dating of the inventory of radiation sources, which is being promoted and assisted in 53 States through Technical Co-operation Projects; assisting, when needed, the management of spent radiation sources; assisting some States and some border custom stations by providing them with the means to detect radioactive material movements; and actively promoting, in many States, the designation of a national focal point to co-ordinate matters dealing with prevention and response in illicit trafficking incidents.

In the area of prevention generally, it is anticipated that the Agency, as well as other international organizations and States, will intensify assistance to States or national entities. In the field of legislation and regulation, an international regime is generally in place which provides a basis for supporting States in their efforts to combat illicit trafficking; however, at the national level further implementation is needed. Specifically: the IAEA will promote the call of the Moscow Safety and Security Summit for universal adherence to the Convention on Physical Protection of Nuclear Materials as well as the application of recommendations on physical protection specified in INFCIRC/225/Rev. 3. In addition, the Agency will be assisting States in their programmes to assure that all radioactive sources are regulated in a manner consistent with the BSS.

With respect to support to the NIS, Donor State assistance, focussed through the International Group of Legal Experts, is being further promoted, and co-operation programmes are planned to be in place in all the NIS before the end of 1996. The urgent need for improved nuclear legislation structures, covering all areas of the nuclear activity field, is emphasized by the NIS themselves, and assistance from Donor countries on a co-operative basis is being given as requested. The specific nature of the legislative work, with the objective of establishing a foundation for implementing State control of nuclear activities, is an incentive for co-ordination of support resources, both between Donor States and with the Agency. There is also an interest in harmonizing nuclear laws and regulations, taking into account the advanced requirements of safety and quality assurance.

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In the area of response, at least for nuclear material of a sensitive nature (e.g. highly enriched uranium and separated plutonium), the State authorities should immediately inform other States, international law enforcement organizations and customs authorities, about theft or disappearance of such materials. With respect to the Illicit Trafficking Data Base, the implementation of measures to improve the reliability and timeliness of information has already begun. Member States are being contacted to amend and/or to correct the information which has been collected from open sources. Also, the communication mechanism between the Agency and Member States is being looked at to improve the timeliness of the information.

The Agency will continue to foster close international co-operation in the development and implementation of measures to prevent, detect and respond to illicit trafficking events. The training and development activities described above should be completed as soon as possible, and related "Safety Practices" will be developed for use in the training courses and as reference material for all Member States wishing to strengthen their illicit trafficking programmes.

The success of the Agency's programme addressing illicit trafficking depends on co-operation and co-ordination between and among States and international organizations to avoid duplication and overlap of efforts.

ANNEX 2

Recommendations and Unresolved Issues from the Technical Committee Meeting on Detecting and Responding to Cross-border Movement of Radiation Material (TCM):

a) It is recommended that the IAEA and the World Customs Organization (WCO) consider establishing guidelines to assist customs and border control administrations on procedures for responding to the discovery of radioactive materials that have been illicitly trafficked. In many cases, national administrations do not have the legal authority to detain, seize or dispose of illicitly trafficked materials that have been smuggled into their country. The IAEA and the WCO should formulate guidance or initiate a convention similar to the Convention on Physical Protection to assist national administrations with respect to this issue. Such a convention would provide the means to increase the exchange of information between Member States. It would also provide a mechanism for the IAEA to assist national administrations in identifying the origin of smuggled radioactive materials.

b) It is recommended that the IAEA and WCO also consider providing national administrations with radiation safety guidance when illegally trafficked materials are discovered. Guidance to national administrations of basic safety standards for the handling of radioactive materials discovered during an interdiction or investigation is also essential. Detailed information for officer safety, facility decontamination and evidence preservation should be included in this guidance.

c) The TCM recommends that Member States should not rely solely on the radiation detection equipment as the means for detecting radioactive materials. Border control officers might need the use of inspection techniques in addition to the radiation monitoring equipment in order to assure that radioactive materials be detected.

d) The conference discussed at great length the consideration for establishing standards for detection equipment and the establishment of equipment testing protocols. The TCM recommends that the IAEA consider such practices in the future.

e) The TCM invites the IAEA and the WCO to make efforts to ensure the participation of other international organizations, particularly the ICPO/Interpol and the EC in the designing, delivering of training programmes and production of training materials in order to share the experiences, the limited resources and to avoid duplication of efforts in this field.

f) Concerning the training programmes for customs officers, the TCM feels that the WCO Secretariat could play a key role as an executive agency and employ the WCO training module on nuclear/radioactive materials.

g) The TCM joins previous Advisory Group Meetings in stating that internationally accepted radiological levels for radioactive residues, e.g. for contaminated scrap-metal from nuclear decommissioning and/or dismantling activities, should be established as soon as possible.