THE EVOLUTION OF U.S. REPORTING TO THE IAEA

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I. Introduction

The United States, in December 1967, announced that the U.S. would voluntarily permit the International Atomic Energy Agency (IAEA) to apply safeguards to nuclear activities in the U.S., excluding only those with direct national security significance as soon as safeguards were applied under the Treaty on Non-Proliferation of Nuclear Weapons (NPT) in industrialized non-nuclear weapons states. The instrument for applying IAEA safeguards in the U.S. was ratified in July 1980, and put into force in December 1980.

The US/IAEA Safeguards Agreement (INFCIRC 288) permits the application of safeguards in approximately two hundred and thirty facilities on an eligible facility list provided by the U.S. At the present time, safeguards are applied to only a limited number of facilities. Presently there are four U.S. facilities subject to IAEA inspection, one fuel fabrication facility (Combustion Engineering, Windsor, Connecticut), two reactors (San Onofre-2, Arkansas-2), and the Goodyear Gas Centrifuge Enrichment Plant (GCEP). Facilities not selected under the Agreement may be selected under the "Protocol" to the Agreement. At this time there are three fuel fabrication facilities selected under the Protocol: Exxon Nuclear Corporation, Richland. Washington; Westinghouse, Columbia, South Carolina; and Babcock and Wilcox, Lynchburg, Virginia. The provisions of the Protocol impose virtually all the same requirements of selected facilities except the right of inspection.

In addition to the U.S. reporting under INFCIRC 288, in 1974 the U.S. committed to report exports and imports of source and/or special nuclear material to the IAEA as expressed in INFCIRC/207. With regard to implementation of the IAEA reporting requirements, the U.S. Nuclear Regulatory Commission (NRC) is responsible for safeguarding commercial nuclear activities in the United States while the Department of Energy (DOE) has a similar responsibility for DOE activities that are exempt from NRC licensing and regulation. Together these two agencies utilize the existing domestic computer based information system, the "Nuclear Materials Management and Safeguards System" (NMMSS) in order to meet their commitments to collect collect, prepare, and transmit accounting data to the IAEA.

The NMMSS has been developed over a period of several years. Development was started in late 1964 when it was decided to convert the manual records and reporting systems on nuclear materials to a computer-supported information system.

Starting in 1965, the U.S. Government converted the information on inventories and material balances in the facility reports to a data format for computer processing. The transaction data system was implemented in 1968, with data prepared from reports filed by the U.S. facility operators.

At the present time, the system encompasses data pertaining to the nuclear research, development, and production programs of the Federal Government, those private nuclear programs subject to Federal regulations, and United States export and import activities. The NMMSS system is located in Oak Ridge, Tennessee, where it is operated and maintained by the Computing and Telecommunications Division of the Martin Marietta Energy Systems, Inc. Reports for the IAEA are encoded on magnetic tape for delivery to the IAEA. The U.S. did not establish a separate computer solely for IAEA related information but rather modified its

current domestic reporting system to produce reports as outlined in the Code 10 of the subsidiary arrangement of INFCIRC/288 and to satisfy the commitments of INFCIRC/207.

With this background, I will now describe separately the activities and experience under INFCIRC/288 and INFCIRC/207. With regard to INFCIRC/288, I will now address the types of reporting by selected facilities, the preparation for implementation, and the U.S. reporting experience.

II. U.S. Reporting Under INFCIRC/288

The reports required under INFCIRC/288 are the same as those called for in INFCIRC/153 as follows:

- An initial Physical Inventory Listing (PIL) on all nuclear material at each facility.
- Inventory Change Reports (ICRs) showing all changes in the inventory of nuclear material on a monthly basis within 30 days after each calendar month.
- Material Balance Reports and Physical Inventory Listing reflecting the material balance based on a physical inventory of nuclear material actually present in the material balance area within 30 days after the physical inventory has been taken.

The initial Physical Inventory Listing report reflects the inventory in the facility on the last day of the month in which the facility is selected. It is produced by the operator in the current U.S. report format, transmitted to NMMSS, processed into the format and structure of a Physical Inventory Listing, sent to both the U.S. Nuclear Regulatory Commission and the Department of Energy for approval, and transmitted to the U.S. Mission in Vienna. Official delivery of the initial report to the IAEA by the U.S. Mission completes the first stage of implementing reporting for the facility.

The second stage spans the interval of time from the date of the initial report to the date the Facility Attachment enter into force. In this stage Inventory

Change Reports (ICRs) are transmitted to the IAEA, treating the facility as a provisional material balance area. The first ICR data cycle is one calendar month. The monthly cycle is repeated throughout the interval of interim reporting, with the final ICR cycle for the provisional material balance area being a portion of a calendar month if the Facility Attachment is put in force on a date that is not the beginning of a calendar month.

During the interval of reporting as a provisional material balance area, the facility continues to report nuclear material transactions in accordance with the DOE or NRC domestic safeguards procedures in force at the time of selection. Inventory Change Reports for the IAEA are generated by NMMSS and transmitted through official channels to the IAEA.

When the final data cycle for a provisional material balance area is a portion of a month, additional operations must be performed to close the provisional MBA on a specified date, and to transfer the book inventory to the material balance areas as established in the Facility Attachment.

The third stage of implementing reporting begins with the report of the nuclear materials inventory in each material balance area on the day the Facility Attachment enters into force. At that time, the new data elements and other modifications to data to comply with the requirements of reporting to the IAEA apply for inventory, inventory change and material balance reports.

This stage spans one complete material balance period. The transition from domestic to IAEA reporting reaches completion when the PIL, MBR and ICRs closing the first material balance period are transmitted to the IAEA. Following the implementation phase, reporting continues through each successive material balance period as long as the Safeguards Agreement remains in force or until

such time as the facility may be removed from the eligible list or is deselected by the IAEA. The practice has been for the IAEA to change its selection of facilities every 2-3 years.

Preparations for Implementing of INFCIRC/288 Reporting in the U.S.

Reporting under INFCIRC/288 began in February 1981, but not until numerous modifications were made to both U.S. regulations to which our licensees and contractors must adhere, and the domestic reporting system (NMMSS). Modification of the U.S. reporting regulations began in late 1975 when work was started on the preparation of regulations necessary to implement the IAEA program. These rule changes were designed to satisfy the U.S. commitments to the IAEA, and at the same time, to minimize the impact on licensees and contractors of providing safeguards information to the IAEA. This decision resulted in the utilization, to the maximum degree possible, of the current NRC domestic reporting system.

In some ways, modifying the domestic system to provide for reporting to the IAEA was more difficult than developing a separate system for this purpose. From the beginning it was recognized that the U.S. domestic reporting system could not easily be modified to interface with the IAEA system because of some conceptual and administrative differences, some of which are identified as follows:

- The U.S. domestic requirements had no provisions for "Batch" reporting.
- The U.S. domestic system did not contain "Key Measurement Points" and the IAEA definition of "Material Balance Area" differed from that used for domestic purposes.
- U.S. nuclear facilities have one or more Reporting Identification Symbols (RIS), a unique alphabetic three character symbol that identifies a specific account, and not necessarily an MBA.

- A further complication was introduced by the fact that some facilities in the U.S. are subject to IAEA safeguards and others are not. If the shipper or receiver is not one of the IAEA selected facilities, that facility is not subject to the IAEA reporting requirements (Code 10).
- There were certain U.S. accounting practices that complicated reporting to the IAEA, e.g., reporting of remeasurements, bias corrections, transfer of heels, and the U.S. correction procedures.

The alignment of the IAEA and U.S. reporting systems required a series of activities to establish the appropriate authority, modify the U.S. reporting system, and facilitate the full implementation of the US/IAEA Safeguards Agreement. These activities involved the following:

- The U.S. Code of Federal Regulations had to be modified. This entailed changes to existing regulations as well as the establishment of new provisions specifically directed to the implementation of the US/IAEA Safeguards Agreement. These new provisions are referred to as Part 75 and the initial regulatory changes became effective on December 24, 1980. An overview of these regulations is provided in the appendix to this paper.
- The reporting instructions and forms which apply to U.S. facilities had to be modified. In this regard, the additional reporting requirements necessary for implementation of the US/IAEA Safeguards Agreement were integrated into the existing DOE and NRC reporting instructions. These modifications to the domestic reporting system were limited to only those changes that were needed to produce the additional data and minimize the total reporting burden on U.S. facilities. This meant that the general arrangement of forms, nomenclatures, data codes, and many other characteristics retain an orientation that is known and understood throughout the entire U.S. nuclear industry. The information that was obtained from the

facilities served the domestic safeguards needs and simultaneously enabled the United States to meet its commitment of reporting safeguards information to the IAEA.

- There was a need to acquaint the U.S. facility operators with the nature and impact of the provisions of the US/IAEA Safeguards Agreement, which was accomplished in four training seminars held at different locations in the United States during the period August-October 1980. Topics included discussions regarding the US/IAEA Safeguards Agreement, Reporting of Transactions and Inventories, Design Information Questionnaires and Facility Attachments.
- There was a need to develop a new module in NMMSS to enable satisfaction of the reporting requirements under the provisions of Code 10, which involved the following activities:
  - o System specifications were developed in consonance with the development of reporting instructions, procedures, and forms. Software development and operation of the NMMSS were designed to accommodate necessary U.S. and IAEA administrative and conceptual differences so as to incorporate the IAEA reporting requirements and to develop and maintain an automated data reporting interface with the IAEA.
  - o Computer software was developed to process data generated by the selected U.S. operators under the revised reporting requirements and Facility Attachments, and to create the complete US/IAEA data interface provided for in the Subsidiary Arrangements and in the Transitional Subsidiary Arrangements, Code 10, "Contents, Format and Structure of Reports to the Agency." Computer software was also developed to store certain design information and facility attachment data needed to support the processing, verification, and translation of inventory, inventory change, and material balance data.

INFCIRC 288 Reporting Experience

Reporting under the Agreement was initiated in February 1981. In spite of the extensive preparations, the U.S. experienced a number of routine difficulties in the early reporting to the IAEA. These included:

1. late reporting due to delays in operator reporting, errors in processing the data, format problems, and inefficient procedures for the physical transmittal of the data to Vienna;
2. erroneously using receiver values in reporting receipts instead of using shippers' values in accordance with IAEA procedures, and associated problems with the reporting of shipper and receiver corrections and shipper-receiver differences;
3. mistakes in the data reported to the IAEA due to data entry errors and software problems;
4. reporting of corrections that did not affect IAEA data elements, e.g., corrections in domestic data elements such as country-of-origin information;
5. reporting of prior period corrections where the period of the corrected report preceded the application of IAEA safeguards at the facility;
6. use of batch names that were not unique; and
7. improper formatting of corrections such that the cross reference between paired correcting entries was not provided.

We took appropriate corrective action which included:

1. reprogramming to properly process reported receipts, shipper and receiver corrections, and the reporting of shipper-receiver differences. This was completed in September 1983 with the back data for the March 1981 to August 1983 period provided to the IAEA in December 1983;

2. reprogramming to properly format corrections, and to screen out corrections pertaining to transactions that preceded IAEA safeguards application at the facility;
3. Improved quality control procedures were developed and implemented;
4. NRC, DOE and Martin Marietta worked closely with U.S. operators to resolve format problems and other reporting difficulties which were a source of errors and a cause of delays;
5. reporting instructions for licensees and contractors were modified to require use of a unique batch name within each MBA; and
6. expedited procedures for the physical transmittal of the tapes to Vienna were implemented.

In addition to the routine difficulties that have all been essentially resolved, the IAEA is still encountering a number of other difficulties in processing the U.S. data. These difficulties, however, are not due to "start-up" problems, but rather due to incompatible U.S. and IAEA system interfaces that were permitted under the negotiated Code 10. These difficulties exist because:

1. The corrections reported by the U.S. to the IAEA do not include back references to the original report number and line number being corrected; and
2. The identification of U.S. reports lack uniqueness and is not by sequential numbering, but rather by an alpha-numeric system.

To facilitate the ability of the IAEA to process the U.S. data, we have devoted considerable effort to resolving the incompatible interface problems. We recently completed the computer software modifications and have regenerated the past reported data using sequential report numbers and back referencing of report and line numbers for corrections. We will be meeting with IAEA staff

this week and next to confirm that the changes made satisfy the IAEA's needs, and hopefully we will be reporting in a completely compatible manner by January 1985.

We believe that the U.S. efforts to date have resulted in significant improvements to the U.S. reporting to the IAEA under the US/IAEA Safeguards Agreement. With the changes expected to be implemented in the near future, we expect to finally complete the development efforts and enter a maintenance mode of interface between the U.S. and the IAEA information systems. However, if other difficulties arise, we stand ready to resolve the problems expeditiously.

Now that we apparently have the information systems interface in hand, we are working toward facilitating operator-inspector interface. We have been working closely with the IAEA inspectors and have been providing assistance in resolving apparent discrepancies. In the course of these activities, it has become evident that one particular problem area needs to be attended to. In particular, because we have maintained the domestic format for operator reporting to NMMSS, the format and identification of the domestic reports are not the same as the data reported to the IAEA. As a result, the IAEA inspectors are identifying discrepancies because they are not able to match the U.S. reported data with the operators records. To resolve this problem we will be generating tables which will match the IAEA reported data with the corresponding operator report. This information will be provided to the inspectors. We are hopeful that this will significantly mitigate the problems in this area. In any case, we have provided the inspectors with a standing offer to provide any assistance we can.

At this point I would now like to address the U.S. activities and experience associated with U.S. export-import reporting.

III. Export-Import Reporting

As a matter of background, the United States is a party to the Treaty on Non-proliferation of Nuclear Weapons (NPT) and as such is obligated to require IAEA safeguards on all source and special nuclear material exported to non-nuclear weapons states. The Atomic Energy Act of 1954, as amended, implements this requirement by requiring IAEA safeguards on all exports of source and special nuclear material greater than one effective kilogram. The essence of IAEA safeguards is that a country will account for all safeguarded material and the IAEA will verify that accounting either through independent measurement or, possibly, by a comparison of the shipper and receiver information in the case of imports and exports.

To assist in the implementation of the safeguards provision of the NPT, the United States, the U.K., and the U.S.S.R. jointly agreed in a letter to the Director General in 1974 (reproduced as IAEA INFCIRC/207) to inform the IAEA of imports of nuclear material and exports of material for nuclear end-uses in quantities greater than one effective kilogram. The original undertaking included notification to IAEA at least ten days prior to the export. This feature was dropped by the IAEA in 1976 and the reporting requirements are now to report promptly after the fact for both exports and imports. Also, as a result of recent regulatory changes, exports and imports of quantities down to the IAEA reporting units are reported by the U.S.

The after the fact reporting of exports and imports under INFCIRC/207 has been far less complicated than that of 288 reporting. In the beginning, it was satisfied by simply sending copies of our domestic transfer documents (DOE/NRC Form 741) to the IAEA. Eventually, modifications were made to report the data on magnetic tape in a format similar to that used for 288 reporting (except for correction reporting which is in the process of being modified). However, under the procedures used by the U.S. and the other countries, the IAEA was not able to compare export and import shipment information efficiently.

In June 1980 and December 1981, a consultants group met and discussed ways to increase the IAEA's ability to match export/import transactions. Shortly after their second meeting (January 1982), efforts commenced in the U.S. to implement the consultants recommendations. In September 1983 these efforts were completed and the U.S. government fully implemented the consultants recommendations. The changes made to U.S. procedures included the following:

For Exports:

1. The U.S. shippers are required to include a copy of the U.S. Form 741 with each shipment which includes the batch names which will be used in reporting to the IAEA.
2. Although the shipper is allowed to use a batch name of up to sixteen characters, the batch name must be unique to the MBA in the right hand eight characters. The entire sixteen characters, including leading blanks, will be the batch name used in reports to the IAEA. (States receiving U.S. exports which cannot accommodate a sixteen character batch name should use only the right hand eight characters of the batch name in reporting to the IAEA.) For fuel assemblies the batch name will be the fuel assembly identification number.
3. The U.S. shipper is required to define batches consistent with the guidelines provided in paragraph 100 of IAEA INFCIRC/153. In addition, each fuel assembly is to be a separate batch.
4. The shipper is required to provide on the U.S. Form 741 the IAEA MBA code for the shipping MBA.

For Imports:

1. U.S. receivers are required to use the shipper's batch name on the form 741 submitted to NMMSS. If the shipper does not provide a batch name then the receiver is required to name the batch in accordance with paragraph 100 of INFCIRC/153. The batch name for fuel assemblies is required to be the fuel assembly identification number except when that number is not legible, e.g., for some spent fuel.
2. The ICR submitted to the IAEA by the U.S. has the same number of lines as were used by the shipper.
3. The U.S. NMMSS reports the IAEA MBA code for both the shipper and receiver in reporting imports to the IAEA.
4. For imports, in the circumstance that the shipping state does not provide the necessary information, the receiving facility is required to enter appropriate data in its report to NMMSS. In addition, they describe to the appropriate U.S. authority any differences between their report and the shipper's report. These differences will be reported by the U.S. to the IAEA as concise notes on the ICR.

With regard to U.S. experience in export-import reporting, in response to periodic IAEA requests, the U.S. has reviewed unmatched U.S. exports and imports to assist the IAEA in correlating reports of receipts and shipments. In addition, with the IAEA's cooperation, the U.S. is working bilaterally with Japan and Euratom to resolve unmatched transactions. In the course of these reviews, we have found:

1. Matching problems for shipments of large quantities are likely to be essentially eliminated by the full implementation of the 1981 consultants recommendations.

2. Many of the unmatched transactions are for shipments of relatively small quantities of materials, e.g., samples and standards.
3. The ability of states to resolve unmatched transactions is greatly facilitated by access to corresponding information, i.e., not only the list of unmatched exports and imports, but also the corresponding unmatched reported receipts associated with U.S. exports and unmatched reported shipments associated with the U.S. imports.

Recommendations of a September 1984 Consultants meeting confirm these observations. These recommendations include proposed actions that:

1. The IAEA encourage implementation of the recommendations of the 1981 group of consultants.
2. The IAEA should establish, for the purpose of transit account resolution, a deminimus quantity, which can vary with material type, below which it considers amounts of material to be of negligible concern. Transfers below the deminimus quantity should be considered as matched; and
3. With regard to state assisted matching, in addition to providing a State/Euratom with information that identifies the shipments from them that are unmatched and the shipments to them that are unmatched, the IAEA should provide the unmatched receipts reported by the State/Euratom and the pertinent unmatched receipts reported by other States/Euratom.

In addition, among other recommendations, the consultants recommended that:

1. The States/Euratom should encourage their receivers of international transfers to obtain shippers' information directly from the shipper when the shipper does not provide his information with the shipment.
2. States/Euratom should continue with bilateral contacts to resolve specific problems on international transfers. The IAEA should encourage and facilitate such contacts as appropriate.

3. The receiver or the receiving State/Euratom, as appropriate, and the IAEA should provide concise note information to the shipping State/Euratom when a receiver provides a concise note which indicates that the shipper's data is not available.

On the basis of U.S. experience, it appears that the implementation of these recommendations will once and for all reduce to manageable proportions the tenacious transit matching problems. We are prepared to implement the recommendations, and stand ready to cooperate in any bilateral efforts toward this end.

There is one additional matter relating to U.S. export-import reporting. The IAEA has requested the U.S. to provide correction back references similar to that requested for U.S. selected facilities. We are in the final stages of making appropriate modifications to our reporting instructions, and we expect to have the back reference capability early in 1985.

Concluding Remarks

The IAEA safeguards system requires the timely processing of accurate inventory and transaction data, and timely transit account resolution. In recognition of these needs, the U.S. has expended significant efforts over the past five years or so to facilitate interface between the U.S. and the IAEA information systems. We have made significant progress in both reporting for U.S. facilities selected by the IAEA for safeguards, and for export-import reporting. Hopefully, we have completed the problem-solving, and are now ready for routine operation. However, as I indicated earlier, if additional difficulties arise, we will take action to resolve the problems expeditiously. We are now concentrating on facilitating operator-inspector interface, and, as a general matter, we will continue to work closely with IAEA inspectors to provide any assistance that we can. In addition, we continue to encourage bilateral discussion to resolve information interface problems and problems associated with transit account resolution.

APPENDIX

NRC REQUIREMENTS TO SUPPORT
IMPLEMENTATION OF US/IAEA AGREEMENT

1. Background

a. The United States, as a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), has joined with other nations in an effort to limit the spread of nuclear weapons. To encourage wide-spread adherence to the NPT by non-nuclear-weapon States, which would be committed to accept the application of safeguards administered by the International Atomic Energy Agency (IAEA), President Lyndon B. Johnson in 1967 announced that the United States would permit IAEA to apply its safeguards to nuclear activities in this country - excluding only those with direct national security significance. This policy has been reaffirmed by each succeeding President and has been referred to by other Governments as a consideration affecting their decision to ratify the NPT.

The instrument for applying IAEA safeguards in the United States is a formal Agreement. The US/IAEA Agreement contains provisions which parallel agreements between IAEA and non-nuclear-weapon States, the principal difference being the exclusion of national security activities. Implementation of the Agreement requires the cooperation of NRC licensees in accordance with new 10 CFR Part 75 and amendments to 10 CFR Parts 40, t0, 70, 150, and 170.

10 CFR Part 75 establishes a system of nuclear material accounting and control to implement (with respect to NRC and Agreement State Licensees) the Agreement between the United States and the IAEA for the application of safeguards in the United States.

The requirements in Part 75 apply to all persons licensed by the Commission or Agreement States to possess source or special nuclear material at an installation specified on the United States eligible list. The requirements of Part 75 also apply to holders of construction permits and to persons who intend to receive source material or special nuclear material.

The United States eligible list is a list of installations eligible for IAEA safeguards under the US/IAEA Safeguards Agreement which the Secretary of State or his designee files with the Commission. Excluded from the list are activities having direct national security significance and activities dealing with mining and ore processing.

The implementing regulations identify provisions requiring licensees: (1) to submit information concerning their installation for the use of IAEA; (2) to establish, maintain, and follow prescribed material accounting and control procedures; (3) to provide reports; and (4) to permit inspections by IAEA representatives.

For NRC to implement its responsibilities, it is necessary for licensees affected by 10 CFR Part 75 to maintain records and submit reports as follows:

Section 75.3(a) states that the Commission may, upon application of any interested person or upon its own initiative, grant exemptions from the requirements of this part that it determines are authorized by law and consistent with the Agreement, are not inimical to the common defense and security, and are otherwise in the public interest.

Section 75.11(a) - Each licensee subject to the provisions of this part shall submit to the Commission in response to and within the period, which shall be at least 45 days, specified in a written request from the Commission the following information with respect to any installation in which the licensee carries out licensed activities:

(1) The identification of the installation, stating its general character, purpose, nominal capacity (thermal power level, in the case of power reactors), and geographic location, and the name and address to be used for routine purposes;

(2) A description of the general arrangements of the installation with reference, to the extent feasible, to the form, location and flow of nuclear material and to the general layout of important items of equipment which use, produce or process nuclear material;

(3) A description of features of the installation relating to material accounting, containment and surveillance; and,

(4) A description of the existing and proposed procedures at the installation for nuclear material accounting and control, with special reference to material balance areas established by the licensee, measurement of flow and procedures for physical inventory taking.

Section 75.11(b) - Each licensee shall submit to the Commission information with respect to any modification or change at the installation affecting the information described in paragraph (a) of this section. Such information shall be submitted:

(1) With respect to a modification or change which will necessitate a change in a license condition or technical specification or which will decrease the effectiveness of the material accounting and control procedures, at least 70 days before the modification or change is scheduled to be completed;

(2) With respect to any other modification or change, at the time the first inventory change report is submitted after the modification or change is completed.

Section 75.12(b)(1) provides that a licensee may request that information of particular sensitivity, which it customarily holds in confidence, not be transmitted physically to the Agency. A licensee who makes such a request should, at the time the information is submitted, identify the pertinent document or part thereof and make a full statement of the reasons supporting the request.

Section 75.14(a) - At the time information is submitted in accordance with 75.11, and promptly whenever changes are made, each licensee subject to the provisions of this part shall submit to the Commission:

(1) Information on organizational responsibility for material accounting and control, including information with respect to separation of functions to provide internal checks and balances; and

(2) Health and safety rules to be observed by the Agency inspectors at the installation.

Section 75.21 - Material Accounting and Control general requirements are: A measurement system for the determination of the quantities of nuclear material received, produced, shipped, lost or otherwise removed from the inventory, and the quantities on inventory; the evaluation of precision and accuracy of measurements and the estimation of measurement uncertainty; procedures for identifying, reviewing and evaluating differences in shipper/receiver measurements; procedures, including frequency, for taking a physical inventory; procedures for the evaluation of accumulations of unmeasured inventory and unmeasured losses; and maintenance of accounting and operating records.

The Commission will communicate in writing to the licensee procedures for material accounting and control as determined by the IAEA. These procedures will be implemented by the licensee within 10 days after such direction or within such other period as may be specified by the Commission.

Section 75.32 - The initial report shall be reported on the last day of the calendar month in which the Commission gives the licensee notice that an initial report is required. The report is to be submitted on Form DOE/NRC-742, Material Status Report, in accordance with printed instructions and dispatched within twenty (20) days after the initial reporting date.

Section 75.34 - Inventory change reports are to be submitted on Form DOE/NRC-741, Material Transaction Report. Form DOE/NRC-741 serves as a shipping and transfer document for special nuclear material, source material and tritium as required of NRC and Agreement State licensees under 10 CFR Parts 30.55, 40.67, 50.71, 70.54, 150.16, 150.17, and 150.19. The form is expanded to include the addition of five new data elements. The new data collected will specify identification and batch data for each batch of nuclear material, the date of the inventory change, and, as appropriate, the originating material balance area and the receiving material balance area or the recipient. This report will be prepared in accordance with printed instructions for completing the form.

This requirement will enable the U.S. to fulfill its responsibility as a participant in the Agreement.

Section 75.35 - Material Balance Reports

(1) Material balance reports are to be submitted on Form DOE/NRC-742, Material Status Report, and prepared in accordance with printed instructions for completing the form, and shall include the following entries:

(a) Beginning physical inventory;
(b) Inventory changes (first increases, then decreases);
(c) Ending book inventory;
(d) Shipper/receiver differences;
(e) Adjusted ending book inventory;
(f) Ending physical inventory; and
(g) Inventory difference (material unaccounted for)

A statement of the physical inventory, listing all batches separately and specifying material identification and batch data for each batch, shall be prepared on DOE/NRC Form 742C and attached to each material balance report.

(2) Material balance reports shall be dispatched as soon as possible and in any event within thirty (30) days after the completion of the physical inventory.

Section 75.43(b) - Exports. Notification shall be given of any proposed shipment of nuclear material for peaceful purposes under an export license issued pursuant to Part 110 of this Chapter, in an amount exceeding one effective kilogram, directly or indirectly to any non-nuclear weapon state (as referred to in Article III(2) of the Treaty on the Non-Proliferation of Nuclear Weapons, 21 U.S.T. 483). If

the licensee anticipates that it will make two or more shipments for peaceful purposes, within any period of 90 days, directly or indirectly to destinations in the same non-nuclear weapon state, notification shall be given of each shipment if the aggregate quantity of nuclear material to be transferred exceeds one effective kilogram.

Section 75.43(c)(2) - Imports. Notification shall be given with respect to any proposed import of nuclear material described in paragraph (c)(1) of this section in an amount exceeding one effective kilogram. If the licensee anticipates that it will receive two or more shipments of such nuclear material, within any 90 day period from points of origin in the same country, notification shall be given with respect to each shipment if the aggregate quantity of such nuclear material to be received exceeds one effective kilogram.

Section 75.43(d) - Domestic Transfers. Notification shall be given with respect to any shipments of nuclear material (other than small quantities in the form of samples containing less than 0.01 effective kilogram per sample) to a non-eligible destination. As used in this paragraph, a "non-eligible destination" means any destination in the United States other than an installation on the United States eligible list.

The information made available to NRC by applicants and licensees in response to the application, recordkeeping, and reporting requirements of 10 CFR Part 75 will be reviewed by the NRC staff to determine if it is complete and meets the requirements set out in Sections 75.6 and 75.11 thru 75.14.

2. Time Schedule for Data Collection and Publication

Each licensee subject to the provisions of 10 CFR Part 75 will be required to submit to the Commission (in response to and within the period - which shall be at least 45 days - and specified in a written request from the Commission) that information set out in Section 75.11 concerning any installation in which the licensee carries out licensed activities.