

**Annex IX to the Implementing Arrangement between
the Japan Atomic Energy Research Institute and
the United States Department of Energy on
Cooperation in Fusion Research and Development for the
DOE-JAERI Collaborative Program on the Data Link**

1 Introduction and Terms of Reference

Whereas, Article III.2 of the Implementing Arrangement between the United States Department of Energy (hereinafter referred to as "DOE") and the Japan Atomic Energy Research Institute (hereinafter referred to as "JAERI") on Cooperation in fusion Research and Development of November 8, 1983, (hereinafter referred to as the "Implementing Arrangement") provides for additional activities through written annexes to the Implementing Arrangement,

Whereas, an access limited connection between the fusion computer facilities of each Party that permits rapid controlled transfer of data and communication (hereinafter referred to as The "Data Link") could be established between the Naka Fusion Research Establishment (hereinafter referred to as "NFRE") of JAERI and the Magnetic Fusion Energy Computer Center (hereinafter referred to as "MFECC"), operated by the University of California Lawrence Livermore National Laboratory (hereinafter referred to as "LLNL"), acting under its contract No. SFENG48 with the United States of America, as represented by DOE,

Whereas, DOE and JAERI have judged that the Data Link will enhance the productivity of their joint fusion research activities and is a form of cooperative activity consistent with Article III. 1.(6) of the Implementing Arrangement,

Therefore, DOE and JAERI (hereinafter referred to as the "Parties") agree hereby to establish this Annex in order to define the detailed provisions for the implementation of a Data Link, as follows:

2. Objective

The objective of this Collaborative Program is to establish the Data Link to facilitate rapid information exchanges between fusion researchers of the Parties (hereinafter referred to as the "Participant")

3. Scope

The scope of Data Link activities shall consist of the following:

- 1) joint code development and/or usage,
- 2) joint data analysis and/or theory/experiment comparison,
- 3) access to computers in their home countries by visiting scientists for computations related to the purpose of the visit,
- 4) administration of the Data Link,
- 5) additional categories of Data Link projects which may be added by mutual written agreement.

4. Control of Access

4.1 Only such codes, data files, and other computer resources as are required for carrying out a specific project shall be made available to project Participants.

4.2 Security measures shall be maintained by both Parties that are adequate to deter unauthorized use of computing resources as well as unauthorized code or data access.

5. Management of the Data Link

5.1 Administrative oversight of the Data Link is the responsibility of the Data Link Steering Committee (hereinafter referred to as the "Steering Committee"), acting under the overall guidance of the US-Japan Coordinating Committee on Fusion Energy (hereinafter referred to as the "Fusion Committee").

5.1.1 The Steering Committee shall consist of up to three members designated by each Party, one member from each side shall be designated as co-chairperson.

5.1.2 The Steering Committee shall act with unanimity with each Party having one vote.

5.1.3 The Steering Committee shall be responsible for promoting and managing effective use of the Data Link, in consultation with other committees established under the Fusion Committee.

5.1.4 The Steering Committee shall monitor Data Link usage and shall examine the amount of Data Link resources requested to ensure that the usage of the Data Link and

associated computational resources are equitably shared by both Parties.

5.1.5 If necessary, the Steering Committee may recommend restriction of Data Link projects or expansion of Data Link resources to maintain the balance between supply and demand.

5.1.6 The Steering Committee may establish such rules of procedure as required for its proper functioning and consider other matters pertinent to the execution of its responsibilities.

5.1.7 The Steering Committee shall report to the Fusion Committee annually regarding the progress and plans for use of the Data Link. The Steering Committee shall take into account, as appropriate, the decisions and policies of the Fusion Committee.

5.1.8 The Steering Committee shall meet annually on a date and at a location mutually agreed upon. An exchange of letters may serve as a substitute for a meeting of the Steering Committee.

5.2 Technical management of the Data Link shall be the joint responsibility of the MFECC and NFRE (hereinafter referred to as the "Computer Centers")

5.2.1 The Computer Centers shall monitor the technical performance of the Data Link, collect statistics on usage and cost, and maintain administrative and technical controls to ensure that only authorized Data Link usage is permitted.

5.2.2 The Computer Centers shall be responsible for implementing any technical modification to the Data Link that may be agreed upon by the Steering Committee.

6. Data Link Finances

Each Party shall bear the costs it incurs in its own country in carrying out this Annex hereto except as otherwise agreed between the Parties. The Steering Committee shall monitor Data Link usage to insure that annual communications costs remain within the funding level agreed to by each Party. Data Link funding level may be modified by mutual written agreement.

7. Information and Intellectual Property

The information and intellectual property provisions shall be as follows:

(a) Right to Publish.

Subject only to the copyright restrictions of this Annex both Parties shall have the right to publish all information provided to or arising from the activities under this Annex, except proprietary information, if any.

(b) Proprietary Information.

The Parties shall take all necessary measures in accordance with this paragraph, the laws of their respective countries and international law to protect proprietary information. For the purpose of this Annex proprietary information shall mean information of a confidential nature acquired prior to or outside the scope of this Annex, such as trade secrets, know-how, including, for example, computer programs, design procedures and techniques, which is appropriately marked, provided such information:

- (1) Is not generally known or publicly available from other sources:
- (2) Has not previously been made available by the owner to others without obligation concerning its confidentiality:
- (3) Is not already in the possession of the recipient Party without obligation concerning its confidentiality.

It shall be the responsibility of each Party supplying proprietary information to identify the information as such and to ensure that it is clearly marked with the following (or substantially similar) restrictive legend:

"This document or file contains proprietary information furnished in confidence under the Agreement between the United States Department of Energy and JAERI of Japan (date) and shall not be disseminated outside these organizations, their contractors, and the concerned departments and agencies of the Government of the United States and the Government of Japan without prior approval of (the Party supplying the proprietary information)."

"This notice shall be marked on any reproduction hereof, in whole or in part. These limitations shall automatically terminate when this information is disclosed by the owner without restriction."

(c) Information.

Each Party agrees to provide the other Party all information utilized in or arising from activities under this Annex. All information developed in connection with and during activities carried out under this Annex shall be provided to each Party by the Party performing the work.

(d) Copyright.

A Party may obtain copyright in all countries on works, including computer software and codes, which the Party creates under this Annex. In the event a work is jointly developed, each Party may obtain copyright protection in its own country with the right to copyright protection in third countries being distributed in an equitable manner as agreed to by the Parties. In any event, a Party obtaining copyright protection shall grant to the other Party, its Government and its nationals a non-exclusive, irrevocable, royalty-free license for all purposes under the copyrights.

(e) Warrant of Information.

Information transmitted by one Party to the other Party under this Annex shall be accurate to the best knowledge and belief of the transmitting Party, but the transmitting Party does not warrant the suitability of the information transmitted for any particular use or application by the receiving Party or any third Party. Information developed jointly by the Parties shall be accurate to the best knowledge and belief of both Parties. Neither Party warrants the accuracy of the jointly developed information or its suitability for any particular use or application by either Party or by any third Party.

(f) Inventors and Authors.

Each Party shall assume responsibility to pay awards or compensation required to be paid to nationals of its own country according to the laws of its own country.

(g) Inventions.

Rights to inventions shall be determined pursuant to the Article VI-1-e of the Implementing Arrangement as follows:

Inventions shall be owned by the inventing party in its country and in third countries, and by the other Party in its own country. The party which owns an invention shall license such inventions to the other party, its Government and the nationals of its country

designated by it, upon request of the other party on non-exclusive, irrevocable, royalty-free basis.

8. Technology Changes and Data Link Upgrades

8.1 Technology changes and both hardware and software upgrades to the Data Link that will change the operation of the Data Link shall be agreed to by both Parties.

8.1.1 The changes and upgrades shall be approved and scheduled by the Steering Committee, consistent with Section 4 of this Article. This approval may be given at meetings of the Steering Committee or by exchange of letters between the two co-chairpersons after consultation with the members of the Committee from their respective countries.

8.1.2 The Steering Committee shall consult with the relevant Steering and Joint Planning Committees and other pertinent groups to ensure that the proposed changes and upgrades support DOE and JAERI joint fusion research activities.

8.1.3 The Steering Committee is responsible for forecasting future Data Link requirements, and planning changes and upgrades in the most cost effective manner. In cases where the proposed change or upgrade will substantially increase the total cost of the Data Link to the Parties, the Steering Committee shall obtain the approval of the Parties before acting on that proposal.

8.1.4 In cases where the proposed changes and upgrades have significantly unequal costs and/or benefits for the two Parties, the Parties shall approve the proposed change or upgrade taking into account overall program priorities and equity. The Steering Committee shall report these changes and upgrades to the Fusion Committee consistent with section 5.1.7.

9. Incorporation by Reference

Articles VII, VIII, IX, and XI of the Implementing Arrangement are applicable to the Collaborative Program.

10. Term of the Annex

The Data Link shall be established and enter into force upon signing of this Annex and shall remain in force for five (5) years or until the expiration of the Implementing Arrangement, whichever occurs first.

11. Extension and Amendment of the Annex

This Annex may be extended or amended by written agreement between the Parties.

12. Termination of the Annex

This Annex may be terminated at the discretion of either Party upon six (6) months advance notification in writing to the other Party.

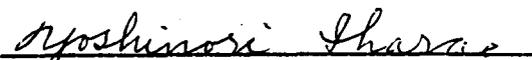
In witness whereof, this Annex has been signed in duplicate in English and Japanese languages, both being equally authentic.

for THE UNITED STATES
DEPARTMENT OF ENERGY

for THE JAPAN ATOMIC ENERGY
RESEARCH INSTITUTE



Anne Davies
Acting Associate Director for
Fusion Energy
Office of Energy Research



Yoshinori Ihara
President

Date
January 11, 1990

Date
October 31, 1989

**AMENDMENT NO. 1
TO
THE ANNEX IX
TO
THE IMPLEMENTING ARRANGEMENT
BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY
AND
THE JAPAN ATOMIC ENERGY RESEARCH INSTITUTE
ON
COOPERATION IN FUSION RESEARCH AND DEVELOPMENT
FOR THE
DOE-JAERI COLLABORATIVE PROGRAM
ON THE DATA LINK**

Whereas the United States Department of Energy (hereinafter called DOE) and the Japan Atomic Energy Research Institute (hereinafter called JAERI) are cooperating under Annex IX to the Implementing Arrangement on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program on the Data Link (hereinafter referred to as "Annex IX");

Whereas DOE and JAERI acknowledge the usefulness and mutual benefit of this collaborative program and agree that the existence of a Data Link has enhanced the productivity of their joint fusion research activities;

Therefore, pursuant to Article 11 of Annex IX, in order to extend the Collaborative Program on the Data Link, DOE and JAERI agree to amend Annex IX as follows:

- 1. Article 1 is amended by deleting the phrase "the Magnetic Fusion Energy Computer Center (hereinafter referred to as "MFECC")" and substituting in lieu thereof, "the National Energy Research Super Computer Center (hereinafter referred to as "NERSC")."**
- 2. Article 5.2 is amended by deleting "MFECC" in the second line and substituting in lieu thereof, "NERSC."**
- 3. Article 7.(a) is amended in the third line by deleting "expect" and substituting in lieu thereof, "except."**

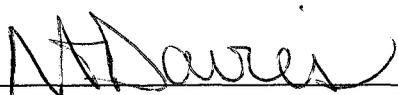
4. Article 10 is amended by deleting the phrase "five (5) years" and substituting in lieu thereof, "ten (10) years, subject to the effectiveness of the DOE-JAERI Implementing Arrangement."

5. Treatment of information and intellectual property under this Amendment No. 1 to Annex IX shall be in accordance with the provisions of Article VII and the Annex of the Agreement between the Government of the United States of America and the Government of Japan on Cooperation in Research and Development in Energy and Related Fields, as amended by the notes exchanged on February 1, 1990, said Article VII and Annex being incorporated herein by reference with the understanding that the terms "Government(s)" and "Joint Committee" in said Article VII and Annex are to be read "Party(ies) and "Steering Committee," respectively, for purpose of this Annex IX.

In witness whereof, this Amendment has been signed in duplicate in the English and Japanese languages, both being equally authentic, to be effective as of January 11, 1995.

For the United States
Department of Energy

For the Japan Atomic Energy
Research Institute





Dr. N. Anne Davies
Associate Director
for Fusion Energy
Office of Energy Research

Mr. Shozo Shimomura
President

March 8, 1995

March 30, 1995

Date

Date

AMENDMENT NO. 2
TO
THE ANNEX IX
TO
THE IMPLEMENTING ARRANGEMENT
BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY
AND
THE JAPAN ATOMIC ENERGY RESEARCH INSTITUTE
ON
COOPERATION IN FUSION RESEARCH AND DEVELOPMENT
FOR THE
DOE-JAERI COLLABORATIVE PROGRAM
ON THE DATA LINK

Whereas the United States Department of Energy (hereinafter called DOE) and the Japan Atomic Energy Research Institute (hereinafter called JAERI) are cooperating under Annex IX to the Implementing Arrangement on Cooperation in Fusion Research and Development for the DOE-JAERI Collaborative Program on the Data Link (hereinafter referred to as "Annex IX");

Whereas DOE and JAERI acknowledge the usefulness and mutual benefit of this collaborative program and agree that the existence of a Data Link has enhanced the productivity of their joint fusion research activities;

Therefore, pursuant to Article 11 of Annex IX, in order to extend the Collaborative Program on the Data Link, DOE and JAERI agree to amend Annex IX as follows:

1. Article 1, Introduction and Terms of Reference, is amended by deleting the phrase "the National Energy Research Super Computer Center (hereinafter referred to as "NERSC"), operated by the University of California Lawrence Livermore National Laboratory (hereinafter referred to as "LLNL"), acting under its contract No. SFENG48 with the United States of America, as represented by DOE," and substituting in lieu thereof, "the Energy Sciences Network (hereinafter referred to as "ESnet"), operated by the University of California Lawrence Berkeley National Laboratory (hereinafter referred to as "LBNL")."

2. Article 5.2, Management of the Data Link, is amended by deleting "NERSC" and substituting in lieu thereof, "ESnet."

3. Article 7, Information and Intellectual Property, is amended as follows:
Treatment of information and intellectual property under this Annex IX shall be in accordance with the provisions of Article VII and the Annex of the Agreement between the Government of the United States of America and the Government of Japan on Cooperation in Research and Development in Energy and Related Fields, as extended by the Protocol signed on January 13, 1995, with the understanding that the terms "Government(s)" and "Joint Committee" in said Article VII and Annex are to be read "Party (ies)" and "Steering Committee," respectively, for purposes of this Annex IX.

4. Article 10, Term of the Annex, as previously amended by Amendment No. 1, is further amended by deleting the phrase "ten (10) years" and substituting in lieu thereof, "fifteen (15) years."

In witness whereof, this Amendment has been signed in duplicate in the English and Japanese languages, both being equally authentic, to be effective as of January 11, 2000.

For the United States
Department of Energy



N. Anne Davies

Associate Director
for Fusion Energy Sciences
Office of Science

Date: January 9, 2000

For the Japan Atomic Energy
Research Institute



Mitsuru Ohta

Director General
Naka Fusion Research Establishment

Date: 12/17/99