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THE SEVEN ITER PARTIES INITIAL THE ITER AGREEMENT

Years of complex and challenging negotiations on the Joint Implementation of the ITER project reached their culmination as Ministerial-level representatives of the seven ITER Parties, the nominee ITER Director General and the Deputy Director General of the IAEA gathered together in Brussels on 24 May 2006, at the invitation of European Science and Research Commissioner Janez Potočnik, for the purpose of initialling the ITER Agreement and related instruments.

The initialling constituted the final act of the ITER negotiations. It confirmed the Parties' common acceptance of the negotiated texts, ad referendum, and signalled their intentions to move forward towards the entry into force of the ITER Agreement as soon as possible.

Each Party is now presenting the Agreement and related instruments to its respective authorities for approval to conclude the Agreement.

On the evening before the meeting the Delegations took the opportunity to mix with each other and with some leading figures in the European Fusion programme at an informal reception that took place, at the kind invitation of the Belgian State, at the historic Chateau de Val Duchesse in the suburbs of Brussels.

The meeting itself took place in the Robert Schuman room of the European Commission's Berlaymont building. In his welcoming remarks to the Participants, Commissioner Potočnik referred to the significance of the ITER Parties meeting in a room named after a person whose qualities of vision and practical competence were so instrumental in the founding of the European Union.

The opening comments from the Parties' Representatives and the remarks of Nominee ITER DG Ikeda and IAEA DDG Burkart are reproduced in full below.

Opening Comments on the Occasion of the Ministerial Meeting for ITER Brussels, 24 May 2006

Russian Federation
V. V. Travin, Deputy Head of Rosatom

Dear Mr. Chair, dear participants,

Let me express, on behalf of the Russian delegation, our deep gratitude to the EU delegation for organisation of this important meeting, and to all delegations for their participation. All of us have been waiting for this meeting for a long time, and we've been preparing for it.

The initial point of negotiations concerning joint implementation of the ITER Project was an informal meeting 'ITER Days' organised in Moscow, in June 2001, i.e. exactly 5 years ago. Start of the negotiations became possible due to

successful completion of the ITER design activities carried out under the auspices of IAEA in accordance with the Intergovernmental Agreement of 1992 and Amendment of 1998. I would like to remind that this year is a 50 year anniversary of the international cooperation in the area of controlled thermonuclear fusion. On 25th April, 1956, the academician Kurchatov, scientific leader of the Soviet atomic project, reported about outcomes of the works of the Soviet scientists in the thermonuclear field and proposed to disclose information in this area. This initiative was supported by other countries. We are all witnesses and participants of this fruitful and mutually beneficial approach.

In the course of negotiations all the raised questions have been discussed and agreed; a package of the intergovernmental agreement documents has been prepared for joint implementation of this unique project. In particular, the 2nd Ministerial Meeting held in the last June in Moscow made an important decision on selection of the ITER construction site.

We would like to thank the negotiating participants for their hard and careful work completed with a great success.

During the negotiations it was also found out that all the Parties consider this project to be of high importance and a real way of mastering new energy source for the well-being of the whole mankind. This source will be characterized by such attractive properties as practically unlimited fuel resources, environmental cleanliness and safety. I am also pleased to remind that first developments relating with the Tokamak magnetically retained plasma system being basis for the ITER design were carried out by the Russian scholars.

Purpose of our today's meeting is to initial the developed documents and sign the joint statements. The Russian delegation is ready to take this important step.

Thank you for attention.

Japan

Saburo Koumoto, Senior Vice Minister, Ministry of Education, Culture, Sport, Science and Technology

Thank you, Mr. Chairman. First of all, I would like to say thank you from the heart to EU Commissioner Potocnik for hosting this important meeting.

It is my great pleasure that the Negotiation on establishment of the ITER Organization has been concluded at the 6th Preparatory Meeting for ITER Decision Making, which was held in Tokyo on 1st April, and now it becomes possible to initial the Agreements.

Japan fully supports all these outcomes.

Japan made a proposal at the last Ministerial Meeting to let the EU to host the ITER from a broader view of the situation. This decision was made by considering that the ITER Project should be started as soon as possible for the future of humankind, and the multi-Parties framework should not be broken in implementing the ITER Project.

From this point of view, I am very pleased that all the Parties have collaborated and concentrated to the negotiation of the Agreement and it becomes possible to initial the Agreement within less than one year after the decision of ITER site.

Concerning the Broader Approach Project, which is to be implemented under the Japan-EU collaboration framework, we are continuing the discussion with EU to reach an agreement substantially in near future. We hope that the many scientists from the other ITER Parties would participate to the Broader Approach research activities in Japan.

Through the ITER Project and the Broader Approach Project, Japan hopes to take initiative in contributing to the world by developing the fusion technology, which is the ultimate energy source for future humankind. Thank you for your attention.

European Union

J.M. Silva Rodríguez, Director General, DG RTD, European Commission

Dear Excellencies,

The European Union is delighted to participate, with the ITER Parties, the ITER Host State, the ITER Senior Management and the IAEA in this important occasion of initialling the ITER Agreement and Related Documents and of signing the Joint Declarations.

Today's Ministerial Meeting represents another milestone towards the realisation of ITER. The EU is impressed by the progress that has been made since the last Ministerial Conference in Moscow on June 28, 2005. We should congratulate all who have contributed to this remarkable achievement. Indeed, it is an extraordinary achievement that we have been able to find agreement on all principles required for embarking on a thirty-five-years cooperation.

The progress on ITER coincides with the preparation of the European Union seventh framework programme for Research and Development that will run from 2007-2013. The EU contributions to ITER are fully integrated in this proposal and at the same time the procedure for establishing the European Domestic Agency in Barcelona is on course to be finalised in 2006.

It has been often said, but it has to be repeated again, that ITER is a truly unprecedented international project and could represent a new model for cooperation at world level for very large research projects. It is now in our hands to make this model a successful one from which other science and research collaborations could profit.

With the nomination of Director-General Ikeda and his Principal Deputy Mr. Holtkamp the prospective ITER Organisation is taking shape. This will signify the change from the voluntary collaborative character of the preparation and design activities that started in the 80's to the integrated international organization that is needed to build and operate ITER for the next decades.

The EU recognises that as the Host Party it bears a special responsibility for the success of the ITER project and that it will spare no effort in achieving this. The EU has engaged discussions with the Host State, France, on how to ensure a smooth building up of the ITER Organization after the signature of the Agreement. We shall need to find a framework to provide the provisional ITER organisation with some of the privileges and immunities.

On the preparation of the Cadarache site Minister Goulard will give you in a moment more details but I should already salute the efforts of the French administration, CEA and Agence ITER France and the International Team in conducting in a constructive way the public debate that has just been concluded. This offered a welcomed opportunity to make ITER more concrete for the local communities affected by it.

As to the next step in the realisation of the ITER project, the signature of the Agreement, the EU will make its best effort to complete this process at the earliest time possible in 2006. In this perspective, it is my pleasure to inform you of the EU's readiness to host the signing ceremony in the Cadarache region.

Finally, we all witness that energy has become an important issue on the agenda of all the world powers. I am very satisfied that with ITER we are addressing the question of a potential energy source together, even when the project will last several decades. It represents a wisdom of the Parties for which I think we can all be very proud.

Thank you!

M. F. Goulard, Minister of Research, France (Unofficial Translation)

France is most honoured by the confidence witnessed in the backing of the European proposal to site the ITER Reactor at Cadarache. The construction of this experimental reactor will enable the acquisition of the definitive scientific and technical knowledge to demonstrate the feasibility of producing clean and essentially inexhaustible energy by the novel means of controlled fusion.

We are grateful to the international partners for the agreement that was reached in Moscow and consolidated in subsequent meetings in Jeju, Barcelona, Paris and Tokyo which permit today the official initialling of the ITER Agreements.

France is delighted that the six parties that had engaged in the final Negotiations in Washington on December 2003 have consistently demonstrated with strength and determination their commitment to co-operating on the ITER project, while welcoming, in an exceptionally short period and by unanimity, a new Party, India, in the course of the meetings in Cadarache, Vienna and Jeju. This strategic project for global research will thus be the first to bring together, around a common scientific and technical goal, in the frame of an international treaty, the seven great partners, representing 3 continents and 32 countries, for the 35 years to come.

At a time when the international community is facing the greatest energy challenge of its history, starting up the ITER project as soon as possible appears as a strategic priority for all the partners. We accept the interest, for the efficiency of the programme, of an anticipated start up of the work of the international ITER organisation so that it could be operational during the "transitional" phase between the conclusion of the Agreement and its ratification by the Parties.

France is determined, with all the local communities concerned, to set everything in motion in order to make the project a full success and to ensure that all the researchers, engineers and other staff who will come to work on the site receive the warmest welcome. France wants to offer to the staff the best possible conditions for life and work, in the great welcoming traditions of France and Provence, so that the ITER team will be able to give full rein to their talents and to make the project a major scientific success of the 21st century.

China

Liu Yanhua, Vice Minister, Ministry of Science and Technology

Your Excellency Ministers, Mr. K Ikeda, Ladies & Gentlemen:

First of all, I would like to take this opportunity to thank Commissioner Potocnik and his colleagues for hosting this important meeting. My thanks also go to IAEA for their constant support over the years for ITER program and hosting several high-level Preparatory Meetings. I would like to extend my gratitude to everyone present, who has made enormous contributions to the ITER project and negotiations over the past years. It is their hard-working and arduous efforts that eventually make possible the signatory ceremony of these draft agreements of ITER.

Today is a historical moment in human exploration of fusion energy, and another milestone after the signing of Joint Statement on ITER Site last June in Moscow. We are very glad to notice that after four-year efforts of each side, all parties have eventually reached agreement on the Joint Implementation of ITER project and related documents, which is one of the most important achievements of ITER negotiation, a milestone and an important step for early start of ITER project.

Since China joined the negotiation of ITER project in Feb. 2003, we have made concerted efforts in promoting the negotiation and the earlier implementation of ITER project, and held the N9 and N11 meetings of ITER respectively in Nov. 2003 and Oct. 2005. In order to actively participate in the ITER project, China has listed the magnetic-controlled fusion research (including ITER project) as one of the top priorities in the National mid and long-term S&T Development Plan, which was completed last year. The domestic organization of China, ITER Office, was also established this January, of which I personally am the head. Meanwhile we also participated actively in the work of ITER transitional period, and have sent several researchers to work in the Joint Research Center. As required by the Director-General Candidate, we are now considering dispatching more research and managerial staff to participate in the work of the Joint Center in France.

Just as the EU research commissioner said, ITER project is a really unprecedented International Mega-science collaboration project. Through the implementation of ITER project, we hope a new model for global collaboration could be established to solve the global-wide challenges of the society. I believe, under the leadership of Director-General Candidate Mr. K Ikeda, who is very experienced in diplomacy and the management of nuclear science, and

the Executive DDG candidate Mr. Holtkamp, who boasts experience in operation of International big engineering project, the ITER project will achieve success with joint efforts of all parties.

Finally I am looking forward to the joint signing of draft agreement, joint statement and documents about the arrangement of transitional period, and hope that all seven parties could join our wisdom and capability to make efforts and realize the common target of a successful ITER project and the utilization of fusion energy in the world.

Thank you.

India

Dr. Anil Kakodkar, Chairman of Atomic Energy Commission

Mr. Chairman, Fellow Heads-of-delegations, Dr. Burkart, Ambassador Ikeda, Party representatives, distinguished guests, and observers. Today, we take a momentous step towards realization of our common goal to provide a clean source of energy, which is the engine of development and life-blood for survival of humanity. Fusion has the potential to provide abundant and clean energy based on resources available everywhere without significant ecological issues associated with mining of earth's resources. It is in this context that the Indian delegation is very happy to be a part of this historic human scientific endeavour. At this point, allow me Mr. Chairman, to record our appreciation of the hard and sustained efforts on part of all those who have contributed to ITER project development and progress made to date.

The world's population crossed 6 billion mark in the year 1999. Most current estimates suggest that around 2 billion people will be added over the next 30 years with another billion in the following 20 years. Virtually all increase will be in the developing countries with the bulk of this in urban areas. The core challenge for development is to provide access to energy for all at affordable prices based on a technology that is acceptable from the point of resource and environmental sustainability.

Speaking specifically about India, in spite of being one of the top 5 electricity producing countries, we still have very low per capita electricity consumption. The objective of electrification of all villages is yet to be realised. Studies indicate that even to reach a modest target of per capita generation of about 5000 kWh, total annual electricity generation has to be about 11 to 12 times the generation at present. While immediate increase would come from fossil fuels, nuclear energy has to play a significant role in the coming decades. We have an ambitious programme to tap fission energy based on closed fuel cycle approach. However, considering the size of our country and rapid growth in economy, even that is not likely to be sufficient in the long term. There is thus a need to look at new technologies such as fusion that provides even larger energy potential. We have been pursuing fusion science and technology programme at Institute for Plasma Research, Gandhinagar and in fact, a superconducting steady state tokamak is, at present, under commissioning there. We stand ready to fulfill our commitments to ITER project.

This venture has one another dimension and that is coming together of more than half the world's population to develop a technology to address the important issue of long-term sustainability of energy resources. This cooperation has the potential to become a model for more such large scale scientific cooperation ventures to address global issues.

I am happy that all issues related to cooperation have been resolved, nominees for Director-General and Principal Deputy-Director-General have been finalized and today we are going to initial the legal documents that will provide a concrete shape to this collaboration. Now the next step is to assemble a strong technical team at Cadarache with an appropriate balance of experienced and young engineers and scientists and to provide them with an environment which rapidly promotes the task of implementation of the project. We must do this ensuring that the critical human resource from original ITER teams is fully utilized and that long term and viable management tools for ITER are immediately put into place.

Ladies and gentlemen, on behalf of the Government of the Republic of India and on my own behalf, I wish this cooperative venture a grand success. Thank you.

Republic of Korea
Park Young-II, Vice Minister, Ministry of Science and Technology

Distinguished Commissioner Poto?nik and delegations,

On behalf of the Korean Government, it is my great pleasure and honor to be part of a historical and meaningful moment of the ITER project.

On behalf of the Korean Delegation, I would like to extend my appreciation to Commissioner Poto?nik and EU officials for organizing this meeting and to Deputy Director General Burkart of IAEA for his contribution to laying the foundation of the ITER project and to all the delegations for their dedications.

There were times when the sustainability of the ITER project was uncertain amid difficult negotiation process. However, it has now come to find a firm ground thanks to everyone's hard work and effort.

We now stand at the starting point of the project implementation stage when we really have to muster our efforts together for the success of the project.

I firmly believe that the future of the ITER project will be very successful with the leadership of DG Nominee Ikeda, and I promise you that Korea will extend its fullest support for the success of the ITER project.

I know that working-level discussions are already underway for the prompt and smooth progress of the project after the signing of the Agreement. I believe policy determination from each party is required to form collaboration and reach consensus among parties on issues, including confirmation of the senior management structure of ITER, staffing issues and the structure of ITER Council.

Let us move forward with the trust and faith we have built together as we went through difficult times and the lessons we have learned during negotiations.

In conclusion, I would like to once again thank everyone for their dedication and efforts for making the initialing of the ITER Joint Implementation Agreement possible this morning. I sincerely wish the success of the project.

United States of America
Dr. Raymond Orbach, Director, Office of Science, Department of Energy

Thank you, Mr. Chairman, fellow heads-of-delegation, party representatives, distinguished guests, and observers. It is a pleasure to be with you here in Brussels

In 1982, President Ronald Reagan said "it is becoming increasingly important that we all reach beyond our borders to form partnerships in research enterprises. There are areas of science, such as high energy physics and fusion research, where the cost of the next generation of facilities will be so high that international collaboration among...nations may become a necessity. We welcome opportunities to explore with other nations..."¹

I am honored to be here on behalf of U.S. Secretary of Energy, Samuel W. Bodman, to initial in the affirmative the ITER agreement.

In January 2003, President Bush announced that the United States would join the multilateral negotiations for the construction and operation of ITER, and last summer our Congress indicated in the Energy Policy Act of 2005 their support for this endeavor and the process by which the United States Government may formally accept the text of the ITER agreement. Finally, in his State of the Union Address to the American people this year, President Bush

¹ March 22, 1982, Message to the Congress Reporting on United States International Activities in Science and Technology

reaffirmed his support for basic research and highlighted his belief that research in methods of harnessing clean energy has a leading role in global energy security.

Today is a momentous occasion in the history of science. We not only mark the conclusion of years of negotiations and collaborative planning amongst the ITER parties, we are also on the verge of the real work of ITER: to demonstrate the scientific and technological feasibility of fusion in a facility that for the first time will be able to produce a sustained, burning plasma, much like that needed for a full-scale fusion power plant.

It is truly remarkable that more than half of the world's population will be represented in this undertaking to promote enhanced global energy security. Our negotiations—which have produced an agreement that should serve as a model for future large-scale international scientific collaboration—have overcome substantial obstacles. The tremendous spirit of cooperation that has made our negotiations so successful will surely need to continue in order for the construction and operation of the ITER facility to be successful.

I believe the spirit of cooperation we have all demonstrated will continue, and am strongly encouraged by indications of this in the Provisional ITER organization.

First, ITER has a wonderful leader in Director-General Kaname Ikeda, who has a distinguished record of achievement in international diplomacy as well as in science and technology policy management. The Department of Energy is honored to work with Ambassador Ikeda.

Second, we have a strong project manager in ITER Principal Deputy Director-General and Project Construction Leader, Norbert Holtkamp. Dr. Holtkamp managed the on-schedule, on-budget construction of the billion dollar Spallation Neutron Source at Oak Ridge National Laboratory in Tennessee, and for this reason the United States has tremendous confidence in his abilities. Dr. Holtkamp met a standard for project management in the SNS accelerator construction that we should fully expect to be maintained throughout ITER construction and operation.

Finally, our mutual commitment to building a first-rate, multilingual school at the ITER site in Cadarache, France will ensure that we will be able to attract the best and brightest scientists, engineers, and staff from around the world to work on this project and to provide security in bringing their families.

Fusion energy has the promise of playing a leading role in U.S.—and global—long term plans for energy security because it offers the potential for plentiful, safe, and environmentally benign energy. The United States has every hope that ITER will help fulfill this promise and the U.S. remains committed to the ITER endeavor.

Thank you.

IAEA

Dr. Werner Burkart, Deputy Director General

Ministers, distinguished delegates,

I bring the greetings and best wishes to the ITER Parties from the IAEA Director General, Mohamed ElBaradei. It is an honour for the IAEA, and a source of great personal pleasure for me to be asked to attend this auspicious occasion. It marks the end of a series of successful ITER phases, and begins the process for the next.

The Agency has been an integral part of ITER since its inception. We recall that Premier Gorbachov on the advice of Academician Evgenij Velhikov and others, and after talking the matter over with President Mitterand of France, took the initiative to propose at the November 1985 Geneva Superpower Summit with President Reagan that an international project between Europe, Japan, USA and the USSR be set up to develop fusion energy for peaceful purposes by the joint construction of the next step device.

The United States, in consultation with Japan and the European Community, responded with a proposal on how to implement such an activity. The ensuing discussions resulted in the establishment of collaboration under the auspices

of the Agency known as ITER - the International Thermonuclear Experimental Reactor - and also meaning "The Way" in Latin.

ITER – the Way – is particularly apt at this time in the evolution of nuclear power. We hear much talk these days of a nuclear renaissance for fission power. The outlook appears brighter than it has been for many years. Coming as it does co-incidentally with the launch of the construction phase of the ITER, the fusion reactor, it most certainly points to a very positive way forward.

We come also now to the time when the Agency will take small, but legally recognisable roles for the ITER Parties. Proposals will be placed before the IAEA Board of Governors at its meeting in two week's time to establish the ITER Trust fund for Common expenditures, and for the Agency's Director General to the Depositary of the Agreement on the Establishment of the ITER International Fusion Energy Organisation for the Joint Implementation of the ITER Project, to give it the formal name.

These small steps are symbolic to the Agency of the trust and collaboration that we have long enjoyed with the ITER Parties, and are the guarantee our future close involvement with the project.

The ITER Parties represent about half of the world's population. That alone is an enormous achievement, both politically and technically. For the other half of the world, it represents a major hope for future energy supplies, and I am sure that they will look to both the ITER Parties and the Agency as sources of information on the quest for fusion power as a viable, clean and safe source of energy.

The Agency, as it did in the development of nuclear fission energy, stands ready to serve its Member States in the field of fusion. The traditional roles of the Agency are as the facilitator of knowledge promotion, as the international body for agreement on safety standards, and the independent voice of nuclear energy to the public. We are ready to continue such roles as and when they are relevant to ITER, and as and when they are requested of us.

Ministers, distinguished delegates, may I take this opportunity to thank the ITER Parties for the trust that has been placed in the Agency? We look forward to many more years of successful collaboration as ITER – The Way – and fusion energy become a reality.

ITER

Kaname Ikeda, Nominee Director General

Dear Ministers, dear delegates, dear colleagues,

I would like to thank you for inviting me on behalf of the ITER International Team to witness this important event.

We are entering a new phase in the history of ITER. The realisation of the facility is becoming a step closer.

I take the opportunity to say a word of thanks to the previous ITER Team Leaders: Paul-Henri Rebut, Robert Aymar and Yasuo Shimomura. I also want to thank the members of the International Team who have contributed to the successful design of ITER.

I want to convey to you my determination to lead the international effort to make the construction and operation of ITER a success.

The international negotiations have shown the international support for the project. I trust that we can continue to have your support in the future.

I thank you for your attention.

Following the opening comments, the doors of the meeting were opened to members of the press who were invited to witness the initialling ceremony and to join a subsequent general press conference.

All Parties expressed their appreciation of the hard work and co-operative spirit that had made it possible to complete the ITER Negotiations. They reiterated their commitment to sustain these qualities so as to assure the successful joint implementation of ITER, recognising also its significance as an unprecedented international collaboration. In the words of Commissioner Potocnik, *“This is a truly crucial moment, for the ITER project and for global scientific co-operation in general. Together we are forging a new model for large-scale global scientific and technical co-operation. We are sending an important message about seeing the value in working together to address our common challenges.”*

ITER - UNITING SCIENCE TODAY, GLOBAL ENERGY TOMORROW. SUCCESSFUL COMMUNICATION AROUND THE ITER INTERNATIONAL AGREEMENT IN BRUSSELS!

“ITER – Uniting science today, global energy tomorrow” was the theme of a number of media events timed to accompany a remarkable day in the history of the ITER international venture, May 24th 2006, initialling of the ITER international agreement.

A mega poster (see on the right) reproducing at full scale the heart of the machine, designed thanks to a successful scientific and international co-operation, was on the main front of the Berlaymont building, in Brussels.

Inside the building very close to the Robert Schuman room where the initialling took place, all the participants to the events, ministers, parties delegations, journalists and all European Commission officials had the opportunity to visit the **ITER and fusion expo** (see poster overleaf), the itinerant exhibition created by the European Commission and inaugurated by commissioner Potocnik on May 22nd. This interactive exhibition is one of the fusion community’s best tools for information and communication activities, presenting the ITER project and general European fusion energy research. Close to the exhibition, the **Fusion Road Show** (see photo on the next page) developed by the Association Euratom-FOM (NL), was presenting a series of simple hands-on experiments on basic fusion principles linked together in an entertaining performance. A “**cinema corner**” of the exhibition was arranged. Two movies, : the 3D movie “**The Starmakers**” (10 min.) and the video “**ITER, the way to fusion power**” (15 min.) were continuously projected to offer an exciting visit inside the future ITER facility and learn more about the ITER project features.



A welcoming message of high visual impact on the already symbolic building of the European Union to promote fusion as a future source of energy for all mankind.

“**The Starmakers**” gives a visual impression of the ITER project and, viewed through passive polarised glasses, takes the audience on a spectacular 3D virtual reality journey. The film has been successfully presented to the public all over the world and was awarded the Grand Prix du Festival during the 8th Energy Film Festival in 2001 (*).

“**ITER, the way to fusion power**”, produced by the DG RTD Information and Communication Unit and Directorate J, describes the basic principles of fusion, shows what Europe is doing, and - through a series of images and by interviews with key players - presents ITER and the future of fusion research. The film was first shown at the conference “Communicating European Research” at Heysel, Brussels on 14-15 November 2005.

Colleagues from Directorate-General Research were present to interact with visitors.



Fusion Road Show

(*) The Starmakers was produced by the Centre de Recherches en Physique des Plasmas, Ecole Polytechnique Fédérale de Lausanne (CH) with financial support from the Directorate General for Research of the European Commission, the movie has been created numerically by Digital Studios SA (Paris – F) based on the computer aided design of the ITER device.