

Aspects of the ITER project relevant for the ILC preparatory phase

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1. Introduction

In this report, we summarize some aspects of the ITER project which are relevant for the ILC preparatory phase.

As shown in Figure 1, the ITER project entered international negotiations in 2001 after the completion of the Engineering Design Activities (EDA). International agreement was reached in 2005 and signed in 2006.

In parallel to the negotiations, preparatory activities were carried out in the frame of the Co-ordinated Technical Activities (CTA) and the ITER Transitional Arrangements (ITA). The CTA (2001-2002) carried out scientific and technical work in support of the negotiations. This was followed by the ITA (2002-2006), which made organizational and technical preparations.

For the ILC, it is foreseen that international negotiations will also take place outside of the technical preparations.¹ The ILC preparatory phase roughly corresponds to ITER's CTA and ITA phases. We focus on the ITA phase which made organizational preparations, which is an important task of the ILC Pre-Lab activities. The ITA Terms of Reference describes the scope and structure of the ITA, as summarized in Section 2. Figure 2 shows a timeline of the main technical aspects of the ITA.

The discussions that will culminate in the international agreement are foreseen to take place during the ILC preparatory phase. The Agreement on the Establishment of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project (Agreement) contains Articles which are relevant for consideration during the ILC preparatory phase. The relevant Articles are listed in Section 3.

Additional information can be found in the Newsletters:

- ITER CTA Newsletter:
<https://www.iaea.org/publications/search/type/iter-cta-newsletter-until-january-2003>
- ITER ITA Newsletter:
<https://www.iaea.org/publications/search/type/iter-ita-newsletter>

¹ One key difference between ITER and ILC during the preparatory phase is the site selection. In the case of ITER, the site had to be negotiated. In the case of the ILC, the Kitakami mountains is the *de facto* candidate site for which extensive design studies have been already performed. However, no official site for the ILC exists because the government-level interest to host the ILC is yet to be expressed.

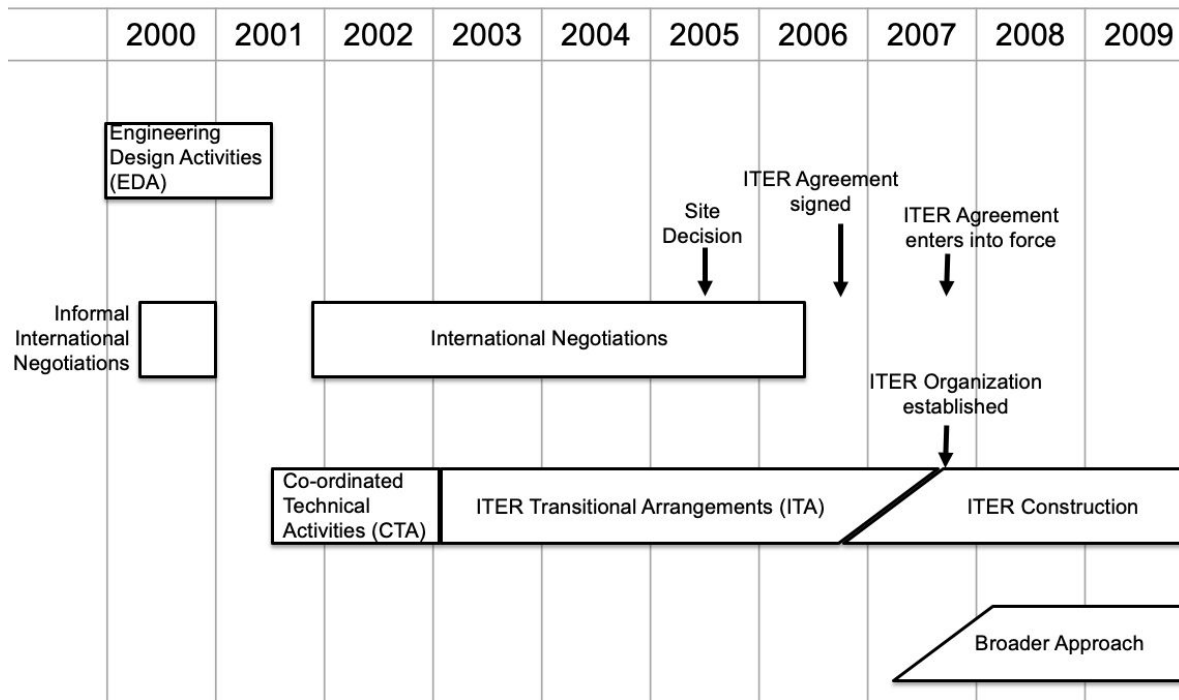


Figure 1: ITER timeline. Adapted from a presentation at the Working Group on Organization and Management of the ILC Advisory Panel, Ministry of Education, Culture, Sports, Science and Technology.

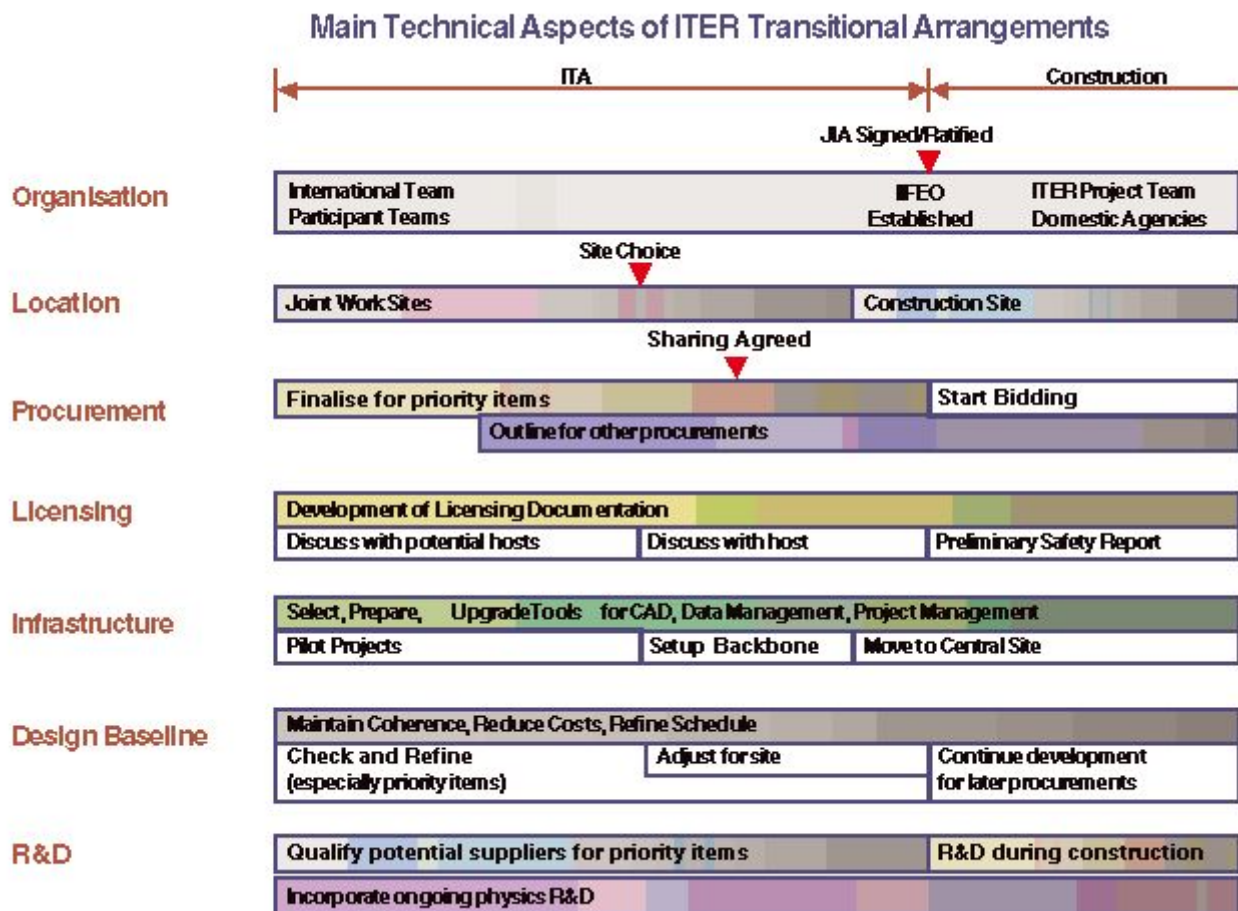


Figure 2: Main Technical Aspects of ITER Transitional Arrangements. [ITER ITA Newsletter, No. 6, July 2003, International Atomic Energy Agency, ISSN 1727-9852]

2. ITA Terms of Reference

The scope and structure of the ITER Transitional Arrangements are summarized in this section. The scope of the ITA may be helpful for the consideration of the necessary tasks of the ILC Pre-Lab.

2.1. Definitions

The following definitions are used in this section.

- “Arrangements” refers to the Transitional Arrangements for ITER.
- “Participants” refers to the Parties to the ITER Engineering Design Activities/participants in the negotiations of ITER Joint Implementation.

2.2. Scope of the Arrangements

The scope of the Arrangements include “Organizational Preparation” and “Joint Technical Preparations”.

Organizational Preparations

Before site selection

- Establish interim structures/bodies to prefigure the key elements of the ITER organization
- Coordinate each participant’s domestic arrangements for contributions to ITER Joint Implementation
- Identify potential senior staff of the ITER organization
- Elaborate administrative procedures, documents and other tools for managing ITER Joint Implementation

After site selection

- Establish the interim center for joint work and arrange the assignment of participants to the site

Joint Technical Preparations

Before site selection

- Maintain documented design basis for ITER
- Prepare for procurement process
- Develop/introduce a provisional basis ITER construction project management system
- Prepare licensing of ITER and undertaking necessary safety analyses

After site selection

- Site specific design adaptation for the site

2.3. Structure of the Arrangements

ITER Preparatory Committee

- Composed of two members from each Participant
- Responsible for the overall direction of the Arrangements

Nominee Director General

- Represent the line of the design authority for ITER

Transitional Project Team

- Each Participant shall contribute to the team
- Capable to assist the Nominee Director General

Participant Teams

- Each Participant shall establish its own team
- Act as a single point of contact with the Nominee Director General

3. ITER Agreement

This section summarizes aspects of the Agreement on the Establishment of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project ("Agreement") which are likely to be relevant to the ILC.

The Agreement comprises a Preamble, 29 Articles and two Annexes, which are summarized below. Articles which may need particular attention are as follows:

- Article 8: Resources of the ITER Organization
- Article 9: Project Resource Management Regulations
- Article 10: Information and Intellectual Property

Note that additional information on intellectual property can be found in the Annex on Information and Intellectual Property.

Preamble

Article 1: Establishment of the ITER International Fusion Energy Organization

- Headquarters: Saint-Paul-lez-Durance, Bouches-du-Rhône, France
- EURATOM (European Atomic Energy Community) as "the Host Party"
- France as "the Host State"

Article 2: Purpose of the ITER Organization

Article 3: Functions of the ITER Organization

- 1-(c): promote public understanding and acceptance of fusion energy
- 2: the ITER Organization shall give special regard to the maintenance of good relations with local communities

Article 4: Members of the ITER Organization

- Defined as Parties to this Agreement

Article 5: Legal Personality

- The ITER Organization shall have international legal personality including the capacity to conclude agreements with States and/or international organizations.

Article 6: Council

- The Council, as the principal organ of the ITER Organization, shall be composed of Representatives of the Members.
- A Chair and a Vice-Chair elected from among the Council members with a term of one year, may be re-elected up to three times

- “Rules of Procedure” adopted by the Council
- Responsible for the promotion, overall direction and supervision of the activities of the ITER Organization
- “Weighted voting system” with the respective weights of the votes of the Members based on their contributions to the ITER Organization

Article 7: The Director-General and the Staff

- The Director-General shall be the chief executive officer and the representative of the ITER Organization
- A term of five years, can be extended once for additional five years
- A task list for DG

Article 8: Resources of the ITER Organization

- Documented in “Value Estimates for ITER Phases of Construction, Operation, Deactivation and Decommissioning and Form of Party Contributions”
 - In-kind contributions
 - Specific components, equipment, materials and other goods and services
 - Staff seconded by the Members
 - In-cash contributions
- Contributions provided through an appropriate legal entity “the Domestic Agency”

Article 9: Project Resource Management Regulations

- A list of rules for sound financial management
- DG submit an update of the ITER Project Plan and Resource Estimates to the Council
- The ITER Project Plan
 - Outline an overall plan including time schedule and major milestones
 - Present specific objectives and schedules of the programme of activities for the coming five years or for the construction period
 - Present appropriate commentaries including assessment of the risks and the descriptions of risk avoidance or mitigation measures

Article 10: Information and Intellectual Property

- Support for the widest appropriate dissemination of information and intellectual property generated by the execution of this Agreement.
- The implementation shall be equal and non-discriminatory for all Members and the ITER Organization.

- Any scientific results shall be published or otherwise made widely available after a reasonable period of time to allow for appropriate protection.
- Any copyright owned by the ITER Organization
- When placing contracts, the ITER Organization and the Members shall include provisions on any resulting intellectual property (rights of access to and disclosure and use of intellectual property)
- Detailed in Annex

Article 11: Site Support

- Site support by the Host Party (=EURATOM) required for the implementation of the ITER Project
- Detailed in Annex

Article 12: Privileges and Immunities

- Privileges and Immunities to be enjoyed by the ITER Organization as are necessary for the exercise of its functions

Article 13: Field Teams

- Field teams under the central team, established at the construction site, will follow up the technical progress of procurement contracts awarded in the Party's territory.

Article 14: Public Health, Safety, Licensing Environmental Protection

- The ITER organization shall observe applicable national laws and regulations of the Host State (=France) in the fields of public and occupational health and safety, nuclear safety, radiation protection, licensing, nuclear substances, environmental protection and protection from acts of malevolence.
- No detailed description...

Article 15: Liability

Article 16: Decommissioning

- During the period of operation, the ITER Organization shall generate a Fund to provide for the decommissioning of the ITER facilities.
- No responsibilities or liabilities for the ITER facilities after the acceptance of the Fund by the Host State.

Article 17: Financial Audit

- A Financial Audit Board ("the Board") to undertake the audit of the annual accounts
- One member on the Board represents each Member
- The members of the Board appointed by the Council on the recommendation of the respective Members for a period of three years
- The Board members are independent and report only to the Council

Article 18: Management Assessment

- Every two years, the Council appoints a Management Assessor to assess the management of the ITER Organization.

Article 19: International Cooperation

- Cooperate with other international organizations and institutions, non-Parties, and with organizations and institutions of non-Parties

Article 20: Peaceful Uses and Non-Proliferation

Article 21: Application with regard to Euratom

- The Agreement shall apply to the territories covered by the Treaty for EURATOM.

Article 22: Entry into Force

Article 23: Accession

- Any State or international organization may accede to the Agreement upon a unanimous decision of the Council.

Article 24: Duration and Termination

- An initial duration of the Agreement of 35 years.
- The last five years to be dedicated to the de-activation of the ITER facilities.
- The Council decides whether to extend the duration

Article 25: Settlement of Disputes

Article 26: Withdrawal

- After this Agreement has been in force for ten years, any Party other than the Host Party may notify the Depositary of its intention to withdraw.

Article 27: Annex

- Annex on Information and Intellectual Property
- Annex on Site Support

Article 28: Amendments

- Any Party may propose an amendment to this Agreement.

Article 29: Depositary

- DG of the IAEA shall be the Depositary of this Agreement.