FUSION FOR ENERGY

The European Joint Undertaking for ITER and the Development of Fusion Energy
THE GOVERNING BOARD

DECISION OF THE GOVERNING BOARD ADOPTING THE PROJECT PLAN OF THE EUROPEAN JOINT UNDERTAKING FOR ITER AND THE DEVELOPMENT OF FUSION ENERGY

HAVING REGARD to the Statutes annexed to the Council Decision (Euratom) No 198/2007 of 27 March 2007 establishing the European Joint Undertaking for ITER and the Development of Fusion Energy (hereinafter "the Joint Undertaking") and conferring advantages upon it[1] (hereinafter "the Statutes") and in particular Article 6(3)(d) and Article 11 thereof,

Having regard to the Financial Regulation of the Joint Undertaking[2] adopted by the Governing Board on 22 October 2007 (hereinafter "the Financial Regulation") and in particular Article 30 thereof;

Having regard to the comments and recommendations of the Executive Committee on the proposal for the project plan drawn up by the Director at its meetings of 22 November and 13 December 2007;

Having regard to the comments and recommendations of the Technical Advisory Panel on the proposal for the project plan drawn up by the Director at its meeting of 30 November,

Whereas:

(1) The Director should, in accordance with Article 8(4)(c) of the Statutes, draw up the project plan for a period of five years;

(2) The Executive Committee should in accordance with Article 7(3)(b) comment on and make recommendations to the Governing Board on the proposal for the project plan drawn up by the Director;

(3) The Governing Board should adopt the project plan.

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1 O.J. L 90 , 30.03.2007, p. 58.
2 F4E(07)-GB03-11 Adopted 22/10/2007

F4E(07)-GB04-09
Adopted 18/12/2007

THE GOVERNING BOARD OF THE JOINT UNDERTAKING HAS ADOPTED THIS DECISION:

Article 1

The Project Plan of the Joint Undertaking for the period 2008-2012 annexed to this Decision is hereby adopted.

Article 2

This Decision shall have immediate effect.

Done at Barcelona, 18 December2007

For the Governing Board

Carlos Varandas

Chair of the Governing Board

ANNEX

PROJECT PLAN OF THE EUROPEAN JOINT UNDERTAKING FOR ITER AND THE DEVELOPMENT OF FUSION ENERGY

1. INTRODUCTION

The European Joint Undertaking for ITER and the Development of Fusion Energy or 'Fusion for Energy' (F4E) is a Joint Undertaking created under the Euratom Treaty by a decision of the Council of the European Union.

'Fusion for Energy' was established for a period of 35 years from 19th April 2007 and is situated in Barcelona, Spain. The objectives of 'Fusion for Energy' are three fold:

- Providing Europe's contribution to the ITER International Fusion Energy Organisation as the designated Domestic Agency for Euratom;
- Implement the Broader Approach Agreement between Euratom and Japan as the designated Implementing Agency for Euratom;
- Prepare in the longer term for the construction of demonstration fusion reactors (DEMO).

In accordance with the Financial Regulation of 'Fusion for Energy', this Project Plan lays down an indicative programme of activities that are foreseen to be implemented in the period 2008-2012.

2. ASSUMPTIONS

The information presented in this Project Plan is based upon the following assumptions:

- That the ITER Procurement Arrangements for components on the critical path for ITER construction (buildings, magnets and vacuum vessel) will be proposed by ITER Organisation, negotiated and signed according to the present schedule;
- That the current Project Plan reflects the current understanding of the ITER Design and some modifications might be required in 2008 to adjust it to the forthcoming ITER developments;
- That the EU Schedule, with recent additions and modifications, was used as the basis for this document;
- That the activities and the associated budget have been presented here based on the current understanding of the ITER Project while the results of the ITER Design Review are being assessed;
- That the project plans presented in this document for the Broader Approach Activities (IFMIF/EVEDA, IFERC and the Satellite Tokamak Programme) reflect the Project Plans approved by the Broader Approach Steering Committee. In addition that the

ongoing re-baselining of the Satellite Tokamak device, requested by the BA SC, will not result in major schedule delays;

- That the planning of the activities, and the corresponding delivery of components, by the other ITER Domestic Agencies will be respected.
- That the voluntary contribution on Physics R&D for ITER will be coordinated by EFDA, through F4E, following ITER Council approval of an ITER Work Programme.

3. ACTIVITIES OF FUSION FOR ENERGY

3.1. ITER

ITER is an international fusion research project which should generate some 500MW of fusion power over periods of around eight minutes, with a tenfold energy output/input ratio under conditions similar to those expected in a electricity-generating fusion power plant.

ITER will be constructed in Europe, at Cadarache, where the headquarters of the ITER Organisation will also be based. With seven parties participating in the project Euratom, Japan, China, the Republic of Korea, the Russian Federation, India, and the USA), ITER constitutes one of the largest international scientific projects of its kind.

On the 21 November 2006 the Agreement on the Establishment of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project[3] was signed by the seven parties and applied on a provisional basis. Following ratification of the Agreement by the parties it entered into force on 24 October 2007.

Europe will contribute roughly half of the costs of ITER construction, while the other six parties contribute equally to the rest. Each Party will set up a Domestic Agency to procure their in-kind contributions for ITER. As the Euratom Domestic Agency for ITER, the Joint Undertaking will discharge the obligations of Euratom to the ITER Organisation for the duration of, the ITER Agreement. In particular, it will:

(a) oversee preparation of the ITER project site;

(b) provide components, equipment, materials and other resources to the ITER Organisation;

(c) manage procurement arrangements vis-à-vis the ITER Organisation and, in particular, associated quality assurance procedures;

(d) prepare and coordinate Euratom's participation in the scientific and technical exploitation of the ITER Project;

(e) coordinate scientific and technological research and development activities in support of Euratom's contribution to the ITER Organisation;

(f) provide Euratom's financial contribution to the ITER Organisation;

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[3] OJ L 358 of 16.12.2006, p.62.

(g) provide Euratom's financial contribution to Japan for those procurements that have been transferred to the latter and to be participate in the technical follow-up of the associated contracts;

(h) arrange to make human resources available for the ITER Organisation;

(i) interface with the ITER Organisation and carry out any other activities in furtherance of the ITER Agreement.

3.2. Broader Approach

By Decision of 30 January 2007[4], Council approved the conclusion, by the Commission, of the Agreement between the European Atomic Energy Community and the Government of Japan for the Joint Implementation of the Broader Approach Activities in the Field of Fusion Energy Research (the BA Agreement). The BA Agreement was signed on 5 February 2007 and entered into force on 1 June 2007.

The Broader Approach Activities comprise the following three projects to be carried out in Japan:

- Engineering Validation and Engineering Design Activities (EVEDA) to produce a detailed, complete and fully integrated engineering design of the International Fusion Materials Irradiation Facility (IFMIF) and all data necessary for future decisions on the construction, operation, exploitation and decommissioning of IFMIF and to validate continuous and stable operation of each IFMIF subsystem;
- the International Fusion Energy Research Centre (IFERC) aiming at contributing to the ITER Project and at promoting a possible early realisation of DEMO, a future demonstration power reactor;
- the Satellite Tokamak Programme Programme which includes the participation in the upgrade of the tokamak experimental equipment owned by Japan to an advanced superconducting tokamak and the participation in its exploitation to support the exploitation of ITER and research towards DEMO by addressing key physics issues for ITER and DEMO.

As the Implementing Agency in the context of the Broader Approach Agreement with Japan, the Joint Undertaking will discharge Euratom obligations for the implementation of Broader Approach Activities. In particular, it will:

(a) provide components, equipment, materials and other resources for Broader Approach Activities;

(b) prepare and coordinate Euratom's participation in the implementation of Broader Approach Activities;

(c) coordinate scientific and technological research and development activities;

(d) provide the Euratom financial contribution to Broader Approach Activities;

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4 OJ L 246 of 21.09.2007, p.32.

(e) arrange to make human resources available for Broader Approach Activities;

(f) carry out any other activities necessary for meeting Euratom's obligations in furtherance of the Broader Approach Agreement with Japan.

3.3. DEMO

In preparation for the construction of a demonstration fusion reactor and related facilities, including the IFMIF, the Joint Undertaking shall prepare and coordinate a programme of research, development and design activities other than ITER and Broader Approach Activities.

4. ITER PROJECT PLAN 2008-2012

In the period 2008-2012 the main activities of the Joint Undertaking will be focused upon meeting Euratom obligations towards the ITER Organisation in the construction phase of the project, in particular:

- Preparing, negotiating and concluding Procurement Arrangements (and Pre-Procurement Arrangements) with the ITER Organisation;
- Providing the EU contribution for the ITER Site;
- Subject to ITER credit, contracting R&D and design activities to develop functional and technical specifications to a point where tenders can be issued;
- Where deemed necessary, contracting R&D and design activities to minimise the risks for tenders in financial, technical and scheduling terms;
- Launching calls for tender and concluding contracts for the supplies, services or works pursuant to the in kind procurements to be credited by ITER;
- Supporting the preparation of safety and licensing documentation for ITER and supporting related safety studies;
- Preparing for Euratom's participation in the scientific and technical exploitation of the ITER Project;
- Progressing in the development and optimisation of the EU Test Blanket Module Concepts;
- Arrange to make human resources available for the ITER Organisation.

The agreed allocation of in-kind procurements to Euratom that will be credited by ITER Organisation are set out in Annex II. .

The major deliveries that are expected to be obtained in the next 5 years include:

Project ID	Activity Name	2007	2008	2009	2010	2011	2012
61EU	> IPL - On Site Temporary Office Building JWS2 Extension (146 Persons) Available	30-Jan-08					
61EU	> IPL - Works for Site Access Road Completed	15-Mar-08*					
61EU	> IPL - Levelling of Spoils Area Completed / PLATFORM PREPARATION	21-Mar-08					
61EU	> IPL - Contractor Area N°1 preparation Works completed	01-Apr-08*					
61EU	> IPL - Storm Basins Works Completed / PLATFORM PREPARATION	02-May-08					
61EU	> IPL - Heavy Loads Road Works Completed / PLATFORM PREPARATION	08-Aug-08					
61EU	> IPL - On Site Temporary Office Batch 2 Buildings Available	05-Sep-08					
61EU	> IPL - Contractor Area Platforms Worsk 2,3&4 Completed / PLATFORM PREPARATION	03-Oct-08					
61EU	> IPL - Contractor Area N°2 preparation Works completed	03-Oct-08					
61EU	> IPL - Contractor Area N°3 preparation Works completed	03-Oct-08					
61EU	> IPL - Contractor Area N°4 preparation Works completed	03-Oct-08					
61EU	> IPL - Site Clearing Completed	28-Nov-08					
61EU	> IPL - Platform Preparation Works Completed / PLATFORM PREPARATION	26-Dec-08					
61EU	> IPL - Site Fence Operational / EXTERNAL SITE FENCE	06-Feb-09					
61EU	> IPL - Batch 2 Completed / ANNEXE BUILDINGS			02-Mar-10			
61EU	> IPL - Batch 3 Phase 1 Completed / ANNEXE BUILDINGS			16-Jul-10			
62EU	> IPL - Cooling Water Basins RFE			03-Aug-10*			
62EU	> IPL - PF Coil Bldg (B52) RFE			25-Aug-10			
62EU	> IPL - Cryoplant Water Pumping Station RFE				09-Sep-11		
61EU	> IPL - Batch 3 Phase 2 Completed / ANNEXE BUILDINGS				07-Oct-11		
62EU	> IPL - Pumping Station (B58) RFE				25-Oct-11		
11EU	> IPL - First PF Conductor Delivered to ITER Site				02-Dec-11		
11EU	> IPL - Conductor for DP4 of PF6 Delivered by EU-DA to ITER Site - First Delivery				02-Dec-11,		
61EU	> IPL - Batch 1 & 4 (B02, B03, B05 & B06) & R.U.N Networks Completed / ANNEXE BUILDINGS				24-Jan-12		
11EU	> IPL - Pre-compresssion Rings Delivered to ITER Site				14-Mar-12		
52EU	> IPL - 1st UL Delivered to ITER Site				17-Apr-12		
17EU	> IPL - Inner Target 1st Stage (8 Units) Delivered for Divertor Cassette Batch 1 (8 Units) Assy				08-Jun-12		
11EU	> IPL - TF19 Delivered to ITER Site (First Delivery)				13-Jun-12		
62EU	> IPL - Emergency Power Supply Bldg (B41 A,B & B46 A,B,C) RFE				15-Jun-12		
62EU	> IPL - Crane Comm'g Completed				14-Aug-12		
62EU	> IPL - Cryoplant Compressor Bldg (B51A) RFE				05-Oct-12		
62EU	> IPL - Cryoplant Coldbox Bldg (B51B) RFE				05-Oct-12		
11EU	> IPL - Conductor for DP6 of PF6 Delivered by EU-DA to ITER Site - Last Delivery				05-Oct-12,		
11EU	> IPL - Last PF Conductor Delivered to ITER Site				05-Oct-12		
32EU	> IPL - WDS Delivered to ITER Site				24-Oct-12		

Annex I provides the **ITER Project Plan**, as agreed by the ITER Interim Council at its meeting at Tokyo on 11-12 July 2007.

The **Euratom (F4E) 2008-2012 Project Plan for ITER** is provided in Annex III in the form of schedules which will be updated on a regular basis and are subject to the assumptions set out in section 2 of this document.

The **Work Breakdown Structure (WBS)** is based upon the procurement packages and sub-packages identified in Annex II.

5. BROADER APPROACH PROJECT PLAN 2008-2012

In the period 2008-2012 the main activities of the Joint Undertaking will be focused upon meeting Euratom obligations towards Japan, in particular:

- Preparing, negotiating and concluding Procurement Arrangements with the JAEA as the Japanese Implementing Agency for the Broader Approach;
- Completing the establishment of strong Project Teams for the co-ordination of the implementation of the respective projects;

- Liaising with the Contributing Members of F4E for the provision of the components, equipment, materials and other in kind resources;
- Launching calls for tender and concluding contracts for the supplies, services or works pursuant to the activities under the Broader Approach Agreement;
- Preparing for Euratom's participation in the scientific and technical exploitation of the Broader Approach project;
- Arrange to make human resources available for Broader Approach activities.

5.1. IFMIF/EVEDA

The IFMIF Engineering Validation and Engineering Design Activities cover mainly two aspects:

- the validation though the design, manufacturing, commissioning and test of the most challenging systems of IFMIF:
  - The low energy part (up to about 10 MeV) of one of the two accelerators;
  - The lithium loop and target (at a scale 1/3) with all its purification systems;
  - The elements of the High Flux Module at a scale 1:1, associated to an irradiation programme.
- the Engineering Design Activities of IFMIF, with the delivery of a Final Design Report, detailed cost evaluation and technical specifications for the urgent systems to build, enabling the Party(ies) to start the construction of IFMIF, if it(they) so wish, in a framework still to define.

The 2008-2012 Project Plan for the IFMIF/EVEDA is provided in Annex IV which is subject to uncertainties pending finalisation of technical specifications and approval by the Steering Committee.

5.2. IFERC

The 2008-2012 Project Plan for the IFERC is provided in Annex V in the form of schedules which is subject to uncertainties pending finalisation of technical specifications and approval by the Broader Approach Steering Committee.

5.3. Satellite Tokamak Programme

The 2008-2012 Project Plan for the Satellite Tokamak Programme is provided in Annex VI in the form of schedules which is subject to uncertainties pending finalisation of technical specifications and approval by the Broader Approach Steering Committee.

6. DEMO PROJECT PLAN 2008-2012

In the period 2008-2012 very few activities, mainly related to materials development, are currently foreseen to be carried out by the Joint Undertaking related to DEMO, in addition to the activities foreseen in the Test Blanket Module programme associated with ITER.

Annex I: ITER Project Plan (as agreed by the ITER Interim Council, Tokyo 11-12 July 2007)

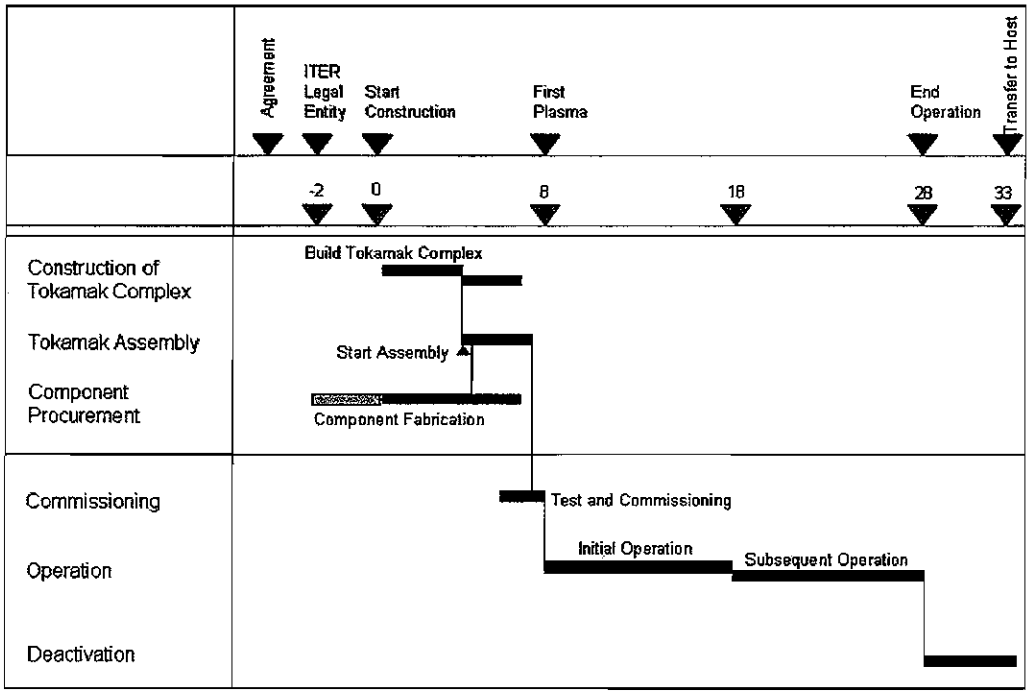


Figure 1: Common understanding on overall project schedule

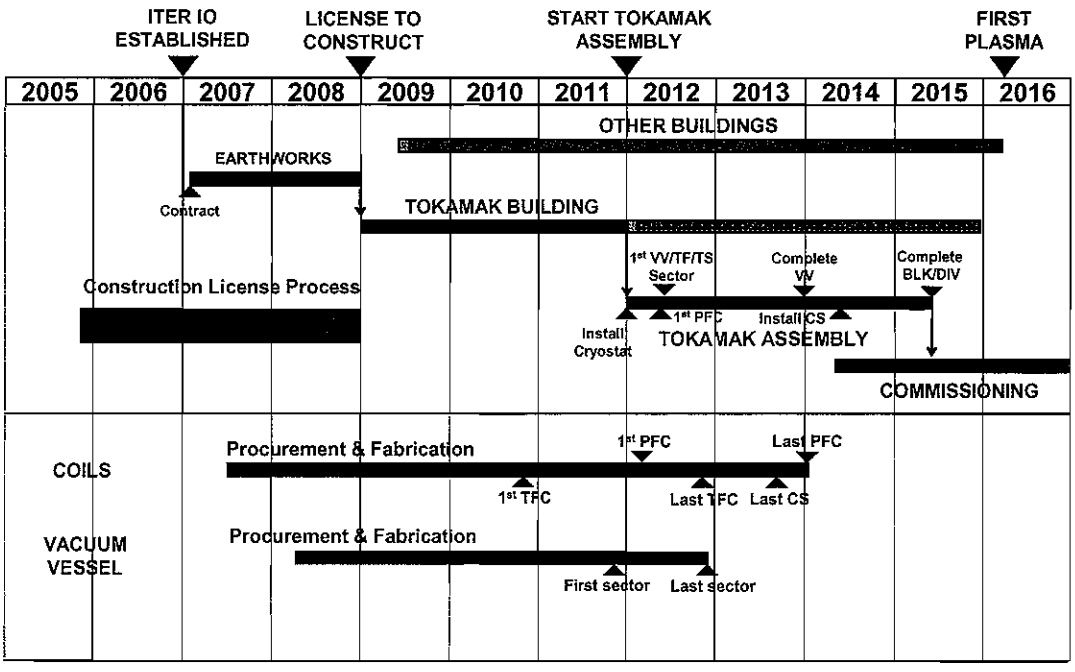


Figure 2: Top level planning for construction period

Annex II: Euratom total contribution to ITER Procurement Allocation / Direct Capital

sharing ratio of in-kind procurements			kIUA	EU[5]		JA[6]	EU to JA[7]		Fund[8]	EU to Fund	
1.1	Magnet	Toroidal Field Magnet windings	1A	85.20	100%	**85.200**						
			1B	82.30			100%	9.4%	**7.736**			
		Toroidal Field Magnet Structure	2A	51.40	10%	**5.140**	90%	90%	**46.260**		EU contribution to Fund: Maximun of 46,45%	155,985
			2B	47.70			100%	7%	**3.101**			
		Magnet Supports	2C	22.85								
		Poloidal Field Magnet 1 & 6	3A	13.60	50%	**6.800**						
		Poloidal Field Magnet 2 to 5	3B	33.60	100%	**33.600**						
		Correction coils	3C	2.60								
		Central Solenoid magnet	4A 4B	39.60								
		Feeders	5A	26.15								
		Feeders sensors	5B	18.05						100%		

5 Percentage of the procurement package to be allocated to Euratom
6 Percentage of the procurement package to be allocated to Japan
7 Percentage of the procurement package to be transferred from Euratom to Japan
8 Percentage of the procurement package allocated to the ITER Organisation directly and paid through the common fund

		Toroidal Field Magnet Conductors	6A	215.00	20%	**43.000**	25%	10%	**21.500**		
		Central Solenoid Magnet Conductors	6B	90.00			100%	100%	**90.000**		
		Poloidal Field Magnet Conductors	6C	74.25	13%	**9.653**					
1.5	Vaccum vessel	Main Vessel including Blanket Manifolds and Hydraulic Connectors	1A	124.20	80%	**99.360**					
		Shielding	1B	37.30							
		Equatorial Ports	2A	24.50							
		Upper Ports	2B	22.10							
		Lower Ports	2C	31.91							
1.6	Blanket system	Blanket First Wall	1A	87.00	30%	**26.100**	10%	10%	**8.700**		
		Blanket Shield	1B	58.00	10%	**5.800**					
		Diagnostic First wall		8.50							100%
		Port Limiters	2	7.40							
		Blanket Module Connections	3	10.00							
28.7	Divertor	Cassette Integration	1	11.20	100%	**11.200**					
		Outer Target	2A	28.50			100%	0%	**0.000**		

		Inner Target	2B	20.20	100%	**20.200**						
		Dome	2C	15.00								
		Plasma-Facing Component Tests	2D	8.00								
2.2	Machine Assembly	Assembly operation	1	50.30							100%	
		Assembly Tooling 3-11	2A	22.00								
		Assembly Tooling 1-2,12-13	2B	20.40							100%	
2.4	Cryostat	Cryostat Factory	1A	60.00								
		Cryostat Assembly	1B	17.00								
2.7	Thermal Shield	Thermal Shield		28.80								
3.1	Vacuum Pumping & Fuelling	Cryopumps	1	11.20	88%	**9.856**					12%	
		Roughing Pumps	2	6.70							12%	
		Leak Detection	3	5.00	88%	**4.400**					12%	
		Standard Comp.	4	5.30							12%	
		Pellet Injector	5	5.00							12%	
		Gas Injector Valve Boxes + Glow Discharge Cleaning Conditioning system	6	7.70							12%	
2.3	Remote Handling	Blanket Remote Handling	1	27.90			100%	0%	**0.000**			

	Equipment	Equipment											
		Divertor Remote Handling Equipment	2	12.00	100%	**12.000**							
		Transfer Cask System	3	16.40	50%	**8.200**							
		Viewing/Metrology Systems	4	6.80	100%	**6.800**							
		Neutral Beam Remote Handling Equipment	5	6.00	100%	**6.000**							
		Hot Cell Maintenance Equipment	6	44.30							100%		
2.6	Cooling Water System	Blanket +Divertor 1A	1A	33.70									
		Vacuum Vessel and Neutral Beam	1B	27.40									
		Piping Outside Vault	1C	12.50							100%		
		Heat Rejection and component Cooling Water: Material and transportation	2A	38.50									
		Heat Rejection and component Cooling Water: Engineering and On-site Assembly	2B	36.20							100%		
3.2	Tritium Plant	Tokamak Exhaust Processing System	1	13.00							12%		
		Storage & Delivery	2	14.50							12%		
		Hydrogen Isotopes	3	6.20	88%	**5.456**					12%		

		Separation											
		Atmosphere Detritiation	4	30.20			50%	50%	**15.100**	50%			
		Water Detritiation	5	14.50	88%	**12.760**				12%			
		Tritium Analysis & Control	6	3.50						100%			
3.4	Cryoplant Cryodistribution	Cryoplant	1	63.00	50%	**31.500**				50%			
		Cryolines	2	17.60									
		Cryodistribution components	3	16.20									
4.1	Pulsed Power Supply	High Voltage Substation Assembly	1A	6.00	100%	**6.000**							
		High Voltage Substation Materials	1B	21.00									
		AC/DC Converters	2	82.20									
		Switch, Discharge Circuits	3	69.00									
4.1	Steady State Power Supply	Emergency	8A	5.70	100%	**5.700**							
		Assembly	8B	14.30	100%	**14.300**							
		Materials + Transportation	8C	20.00	25%	**5.000**							
6.2	Building	Concrete Buildings	1	323.50	100%	**323.500**							
		Steel Frame Buildings	2	68.80	100%	**68.800**							
6.3	Waste	Waste Treatment Storage	1	9.10	100%	**9.100**							

6.4	Radiological Protection	Radiological Protection	1	4.20	100%	**4.200**							
5.1	Ion Cyclotron Heating & Current Drive	Ion Cyclotron Antenna	1	4.50	88%	**3.960**				12%	EU contribution to Fund: Maximun of 46,45%	155,985	
		Main Transmission Line	2	4.80						12%			
		Radio Frequency Power Sources	3	18.00									
		Power Supply	4	6.90									
5.2	Electron Cyclotron Heating & Current Drive	Equatorial Launcher	1A	7.30			88%	0%	**0.000**	12%			
		Upper Launcher	1B	8.90	88%	**7.832**				12%			
		Transmission Line	2	17.90						12%			
		Radio Frequency Power Sources	3	32.50	31%	**10.075**	31%	0%	**0.000**				
		Power Supply	4	13.90	92%	**12.788**							
5.3	Neutral beam Heating and Cuirrent Drive	Assembly and Testing	1	3.80	100%	**3.800**							
		Beam Source and High Voltage Bushing	2	9.50	50%	**4.750**	50%	50%	**4.750**				
		Beamline components	3	3.90	50%	**1.950**	50%	50%	**1.950**				
		Pressure Vessel, Magnetic Shielding	4	11.90	50%	**5.950**	50%	50%	**5.950**				
		Active Correction and Compensation Coils	5	6.10	100%	**6.100**							

		Power Supply for Heating Neutral Beam	6	62.50	38%	**23.750**	62%	62%	**38.750**			
		Diagnostic Neutral Beam	7	21.10								
5.5	Diagnostics	Magnetics	A	3.30	25.0%	**0.825**	14.2%	0.0%	**0.000**	21,5%		
		Neutron Systems	B	10.10	25.0%	**2.525**	14.2%	0.0%	**0.000**	21,5%		
		Optical Systems	C	25.70	25.0%	**6.425**	14.2%	0.0%	**0.000**	21,5%		
		Bolometry	D	6.70	25.0%	**1.675**	14.2%	0.0%	**0.000**	21,5%		
		Spectroscopic	E	22.50	25.0%	**5.625**	14.2%	0.0%	**0.000**	21,5%		
		Microwave	F	17.70	25.0%	**4.425**	14.2%	0.0%	**0.000**	21,5%		
		Operational Systems	G	11.00	25.0%	**2.750**	14.2%	0.0%	**0.000**	21,5%		
		Standard Diagnostics	N	40.50	25.0%	**10.125**	14.2%	0.0%	**0.000**	21,5%		
4.5	Command Control and Data Acquisition and Communication	Control and Data Acquisition		50.00						100%		
Total (~)				**3020,71**	33%	**994.955**	16%		**243.797**	11%	46.45%	**155.985**

From (sharing): Common Understandings on Procurement Allocation
(N-12 ROM Att. 5.1)

And (cost): Final report of negociations on the Joint Implementation of the ITER project - Tokyo, 1April 2006

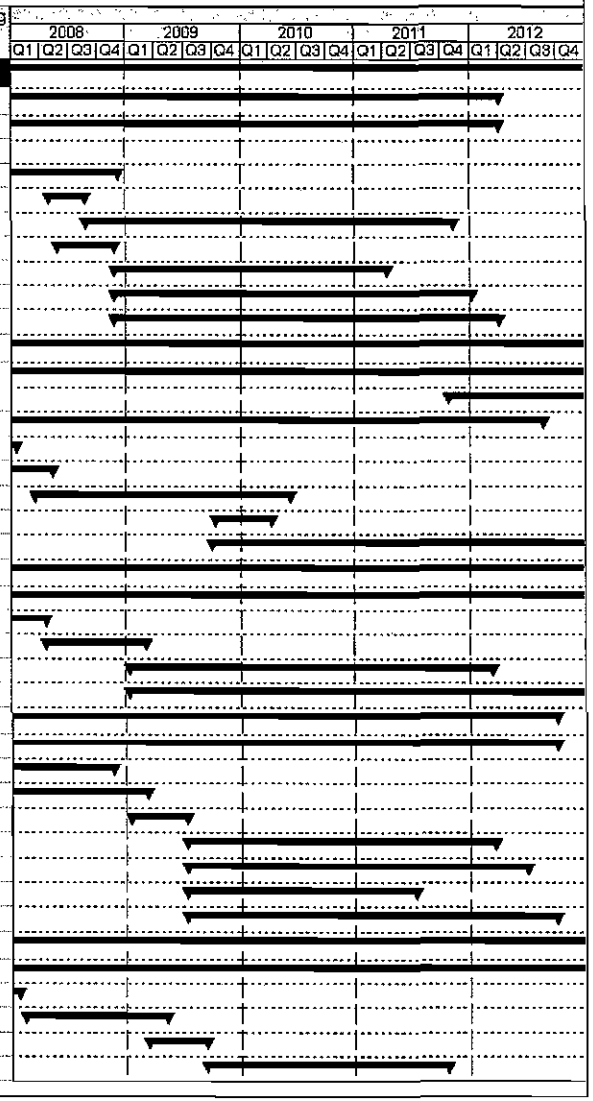
ANNEX III: EURATOM (F4E) PROJECT PLAN FOR ITER

FUSION FOR ENERGY

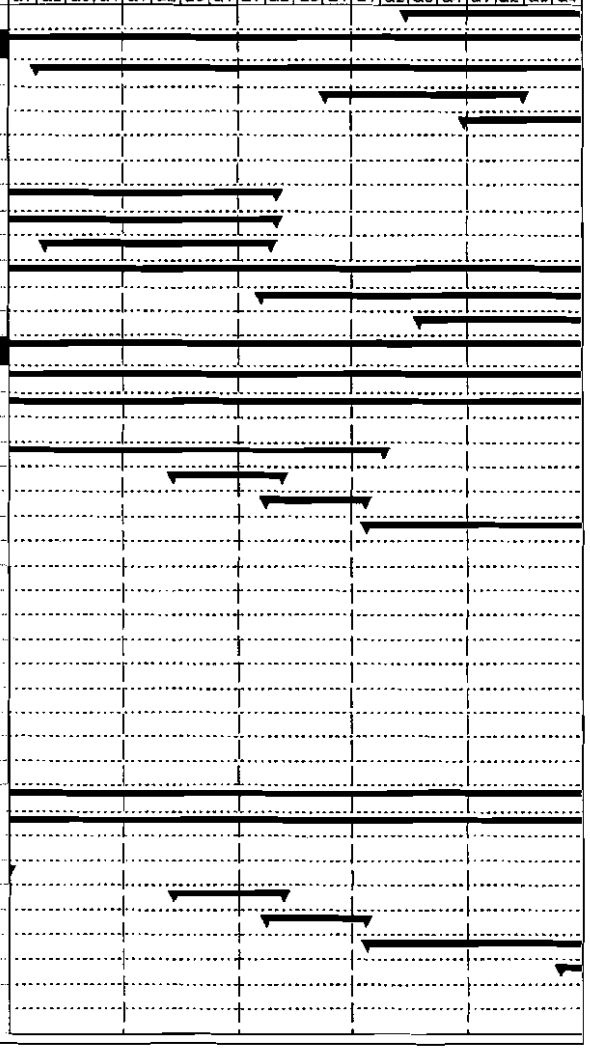
F4E Master Procurement Schedule for ITER Procurement including Site Preparation

DRAFT 1 - Level 2 WBS Summary

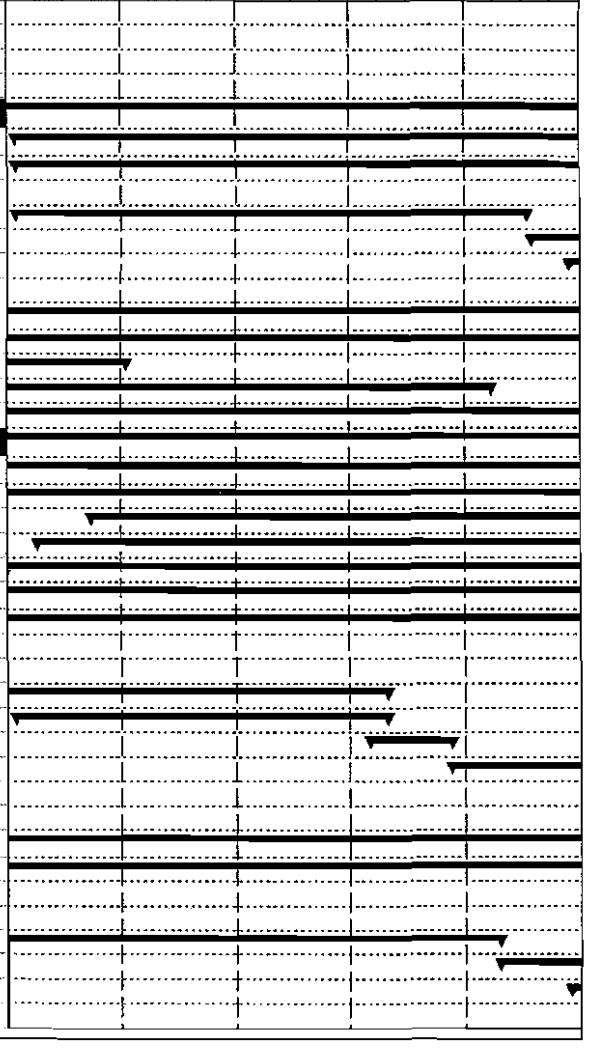
Activity ID	Activity Name	Start	Finish	Remaining Duration
11EU	**EU MAGNETS [21-11-2007] LEVEL 3**	02-Oct-06 A	27-Aug-15	8y 3.0m
11EU.1	TF CONDUCTOR	02-Oct-06 A	05-Apr-12	4y 7.3m
11EU.1.1	Key Project Milestones	02-Oct-06 A	05-Apr-12	3y 10.0m
11EU.1.3	R&D for Technical Specifications	02-Oct-06 A	02-Jul-07 A	0y
11EU.1.4	Engineering and Design of TF Conductors & Strands including Qualification	30-Oct-07	12-Dec-08	1y 2.0m
11EU.1.5	Bidding & Contract Award TF Strands	02-May-08	26-Aug-08	0y 3.8m
11EU.1.6	TF Conductors Strand Production	25-Aug-08	10-Nov-11	3y 4.1m
11EU.1.7	Bidding & Contract Award TF Conductors	30-May-08	28-Nov-08	0y 6.0m
11EU.1.8	TF Conductors Jacket Material Production	28-Nov-08	15-Apr-11	2y 5.6m
11EU.1.9	TF Conductors Cable Production	28-Nov-08	10-Jan-12	3y 2.9m
11EU.1.10	TF Conductors Production	28-Nov-08	05-Apr-12	3y 5.8m
11EU.2	TF WINDING PACKS	02-Oct-06 A	27-Aug-15	8y 3.0m
11EU.2.1	Key Project Milestones	02-Oct-06 A	27-Aug-15	7y 8.9m
11EU.2.2	Deliverables	26-Oct-11	02-Oct-14	3y 0.8m
11EU.2.3	TF Coil Radial Plates & Covers	21-Dec-06 A	20-Aug-12	5y 1.2m
11EU.2.4	TF Winding Pack R&D for Technical Specifications	02-Oct-06 A	18-Jan-08	0y 3.8m
11EU.2.5	TF Winding Pack Engineering and Design	21-Dec-06 A	14-May-08	0y 1.9m
11EU.2.6	TF Winding Pack Prototype Double Pancake	17-Mar-08	07-Jun-10	2y 3.7m
11EU.2.7	TF Winding Pack Bidding & Contract Award	13-Oct-09	13-Apr-10	0y 6.0m
11EU.2.8	Fabrication of TF Winding Packs	01-Oct-09	02-Oct-14	5y 2.6m
11EU.3	TF COIL STRUCTURES	06-Dec-06 A	27-Aug-15	8y 3.0m
11EU.3.1	Key Project Milestones	06-Dec-06 A	21-May-15	6y 5.5m
11EU.3.2	R&D for Technical Specifications	06-Dec-06 A	22-Apr-08	0y 6.8m
11EU.3.3	Engineering and Design	22-Apr-08	06-Mar-09	0y 10.7m
11EU.3.4	Manufacture of Pre-Compression Rings	12-Jan-09	14-Mar-12	3y 3.6m
11EU.3.5	Assembly of TFWP into Coil Cases	12-Jan-09	27-Aug-15	6y 10.6m
11EU.4	PF CONDUCTOR	06-Dec-06 A	05-Oct-12	5y 2.8m
11EU.4.1	Key Project Milestones	06-Dec-06 A	05-Oct-12	5y 2.8m
11EU.4.2	R&D for Technical Specifications	06-Dec-06 A	21-Nov-08	1y 2.3m
11EU.4.3	Engineering and Design	06-Dec-07	13-Mar-09	1y 3.8m
11EU.4.4	Bidding & Contract Award	16-Jan-09	17-Jul-09	0y 6.0m
11EU.4.5	PF Conductors Strand Production	17-Jul-09	23-Mar-12	2y 9.3m
11EU.4.6	PF Conductors Cable Production	17-Jul-09	29-Jun-12	3y 0.9m
11EU.4.7	PF Conductors Jacket Material Production	17-Jul-09	15-Jul-11	2y 0.9m
11EU.4.8	PF Conductors Production	17-Jul-09	05-Oct-12	3y 4.2m
11EU.5	PF COILS	21-Dec-06 A	13-Aug-15	8y 2.5m
11EU.5.1	Key Project Milestones	21-Dec-06 A	14-May-15	6y 3.2m
11EU.5.2	R&D for Technical Specifications	21-Dec-06 A	28-Jan-08	0y 4.0m
11EU.5.3	Engineering and Design	18-Feb-08	11-May-09	1y 3.3m
11EU.5.4	Bidding & Contract Award	16-Mar-09	14-Sep-09	0y 6.0m
11EU.5.5	Qualification of PF Coils	14-Sep-09	21-Oct-11	2y 2.3m



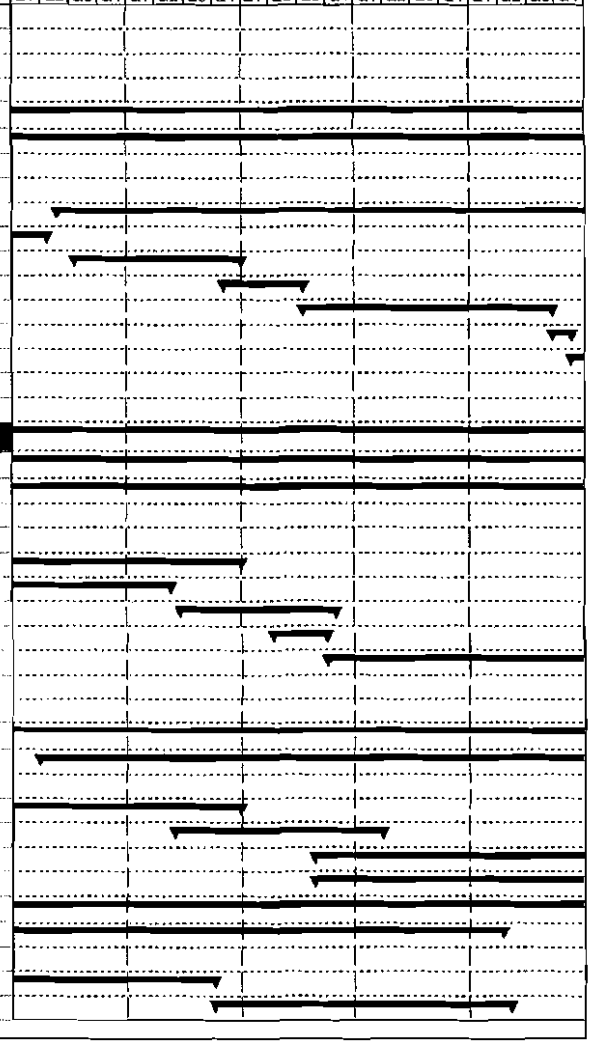
Activity ID	Activity Name	Start	Finish	Remaining Duration
	11EU.5.11 Fabrication of PF Coils 2-6	24-Jun-11	13-Aug-15	4y 3.7m
	15EU EU VACUUM VESSEL [26-11-2007] LEVEL 2	02-Jan-07 A	09-Jun-15	7y 9.7m
	15EU.1 KEY PROJECT MILESTONES	28-Mar-08	09-Jun-15	7y 6.0m
	15EU.1.1 Shielding Plates	07-Oct-10	25-Jun-12	1y 9.2m
	15EU.1.2 Upper & Lower Ports	27-Dec-11	28-Jun-13	1y 6.6m
	15EU.1.3 Diagnostics	15-Feb-13	03-Sep-14	1y 7.1m
	15EU.1.4 Deliveries to ITER Site	06-Dec-13	09-Jun-15	1y 6.6m
	15EU.2 316 LN-IG FREE ISSUED MATERIAL PROCUREMENT	06-Dec-07	04-May-10	2y 6.0m
	15EU.2.1 Procurement of Material for W mock-ups	06-Dec-07	04-May-10	2y 6.0m
	15EU.2.2 Procurement of Material for W Sectors	29-Apr-08	16-Apr-10	2y 0.7m
	15EU.3 VACUUM VESSEL (FINISHED SEGMENTS)	02-Jan-07 A	09-Jun-15	7y 6.0m
	15EU.3.1 Batch 1 - W Sectors 1-3-4-2	15-Mar-10	18-Aug-14	4y 7.3m
	15EU.3.2 Batch 2 - W Sectors 8-7-6	03-Aug-11	09-Jun-15	4y 0.2m
	16EU EU BLANKET [20-11-2007] LEVEL 2	04-Jun-04 A	12-Jun-18	11y 2.0m
	16EU.1 BLANKET FIRST WALL	03-Jul-06 A	12-Jun-18	11y 2.0m
	16EU.1.1 Key Project Milestones	03-Jul-06 A	16-Jun-16	8y 3.0m
	16EU.1.2 Deliverables to ITER Site	14-Apr-15	12-Jun-18	3y 3.5m
	16EU.1.4 R&D for Technical Specifications & DA Qualification	03-Jul-06 A	07-Apr-11	3y 7.9m
	16EU.1.5 Engineering and Design	11-Jun-09	21-May-10	0y 11.5m
	16EU.1.6 Bidding & Contract Award	29-Mar-10	11-Feb-11	0y 10.7m
	16EU.1.7 Preparatory Work and Material Procurement	14-Feb-11	23-Dec-13	2y 11.4m
	16EU.1.8 Manufacture of Blanket First Wall	11-Jun-13	17-Apr-18	5y 0.7m
	16EU.1.9 Series Production Blanket First Wall Batch 1	02-Jun-16	28-Jul-16	0y 1.9m
	16EU.1.10 Series Production Blanket First Wall Batch 2	05-Nov-15	31-Dec-15	0y 1.9m
	16EU.1.11 Series Production Blanket First Wall Batch 3	20-Jul-16	13-Sep-16	0y 1.9m
	16EU.1.12 Series Production Blanket First Wall Batch 4	29-Mar-17	23-May-17	0y 1.9m
	16EU.1.13 Series Production Blanket First Wall Batch 5	14-Sep-17	08-Nov-17	0y 1.9m
	16EU.1.14 Series Production Blanket First Wall Batch 6	17-Feb-15	14-Apr-15	0y 1.9m
	16EU.1.15 Series Production Blanket First Wall Batch 7	16-Apr-18	12-Jun-18	0y 1.9m
	16EU.1.16 Series Production Blanket First Wall Batch 8	24-Feb-16	19-Apr-16	0y 1.9m
	16EU.1.17 Series Production Blanket First Wall Batch 9	27-Feb-18	23-Apr-18	0y 1.9m
	16EU.2 BLANKET SHIELD	04-Jun-04 A	12-Jun-18	11y 2.0m
	16EU.2.1 Key Project Milestones	04-Jun-04 A	12-Jun-18	9y 4.6m
	16EU.2.2 Deliverables to ITER Site	11-Jun-15	27-Apr-16	0y 10.7m
	16EU.2.3 R&D for Technical Specifications	04-Jun-04 A	31-Dec-07	0y 3.1m
	16EU.2.4 Engineering and Design	11-Jun-09	24-May-10	0y 11.5m
	16EU.2.5 Bidding & Contract Award	29-Mar-10	11-Feb-11	0y 10.7m
	16EU.2.6 Preparation for Manufacturing	14-Feb-11	02-Aug-13	2y 6.7m
	16EU.2.7 Manufacture of Blanket Shield	26-Oct-12	30-Mar-16	3y 6.7m
	16EU.2.8 Series Production Blanket Shields 14-1	14-May-15	11-Jun-15	0y 0.9m
	16EU.2.9 Series Production Blanket Shields 14-2	11-Nov-15	09-Dec-15	0y 0.9m



Activity ID	Activity Name	Start	Finish	Remaining Duration
16EU.2.10	Series Production Blanket Shields 14i	24-Jul-15	21-Aug-15	0y 0.9m
16EU.2.11	Series Production Blanket Shields 15-1	02-Oct-15	29-Oct-15	0y 0.9m
16EU.2.12	Series Production Blanket Shields Batch 15-2	31-Mar-16	27-Apr-16	0y 0.9m
16EU.2.13	Series Production Blanket Shields Batch 15i	25-Jun-15	22-Jul-15	0y 0.9m
17EU	**EU DIVERTOR [9-11-2007] LEVEL 3**	28-Feb-06 A	29-Jun-17	10y 2.1m
17EU.1	DIVERTOR CASSETTE (INCL. DIAGNOSTICS)	01-Feb-08	29-Jun-17	9y 9.5m
17EU.1.1	Key Project Milestones	01-Feb-08	29-Jun-17	9y 9.5m
17EU.1.2	Deliverables to ITER Site	28-Oct-13	08-Jul-16	2y 9.5m
17EU.1.3	CASSETTE BODIES	01-Feb-08	18-Jul-12	4y 7.6m
17EU.1.4	DIVERTOR CASSETTE BATCH 1 (9 Units)	31-Jul-12	01-May-14	1y 9.7m
17EU.1.5	DIVERTOR CASSETTE BATCH 2 (24 Units)	29-Nov-12	30-Oct-15	3y 0.6m
17EU.1.6	DIVERTOR CASSETTE BATCH 3 (28 Units)	28-Nov-13	29-Jun-17	3y 8.7m
17EU.2	HHF & PFCs (INNER TARGET)	28-Feb-06 A	03-Mar-16	8y 9.3m
17EU.2.1	Key Project Milestones	28-Feb-06 A	03-Mar-16	8y 1.7m
17EU.2.2	PFC QP's	28-Feb-06 A	16-Jan-09	1y 4.2m
17EU.2.3	CARBON FIBRE COMPOSITES	02-Nov-07	27-Mar-12	4y 6.9m
17EU.2.4	PLASMA FACING COMPONENTS	05-Nov-07	03-Mar-16	8y 8.1m
23EU	**EU REMOTE HANDLING [9-11-2007] LEVEL 3**	06-Feb-06 A	25-Mar-16	8y 10.0m
23EU.1	DIVERTOR RH EQUIPMENT	06-Feb-06 A	22-Jan-15	7y 7.4m
23EU.1.1	CASSETTE MOVERS, RAILS & END EFFECTORS (CMEE)	06-Feb-06 A	22-Jan-15	7y 7.4m
23EU.1.2	CASSETTE MOVERS & END EFFECTORS (DIVRH-CMEE)	29-Sep-08	22-Jan-15	6y 6.9m
23EU.1.3	MANIPULATOR ARM & GENERIC TOOLING (DIVRH-MAM)	11-Apr-08	22-May-14	6y 4.4m
23EU.1.4	PIPE TOOLING (DIVRH-PTOOL)	07-Jan-08	01-Oct-14	7y 0.4m
23EU.2	TRANSFER CASK SYSTEM	02-Jan-07 A	21-Oct-15	8y 4.8m
23EU.2.1	Key Project Milestones	02-Jan-07 A	21-Jul-14	5y 11.4m
23EU.2.2	Deliverables to ITER Site	21-Jul-14	21-Jul-14	0y
23EU.2.3	Key Project Milestones after Delivery to ITER Site	22-Sep-14	21-Oct-15	1y 1.5m
23EU.2.4	Transfer Cask System Prototype R&D	02-Jan-07 A	29-Apr-11	3y 8.7m
23EU.2.5	Technical Specifications & Tender Packages	31-Jan-08	29-Apr-11	3y 4.5m
23EU.2.6	Bidding & Contract Award	07-Mar-11	21-Nov-11	0y 8.6m
23EU.2.7	Detailed Design & Manufacture	21-Nov-11	19-May-14	2y 7.0m
23EU.2.8	Pre-Delivery Testing	19-May-14	18-Jun-14	0y 1.0m
23EU.2.9	Packing & Shipping	18-Jun-14	21-Oct-15	1y 4.7m
23EU.3	VIEWING/METROLOGY SYSTEMS	08-Jan-07 A	13-Aug-15	8y 2.6m
23EU.3.1	Key Project Milestones	08-Jan-07 A	11-Mar-15	7y 2.0m
23EU.3.2	Deliverables to ITER Site	10-Mar-15	10-Mar-15	0y
23EU.3.3	Key Project Milestones after Delivery to ITER Site	01-Apr-15	13-Aug-15	0y 4.5m
23EU.3.4	IVVS System Prototype R&D for Technical Specifications	08-Jan-07 A	20-Apr-12	4y 8.9m
23EU.3.5	Technical Specifications & Tender Packages	23-Apr-12	29-Jan-13	0y 9.4m
23EU.3.6	Bidding & Contract Award	05-Dec-12	20-Aug-13	0y 8.6m
23EU.3.7	Detailed Design & Manufacture	21-Aug-13	04-Nov-14	1y 3.0m



Activity ID	Activity Name	Start	Finish	Remaining Duration
	23EU.3.8 Pre-Delivery Testing	05-Nov-14	06-Jan-15	0y 2.1m
	23EU.3.9 Packing & Shipping	07-Jan-15	10-Mar-15	0y 2.1m
	23EU.3.10 Inst'n of Viewing/Metrology Systems	11-Mar-15	12-May-15	0y 2.1m
	23EU.3.11 Comm'g of Viewing/Metrology Systems	13-May-15	13-Aug-15	0y 3.1m
	23EU.4 NEUTRAL BEAM REMOTE HANDLING (NBI RH)	02-Jan-07 A	25-Mar-16	8y 10.0m
	23EU.4.1 Key Project Milestones	02-Jan-07 A	15-Feb-13	5y 4.5m
	23EU.4.2 Deliverables to ITER Site	24-Jan-13	24-Jan-13	0y
	23EU.4.3 Key Project Milestones after Delivery to ITER Site	25-Apr-13	25-Mar-16	3y 0.5m
	23EU.4.4 NBI 53EU - NBI RH 23EU Interface Management	23-May-08	15-Feb-13	4y 11.0m
	23EU.4.5 Engineering Design Phase 1 (TW8-TVR-NBRH)	02-Jan-07 A	24-Apr-08	0y 7.0m
	23EU.4.6 Engineering Design Phase 2, Technical Specifications & Tender Packages	19-Jul-08	31-Dec-09	1y 6.0m
	23EU.4.8 Bidding & Contract Award	06-Nov-09	22-Jul-10	0y 8.6m
	23EU.4.9 Detailed Design & Manufacture	23-Jul-10	20-Sep-12	2y 3.0m
	23EU.4.10 Pre-Delivery Testing	21-Sep-12	23-Nov-12	0y 2.1m
	23EU.4.11 Packing & Shipping	23-Nov-12	24-Jan-13	0y 2.1m
	23EU.4.12 Inst'n of NBI RH in the NBI Cell	25-Jan-13	25-Apr-13	0y 3.0m
	23EU.4.13 Comm'g of NBI RH in the NBI Cell	26-Apr-13	27-Jun-13	0y 2.1m
	31EU EU VACUUM PUMP & FUELLING [26-11-2007] LEVEL 3	02-Jan-07 A	02-Jun-16	9y 0.7m
	31EU.1 TORUS & CRYOSTAT CRYOPUMPS	12-Feb-07 A	09-Dec-13	6y 5.4m
	31EU.1.1 Key Project Milestones	12-Feb-07 A	05-Mar-13	3y 7.1m
	31EU.1.2 Deliverables to ITER Site	22-Jul-13	22-Jul-13	0y
	31EU.1.3 Key Project Milestones after Delivery to ITER Site	22-Jul-13	28-Oct-13	0y 3.3m
	31EU.1.4 Prototype Torus Cryopump	12-Feb-07 A	01-Jan-10	2y 4.2m
	31EU.1.5 R&D for Torus & Cryostat Cryopumps Tech Specs	18-Sep-07 A	25-May-09	1y 8.5m
	31EU.1.6 Engineering and Design	26-Jun-09	04-Nov-10	1y 4.9m
	31EU.1.7 Bidding & Contract Award	15-Apr-10	07-Oct-10	0y 5.8m
	31EU.1.8 Manufacture & Pre-Delivery Testing of Torus & Cryostat Cryopumps	08-Oct-10	10-Jun-13	2y 9.1m
	31EU.1.9 Packing & Shipping of Torus & Cryostat Cryopumps & Test Facility	10-Jun-13	22-Jul-13	0y 1.4m
	31EU.1.10 Torus & Cryostat Cryopumps Vacuum Lab Tests	22-Jul-13	09-Dec-13	0y 4.7m
	31EU.2 NBTF & NBI CRYOPUMPS	02-Jan-07 A	02-Jun-16	9y 0.7m
	31EU.2.1 Key Project Milestones	28-Mar-08	31-May-13	5y 4.6m
	31EU.2.2 Deliverables to ITER Site	10-Jun-13	10-Jun-13	0y
	31EU.2.4 NBTF & NBI Cryopumps Conceptual Design & Tech Specs	02-Jan-07 A	28-Dec-09	2y 4.0m
	31EU.2.5 NBTF & NBI Cryopumps Engineering & Design	01-Jun-09	01-Apr-11	1y 10.7m
	31EU.2.6 NBTF CRYOPUMP	23-Aug-10	02-Jun-16	6y 0.4m
	31EU.2.7 NBI-1, 2 & 3 CRYOPUMPS	23-Aug-10	10-Jun-13	2y 10.7m
	31EU.3 DIAGNOSTIC NBI CRYOPUMP	04-Jun-07 A	08-Jan-14	6y 4.9m
	31EU.3.1 Key Project Milestones	04-Jun-07 A	16-Apr-12	2y 10.7m
	31EU.3.2 Deliverables to ITER Site	08-Jan-14	08-Jan-14	0y
	31EU.3.4 R&D for DNB Cryopump Tech Specs	19-Sep-07 A	12-Oct-09	1y 11.5m
	31EU.3.5 Engineering & Design DNB Cryopump	12-Oct-09	14-May-12	2y 8.2m

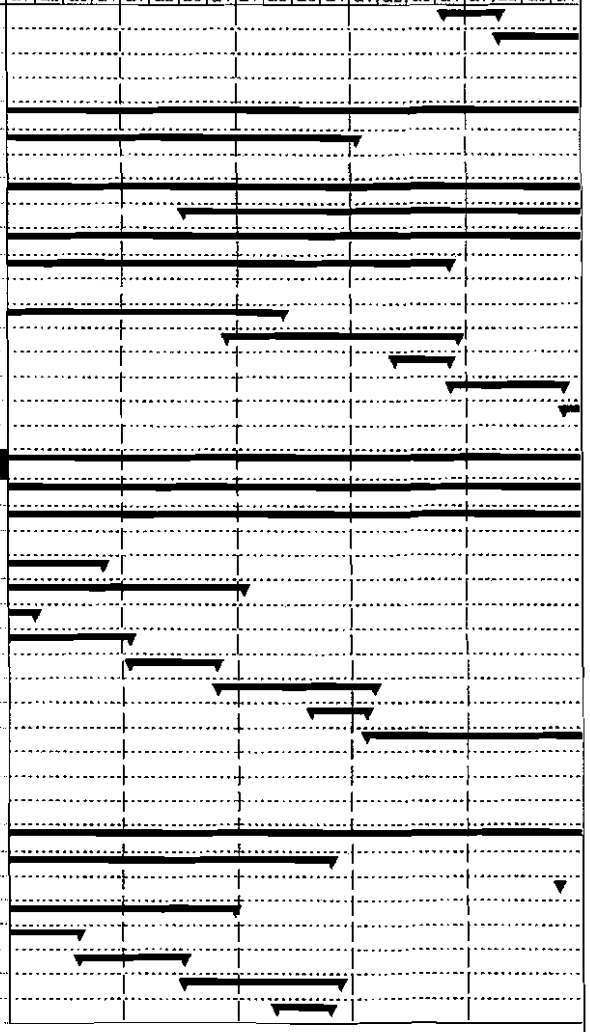


FUSION FOR ENERGY

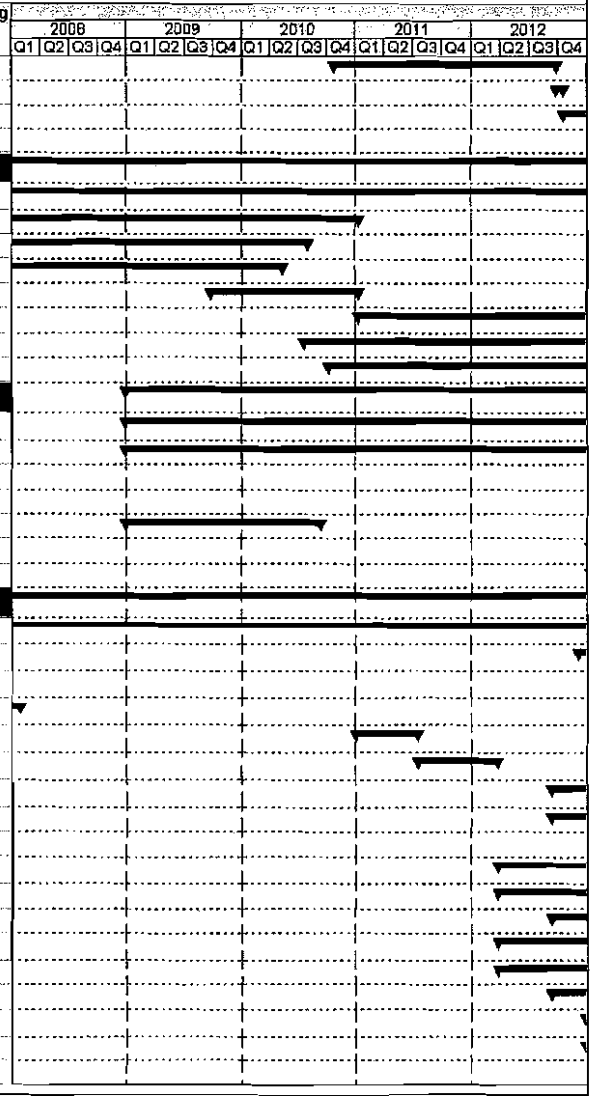
F4E Master Procurement Schedule for ITER Procurement including Site Preparation

DRAFT 1 - Level 2 WBS Summary

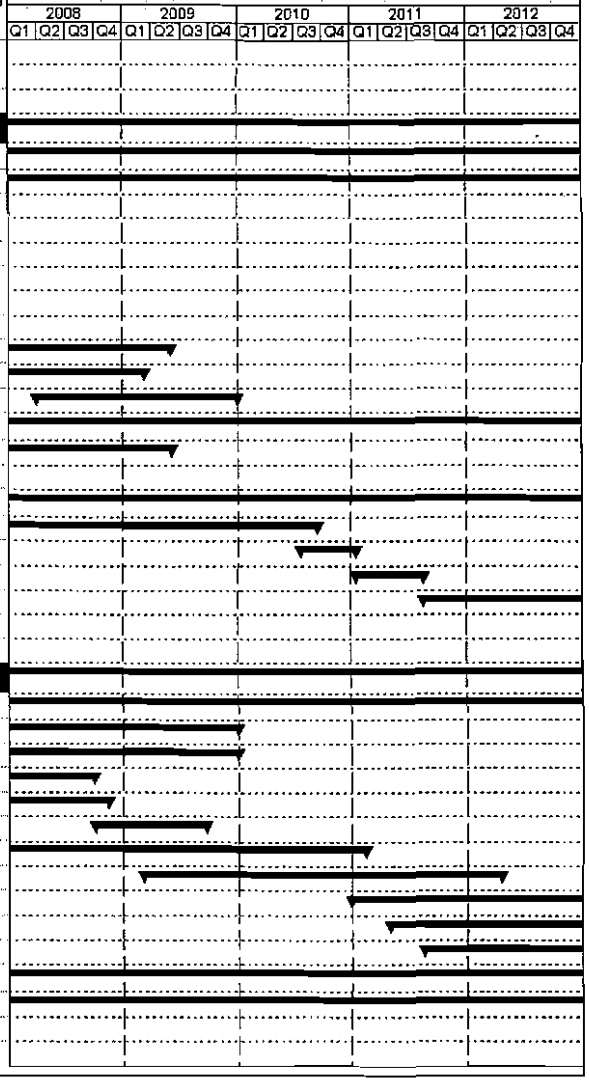
Activity ID	Activity Name	Start	Finish	Remaining Duration
31EU.3.6	Bidding & Contract Award DNB Cryopump	25-Oct-11	16-Apr-12	0y 5.6m
31EU.3.7	Manufacture of DNB Cryopump	17-Apr-12	10-Oct-13	1y 6.4m
31EU.3.8	Pre-Delivery Testing of DNB Cryopump	10-Oct-13	19-Dec-13	0y 2.3m
31EU.3.9	Packing & Shipping of DNB Cryopump	19-Dec-13	08-Jan-14	0y 0.7m
31EU.4	CRYOPUMP VALVE BOXES & CONNECTING CRYOLINES	19-Sep-07 A	24-May-13	5y 8.9m
31EU.4.1	Key Project Milestones	19-Sep-07 A	21-Jan-11	1y 6.8m
31EU.4.2	Deliverables to ITER Site	24-May-13	24-May-13	0y
31EU.4.4	CRYOPUMP VALVE BOXES	14-Nov-07	24-May-13	5y 8.9m
31EU.4.5	CONN. CRYOJUMPERS	17-Jul-09	24-May-13	4y 0.2m
31EU.5	LEAK DETECTION	02-Apr-07 A	14-Mar-13	5y 8.1m
31EU.5.1	Key Project Milestones	02-Apr-07 A	10-Nov-11	4y 3.5m
31EU.5.2	Deliverables to ITER Site	14-Mar-13	14-Mar-13	0y
31EU.5.4	R&D for Leak Detection System Tech Specs	02-Apr-07 A	28-May-10	2y 9.1m
31EU.5.5	Engineering & Design of Leak Detection System	04-Dec-09	08-Dec-11	2y 1.2m
31EU.5.6	Bidding & Contract Award	20-May-11	10-Nov-11	0y 5.8m
31EU.5.7	Manufacture of Leak Detection System	11-Nov-11	09-Nov-12	1y 0.5m
31EU.5.8	Pre-delivery Testing of Leak Detection System	09-Nov-12	17-Jan-13	0y 2.3m
31EU.5.9	Packing & Shipping of Leak Detection System	18-Jan-13	14-Mar-13	0y 1.9m
32EU	**EU TRITIUM PLANT [26-11-2007] LEVEL 3**	02-Jan-07 A	07-Apr-15	7y 9.9m
32EU.1	HYDROGEN ISOTOPES SEPARATION	02-Jan-07 A	07-Apr-15	7y 9.9m
32EU.1.1	Key Project Milestones	02-Jan-07 A	07-Apr-15	7y 6.8m
32EU.1.2	Deliverables to ITER Site	26-Feb-13	26-Feb-13	0y
32EU.1.4	R&D for Hydrogen ISS Technical Specifications (TW6-TTFD-TR56)	02-Jan-07 A	31-Oct-08	1y 1.7m
32EU.1.5	R&D for Hydrogen ISS-WDS Tech Specs (TW6-TTFD-TR83)	12-Feb-07 A	25-Jan-10	2y 5.0m
32EU.1.6	R&D for Hydrogen ISS-WDS Tech Specs (TW6-TTFD-TPI-55)	02-Jan-07 A	27-Mar-08	0y 6.0m
32EU.1.7	Hydrogen ISS Detailed Process Design	01-Jan-08	26-Jan-09	1y 1.4m
32EU.1.8	Hydrogen ISS CATIA Model, Enovia Support Data & C & I Design	27-Jan-09	02-Nov-09	0y 9.3m
32EU.1.9	Hydrogen ISS Mfg Design	03-Nov-09	14-Mar-11	1y 4.9m
32EU.1.10	Bidding & Contract Award	24-Aug-10	14-Feb-11	0y 5.8m
32EU.1.11	Manufacture & Testing of Hydrogen ISS	15-Feb-11	29-Jan-13	2y 0.5m
32EU.1.12	Packing & Shipping of Hydrogen ISS	29-Jan-13	26-Feb-13	0y 0.9m
32EU.1.13	Inst'n of Hydrogen ISS	26-Feb-13	11-Feb-14	1y
32EU.1.14	Comm'g of Hydrogen ISS	11-Feb-14	18-Nov-14	0y 9.3m
32EU.2	WATER DETRITIATION	02-Jan-07 A	07-Apr-15	7y 9.9m
32EU.2.1	Key Project Milestones	02-Jan-07 A	27-Oct-10	3y 2.0m
32EU.2.2	Deliverables to ITER Site	24-Oct-12	24-Oct-12	0y
32EU.2.4	R&D for WDS Tech Specs (TW6-TTFD-TR84)	02-Jan-07 A	25-Dec-09	2y 4.0m
32EU.2.5	WDS Detailed Process Design	12-Oct-07	14-Aug-08	0y 10.2m
32EU.2.6	WDS CATIA Model, Enovia Support Data & C & I Design	15-Aug-08	14-Jul-09	0y 11.1m
32EU.2.7	WDS Mfg Design	15-Jul-09	23-Nov-10	1y 4.9m
32EU.2.8	Bidding & Contract Award	05-May-10	26-Oct-10	0y 5.8m



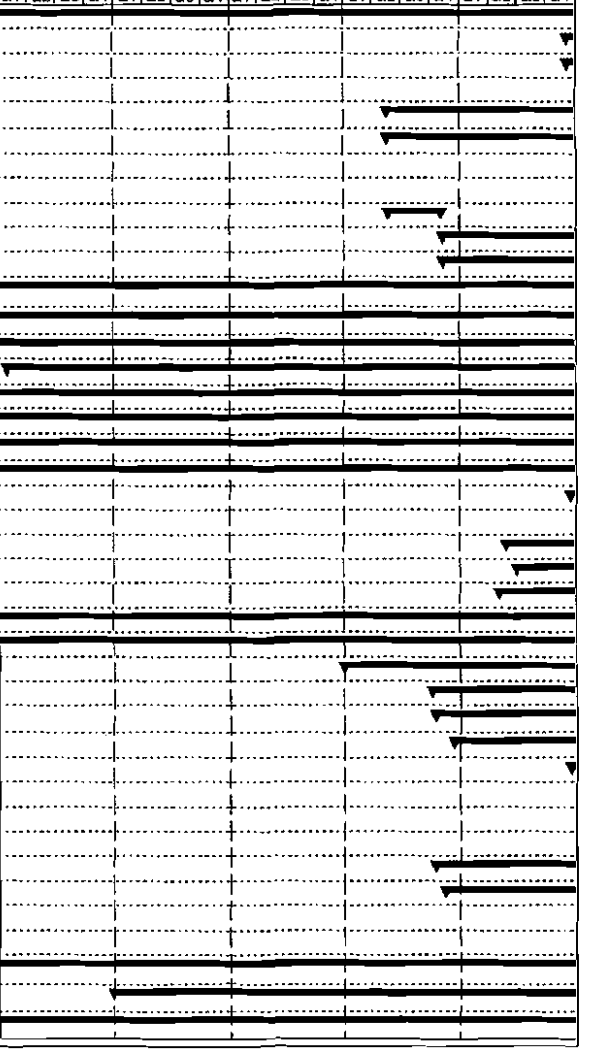
Activity ID	Activity Name	Start	Finish	Remaining Duration
32EU.2.9	Manufacture & Testing of Water Detritiation System	27-Oct-10	26-Sep-12	2y
32EU.2.10	Packing & Shipping of Water Detritiation System	26-Sep-12	24-Oct-12	0y 0.9m
32EU.2.11	Inst'n of Water Detritiation System	24-Oct-12	18-Dec-13	1y 2.3m
32EU.2.12	Comm'g of Water Detritiation System	18-Dec-13	07-Apr-15	1y 4.1m
34EU	EU CRYOPLANT AND CRYO-DISTRIBUTION [9-11-2007] LEVEL 3	03-Jan-06 A	25-Sep-13	6y 3.0m
34EU.1	CRYOPLANT	03-Jan-06 A	25-Sep-13	6y 3.0m
34EU.1.1	Key Project Milestones	03-Jan-06 A	06-Jan-11	3y 3.5m
34EU.1.2	R&D for Cryoplant Technical Specifications	03-Jan-06 A	28-Jul-10	2y 11.1m
34EU.1.3	Engineering and Design	28-Sep-07	13-May-10	2y 8.6m
34EU.1.4	Bidding & Contract Award for Cryoplant Design & Final Specification	29-Sep-09	06-Jan-11	1y 3.8m
34EU.1.5	CRYOPLANT ANCILLARY EQUIPMENT	06-Jan-11	19-Sep-13	2y 9.5m
34EU.1.6	HELIUM CRYOPLANT	21-Jul-10	25-Sep-13	3y 3.7m
34EU.1.7	NITROGEN CRYOPLANT & 80K LOOP	08-Oct-10	23-May-13	2y 8.6m
41EU	EU PULSED POWER SUPPLIES [12-09-2007] LEVEL 2	02-Jan-09	01-May-15	6y 6.9m
41EU.1	HIGH VOLTAGE SUBSTATION AND AC DISTRIBUTION SYSTEM	02-Jan-09	01-May-15	6y 6.9m
41EU.1.1	Key Project Milestones	02-Jan-09	06-Feb-15	6y 4.2m
41EU.1.2	Deliverables to ITER Site	13-Dec-13	13-Dec-13	0y
41EU.1.3	Key Project Milestones after Delivery to ITER Site	30-May-14	01-May-15	0y 11.2m
41EU.1.4	Engineering and Documentation of High Voltage Substation & AC Distribution	02-Jan-09	10-Sep-10	1y 8.6m
41EU.1.5	Assembly of the High Voltage Substation	11-Jan-13	01-May-15	2y 4.7m
41EU.1.6	Assembly of AC Distribution	11-Jan-13	01-May-15	2y 4.7m
43EU	EU STEADY STATE ELECTRICAL POWER NETWORK [12-09-2007...	04-Dec-06 A	07-Aug-15	8y 2.4m
43EU.1	KEY PROJECT MILESTONES	04-Dec-06 A	07-Aug-15	7y 9.9m
43EU.2	DELIVERABLES TO ITER SITE	03-Dec-12	21-Apr-14	1y 5.1m
43EU.3	KEY PROJECT MILESTONES AFTER DELIVERABLE TO ITER SITE	12-Aug-13	14-Jul-14	0y 11.2m
43EU.4	SUPPORT TO ITER FOR PREPARATION OF PA	04-Dec-06 A	30-Jan-08	0y 4.1m
43EU.5	PREPARATION, BIDDING & CONTRACT AWARD	04-Jan-11	18-Jul-11	0y 6.5m
43EU.6	ENGINEERING AND DESIGN OF SSEPN	19-Jul-11	26-Mar-12	0y 8.4m
43EU.7	EMERGENCY SYSTEM	11-Sep-12	21-Apr-14	1y 7.9m
43EU.7.1	Manufacture/Supply of Emergency System	11-Sep-12	27-Jan-14	1y 5.1m
43EU.7.2	Packing and Shipping of Emergency System	26-Feb-13	21-Apr-14	1y 2.3m
43EU.8	CABLES	27-Mar-12	04-Nov-13	1y 7.9m
43EU.8.1	Manufacture/Supply of Cables	27-Mar-12	12-Aug-13	1y 5.1m
43EU.8.2	Packing and Shipping of Cables	11-Sep-12	04-Nov-13	1y 2.3m
43EU.9	MATERIALS	27-Mar-12	04-Nov-13	1y 7.9m
43EU.9.1	Manufacture/Supply of Materials	27-Mar-12	12-Aug-13	1y 5.1m
43EU.9.2	Packing and Shipping of Materials	11-Sep-12	04-Nov-13	1y 2.3m
43EU.10	ASSEMBLY OF SSEPN	01-Jan-13	07-Aug-15	2y 8.3m
43EU.10.1	Detailed Design of Assembly and Testing of SSEPN	01-Jan-13	20-May-13	0y 4.7m
43EU.10.2	Inst'n of the Emergency System	30-Dec-13	20-Feb-15	1y 2.3m



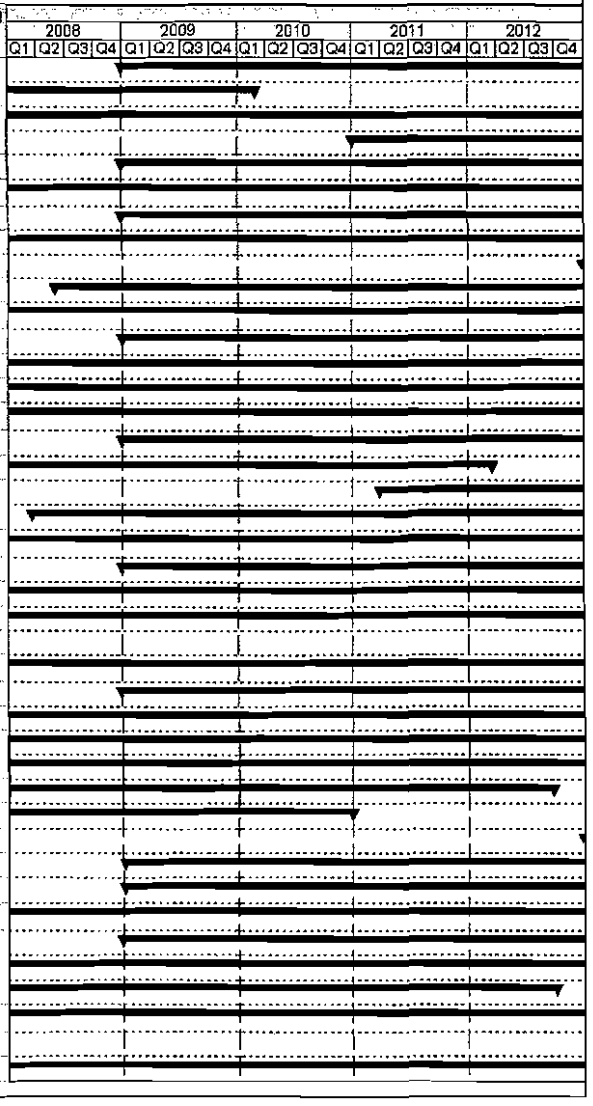
Activity ID	Activity Name	Start	Finish	Remaining Duration
43EU.10.3	Inst'n of the SSEPN without Emergency System	21-May-13	14-Jul-14	1y 2.3m
43EU.10.4	Comm'g and Site Acceptance Tests of the Emergency System	24-Mar-14	20-Feb-15	0y 11.2m
43EU.10.5	Comm'g and Site Acceptance Tests of the SSEPN	24-Mar-14	07-Aug-15	1y 5.1m
51EU	**EU ION CYCLOTRON HEATING & CURRENT DRIVE [1-10-2007] L...**	26-Oct-05 A	30-Oct-15	8y 5.2m
51EU.1	ICRH ANTENNA	26-Oct-05 A	30-Oct-15	8y 5.2m
51EU.1.1	Key Project Milestones	27-Oct-05 A	31-Oct-14	7y 4.6m
51EU.1.2	Deliverables to ITER Site	30-Oct-14	30-Oct-14	0y
51EU.1.3	Key Project Milestones after Delivery to ITER Site	30-Oct-15	30-Oct-15	0y
51EU.1.4	Co-ordination of Design and R&D Activities	09-Nov-06 A	26-Oct-07	0y 1.0m
51EU.1.5	R&D for ICRH Antenna External Matching	28-Nov-05 A	27-Apr-07 A	0y
51EU.1.6	R&D for ICRH Antenna Internal Matching	28-Nov-05 A	27-Apr-07 A	0y
51EU.1.7	TUNER ELEMENT	26-Oct-05 A	15-Nov-07	0y 1.6m
51EU.1.8	FARADAY SHIELD	19-Dec-05 A	02-Jun-09	1y 8.7m
51EU.1.9	RF WINDOW	22-Nov-07	11-Mar-09	1y 4.2m
51EU.1.10	ICRH ANTENNA MODULE PROTOTYPE	01-Apr-08	01-Jan-10	1y 9.7m
51EU.2	ICRH ANTENNA TEST FACILITY	23-Nov-07	30-Oct-14	7y 2.9m
51EU.2.1	Design & Manufacture of ICRH Antenna Test Facility	23-Nov-07	05-Jun-09	1y 7.0m
51EU.2.2	Packing & Shipping of ICRH Antenna Test Facility	05-Sep-14	30-Oct-14	0y 1.9m
51EU.3	ICRH ANTENNA ASSEMBLY	01-Oct-07	30-Oct-15	8y 5.1m
51EU.3.1	Detailed Design, Technical Specifications & Tender Packages	01-Oct-07	17-Sep-10	3y 1.2m
51EU.3.2	Bidding & Contract Award	26-Jul-10	14-Jan-11	0y 5.8m
51EU.3.3	Build to Print Packages	17-Jan-11	15-Aug-11	0y 7.0m
51EU.3.4	Manufacture of ICRH Antenna	16-Aug-11	04-Sep-14	3y 2.2m
51EU.3.5	Packing & Shipping of ICRH Antenna	05-Sep-14	30-Oct-14	0y 1.9m
51EU.3.6	Testing of ICRH Antenna	31-Oct-14	30-Oct-15	1y 0.5m
52EU	**EU ELECTRON CYCLOTRON HEATING & CURRENT DRIVE [1-10-...**	25-May-04 A	12-Oct-15	8y 4.6m
52EU.1	UPPER LAUNCHERS	02-Oct-06 A	17-Oct-14	7y 4.2m
52EU.1.1	Key Project Milestones	03-Oct-06 A	31-Dec-09	2y 2.3m
52EU.1.2	UPPER LAUNCHER MMW COMPONENTS	09-Oct-06 A	31-Dec-09	2y 4.2m
52EU.1.3	UPPER LAUNCHER PORT PLUGS & STRUCTURAL SYSTEM	02-Oct-06 A	01-Oct-08	1y 0.7m
52EU.1.4	UPPER LAUNCHER WINDOWS	03-Oct-06 A	14-Nov-08	1y 2.1m
52EU.1.5	UPPER LAUNCHER AUXILIARY SYSTEMS	06-Oct-08	25-Sep-09	1y 0.2m
52EU.1.6	UPPER LAUNCHER TEST FACILITY	05-Dec-07	09-Feb-11	3y 3.7m
52EU.1.7	UPPER LAUNCHER 1	09-Mar-09	17-Apr-12	3y 2.9m
52EU.1.8	UPPER LAUNCHER 2	28-Dec-10	03-May-13	2y 5.3m
52EU.1.9	UPPER LAUNCHER 3	29-Apr-11	24-Jan-14	2y 10.0m
52EU.1.10	UPPER LAUNCHER 4	17-Aug-11	17-Oct-14	3y 3.6m
52EU.2	RADIO FREQUENCY POWER SOURCES	25-May-04 A	12-Oct-15	8y 4.6m
52EU.2.1	Key Project & IPL Milestones	25-May-04 A	13-Oct-14	5y 4.8m
52EU.2.2	Deliverables to ITER Site	18-Aug-14	20-Jul-15	0y 11.2m
52EU.2.3	Key Project Milestones after Delivery to ITER Site	13-Oct-14	12-Oct-15	1y 0.5m



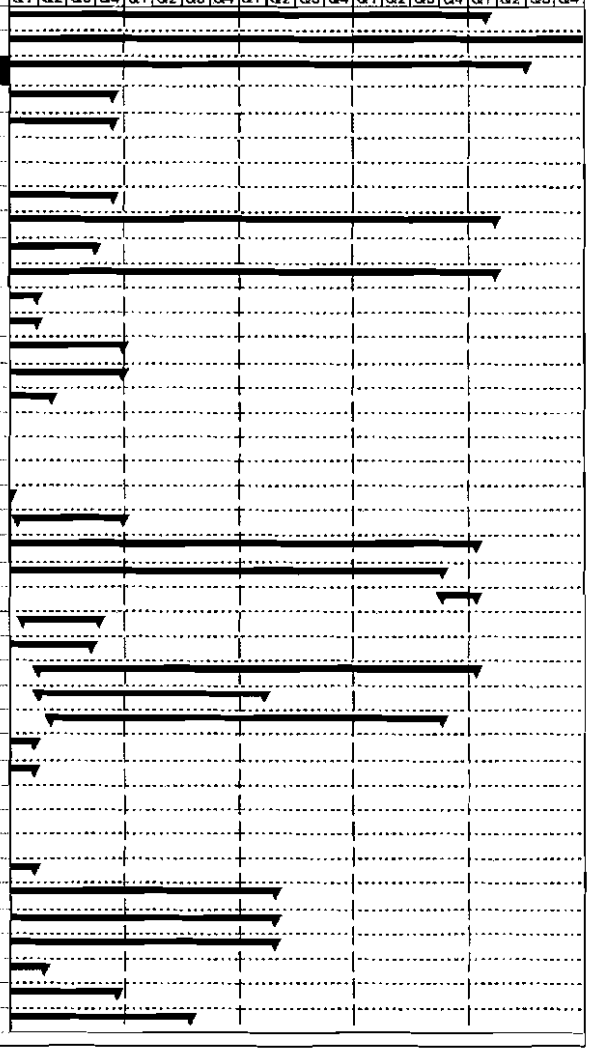
Activity ID	Activity Name	Start	Finish	Remaining Duration
	52EU.2.4 R&D RF Power Sources	25-May-04 A	18-Dec-13	6y 5.8m
	52EU.2.5 GYROTRON TUBES	03-Dec-12	20-Jul-15	2y 8.6m
	52EU.2.6 SUPERCONDUCTING MAGNET	03-Dec-12	17-Jul-15	2y 8.6m
	52EU.2.7 GYROTRON TUBES AND SCM	18-Aug-14	12-Oct-15	1y 2.3m
	52EU.3 POWER SUPPLIES FOR EC H&CD SYSTEM	16-May-11	17-Jul-15	4y 4.2m
	52EU.3.1 Key Project Milestones	16-May-11	19-Aug-13	2y 4.2m
	52EU.3.2 Deliverables to ITER Site	16-Aug-13	27-Mar-15	1y 7.9m
	52EU.3.3 Key Project Milestones after Delivery to ITER Site	11-Oct-13	17-Jul-15	1y 9.8m
	52EU.3.4 Preparation, Bidding & Contract Award of BPS and MHVPS	16-May-11	04-Nov-11	0y 5.8m
	52EU.3.5 Body Power Supply (BPS) for EC H&CD System at 170GHz (24 units)	07-Nov-11	17-Jul-15	3y 10.0m
	52EU.3.6 Main High Voltage Power Suppy (MHVPS) for EC H&CD System at 170GHz (12 units)	07-Nov-11	17-Jul-15	3y 10.0m
	53EU EU NEUTRAL BEAM HEATING & CURRENT DRIVE [21-11-2007] L...	08-May-06 A	18-Dec-20	13y 9.3m
	53EU.1 ION SOURCE & NEUTRAL BEAM TEST FACILITIES	08-May-06 A	18-Dec-20	13y 9.3m
	53EU.1.1 Key Project Milestones	08-May-06 A	18-Dec-20	13y 7.0m
	53EU.1.4 R&D & DESIGN ACTIVITIES IN SUPPORT OF NBTF & ITER	31-Jan-08	12-Aug-13	5y 9.0m
	53EU.1.2 ION SOURCE TEST FACILITY	08-May-06 A	18-Dec-20	13y 9.3m
	53EU.1.3 1MV NEUTRAL BEAM TEST FACILITY	08-May-06 A	19-Jun-20	13y 3.3m
	53EU.2 NEUTRAL BEAM INJECTOR 1	21-Dec-07	15-Sep-16	9y 1.3m
	53EU.2.1 Key Project Milestones	21-Dec-07	15-Sep-16	9y 1.3m
	53EU.2.2 Deliverables to ITER Site	18-Dec-12	17-Nov-15	3y 0.5m
	53EU.2.3 Key Project Milestones after Delivery to ITER Site	28-Jun-13	30-Jun-16	3y 1.6m
	53EU.2.4 NBI-1 ION SOURCE IS-1	28-May-12	15-May-15	3y 1.2m
	53EU.2.5 EU NBI-1 ACCELERATOR	02-Jul-12	19-Jun-15	3y 1.2m
	53EU.2.6 NBI-1 BEAMLINE COMPONENTS (CALORIMETER, NEUTRALIZER, RESIDUAL ION ...	04-May-12	01-Jan-15	2y 9.1m
	53EU.2.7 NBI-1 PRESSURE/VACUUM VESSELS, MAGNETIC SHIELDING, DRIFT DUCT	21-Dec-07	17-Nov-15	8y 2.9m
	53EU.2.8 NBI-1 ACTIVE CORRECTION & COMPENSATION COILS	21-Dec-07	10-Jul-14	6y 9.7m
	53EU.2.8 NBI-1 POWER SUPPLY (EU, LOW VOLTAGE PART)	31-Dec-10	03-Oct-14	3y 10.7m
	53EU.2.10 NBI-1 ASSEMBLY	03-Oct-11	30-Jun-16	4y 11.1m
	53EU.3 NEUTRAL BEAM INJECTOR 2	19-Oct-11	29-Jan-19	7y 7.0m
	53EU.3.1 Key Project Milestones	14-Dec-11	03-May-17	5y 7.3m
	53EU.3.2 Deliverables to ITER Site	18-Dec-12	29-May-18	5y 7.9m
	53EU.3.3 Key Project Milestones after Delivery to ITER Site	22-Jul-13	29-Jan-19	5y 8.9m
	53EU.3.4 NBI-2 ION SOURCE IS-2	11-Dec-15	03-May-18	2y 5.8m
	53EU.3.5 NBI-2 BEAMLINE COMPONENTS (CALORIMETER, NEUTRALIZER, RESIDUAL ION ...	15-Jan-16	15-Feb-18	2y 2.1m
	53EU.3.6 NBI-2 PRESSURE/VACUUM VESSELS, MAGNETIC SHIELDING, DRIFT DUCT	19-Oct-11	29-May-18	6y 10.5m
	53EU.3.7 NBI-2 ACTIVE CORRECTION & COMPENSATION COILS	18-Nov-11	22-Aug-14	2y 10.2m
	53EU.3.8 NBI-2 POWER SUPPLY (EU, LOW VOLTAGE PART)	05-May-14	25-Sep-17	3y 6.3m
	53EU.3.9 NBI-2 ASSEMBLY	28-Jun-13	29-Jan-19	5y 9.7m
	55EU EU DIAGNOSTICS [21-11-2007] LEVEL 2	02-Jan-07 A	01-Jun-17	10y 1.1m
	55EU.1 KEY ITER & IPL MILESTONES	31-Dec-08	02-Jan-17	8y 4.1m
	55EU.4 PP1 EU5.5.2.01 PLASMA-POSITION REFLECTOMETER	02-Jan-07 A	02-Jan-17	9y 7.8m



Activity ID	Activity Name	Start	Finish	Remaining Duration
55EU.4.2	Key ITER & IPL Milestones	31-Dec-08	02-Jan-17	8y 4.1m
55EU.4.4	Generic	02-Jan-07 A	26-Feb-10	2y 6.1m
55EU.4.1	In-Vessel	02-Jan-07 A	14-Mar-14	6y 8.7m
55EU.4.3	Ex-Vessel	03-Jan-11	02-Jan-17	6y 3.1m
55EU.4.5	Port Plugs	01-Jan-09	31-Dec-13	5y 2.5m
55EU.5	PP2 EU5.5.2.02 CORE-PLASMA CXRS	04-Jan-07 A	31-May-17	10y 1.1m
55EU.5.2	Key ITER & IPL Milestones	31-Dec-08	02-Jan-17	8y 4.1m
55EU.5.4	Generic	04-Jan-07 A	31-May-17	10y 1.1m
55EU.5.3	Ex-Vessel	01-Jan-13	02-Jan-17	4y 2.1m
55EU.5.5	Port Plugs	02-Jun-08	29-May-14	6y 3.0m
55EU.6	PP11 EU5.5.3.11 RNC AND VISIBLE/IR WIDE-ANGLE VIEWING SYSTEM	02-Jan-07 A	02-Jan-17	9y 7.8m
55EU.6.3	Key ITER & IPL Milestones	31-Dec-08	02-Jan-17	8y 4.1m
55EU.6.1	RNC (5.5.B.01)	02-Jan-07 A	02-Jan-17	9y 7.8m
55EU.6.2	Equatorial Visible/IR Wide-Angle Viewing (5.5.G.01)	02-Jan-07 A	02-Jan-17	9y 7.8m
55EU.7	PP14 EU5.5.3.14 CORE-PLASMA LIDAR	02-Jan-07 A	23-Mar-17	9y 10.5m
55EU.7.2	Key ITER & IPL Milestones	31-Dec-08	02-Jan-17	8y 4.1m
55EU.7.4	Generic	02-Jan-07 A	16-Mar-12	4y 7.7m
55EU.7.3	Ex-Vessel	28-Mar-11	23-Mar-17	6y 3.0m
55EU.7.5	Port Plugs	18-Mar-08	17-Mar-15	7y 3.5m
55EU.8	PP21 EU5.5.4.21 BOLOMETERS AND PRESSURE GAUGES	02-Jan-07 A	01-Jun-17	10y 1.1m
55EU.8.4	Key ITER & IPL Milestones	31-Dec-08	01-Jun-17	8y 9.1m
55EU.8.1	Bolometers (5.5.D.01)	02-Jan-07 A	25-Feb-15	7y 8.6m
55EU.8.2	Pressure Gauges (5.5.G.03)	02-Jan-07 A	25-Feb-15	7y 8.6m
55EU.8.3	Electronics	02-Jan-15	02-Jan-17	2y 1.0m
55EU.9	PP22 EU5.5.1.22 MAGNETICS	02-Jan-07 A	02-Jan-17	9y 7.8m
55EU.9.8	Key ITER & IPL Milestones	31-Dec-08	02-Jan-17	8y 4.1m
55EU.9.9	Generic Magnetics	02-Jan-07 A	26-Feb-15	7y 8.6m
55EU.9.1	Ex-Vessel Magnetics (A.01)	02-Jan-07 A	25-Feb-14	6y 8.0m
55EU.9.2	In-Vessel Magnetics (A.02)	02-Jan-07 A	31-Dec-14	7y 6.7m
55EU.9.3	Divertor Magnetics (A.03)	28-Sep-07	25-Sep-12	5y 2.5m
55EU.9.4	External Rogowski (A.04)	02-Jan-07 A	31-Dec-10	3y 4.7m
55EU.9.5	Diamagnetic Loop (A.05)	03-Jan-13	31-Dec-15	3y 1.4m
55EU.9.6	Halo-Current Sensors (A.06)	05-Jan-09	31-Dec-15	7y 3.4m
55EU.9.7	Electronics	05-Jan-09	02-Jan-17	8y 4.0m
55EU.10	PP30 EU5.5.5.30 + EU5.5.1.27 IN-VESSEL SERVICES & THERMOCOUPLES	02-Jan-07 A	02-Jan-17	9y 7.8m
55EU.10.3	Key ITER & IPL Milestones	31-Dec-08	02-Jan-17	8y 4.1m
55EU.10.1	In-Vessel Services (5.5.N.01)	02-Jan-07 A	31-Dec-15	8y 7.2m
55EU.10.2	Thermocouples (5.5.G.02 & 5.5.G.13)	11-Oct-07	08-Oct-12	5y 2.5m
55EU.11	GENERIC ACTIVITIES	02-Jan-07 A	30-Dec-16	9y 7.7m
55EU.11.4	Key ITER & IPL Milestones	14-Mar-14	30-Dec-16	2y 10.7m
55EU.11.1	Port Plug Engineering	02-Jan-07 A	30-Dec-16	9y 7.7m



Activity ID	Activity Name	Start	Finish	Remaining Duration
55EU.11.2	Mirrors	02-Jan-07 A	24-Feb-12	4y 7.0m
55EU.11.3	Windows	02-Jan-07 A	26-Feb-14	6y 8.1m
61EU	**EU SITE PREPARATION [30-09-2007] LEVEL 3**	06-Sep-07 A	20-Jun-12	4y 11.2m
61EU.2	SITE CLEARING	15-Jun-06 A	28-Nov-08	1y 2.6m
61EU.2.1	KEY PROJECT & IPL MILESTONES	15-Jun-06 A	28-Nov-08	0y 9.5m
61EU.2.3	SITE CLEARING ADMINISTRATIVE PROCEDURE	15-Jun-06 A	25-Jan-07 A	0y
61EU.2.4	Main Site Clearing	07-Aug-06 A	03-May-07 A	0y
61EU.2.5	Complementary Site Clearing	18-Jun-07 A	28-Nov-08	1y 2.6m
61EU.3	CONTRACTORS AREAS	18-Jan-07 A	27-Mar-12	4y 8.0m
61EU.3.1	Key Project & IPL Milestones	18-Jan-07 A	03-Oct-08	0y 8.4m
61EU.3.3	Contractor Area N°1	10-Apr-07 A	27-Mar-12	4y 8.0m
61EU.3.7	Road from JWS 2&3 to Annexe Buildings	01-Oct-07	26-Mar-08	0y 5.9m
61EU.3.8	B08 Visitor Building & B07 North Guard Post	01-Oct-07	26-Mar-08	0y 5.9m
61EU.4	PLATFORM PREPARATION	29-Jan-07 A	26-Dec-08	1y 3.5m
61EU.4.1	Key Project & IPL Milestones	29-Jan-07 A	26-Dec-08	1y 1.9m
61EU.4.3	Platform Preparation Administrative Procedures	29-Jan-07 A	16-May-08	0y 7.7m
61EU.4.4	Prepare & Award Platform Preparation & Heavy Loads Road Works Contracts	19-Mar-07 A	20-Dec-07	0y 2.7m
61EU.4.5	Prepare & Award "Maitrise d'Oeuvre" Contract for Platform Preparation	19-Mar-07 A	20-Dec-07	0y 2.7m
61EU.4.6	South Fencing (Zone G) Contract	21-May-07 A	19-Oct-07	0y 0.7m
61EU.4.7	South Fencing (Zone G) Works	22-Oct-07	04-Jan-08	0y 2.6m
61EU.4.8	Platform Preparation, Heavy Loads Road & Fences Levelling Works	28-Jan-08	26-Dec-08	0y 11.2m
61EU.5	ANNEXE BUILDINGS	05-Sep-06 A	24-Jan-12	4y 5.9m
61EU.5.1	Key Project & IPL Milestones	05-Sep-06 A	07-Oct-11	4y 1.4m
61EU.5.2	Key Project Deliverables	07-Oct-11	24-Jan-12	0y 3.6m
61EU.5.3	Annexe Buildings Construction License	15-Feb-08	09-Oct-08	0y 7.9m
61EU.5.4	Prepare & Award Annexe Buildings "Maitrise d'Oeuvre" Contract	05-Sep-06 A	19-Sep-08	1y 0.2m
61EU.5.5	Annexe Buildings Batch 1 (B02, B03, B05, B06) & Batch 4 (R.U.N. / Networks)	31-Mar-08	24-Jan-12	3y 11.5m
61EU.5.6	Annexe Buildings Batch 2 (B04 Restaurant)	31-Mar-08	22-Mar-10	2y 0.7m
61EU.5.7	Batch 3 (i72 Office Building)	12-May-08	07-Oct-11	3y 6.5m
61EU.6	SITE ACCESS	28-Apr-06 A	18-Mar-08	0y 5.6m
61EU.6.1	Key Project & IPL Milestones	28-Apr-06 A	18-Mar-08	0y 4.9m
61EU.6.3	Prepare & Award "Maitrise d'Oeuvre" Contract for Site Access	28-Apr-06 A	09-Nov-06 A	0y
61EU.6.4	Site Access Studies	13-Nov-06 A	05-Mar-07 A	0y
61EU.6.5	Prepare & Award Works Contract	27-Mar-07 A	19-Oct-07	0y 0.7m
61EU.6.6	Site Access Works Studies & Realisation	15-Oct-07	18-Mar-08	0y 5.2m
61EU.7	UTILITIES INTERFACES	06-Sep-05 A	23-Apr-10	2y 7.9m
61EU.7.1	Key Project & IPL Milestones	06-Sep-05 A	23-Apr-10	2y 6.3m
61EU.7.3	High Voltage: Interfaces With CEA Site Network	02-Jan-07 A	23-Apr-10	2y 7.9m
61EU.7.4	Interfaces : Annexe Buildings Communication Lines	03-Apr-06 A	18-Apr-08	0y 6.7m
61EU.7.5	Interfaces: Water Networks: Supply & Effluents	06-Sep-05 A	05-Dec-08	1y 2.6m
61EU.7.6	Interfaces: Sewage Treatment Station	01-Mar-06 A	30-Jul-09	1y 10.6m



FUSION FOR ENERGY

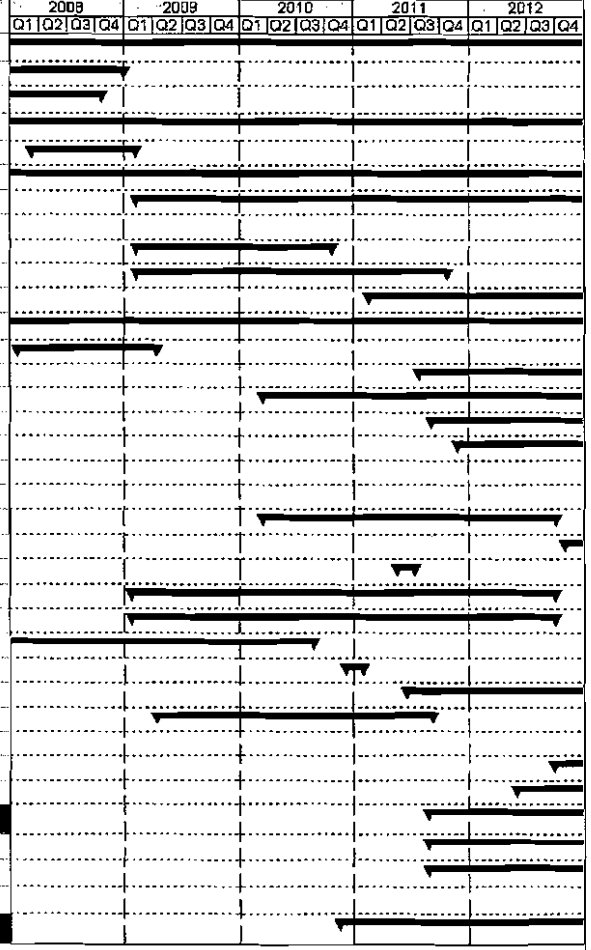
F4E Master Procurement Schedule for ITER Procurement including Site Preparation
DRAFT 1 - Level 2 WBS Summary

Activity ID	Activity Name	Start	Finish	Remaining Duration
61EU.8	EXTERNAL SITE FENCE	05-Sep-06 A	06-Feb-09	1y 4.9m
61EU.8.1	Key Project & IPL Milestones	16-Nov-07	06-Feb-09	1y 3.3m
61EU.8.3	External Site Fence Works	05-Sep-06 A	06-Feb-09	1y 4.9m
61EU.9	INB FENCE (EU)	31-May-07 A	31-Jul-07 A	0y
61EU.9.3	Key Project & IPL Milestones	31-Jul-07 A	31-Jul-07 A	0y
61EU.9.1	INB Fence Preparation	31-May-07 A	31-May-07 A	0y
61EU.9.2	INB Fence Equipment	31-May-07 A	31-May-07 A	0y
61EU.10	CSPS (HEALTH AND SAFETY CONTROL)	16-Oct-06 A	02-Dec-11	4y 4.2m
61EU.10.1	Key Project & IPL Milestones	16-Oct-06 A	15-Oct-07	0y
61EU.10.2	Key Project Deliverables	13-Aug-07 A	02-Dec-11	4y 3.7m
61EU.10.3	CSPS (Health & Safety Control) Contract 1	16-Oct-06 A	13-Aug-07 A	0y
61EU.10.4	CSPS (Health & Safety Control) Contract 2	27-Nov-06 A	15-Oct-07	0y 0.5m
61EU.10.5	CSPS (Health & Safety Control) Contract 3	03-Jan-07 A	02-Dec-11	4y 4.2m
61EU.11	REACTOR COOLING WATER SUPPLY	02-Apr-07 A	07-Jun-11	3y 9.9m
61EU.11.1	Key Project & IPL Milestones	02-Apr-07 A	07-Jun-11	3y 9.9m
61EU.12	COMPONENTS TRANSPORTATION ITINERARY	28-Nov-05 A	24-Jul-09	1y 10.4m
61EU.12.1	Key Project & IPL Milestones	28-Nov-05 A	24-Jul-09	0y 0.8m
61EU.12.3	Preparation of Components Transportation Itinerary	28-Nov-05 A	29-Feb-08	0y 5.1m
61EU.12.4	Components Transportation Itinerary Works	18-Jun-07 A	30-Jun-09	1y 9.6m
61EU.13	TRANSPORTATION STUDIES	02-Jul-07 A	27-Dec-07	0y 3.0m
61EU.13.1	Studies	02-Jul-07 A	26-Dec-07	0y 2.9m
61EU.13.2	Test Convoy	27-Dec-07	27-Dec-07	0y 0.0m
61EU.14	PORT ADAPTION WORKS	30-Jun-09	30-Jun-09	0y
61EU.15	400 kV ELECTRICAL SUPPLY	03-Jan-06 A	29-Jun-12	4y 11.0m
61EU.15.1	Key Project & IPL Milestones	03-Jan-06 A	29-Jun-12	4y 8.0m
61EU.15.3	Prepare & Award 400kV Electrical Supply Contract	03-Jan-06 A	13-Mar-08	0y 5.3m
61EU.15.4	400kV Electrical Supply Administrative Procedures	14-Mar-08	27-Jun-11	3y 5.0m
61EU.15.5	400kV Electrical Supply Works	28-Jun-11	26-Jun-12	1y 0.5m
61EU.16	ON SITE TEMPORARY OFFICE BUILDING BATCH 2&3	10-Apr-07 A	10-Sep-09	2y 0.2m
61EU.16.1	Key Project & IPL Milestones	10-Apr-07 A	10-Sep-09	1y 10.7m
61EU.16.3	On Site Temporary Office Buildings Batch 2&3 Construction License	05-Mar-08	27-May-08	0y 2.8m
61EU.16.4	On Site Temporary Office Buildings Batch 2&3 Preliminary Studies	18-Jun-07 A	19-Sep-07 A	0y
61EU.16.5	Prepare & Award On Site Temporary Office Buildings Batch 2&3 Contract	09-May-07 A	02-Apr-08	0y 6.0m
61EU.16.6	On Site Temporary Office Buildings Batch 2 Execution Studies & Works	06-Feb-08	05-Sep-08	0y 7.1m
61EU.16.7	On Site Temporary Office Buildings Batch 3 Execution Studies & Works	11-Feb-09	10-Sep-09	0y 7.1m
61EU.17	ON SITE TEMPORARY OFFICE JWS2 EXTENSION (146 PERSONS)	28-Aug-07 A	30-Jan-08	0y 4.1m
61EU.17.1	Key Project & IPL Milestones	26-Oct-07	30-Jan-08	0y 3.2m
61EU.17.3	Prepare & Award On Site Temporary Office Building JWS2 Extension (146 Persons)...	26-Aug-07 A	26-Oct-07	0y 0.9m
61EU.17.4	On Site Temporary Office Building 146 Offices Execution Studies & Works	29-Oct-07	30-Jan-08	0y 3.2m
62EU	EU BUILDINGS & CIVIL INFRASTRUCTURES [8-11-2007] LEVEL 3	15-Nov-06 A	14-Nov-17	10y 6.6m

FUSION FOR ENERGY

F4E Master Procurement Schedule for ITER Procurement including Site Preparation
DRAFT 1 - Level 2 WBS Summary

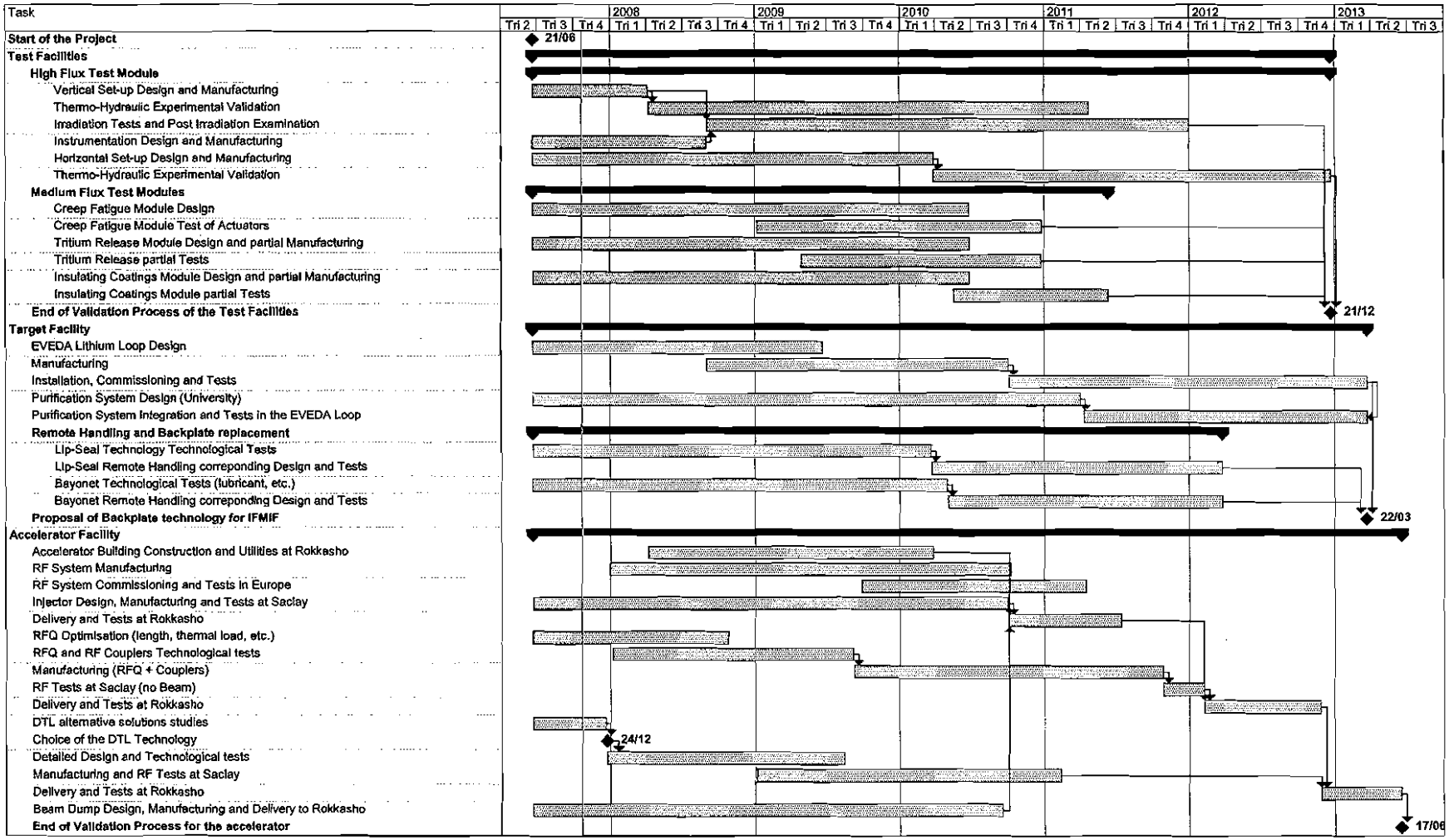
Activity ID	Activity Name	Start	Finish	Remaining Duration
62EU.0	KEY PROJECT MILESTONES	15-Nov-06 A	28-Oct-13	6y 4.0m
62EU.0.1	Preliminary Safety Report	01-Oct-07	01-Jan-09	1y 3.6m
62EU.1	PRE-ARCHITECT/ENGINEER CONTRACT	28-Sep-07	24-Oct-08	1y 1.4m
62EU.2	SAFETY RELEVANT BUILDINGS & FACILITIES	15-Nov-06 A	14-Nov-17	10y 6.6m
62EU.2.1	SAFETY BUILDING ARCHITECT/ENGINEER	11-Mar-08	10-Feb-09	0y 11.2m
62EU.2.2	B11, B14 & B74 TOKAMAK COMPLEX & B13 ASS'Y HALL	15-Nov-06 A	10-Sep-15	8y 3.5m
62EU.2.3	B21 - HOT CELL BUILDING	10-Feb-09	27-Jun-17	8y 8.6m
62EU.2.4	B23 - LOW LEVEL RAD WASTE BUILDING	07-Jan-14	14-Nov-17	4y 0.2m
62EU.2.5	B87 - HOT BASIN AND COOLING TOWER	10-Feb-09	26-Oct-10	1y 9.1m
62EU.2.6	B88 - COOLING WATER PUMPING STATION	10-Feb-09	25-Oct-11	2y 9.5m
62EU.2.7	B71 - CONTROL BUILDING	16-Feb-11	24-Feb-14	3y 1.8m
62EU.3	NON-SAFETY RELEVANT BUILDINGS & FACILITIES	28-Nov-06 A	30-Sep-16	9y 1.5m
62EU.3.1	NON-SAFETY BUILDING ARCHITECT/ENGINEER	28-Jan-08	17-Apr-09	1y 3.2m
62EU.3.2	B24 - PERSONNEL AND ACCESS CONTROL BUILDING	26-Jul-11	22-Oct-13	2y 4.0m
62EU.3.3	B32 & B33 - MAGNET POWER CONVERSION BUILDINGS	19-Mar-10	22-Feb-13	3y 0.7m
62EU.3.4	B34 - NBI POWER SUPPLY BUILDING & B37 NB SUPPLY YARD	02-Sep-11	02-Jan-14	2y 5.1m
62EU.3.5	B35&B36 - PULSED POWER HIGH VOLTAGE SUBSTATION AREA	25-Nov-11	13-Dec-13	2y 1.6m
62EU.3.6	B38 - 22kV DISTRIBUTION BUILDING	01-Nov-13	12-Dec-14	1y 1.9m
62EU.3.7	B39 - SUBSTATION CONTROL BUILDING	01-Nov-13	12-Dec-14	1y 1.9m
62EU.3.8	B41A,B & B46 A,B&C - EMERGENCY POWER SUPPLY & MV DISTRIBUTION BUIL...	19-Mar-10	05-Oct-12	2y 7.7m
62EU.3.9	B42 - STEADY STATE POWER HIGH VOLTAGE SUBSTATION AREA	02-Nov-12	18-Oct-13	1y
62EU.3.10	B43 - DIESEL OIL STORAGE TANK AREA	20-May-11	15-Jul-11	0y 1.9m
62EU.3.11	B51A - CRYOPLANT COMPRESSOR BUILDING	23-Jan-09	05-Oct-12	3y 10.0m
62EU.3.12	B51B - CRYOPLANT COLDBOX BUILDING	23-Jan-09	05-Oct-12	3y 10.0m
62EU.3.13	B52 - PF COILS FABRICATION BUILDING	28-Nov-06 A	25-Aug-10	2y 8.9m
62EU.3.14	B53 - CRYOPLANT STORAGE TANK AREA	03-Dec-10	28-Jan-11	0y 1.9m
62EU.3.15	B81 - SITE SERVICE BUILDING	17-Jun-11	12-Jun-14	3y 1.4m
62EU.3.17	CRYOPLANT WATER PUMPING STATION CIVIL INFRASTRURES	17-Apr-09	09-Sep-11	2y 5.8m
62EU.3.18	GROUNDING GRID	22-Nov-13	13-May-16	2y 6.7m
62EU.3.19	ROADS, TRENCHES AND UNDERGROUND SERVICES	28-Sep-12	30-Sep-16	4y 2.1m
62EU.3.20	LOAD CENTERS	04-Jun-12	11-Jul-14	2y 2.3m
64EU	EU WASTE TREATMENT [20-11-2007] LEVEL-1	25-Aug-11	14-Nov-17	6y 5.7m
64EU.1	KEY PROJECT MILESTONES	25-Aug-11	14-Nov-17	6y 5.7m
64EU.2	SITE SERVICES BLDG PROCESS EQUIPMENT FOR WASTE TREATMENT	25-Aug-11	01-Jan-15	3y 5.8m
64EU.3	RADWASTE BLDG PROCESS EQUIPMENT FOR WASTE TREATMENT	09-Apr-14	14-Nov-17	3y 8.8m
65EU	EU RADIOLOGICAL PROTECTION [20-11-2007] LEVEL-1	16-Nov-10	30-Dec-16	6y 4.6m

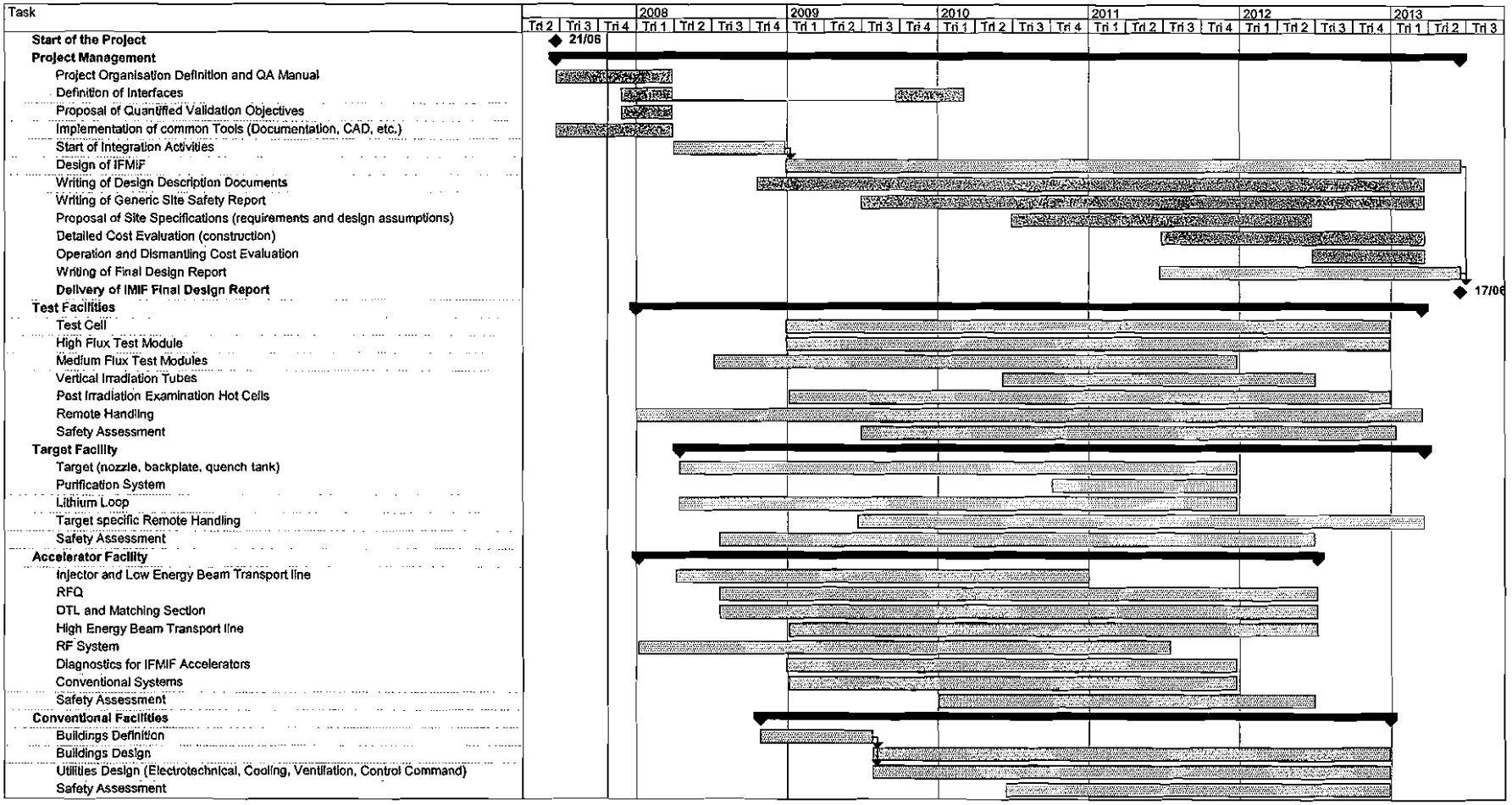


PLAN FOR EUROPEAN TEST BLANKET MODULE PROGRAM:

Critical Milestones	**Expected date**
Production and characterization of several batches of EUROFER structural material; Compilation of main mechanical properties up to 1-2 dpa	Achieved
Validation of TBM box fabrication processes with small-scale test mock-ups (FW, Cooling plate, Stiffening plate, covers, welding assembly)	2008
Issue of the EUROFER SDC-IC Annex A with properties of base material and joints (fabricated with reference processes) up to a fluence of 1-2 dpa	2010
Testing of medium-scale integrated mock-ups (1/4-1/3 TBM size): • Thermo-mechanical cyclic and endurance tests: validation of box and pebble bed (HCPB) mechanical behaviour; validation of PbLi (HCLL) thermal behaviour. • Thermal-hydraulic tests: validation of heat extraction, flow balance, pressure drops and operational margins. • PbLi (HCLL) draining/filling and circulation tests • Destructive examination: investigation of time-dependent damages (corrosion, crack propagation, etc.)	2011
Testing of full size prototypes: • Validation of fabrication sequence at full scale • Thermo-mechanical cyclic and endurance tests: validation of box and pebble bed (HCPB) mechanical behaviour; validation of PbLi (HCLL) thermal behaviour. • Thermal-hydraulic tests: validation of heat extraction, flow balance, pressure drops and operational margins. • PbLi (HCLL) draining/filling and circulation tests • Validation of instrumentation (thermal sensors) • Destructive examination: investigation of time-dependent damages (corrosion, crack propagation, etc.)	2014
TBM systems commissioning in ITER	2016

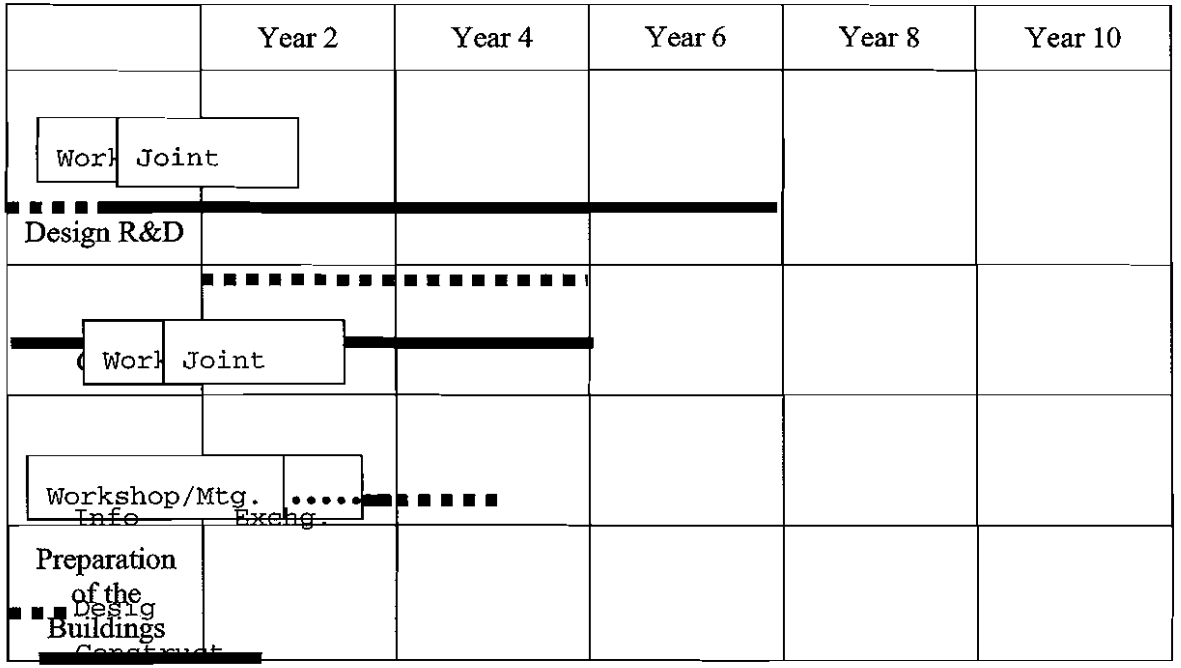
ANNEX IV: PROJECT PLAN FOR IFMIF/EVEDA




Task
2008
2009
2010
2011
2012
2013
Tri 2 Tri 3 Tri 4 Tri 1 Tri 2 Tri 3 Tri 4 Tri 1 Tri 2 Tri 3 Tri 4 Tri 1 Tri 2 Tri 3 Tri 4 Tri 1 Tri 2 Tri 3 Tri 4 Tri 1 Tri 2 Tri 3 Tri 4 Tri 1 Tri 2 Tri 3
Start of the Project
21/06
Project Management
Project Organisation Definition and QA Manual
Definition of Interfaces
Proposal of Quantified Validation Objectives
Implementation of common Tools (Documentation, CAD, etc.)
Start of Integration Activities
Design of IFMIF
Writing of Design Description Documents
Writing of Generic Site Safety Report
Proposal of Site Specifications (requirements and design assumptions)
Detailed Cost Evaluation (construction)
Operation and Dismantling Cost Evaluation
Writing of Final Design Report
Delivery of IMIF Final Design Report
17/06
Test Facilities
Test Cell
High Flux Test Module
Medium Flux Test Modules
Vertical Irradiation Tubes
Post Irradiation Examination Hot Cells
Remote Handling
Safety Assessment
Target Facility
Target (nozzle, backplate, quench tank)
Purification System
Lithium Loop
Target specific Remote Handling
Safety Assessment
Accelerator Facility
Injector and Low Energy Beam Transport line
RFQ
DTL and Matching Section
High Energy Beam Transport line
RF System
Diagnostics for IFMIF Accelerators
Conventional Systems
Safety Assessment
Conventional Facilities
Buildings Definition
Buildings Design
Utilities Design (Electrotechnical, Cooling, Ventilation, Control Command)
Safety Assessment

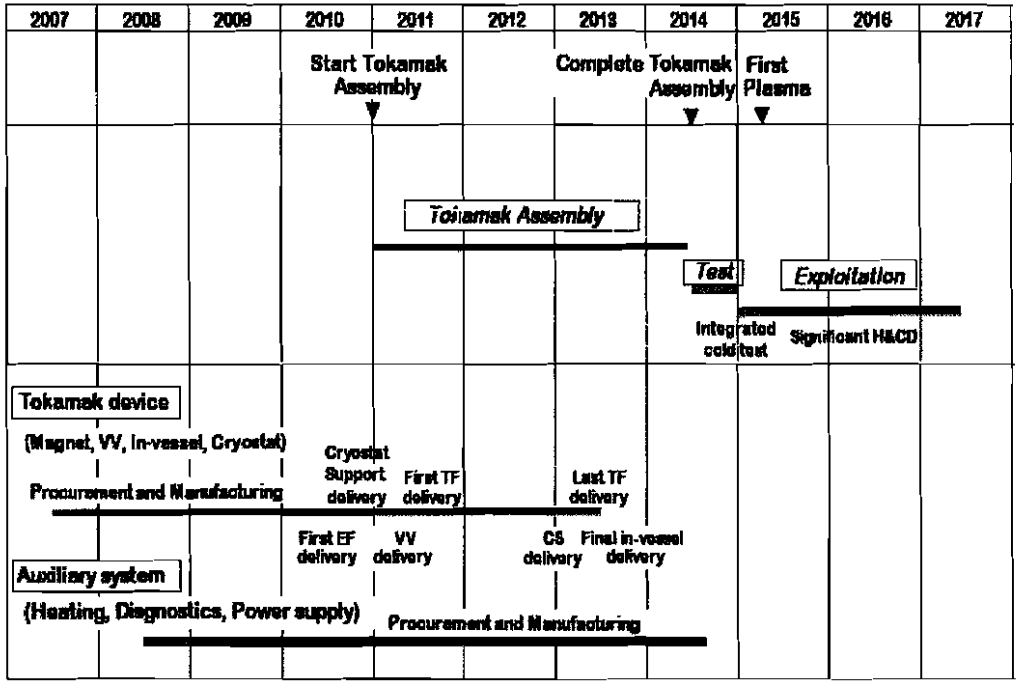
ANNEX V: PROJECT PLAN FOR IFERC

Overall Schedule of IFERC for the 10 years



ANNEX VI: PROJECT PLAN FOR THE SATELLITE TOKAMAK PROGRAMME

Reference time schedule of construction and exploitation of JT-60SA



ID	Task Name	Start	Finish
1	TF Magnet Cold Test Facility	Mon 27/08/07	Fri 01/04/11
2	Design - Technical Specs Preparation	Mon 27/08/07	Tue 01/01/08
3	Call for Tender - Evaluation - Contract	Tue 01/01/08	Mon 31/03/08
4	Procurement/Manufacturing	Tue 01/04/08	Fri 30/07/10
5	Facility tests and Commissioning	Mon 01/03/10	Fri 01/04/11
6	TF Magnet	Mon 27/08/07	Thu 15/08/13
7	Design - Technical Specs Preparation	Mon 27/08/07	Thu 27/12/07
8	Call for Tender - Evaluation - Contract	Fri 28/12/07	Mon 31/03/08
9	Procurement/Manufacturing	Tue 01/04/08	Thu 14/02/13
10	Tests	Mon 30/05/11	Fri 10/05/13
11	Delivery	Tue 06/09/11	Thu 15/08/13
12	ECRH Gyrotrons + SCM	Mon 27/08/07	Wed 11/07/12
13	Design - Technical Specs Preparation	Mon 27/08/07	Mon 10/03/08
14	Call for Tender - Evaluation - Contract	Wed 06/02/08	Tue 13/05/08
15	Manufacturing, Tests in EU	Fri 04/04/08	Fri 01/04/11
16	Delivery, commissoning and tests on-site (JA)	Tue 11/05/10	Wed 11/07/12
17	ECRH Power Supplies	Mon 27/08/07	Fri 08/06/12
18	Design - Technical Specs Preparation	Mon 27/08/07	Tue 22/01/08
19	Call for Tender - Evaluation - Contract	Tue 22/01/08	Thu 28/08/08
20	Manufacturing, Tests in EU	Mon 01/09/08	Tue 21/12/10
21	Delivery, commissoning and tests on-site (JA)	Mon 29/03/10	Fri 08/06/12
22	Cryostat	Mon 27/08/07	Thu 30/08/12
23	Design - Technical Specs Preparation	Mon 27/08/07	Mon 31/12/07
24	Call for Tender(s) - Evaluation(s) - Contract(s)	Tue 01/01/08	Thu 31/07/08
25	Manufacturing & Tests	Thu 01/05/08	Mon 30/04/12
26	Delivery	Wed 01/12/10	Thu 30/08/12
27	Cryogenic System	Mon 27/08/07	Fri 01/08/14
28	Design - Technical Specs Preparation	Mon 27/08/07	Mon 01/06/09
29	Call for Tender - Evaluation - Contract	Fri 31/07/09	Thu 31/12/09
30	Manufacturing	Fri 01/01/10	Sun 30/09/12
31	Site Installation and Commissioning	Thu 01/12/11	Fri 01/08/14
32	Magnet Power Supplies	Mon 27/08/07	Mon 31/12/12
33	Design - Technical Specs Preparation	Mon 27/08/07	Tue 30/09/08
34	Call for Tender - Evaluation - Contract	Wed 01/10/08	Wed 31/12/08
35	Procurement/Manufacturing	Thu 01/01/09	Thu 28/07/11
36	Tests	Mon 01/08/11	Tue 28/02/12
37	Delivery	Sun 01/07/12	Mon 31/12/12
38	QPC	Mon 27/08/07	Tue 03/04/12
39	Design - Technical Specs Preparation	Mon 27/08/07	Mon 30/06/08
40	Call for Tender - Evaluation - Contract	Tue 01/07/08	Wed 31/12/08
41	Prototype Detailed Design, Manufacturing & Tests	Thu 01/01/09	Thu 30/09/10
42	QPC units manufacturing and test	Fri 01/10/10	Mon 03/10/11
43	Delivery	Mon 03/10/11	Tue 03/04/12
44	HTS Current Leads	Mon 27/08/07	Fri 29/03/13
45	Design - Technical Specs Preparation	Mon 27/08/07	Thu 25/12/08
46	Preparation of manufacturing drawings	Fri 26/12/08	Thu 22/10/09
47	HTS Material Procurement	Fri 29/02/08	Thu 27/08/09
48	Call for Tender - Evaluation - Contract	Fri 21/05/10	Thu 16/12/10
49	Test facility prep	Fri 28/12/07	Wed 19/05/10
50	Manufacturing HTL for TF	Fri 17/12/10	Thu 16/02/12
51	Manufacturing HTL for CS/EF	Fri 17/12/10	Thu 04/10/12
52	Tests	Fri 16/09/11	Thu 27/12/12
53	Delivery	Wed 26/11/12	Fri 29/03/13