



**FUSION  
FOR  
ENERGY**

# **Fusion for Energy**

**Buildings' meeting 4<sup>th</sup> March, 2009**

**« F4E 1<sup>st</sup> meeting on ITER buildings »  
Château de Cadarache, France  
4-5 March 2009**





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# ITER SITE



THIS DOCUMENT IS A DRAFT VERSION SUBJECT TO MODIFICATION (2)



## 4<sup>th</sup> March 14:00

<b>13:30 - 14:00</b>	Welcome
<b>14:00 - 14:30</b>	Overview of ITER projects and main Procurement rules F4E – Ph. Corr��a, Head of Contracts & Procurement Department
<b>14:30 - 15:00</b>	Overview of F4E contribution to ITER project F4E – M. Gasparotto, Head of the ITER Department
<b>15:00 - 15:20</b>	Overview of Buildings procurement strategy F4E - L. Schmieder, Head of Site, Buildings & Power Supplies Division
<b>15:20 - 15:50</b>	Questions
<b>15:50 - 16:20</b>	Coffee Break
<b>16:20 - 16:40</b>	Overview of Owner Support contract E. Rodriguez
<b>16:40 - 16:50</b>	Overview of Architect Engineer contract L. Schmieder
<b>16:50 - 17:10</b>	G. Strickleton, expert building Contracts & Procurement department
<b>17:10 - 18:00</b>	Questions
<b>18:00 - 19:30</b>	Cocktail
Construction site tour in bus two departures <b>18:00 and 18:30</b>	
<b>19:30</b>	Dinner (option)

ITER Buildings form an integrated complex extending over an area of about 50 hectares including 39 buildings and 17 areas

## Buildings

- ‘Reinforced Concrete Buildings and selected Infrastructure’,

Key figures :

- 250 000 m<sup>3</sup> of concrete,
- Building volume 750 000 m<sup>3</sup>
- foot print 21 000 m<sup>2</sup>

- ‘Steel Frame Buildings’

Key figures :

- foot print 29 000 m<sup>2</sup>

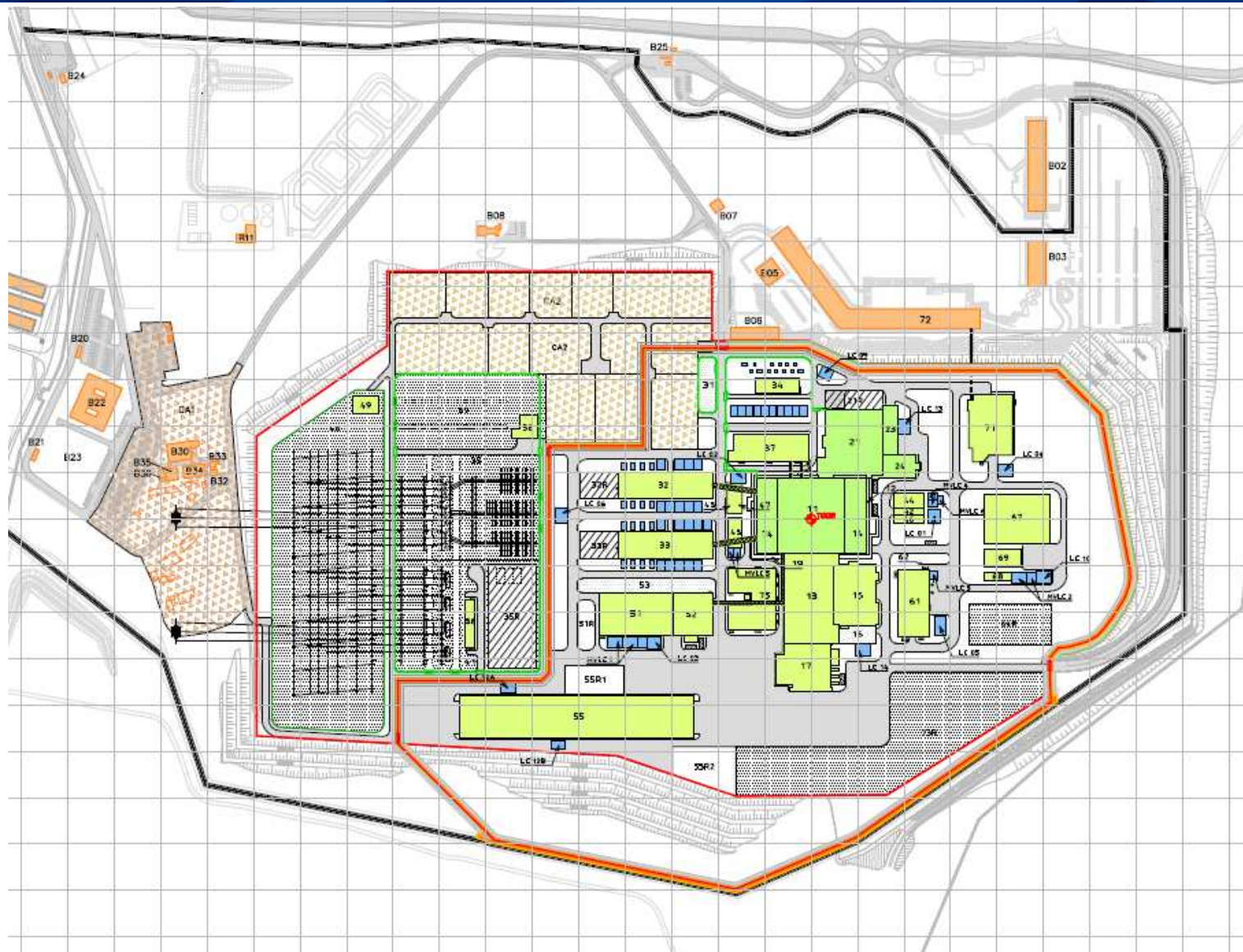
## Power supplies (HV, MV and LV electrical distribution)

- Detailed Design (from Power Grid to the final users)
- Installation and commissioning for the whole plant
- 50 % of the equipment are provided in kind by other Domestic Agency (China and US)
- Procurement of the emergency system is fully European responsibility

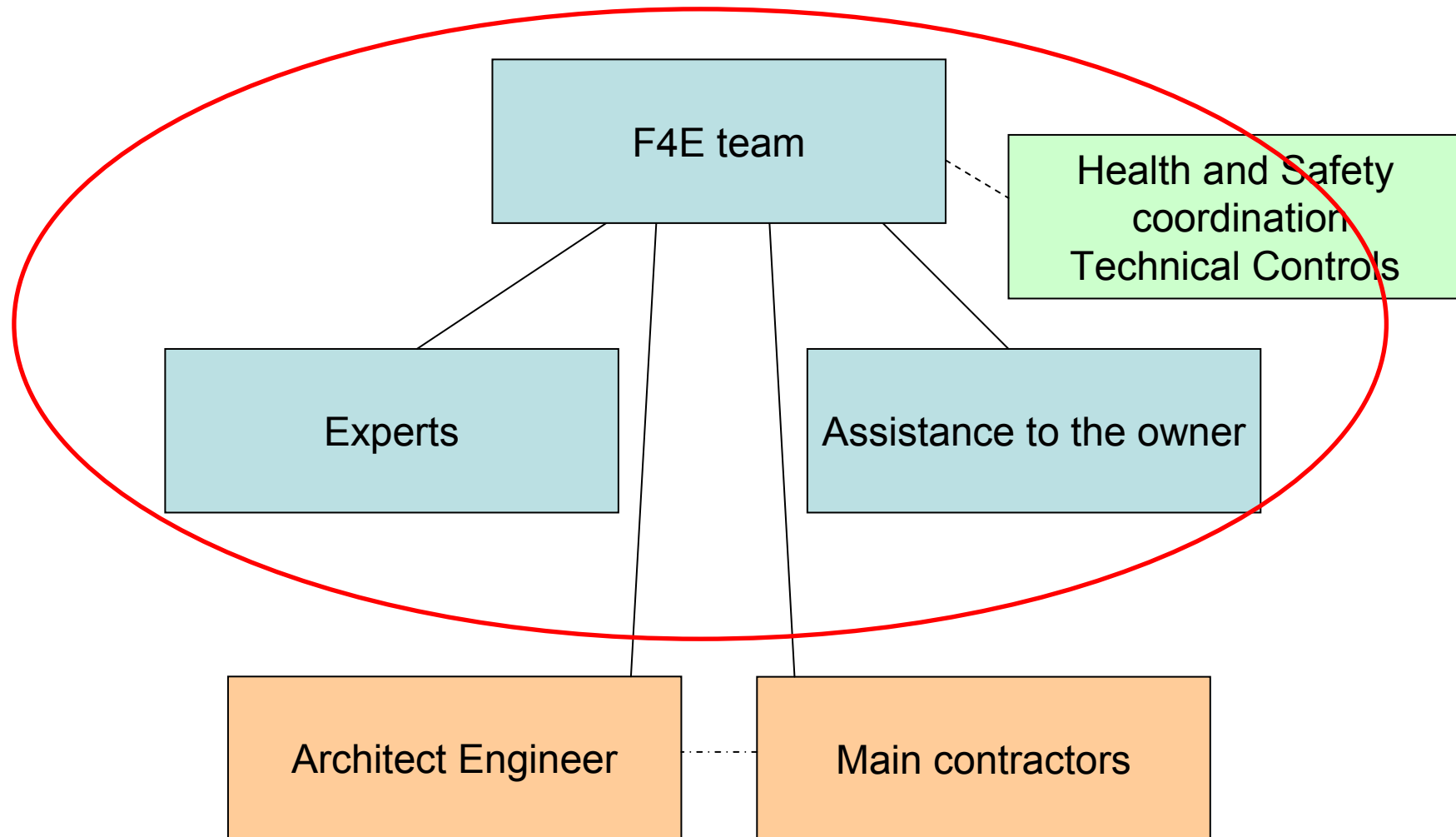


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# Site layout



- F4E is responsible for
  - Providing the detail design
  - Launching the procurements
  - Following up the execution studies
  - Following up the work and safety in F4E perimeter
  - Keep under control budget and schedule



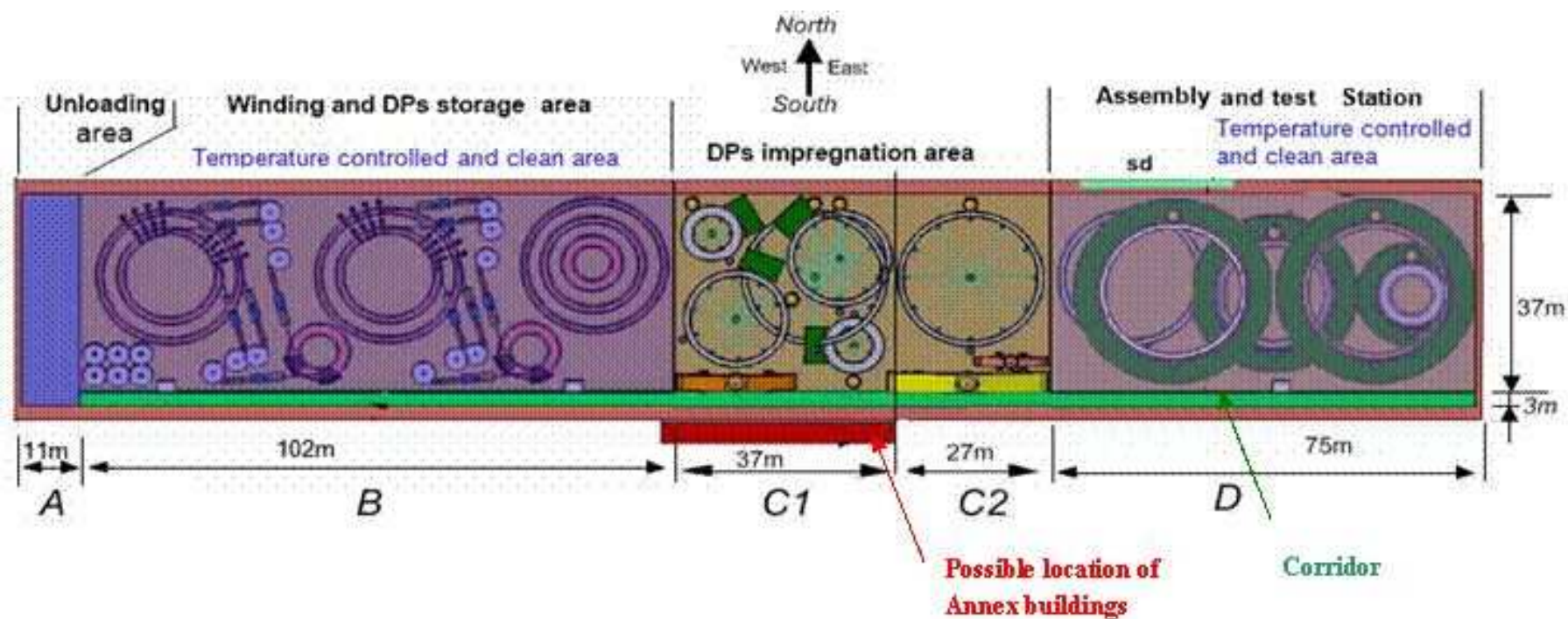
## Main Contracts under F4E responsibility

- Three support contracts
  - Assistance to the owner
  - Architect Engineer
  - Health and safety protection coordination and Technical Controls legally requested by French law
- Four construction contracts
  - PF coils building
  - Pre excavation
  - Excavation
  - Seismic isolators fabrication

These seven contracts will be launched in 2009



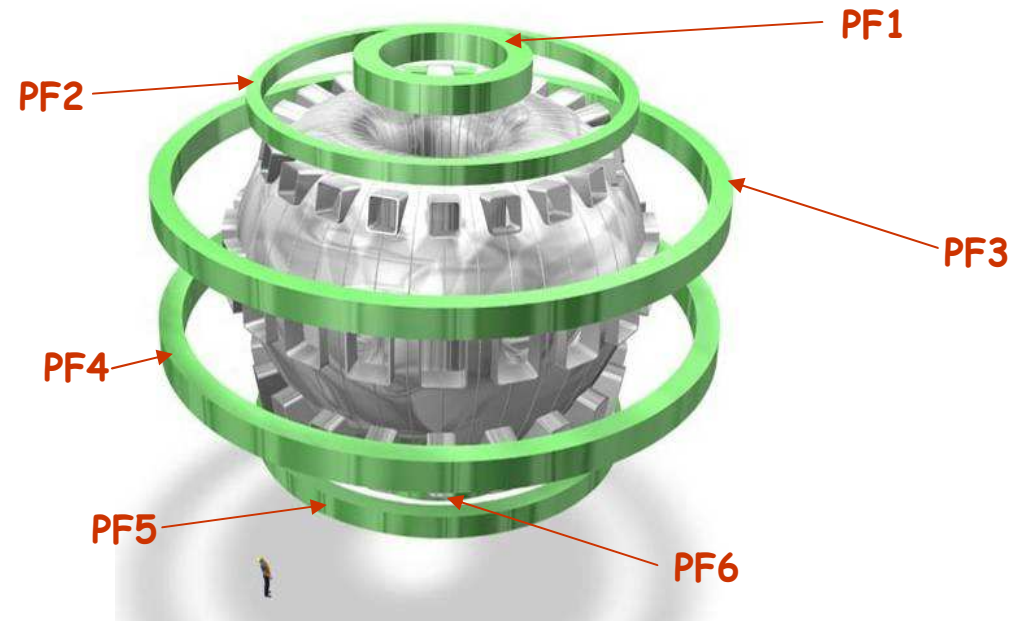
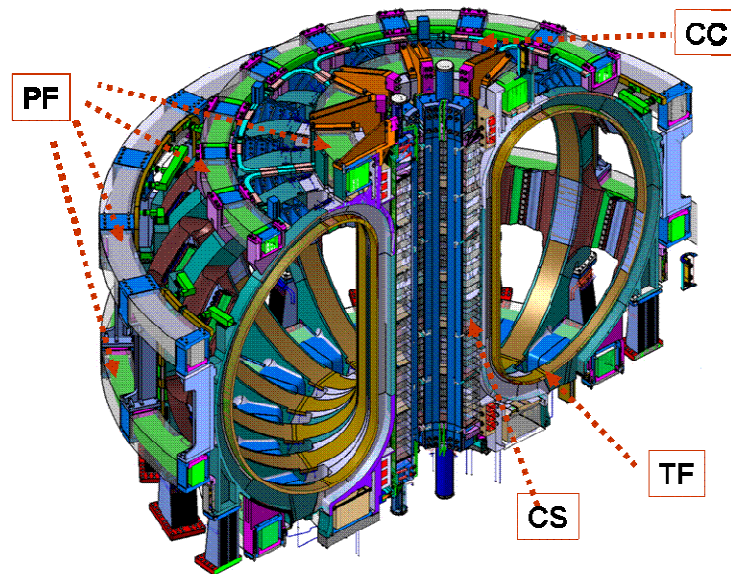
# Poloidal Field Coil Building general top view





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## Poloidal Field Coil general information

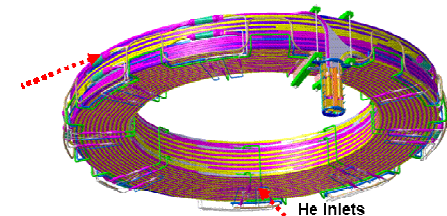
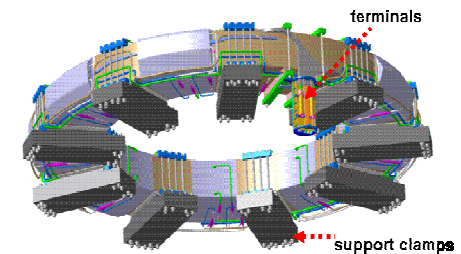


### Poloidal Field Coils:

6 PF coils independently powered, wound in double pancakes to:

- Confine and shape the plasma
  - PF1 & PF6 control plasma vertical displacement
- Conductor field limited to 6 T: NbTi sufficient

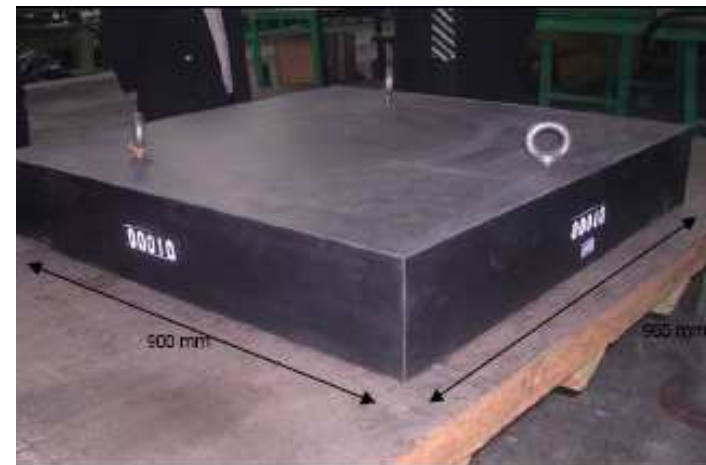
Coils are large (24 m diameter) but use of NbTi simplifies construction



# Excavation and Anti-Seismic Bearings



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# Site leveling work November 2008





## Three main support contracts

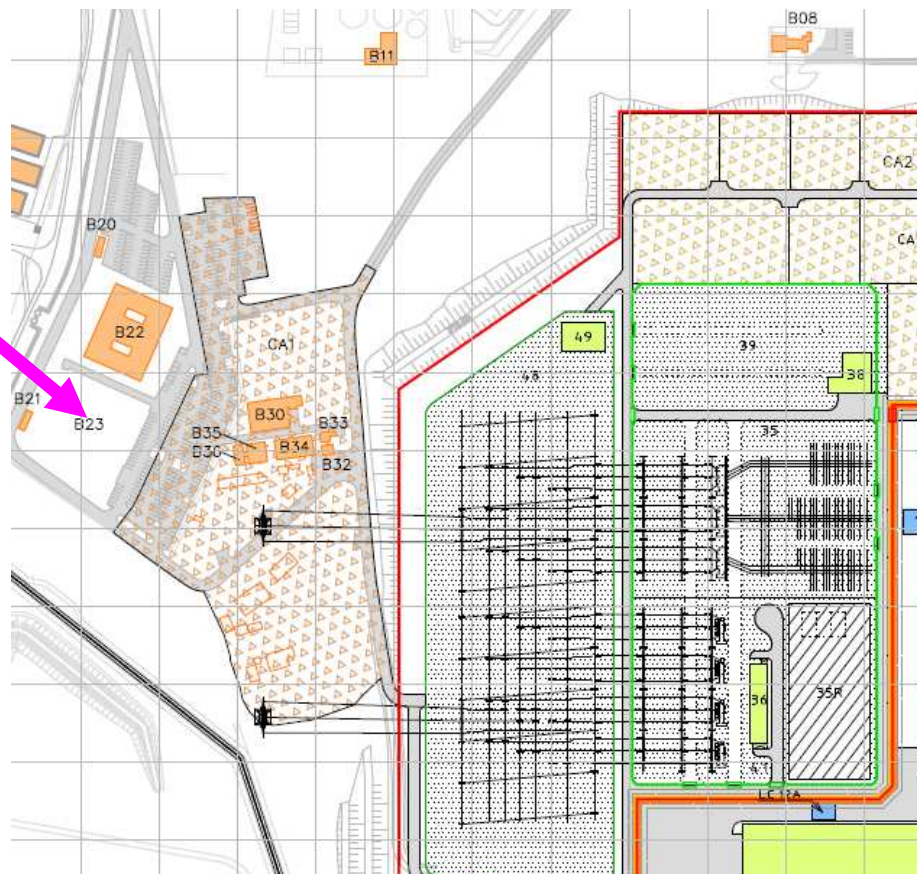
- **Assistance to the owner** to follow up the call for tender of main contracts, the Architect Engineer contract and the execution of main contracts (budget, modification and claim)
- **Architect Engineer** to provide the detail studies, to follow up the executive studies of the main contractors and to follow up the construction
- **Health and safety protection coordination and Technical Controls** legally requested by French law to provide rules, follow-up the safety on site and carry out technical control

These three contracts will be launched in 2009

Work will be done on site in Cadarache in F4E premises

## F4E Antenna at Cadarache

- A temporary building (JWS3) close to IO team will be build by the end of 2009 to host all the F4E and assistance staff to follow the building works





## Background:

- **F4E conceived as a management entity with a limited number of staff to overview a series of contracts**
- **A large amount of contract packages will be generated (15-20 estimated)**
- **F4E will be responsible to deliver the detailed works for all the buildings and related civil engineering Works up to hand-over of the plant**
- **Those will demand personnel to support and monitor, at different stages of design and construction, of all detailed civil engineering works, technical and non-technical.**

- **Within the next years there will occur several civil engineering tasks of different nature under F4E's responsibility:**
  - ✓ **Detailed and construction engineering design**
  - ✓ **Support at contract tendering**
  - ✓ **Construction Works**
  - ✓ **Execution monitoring**
  - ✓ **Contract management**
  - ✓ **Licensing follow up and other authority related issues**
  - ✓ **Health and safety and environmental issues**
  - ✓ **Sequential reporting of QA implementation**
  - ✓ **Technical mediation between suppliers (A/E and Contractors)**
- **Some of these task will happen simultaneously generating an outnumbering amount of interfaces between F4E and its suppliers**

- **A Support team(s) will be required. Such will furnish F4E the different contract interfacing and technical services which will be required throughout the whole life span of the civil engineering works.**



- **The SO will form an integral part of the F4E scheme towards the external suppliers**

## General guidelines and scope:

- The SO team will, at all times, defend the interests of F4E before all the different suppliers
- Its services will cover the whole life span of the civil engineering works, hand-over included.
- SO will also have to furnish technical back-up for occasional F4E needs:
  1. Needs scheduled beforehand (in the form of deliverables)
  2. Unforeseen needs (design change requests or DCRs, for example)

## **General guidelines and scope:**

- **The SO team will somehow adapt to main suppliers contractual structure and F4E needs( such as duration of services)**
- **The contract must have flexibility resource wise**
- **The services to provide surely require different teams with different profiles, depending on the project requirement**
- **Simultaneous tasks may be occurring at a time.**

## General guidelines and scope:

- The scope will be based on four tasks:
  1. T1: Check on initial supplier's PIP (Project implementation Plan and other pre-required documents)
  2. T2: Revision of detailed engineering design and non-technical support to tendering( Design Changes included and alternate design solutions)
  3. T3: Management role (interfacing and suppliers control)
  4. T4: Direct execution monitoring of construction at site



## Help out F4E to manage the detailed studies and to follow up the work

- To provide the detailed studies from the technical specifications (including CAD drawing in Catia and Autocad)
- To synthesize and freeze all layouts for every civil engineering discipline and related services; (Civil engineering, HVAC, electrical services and plant power supplies, cranes,... )
- To write the technical parts of the specifications to launch the different contracts (civil engineering, HVAC, power supplies, finishing, crane)
- To follow up the execution of construction of the main contractors
- To manage the Design Change Request

## Option : Schedule Coordinate and Manage

- **Worksite coordination**
  - Manage the weekly construction site meeting
  - Including the traffic coordination, the access paperwork
- **Construction scheduling**
- **Supervising the construction works**
  - Checking the work of all the companies
  - Regular reporting to the owner
- **Checking out the quality and compliance to specifications of works carried out**
- **Following-up design changes issuing during the construction**
- **Performing pre acceptance and commissioning operations ensuring defect management**

## Option : Product Data Manager

This software must rely on the swift communication capacity of Internet to organize the **sharing and interchange of information** among all participants involved in the construction operation.

It must ensure the traceability and security of document interchanges according to predefined procedures

- **Project directory**
  - Customized document organization and document coding
  - Document search by trade, zone, level, index, approval status or key word
  - Display of AutoCAD and Catia drawings
  - Management of associated documents
- **Approval circuit**
  - Creation of a provisional document at following index with circuit identification
  - Possibility of attaching a file to the examination
- **Financial management**
  - Financial data concerning contracts for works: trades, sub-trades, contractors, revision formula, breakdown of tasks
  - Input of progress made by contractors
  - Checking by verifier and acceptance by owner
- **Centralized management of defects/ Outstandings work**

## The call for tender will have two lots:

### Lot 1: Health and Safety in F4E area

- To check the studies regarding the health and safety rules
- To write the detailed rules for safety organization on site
- To follow up the implementation of the health and safety rules during the construction

### Lot 2: Technical inspection of construction works

- **Technical and legal assistance to the design operations**
  - Technical and legal assistance, in order integrate all the applicable requirements
  - Design review for pressure equipments, Electrical installations, lifting equipment, Mechanical and industrial equipment, Fire prevention, ...
  - Review of procurements specifications and technical manufacturing operations
  - Non-destructive testing (magnetic particle, Radiographic and Ultrasonic inspections, ...)
- **Technical inspection for the building industry**
  - controls required by French legislation relating to building insurance (prevention of technical irregularities).
- **Control and periodical inspections,**
  - On Pressure Equipments and Nuclear Pressure Equipments
  - On Lifts and lifting equipments , Electrical installations and Mechanical
  - On equipments, Health, safety and working conditions, Gas or thermal installations, Fire detection and fire fighting equipments, ...
- **Initial mandatory verification** before the beginning of operation



## Phase I- Call for expression of interest:

- Publication of the contract notice including:
  - Main elements of the contract
  - List of exclusion
  - Minimal capacity level required
  - Selection criteria
  
- Selection and short list of companies having the financial and technical capabilities required.

## Phase II- Invitation to tender:

- Tender specifications
- Technical specifications
- Contract + General Conditions

### ➤ Opening & Evaluation of the tenders:

- Technical envelope
- Financial envelope

### ➤ Award:

- Best value for money (*ratio* quality/price)
- Lowest conforming bid

## Where can the information be found?

2 web sites to remember:

[www.fusionforenergy.europa.eu](http://www.fusionforenergy.europa.eu)


[www.simap.europa.eu](http://www.simap.europa.eu)

Fusion for Energy - Operational Procurements - Microsoft Internet Explorer

Fichier Edition Affichage Favoris Outils ?

Précédente Revenir Arrêter Rechercher Favoris Média

Adresse [http://fusionforenergy.europa.eu/Procurement\\_operational.htm](http://fusionforenergy.europa.eu/Procurement_operational.htm) OK Liens



**FUSION FOR ENERGY**  
THE EUROPEAN JOINT UNDERTAKING FOR ITER AND THE DEVELOPMENT OF FUSION ENERGY

Bringing the power of the sun to earth

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Publications  
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Key reference documents  
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Contact

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**You are here:** [Home](#) > [Procurements and Grants](#) > [Procurements](#) > Operational Procurements

## Operational Procurements

The procurement system for the awarding of **Operational Contracts**: The Operational Contracts are contracts awarded in order to obtain the supply of movable or immovable assets, the execution of works or the provision of services for the implementation of the F4E's international tasks related to the construction of ITER and the implementation of the Broader Approach and Demo. These tasks are those referred to in Article 1(2) of the Council Decision establishing the European Joint Undertaking for ITER and the Development of Fusion Energy and conferring advantages upon it. The principles governing the placing of these contracts are established in Chapter 1 of Title V of the F4E's Financial Regulation. These principles, together with the provisions of the F4E's Implementing Rules for procurement, form an ad hoc procurement system tailored to the F4E's specific needs.

### OPEN CALLS

#### Call for tenders

Ref. F4E-2008-OPE-017 (ES-AC): Framework Service Contract - Open



SIMAP - Welcome to the gateway to European public procurement - Microsoft Internet Explorer

Eichier Edition Affichage Favoris Outils ?

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Adresse [http://simap.europa.eu/index\\_en.html](http://simap.europa.eu/index_en.html) OK Liens

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Gateway to European public procurement

English (en)

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**SIMAP** TED eNotices

**Buyers' corner**

- Standard forms for public procurement
- Legislation and useful links

**Supplier's Corner**

- TED — Business opportunities in Europe
- National public procurement databases
- Legislation and useful links

**OJS eSenders**

- Sending XML notices
- How to become an OJS eSender
- List of OJS eSenders

**Codes and nomenclatures**

- CPV
- NUTS
- CPC
- Currencies
- Countries

## Information system for European public procurement

The SIMAP portal provides access to most important information about public procurement in Europe.

Tender notices are published on **TED** website, the single official source of public contracts in Europe. Most of public procurement notices are sent for publication through an electronic channel. A web-based tool — **eNotices** — simplifies and speeds up preparation and publication of tender notices. **eSenders** service allows qualified organisations to submit notices directly as XML files.

[NEWS](#)

**SIMAP**

Gateway to European public procurement – information and tools

**eNotices**

On-line forms for preparing public procurement notices

**eSenders**

A service for direct submission of public procurement notices

**TED**

Tenders Electronic Daily offers new business opportunities from all over Europe

TED website provides access to the Supplement to the Official Journal of the European Union (OJ S)

## **F4E procurement rules:**

- Title V, Chapter 1, of the F4E's Financial Regulation
- F4E's Implementing Rules for Procurement

## Estimated date for procurement procedure:

Type of procedure	Call for expression of interest	Date of receipt of candidacies	Date of call for tender	Receipt of tenders	Start of the contract
Restricted	Mar-09	Apr-09	May-09	Jul-09	Dec-09

**PRO:** Graham STRICKLETON

**TRO:** Enrique RODRIGUEZ

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**PRO:** Graham STRICKLETON

**TRO:** Laurent SCHMIEDER



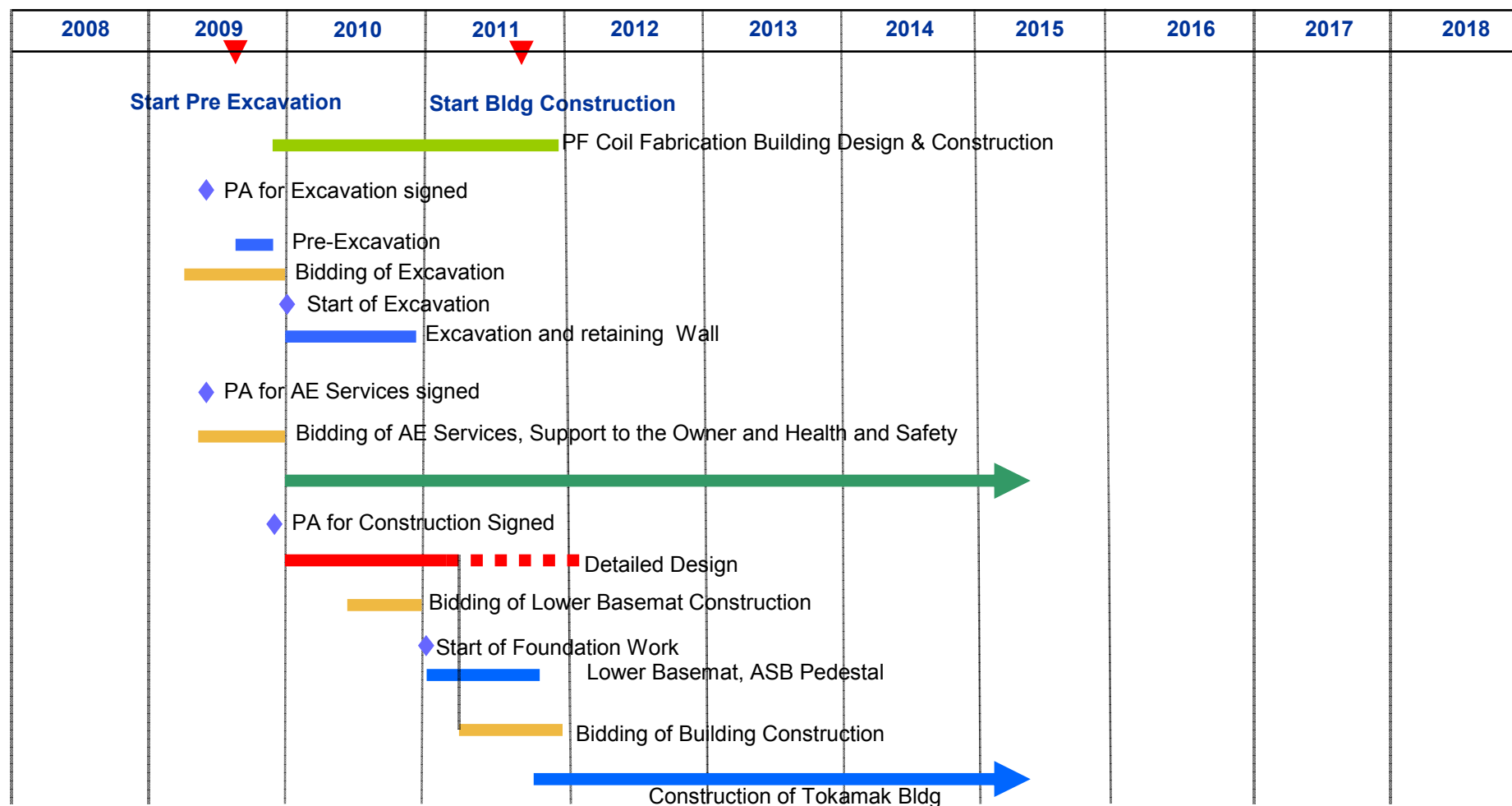
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**PRO:** Graham STRICKLETON

**TRO:** Laurent SCHMIEDER

# 2009 – 2011 Schedule





# Thank you for your attention

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