

外部委託業者の募集

References: IO/24/CFT/10030165/VML

"The supply of electrical energy to the ITER Organization via the RTE 400kV network for the period 2026 to 2030 inclusive"

(2026 年から 2030 年までを含む期間における、RTE 400kV ネットワークを通じた ITER 機構への電力供給)

IO 締め切り 2024 年 12 月 10 日(火)

○前文

この技術仕様書は、技術的要件の一部を構成する「サービスおよび供給のための一般管理仕様書 (GM3S)」 - 参照 [1] と併せて参照されるものです。

もし内容に矛盾が生じた場合は、技術仕様書の内容が参照 [1] の内容に優先します。

○目的

本文書は、2026 年から 2030 年の期間における、フランス、サン・ポール・レ・デュランス (Route de Vinon-sur-Verdon, CS 90046 13067) の ITER 機構 (以下「IO」とも呼ぶ) への、400kV 交流 50Hz 電力供給に関する要件を定義します。

契約には以下が含まれます：

- 電力の供給
- ITER サイトの電力負荷に関するバランス責任主体 (「La gestion de l'équilibre」) の義務および責任 (RTE が定めた規則に従うこと) について。(詳細はセクション 12 も参照)

○ 法改正による契約の適応

1.1 契約期間

契約は 5 年間の期間で締結されます。

1.2 購入モデル

IO の購入戦略は、フローティング残余モデル (浮動残量モデル) とし、IO は予測される消費量の一部を先物市場で確保し、残りをスポット市場で調達します。

IO は、消費量の可視性に対する信頼度に応じて、四半期ごとまたは年単位でポジションを取ることになります。

また、IO は消費量の全てをスポット市場で購入する選択をすることも可能です。

1.3 2025 年以降の調達提案の可能性

2024 年に検討されている法改正を考慮し、2025 年以降の期間に適用される可能性がある以下の内容を含む調達提案 (例：Versement Universel Nucléaire (VUN) および Offre de Détail Moyen Terme (ODMT)) について、

IO は、契約期間中に利用可能となるこれらの調達方式に参加できるよう、購入戦略を変更することを検討する可能性があります。

供給者は、このような事態を考慮に入れた上で提案を行い、契約変更なしで IO が参加できるようにしなければなりません。

○ ITER 機構の電力負荷

ITER 機構の電力負荷は、ITER サイト内の 2 つの主要な電力システムで構成されています：

パルスパワー電力ネットワーク (PPEN)

定常状態電力ネットワーク (SSEN)

1 電力供給の構成

ITER サイトは、4 基の SSEN 変圧器 (400kV/22kV、60 MVA ONAN / 75 MVA ONAF) と 3 基の PPEN 変圧器 (400kV/66kV/22kV、300/250/150 MVA ONAF) を通じて接続されています。

SSEN および PPEN 変圧器は契約期間中に運用されます。

ITER サイトに供給される電力は、7 組の計測機器を通じて測定されます。各 400kV 変圧器に 1 セットの計測機器が設置されています。

IO の 400kV 供給計測点の CART 契約番号は、302794 です。

本技術仕様書に記載されている電力およびエネルギー量は、7 台の個別メーターの代数的合計として扱われます。

ITER は、TURPE 契約に基づき HTB 3 クライアントとして登録されています。

2 ITER の電力負荷プロファイル

ITER 機構の電力負荷プロファイルは、典型的でないプロファイルです。

契約期間中の負荷プロファイルには、最大 35MW のピーク需要が発生する高負荷の期間と、4MW から 8MW の範囲の低負荷の期間が含まれます。

電力供給期間中には、数時間、数日、数週間、または数ヶ月の間に、高出力モーターや電力負荷が試験され、稼働開始される期間があります。試験の性質上、負荷は変動することになります。

これにより、ITER 機構の MAPD (最大平均電力需要) は 4MW から 35MW の範囲で変動します。

○ 供給者および IO の義務

1 契約から除外されるサービス

電力供給の輸送は RTE (フランス送電網) が担当するため、この契約からは除外されます。

RTE が請求する手数料 (「frais de soutirage」) が存在することが認識されており、これらは供給者から IO に請求されます。この費用は、供給者が提出する契約提案書に含まれる K 値に含まれるべきです。

2 供給者の義務

供給者の義務は、ITER 機構が位置するフランス、サン・ポール・レ・デュランス (Route de Vinon-

sur-Verdon 13067, CS 90 046) の ITER サイトに対して、合意されたまたはそれ以外の形で、400kV 交流 50Hz 電力供給に必要なエネルギーおよび電力需要を提供することです。

供給者は、フランスのエネルギー省によって発行された有効な供給者ライセンス（「autorisation de fourniture」）を保持し、そのライセンスは契約期間中有効である必要があります。

3 ITER 機構の義務

契約履行中、IO は供給者に対して、利用可能な情報に基づいて契約の有効電力について四半期ごとの更新を提供します。すべての予測は情報提供のためのものであり、契約的な義務はありません。

4 共同の義務

IO および供給者（バランス責任主体、BRE）は、「Accord de rattachement」と呼ばれる契約を締結し、ITER サイトが電力供給のバランスの範囲に組み込まれることを規定します。

その後、この契約内容は RTE に通知されます。

○責任および契約期間

当事者間の責任は、表 6 にまとめられ、さらに以下のセクションで詳細が記載されています。

（以下詳細は英文技術仕様書を参照ください）

【※ 詳しくは添付の英語版技術仕様書「**Technical Specification for the supply of electrical energy to the ITER Organization via the RTE 400kV network for the period 2026 to 2030 inclusive.**」をご参照ください。】

ITER 公式ウェブ <http://www.iter.org/org/team/adm/proc/overview> からアクセスが可能です。

「核融合エネルギー研究開発部門」の HP : <http://www.fusion.qst.go.jp/ITER/index.html>
では ITER 機構からの各募集（IO 職員募集、IO 外部委託、IO エキスパート募集）を逐次更新しています。ぜひご確認ください。

イーター国際核融合エネルギー機構からの外部委託 に関心ある企業及び研究機関の募集について

<ITER 機構から参加極へのレター>

以下に、外部委託の概要と要求事項が示されています。参加極には、提案された業務に要求される能力を有し、入札すべきと考える企業及び研究機関の連絡先の情報を ITER 機構へ伝えることが求められています。このため、本研究・業務に関心を持たれる企業及び研究機関におかれましては、応募書類の提出要領にしたがって連絡先情報をご提出下さい。

Date: 19 November 2024

Reference: IO/24/CFT/10030165/VML

Subject: Call for Nominations for the supply of electrical energy to the ITER Organization via the RTE 400kV network for the period 2026 to 2030 inclusive

Dear Colleagues,

The ITER Organization is pleased to invite the Domestic Agencies to nominate companies, institutions or other entities that would be capable to supply the IO:

- the provision of electricity; and
- the duties and responsibilities foreseen for the Balance Responsibility Entity. (La gestion de l'équilibre) for the ITER's Site electrical load, in accordance with the rules established by RTE (The French Transmission System Operator (TSO) "Réseau de Transport d'électricité"

Please find enclosed the Technical Specifications and the tentative schedule for the tender below:

Call for Nomination due date	10 December 2024
Issuance of combined Pre-qualification Application and Call for Tender	15 January 2025
Call for Tender offers due date	26 February 2025
Estimated Contract Award Date	End May 2025
Contract signature	June 2025

The potential Candidates should have a recognized level of expertise, skills and demonstrated experience in the field mentioned above, as well the financial capability.

Could you please provide Procurement and Contracts Division with a list of suitable potential Candidates, mentioning their up-to-date contact details using the attached excel template. Then, the ITER Organization will invite them to prequalify.

Please send your proposals by e-mail to virginie.michel@iter.org by latest **10 December 2024**.

Yours faithfully,

Virginie Michel
Procurement Officer
Procurement Operational Delivery Group (POD)

Annexes:

- Nominations template
- Technical Specifications IDM UID 8R8J6W

Technical Specifications (In-Cash Procurement)

Technical Specification for the supply of electrical energy to the ITER Organization via the RTE 400kV network for the period 2026 to 2030 inclusive.

This document defines the requirements for the supply of the 400kV a.c. 50Hz electricity to the ITER Organization (also referred to as the “IO”), Route de Vinon-sur-Verdon, CS 90046 13067 St Paul Lez Durance, France.

The Contract shall cover: the years 2026 to 2030 inclusive for: the provision of electrical energy; and the duties and responsibilities foreseen for the Balance Responsibility Entity. (La gestion de l'équilibre) for the ITER's site electrical load, in accordance with the rules ...

Technical Specifications for the Supply of Electricity to the ITER Organization

Abstract:

This document defines the technical requirements for the supply of the 400kV a.c. 50Hz electricity to the ITER Organization, whose address is Route de Vinon-sur-Verdon, CS 90 046, 13067 St Paul Lez Durance, France via the French Transmission System Operator (*Réseau de Transport d'électricité*).

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1 Preamble

This Technical Specification is to be read in combination with the General Management Specification for Service and Supply (GM3S) – Ref [1] that constitutes a full part of the technical requirements.

In case of conflict, the content of the Technical Specification supersedes the content of Ref [1].

2 Purpose

This document defines the requirements for the supply of the 400kV a.c. 50Hz electricity for the years 2026 to 2030 to the ITER Organization (also referred to as the “IO”), Route de Vinon-sur-Verdon, CS 90046 13067 St Paul Lez Durance, France.

The Contract shall cover:

- the provision of electricity; and
- the duties and responsibilities foreseen for the Balance Responsibility Entity. (La gestion de l'équilibre) for the ITER's Site electrical load, in accordance with the rules established by RTE (see also section 12.)

2.1 *Contract adaptations due to Legislative amendments*

2.1.1 *Duration*

The contract will be for a duration of 5 years.

2.1.2 *Purchase Model*

The IO's purchase strategy shall be a floating residual model with the IO securing a part of its foreseen consumption on the Futures market and the remainder via the Spot Market.

It may also elect to purchase the whole of its consumption via the Spot market.

The IO shall take a position either quarterly or annually dependant on the product type and the IO's confidence in its consumption visibility.

2.1.3 *Post 2025 possible procurement proposals*

Considering the hypothetical legislative changes being considered, during 2024, for the period post 2025 which includes: Versement Universel Nucléaire (VUN) and Offre de Détail Moyen Terme (ODMT.)

The IO could consider amending its purchase strategy to allow for the participation in these or others which are eventually available during the contract period.

The Supplier shall account for these eventualities within its offer and allow the IO to participate without the need to amend the contract.

3 The ITER Organization's Electrical Load

The electrical load of the ITER Organization at the ITER Site consists of two main electrical systems:

- The Pulse Power Electrical Network (PPEN) and
- The Steady State Electrical Network (SSEN).

3.1 Configuration of the Electrical supply

The ITER Site is connected through 4 SSEN transformers (400kV/ 22kV 60 MVA ONAN / 75MVA ONAF) and through 3 PPEN transformers (400kV /66kV/22kV 300/250/150MVA ONAF).

The SSEN and PPEN transformers will be operational during the Contract Period.

The electricity supplied to the ITER Organization at the ITER Site is measured via 7 (seven) sets of metering equipment, 1 (one) set per 400kV transformer.

The CART Contract number for the IO's 400kV supply metering point is: **302794**.

The power and energy amounts reported in these Technical Specifications shall be considered equal to the algebraic sum of the 7 (seven) individual meters.

ITER is registered as a HTB 3 Client under the terms of its TURPE contract.

3.2 ITER electrical load profile

The ITER Organization's Electrical Load profile is an atypical profile.

During the Contract Period for the Load Profile will have periods of high demand peaking at *35MW* and periods of low demand ranging from 4 to 8MW.

During the period of the supply of electricity, there will be periods varying between a few hours, a few days, a few weeks or months when the high-power motors or electrical loads are to be tested and brought into service. Due to the nature of testing the load will fluctuate.

Resulting in the ITER Organization's MAPD being *4 to 35 MW*.

4 Acronyms and Definitions

4.1.1 Definitions

A complete list of ITER abbreviations can be found at: [ITER Abbreviations \(2MU6W5\)](#)

Included below are several references that are specific to this document:

Term	Definition
Base Load	On the wholesale electricity market, a "baseload" entails the delivery of a constant power, all day long, throughout the term of the Contract.
BRE	Balance Responsible Entity
Calendar Baseload Y_x	The calendar Baseload Y_x product is defined as a block of electricity delivered in France during any hour of year Y_x .
Calendar Peakload Y_x	The calendar Peakload Y_x product is defined as a block of electricity outside of the calculated Baseload delivered in France during the peak hours of year Y_x . (08:00 to 19:59)
CART	"Contrat d'Accès au Réseau" is an obligatory electricity network access Contract with RTE.
Click	An opportunity during the Contract to fix the unit price of the electrical energy for the base load and peak load.
Contract Period	Period for which the Contract is in force between the IO and the Supplier.
CRE	« La Commission de régulation de l'énergie » (French Energy Regulatory Commission.)

EEX	European Energy Exchange
EPEX	The European Power Exchange
EEX Forward Market	A market place that sets the price of electrical energy for future delivery.
IDM	ITER Document Management
ITT	Instructions to Tender
k_i	Reference to the constant k_i , when used in a general definitions or formulae. (<i>Relative to over the counter transaction.</i>)
k_s	Reference to the constant k_s , when used in a general definitions or formulae. (<i>relative to a settlement price transaction</i>)
K_p	Reference to the constant K_p when used in an Hourly spot market purchase.
K_v	Reference to the constant K_v when used in an Hourly spot market sale.
Load Profile	The profile for the forecasted ITER Site consummation. The period is as defined in each profile. The profile is for information.
MAPD	Maximum Active Power Demand, measured as an average over a 10 minute period.
Off Peak Price hours	electrical energy consumed between: 8:00 pm to 8:00 am Monday to Friday and Friday 8:00 pm to Monday 8:00 am.
OTC	Over the Counter
PP1	Peak Period 1 days (« Jours de la Période de Pointe PP1 »)
PP2	Peak Period 2 days (« Jours de la Période de Pointe PP2 »)
Peak Load	On the electricity wholesale market, a “peakload” entails delivering constant power during certain time slots, generally at times when consumption is at its highest.
Peak Price hours	electrical energy consumed between: 8:00 am to 8:00 pm Monday to Friday
Price Offer	When the ITER ORGANIZATION provides Load Profile information in view of requesting a Price Offer from the Supplier.
Quarter	Period from January 1 to March 31, (1 st quarter); from April 1 to June 30, (2 nd quarter); from July 1 to September 30, (3 rd quarter); or from October 1 to December 31, (4 th quarter); of each year.
Quarterly Baseload $Q_n Y_x$	The quarterly Baseload $Q_n Y_x$ product is defined as a block of electricity delivered in France during any hour of the quarter during the year $Q_n Y_x$.
Quarterly Peak load $Q_n Y_x$	The quarterly Peak load $Q_n Y_x$ product is defined as a block of electricity, outside of the calculated Baseload, delivered in France during the peak hours of the quarter of year $Q_n Y_x$. (08:00 to 19:59)

RTE	The French Transmission System Operator (TSO) “Réseau de Transport d’électricité”
Summertime	Period from April the 1st to September the 30th (inclusive) of each year.
Supplier’s Spot adjustment	A purchase or sale by the Supplier on the EPEX spot market.
Weighted average price	The weighted average price is the accepted Calendar or Quarter Base load or Peak load Forward Price dividing by the number of times a position was taken during the purchase product’s period. (Either the Quarter or Year.)
Wintertime	Period from November the 1st to March the 31st (inclusive) of the following each year.

Table 1 Definitions

4.1.2 Units and Fractions

The units and fractions shall be handled as described below for the purpose of calculating electric charges and other amounts.

Term	Unit	Abbreviation	Notes
The unit of Contract power	1 (One) Mega Watt	MW	Any fraction of half of 1(One) kilowatt or more will be rounded up; Fractions less than half of 1 (One) kilowatt will be disregarded.
Energy consumption unit:	1 (One) MegaWatt hour	MWh	
Maximum Active Power Demand		MW	Active power demand which is measured as an average over a 10 minute period.
Balance in the electrical consumption as monitored by RTE	Megawatt hour	MWh	Measured over a 30 minute period.

Table 2 Units and Fractions

5 Applicable Documents, Codes, standards and reference websites

Ref	Title	IDM Doc ID	Website link	Version
1	General Management Specification for Service and Supply (GM3S)	82MXQK	General Management Specification for Service and Supply (82MXQK v1.4)	1.4
2	IO / In-Cash Contractor Documentation Exchange and Storage Working Instruction	G8UMB3	IO / In-Cash Contractor Documentation Exchange and Storage Working Instruction (G8UMB3 v6.0)	6.0
3	Document Management Procedure	22K5JQ	Document Management Procedure (22K5JQ v9.0)	9.0
4	European Energy Exchange French Futures market		https://www.eex.com/en/market-data/power/futures#%7B%22snippetpicker%22%3A%2221%22%7D	
5	European Power Exchange day ahead spot market		https://www.epexspot.com/en/market-data	
6	EMMY register National des Certificats d'Économie d'Énergie (CEE Classiques)		https://www.emmy.fr/public/donnees-mensuelles?preca=false	
7	EMMY register National des Certificats d'Économie d'Énergie (CEE précarités)		https://www.emmy.fr/public/donnees-mensuelles?precarite=true	

Table 3 Applicable documents & applicable website links

6 Strategy

The ITER Organization wishes to minimise its exposure to cost increases caused by the inherent uncertainties of a construction project for a one-of-a-kind nuclear fusion facility.

Consequently, this technical specification seeks offers from Suppliers based on a floating residual model as described below.

6.1 Floating Residual

- A floating residual arrangement with the IO purchasing a block of energy on the forward market and the residual being purchased or sold via the spot market.
- Or the IO not taking a position on the forward market and the energy consumed (MWh) by the IO is invoiced at the EPEX auction spot price day ahead rates for France.

In this scenario the ITER Organization could purchase blocks of energy on the EEX Forward Market for the energy it is confident it may consume. The purchase may be quarterly or annually via the EEX Forward Market (Settlement Price) or an Over the Counter (OTC) transaction. The balance is purchased or sold by the Supplier via the EPEX Spot Market based on the daily/hourly price.

Or the ITER Organization does not purchase blocks of energy on neither the EEX Forward Market nor the Supplier's Trading desk via an OTC purchase, but pays for the energy consumed at the hourly value as published by the EPEX spot market on its day ahead auction for France.

All daily transactions shall be managed autonomously by the Supplier with the cost of the daily transactions being detailed within the monthly invoice in the form of an agreed fee.

The IO's forecast is issued for information and shall not be considered contractual. Due to the IO's lack of visibility for the actual, consumption it will adjust, on a quarterly basis (see section 7,) the forecasted consumption profile in line with Table 4 of this Technical Specification.

6.2 Supplier's methodologies

The Supplier shall submit with its offer the methodologies that it would apply for each transaction:

- Purchase via the Day's settlement price,
- Purchase via the OTC price,
- Purchase via the EPEX Spot Market,
- Sale of a volume of Energy via the EPEX Spot Market,
- Purchase using a VUN or similar,
- Purchase via an ODMT or similar.

6.3 Supplier's Fees

The Supplier shall detail its fees that it will add to each MWh of energy consumed via a Futures market transaction (EEX, OTC, VUN, ODMT,) together with its fees for managing the EPEX spot market purchases or sales. The fees shall include the obligations as the IO's Balance Responsibility Entity which the Supplier will undertake on the IO's behalf.

6.4 Visibility

The maximum visibility that the ITER Organization has for its consumption is three months.

- During the ITER construction phase numerous components and structures are tested and commissioned and the results of these processes affect the planned progress. Consequently, there will be a difference between the forecasted consumption profile included within this document and the actual.
- The Supplier shall consider that there could be a fifty percentage to one hundred and twenty-five percentage difference between the forecasted consumption profile and the actual consumption profile.
- As an example, the IO's forecasted consumption for the year is 200GWh. Actual consumption could be 100GWh or 250GWh.

6.5 Forecast and Procurement preferences.

6.5.1 Forecast

The IO includes a provisional forecast for the year 2026 and an indication of the anticipated consumption for the years 2027 to 2030.

Prior to any purchase, except for the daily purchase managed by the Supplier autonomously, the ITER Organization will issue, for information only, a forecast based on the best information at its disposal.

7 Purchase of electrical energy via the French Futures European Energy Exchange.

The IO will issue the Load Profile to the Supplier by the deadlines indicated in the Table 4.

Deadline for issue by the IO to the Supplier of the IO's Quarterly Load Profile	Period
2026	
15 th of December 2025	1 st of January 2026 to 31 st of March 2026.
13 th of March 2026	1 st of April 2026 to 30 th of June 2026.
15 th of June 2026	1 st of July 2026 to 30 th of September 2026.
15 th of September 2026	1 st of October 2026 to 31 st of December 2026.
2027	
15 th of December 2026	1 st of January 2027 to 31 st of March 2027.
15 th of March 2027	1 st of April 2027 to 30 th of June 2027.
15 th of June 2027	1 st of July 2027 to 30 th of September 2027.
15 th of September 2027	1 st of October 2027 to 31 st of December 2027.
2028	
15 th of December 2027	1 st of January 2028 to 31 st of March 2028.
15 th of March 2028	1 st of April 2028 to 30 th of June 2028.
15 th of June 2028	1 st of July 2028 to 30 th of September 2028.
15 th of September 2028	1 st of October 2028 to 31 st of December 2028.
2029	
15 th of December 2028	1 st of January 2029 to 31 st of March 2029.
15 th of March 2029	1 st of April 2029 to 30 th of June 2029.
15 th of June 2029	1 st of July 2029 to 30 th of September 2029.
14 th of September 2029	1 st of October 2029 to 31 st of December 2029.
2030	
14 th of December 2029	1 st of January 2030 to 31 st of March 2030.
15 th of March 2030	1 st of April 2030 to 30 th of June 2030.
14 th of June 2030	1 st of July 2030 to 30 th of September 2030.
13 th of September 2030	1 st of October 2030 to 31 st of December 2030.

Table 4 Schedule for the issuing of the IO's quarterly/annual profiles

7.1 Validity of the IO's Load Profile

All Load Profiles issued by the IO are for information.

7.2 Volume deviation flexibility

The Supplier shall guarantee Volume Flexibility, throughout the Contract Period to the ITER Organization.

The offer shall be compliant with a “floating residual” scenario and as shall not include any volume commitments nor caps.

There shall be no tunnel of consumption, and no penalties nor additional costs (fees) associated with a volume deviation.

7.3 Invoicing

7.3.1 Supplier's invoicing methodology

The Supplier's monthly invoice shall be based on the IO's active power consumption as recorded by RTE and formulated based on the hedged Calendar or Quarterly Base Load and Peak Load, if applicable, together with the daily consumed load purchased or sold.

Fees shall be detailed separately.

The Supplier shall detail its proposed invoicing formula for consideration with its returned offer.

8 Data Exchange Area

8.1 Orders, variations, historical data

Orders, variations, historical data associated with the Contract shall be exchanged in compliance with the:

[IO / In-Cash Contractor Documentation Exchange and Storage Working Instruction \(G8UMB3 v6.0\)](#)

This includes, but is not limited to:

- i. Transactions (enquires, offers, orders, variations, instructions.)
- ii. Forecasts; and
- iii. Copy of the invoice (the original shall be sent by mail) and associated communications.

8.2 Data analysis

The Supplier shall have the means to read the raw data from the RTE's web site which meters the ITER Organization's consumption. Additionally, it shall allow historical data associated with the Contract execution to be extracted, which shall include the following as a minimum:

- i. Data:
 - a. Energy consumption (real time and historical)
 - b. Daily maximum demand
 - c. Maximum Demand for PP1 or PP2 days
- ii. Historical monthly reports.

8.3 Communications

All official communication between the Supplier and the IO shall be in English.

The following document provides details for the IO's language policy:

[Document Management Procedure \(22K5JQ v9.0\)](#)

The methods for communication between the IO and the Supplier are:

- i. Correspondence: paper and electronic
- ii. Invoicing: paper and electronic
- iii. Contractual Documentation: paper and Electronic.

9 Obligations of the Supplier and of the IO

9.1 Services excluded from the Contract.

The transportation of the electrical supply is performed by RTE and therefore is excluded from the Contract.

It is recognised that there will be a fee (“frais de soutirage”) which is charged by the RTE and invoiced by the Supplier to the IO. Such a cost shall be included in the K values that the Supplier submits with its returned offer.

9.2 Obligations of the Supplier

The Supplier’s obligation is to supply the energy and power demand, as agreed or otherwise, for the 400kV a.c. 50Hz electrical supply to the ITER Organisation at the ITER Site, located Route de Vinon-sur-Verdon 13067, CS 90 046 St Paul Lez Durance, France.

The Supplier shall hold a current supplier’s licence ("autorisation de fourniture") delivered by France’s Ministry of Energy. The license shall be valid for the Contract Period.

9.3 Obligations of the ITER Organization

During the performance of the Contract, the IO shall provide the Supplier with quarterly updates regarding the Contract active power based on the information at its disposal. All forecasts are for information and are not contractual.

9.4 Collective Obligations

The IO and the Supplier (BRE) shall sign an agreement called "Accord de rattachement" stipulating that the ITER Site is attached to the balance perimeter of the supply.

This will then be communicated to the RTE.

9.5 Role and scope of the concerned parties

Scope	Named Party in the agreement	Named Party in the agreement
Transmission of the Electricity	ITER Organization.	RTE
Supply of the Electricity	ITER Organization	Supplier
Balance Responsibility Entity	ITER Organization	Supplier
Participation Agreement	RTE	Supplier

Table 5 Concerned parties.

10 Responsibilities and Contract Period

The responsibilities between the Parties are summarised in Table 6 (below) and are further detailed in the following sections.

Activity	IO	Supplier
Supply of the 400kV a.c. 50Hz		R
Balance Responsible Entity for the ITER Electrical Load	A	R
Liaising with RTE for in balance monitoring		R

Table 6 Summary of responsibilities between the IO and the Supplier

R = Responsible for organizing, performing and for the quality.

A = Review/Comment/Accept.

11 Access to the ITER Site

11.1 Access to the ITER Site

Visits to the ITER Site by the Supplier shall be either to the ITER Headquarters and its ancillary buildings or to the Construction site. The procedures for granting access shall depend on the area that the Supplier intends to visit.

11.2 ITER Headquarters

The procedure for accessing the ITER Headquarters is under the control of the ITER Organization. Any visit to the ITER Headquarters will require prior notification and an application procedure shall be completed by all persons requiring to visit the ITER Headquarters. When deemed necessary; the ITER Organization reserves the right to restrict access without justifications.

11.3 ITER Construction Site

Any visit to the ITER Construction site shall require specific approval. The IO would communicate the details should the need arise. When deemed necessary; the ITER Organization reserves the right to restrict access without justifications.

The requirements detailed in Section 18 (Safety and Security) shall be applicable should the Supplier be required to visit the ITER Construction site.

12 Balance Responsible Entity (« la gestion de l'équilibre »)

12.1 General

The Supplier shall also perform the role of Balance Responsible Entity (BRE) ("*Mécanisme de Responsable d'Equilibre (RE)*") in French.)

12.2 Monitoring

As the Balance Responsible Entity (BRE) the Supplier shall ensure that it has an agreement for access in place with the RTE to enable them to monitor the in balance in the ITER Organization's supply together with the rest of the BRE's portfolio and to make the adjustments as necessary so that the penalties imposed by the RTE for any negative in balance are minimized.

The BRE shall have a supplier's licence ("autorisation de fourniture") delivered by France's Ministry of Energy which shall be valid for the entire Contract Period.

The Supplier shall be qualified as a Balance Responsible Entity by RTE.

The Supplier shall be solely financially responsible towards RTE in case a negative balance appears in the Supplier's portfolio.

Further information, pursuant to the applicable rules (« *Règles RE* » can be found on the RTE website.)

For the BRE to have access to the information to monitor the balance of the ITER Organization supply, RTE, the BRE and the IO shall sign a Balance Responsible Agreement applicable to the ITER Site.

It will then be attached as an appendix to the ITER Organization Contract with RTE for the access to the network ("Contrat d'Accès au Réseau de Transport (CART.)")

13 Contract Power and Measurement

13.1 Unit of Energy Supply

The Energy Supply shall be measured in units of MWh.

13.2 Contract Active Power Maximum Demand and Energy consumption.

The ITER Organization reserves the right to amend the values in Table 7 at any moment.

As with the IO's forecasted profiles the values in Table 7 are for information and are not contractual.

Year	Maximum power demand (averaged over 60 min period) (MW)	Energy consumption (GWh/year)
2026	35	220
2027	25	130
2028	25	145
2029	25	153
2030	25	130

Table 7 Anticipated active power MD and Annual consumption.

14 Capacity Market: Capacity mechanism

During the period of the contract the French Capacity market's parameters will be changed during 2026. (Version 4 will be replaced by version 4.1)

Amendments are anticipated to the "prix administre" and the reference price known as "Prix de référence des écarts en capacité." (PREC)

The IO will participate in the Capacity market (Version 4) from January to March 2026 under the Articles L.335-1 and R.335-1 which provided for the creation of a capacity market. It will then participate in the (Version 4.1) Capacity market, if it is eligible, which is scheduled to commence in November 2026.

The Supplier shall identify the mechanism, the fees and price that it will apply as part of the IO's capacity market obligation.

The Supplier shall account for the implications of these regulatory changes in its offer to the ITER Organization.

Under the current capacity market, the Supplier shall note that on specified PP1 or PP2 days the ITER Organization shall attempt to reduce its maximum demand for the period. This may require the postponement of planned Testing and Commissioning activities or the isolation of known larger consumers.

On the understanding that the successor to the existing will be modelled around similar principles the IO will also try to reduce its consumption during the periods that the national network is considered as being stressed.

This will be clarified once the actual details are confirmed by the French authorities.

15 Energy saving certificates (« CEE : (Certificats d'Economie d'Energie »)

The Supplier shall include in their price all contribution to cover obligations concerning the French energy saving certificate (“Certificat d'Economie d'Energie -CEE”).

The price shall be referred to the Emmy's prices and clearly indicate any annual change in price in reference to this. Prices are available on Emmy's website : <https://www.emmy.fr/>

Should it become evident that the ITER Organization cannot participate as a beneficiary of this scheme then the IO shall re-consider its position and could try to recuperate any contributions paid towards this scheme.

16 Invoicing Payment

16.1 Invoicing start

The first invoicing period shall be from the moment that the energy meters record that more than 1MWh of energy has been consumed until midnight on the last day of the same month.

16.2 Meter Reading

The meter reading shall be undertaken by RTE.

RTE shall advise the Supplier of the energy consumed.

The figures will be distributed monthly.

The Supplier shall have the right to confirm the meter reading on site. (Note the requirements in section 11 regarding access to the ITER Site.)

17 Supply Method

17.1 Delivery Point and Interface

The interface with the RTE's 400 kV transmission grid and the ITER Organization's networks occurs at the terminations of the outdoor conductors coming from the RTE's 400 kV switchyard. The RTE terminations are connected to the 400 kV incoming line isolators of the ITER 400 kV switchyard. This is depicted in the following figures:

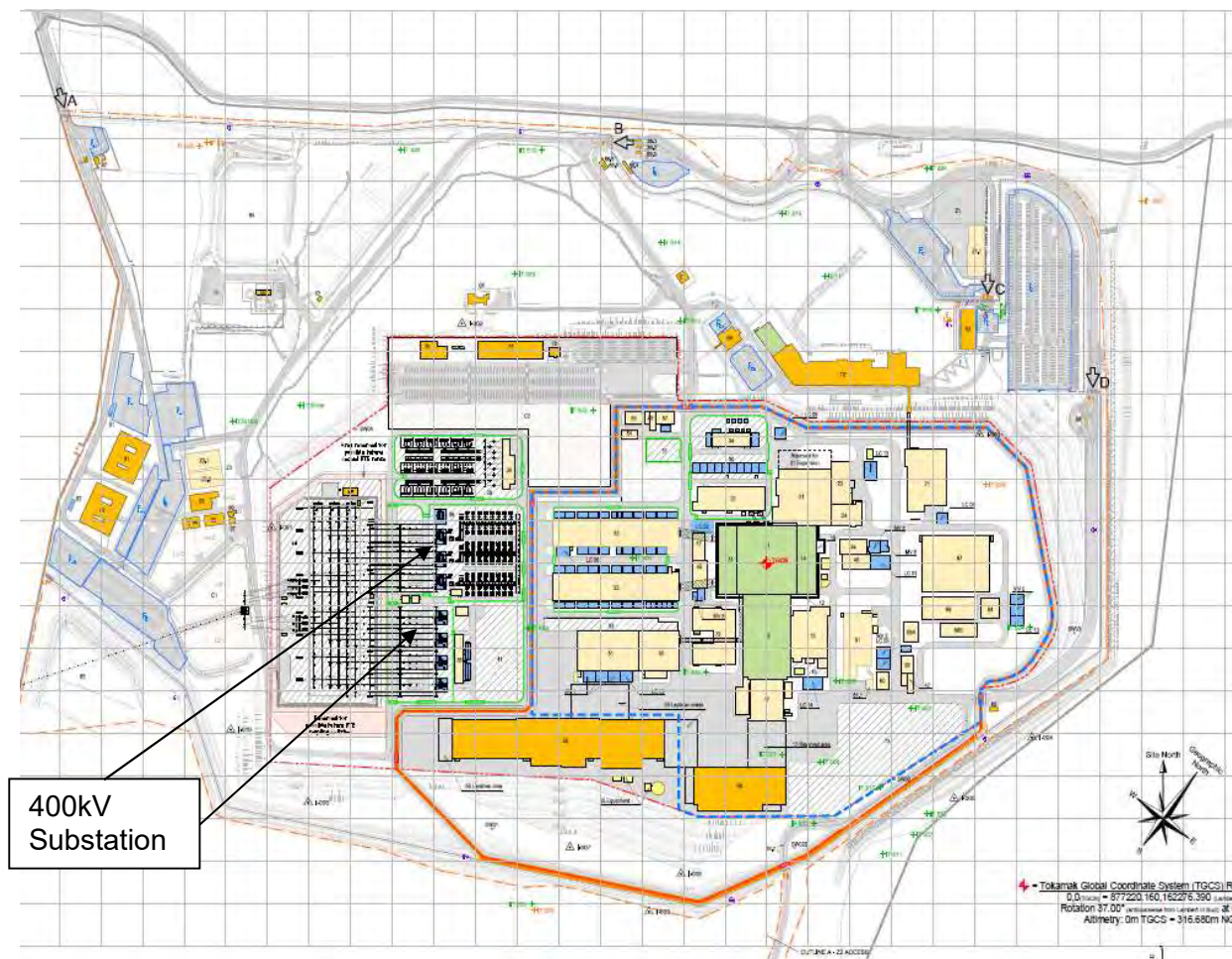


Figure 1 ITER Site with the 400kV substation identified.

17.2 RTE metering equipment

RTE has installed seven sets of meters for the purposes of measuring the energy consumption. One set of metering equipment for each of the seven transformers.

- PDC 700, 701, 702 and 703 are related to the SSEN transformers.
- PDC 704, 705 and 706 are related to the PPEN transformers.

17.3 Metering

The metering equipment is owned and managed by RTE.

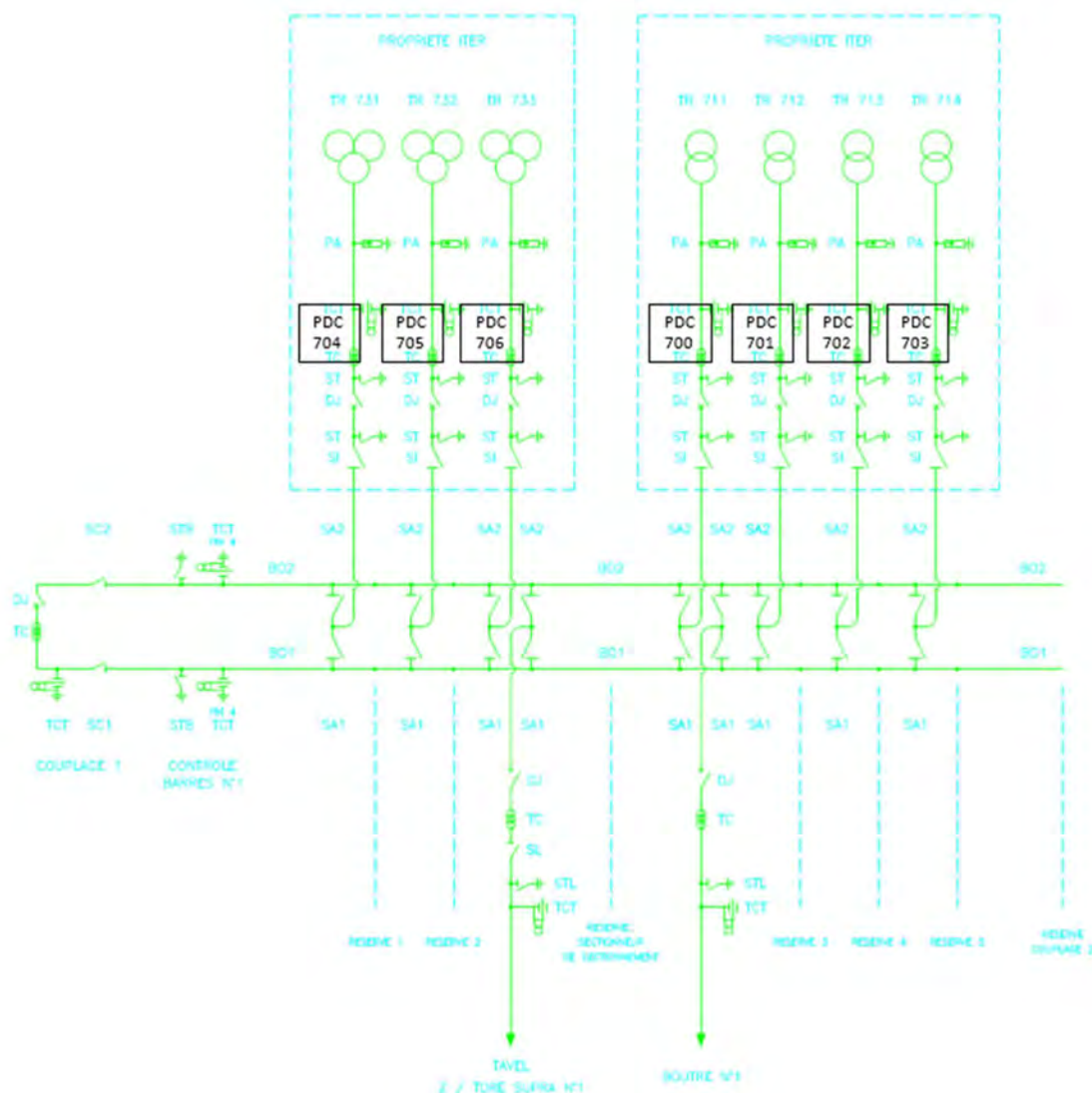


Figure 2 IO's Metering equipment.

18 Safety and Security

18.1 Health and Safety and Security Responsibility

The Supplier/BRE shall respect and comply with all applicable French health and safety laws and regulations and with the ITER Health and Safety Policy in executing the Contract.

19 Contract management

19.1 Kick off Meeting

After the signature of the Contract a kick off meeting will be held during which the contracting parties will introduce themselves.

The meeting shall be chaired by the IO and an agenda and minutes shall be issued by the IO.

19.2 Market indicators

The Supplier shall communicate market trends and market opportunities.

19.3 Supplier’s quarterly conference call

A quarterly conference call, with a duration of 30 minutes to an hour/each, shall be organized by the supplier with the ITER Organization to discuss the Supplier’s report and answer the IO’s questions regarding the electricity market and best purchasing times to minimise the ITER Organization’s total annual costs.

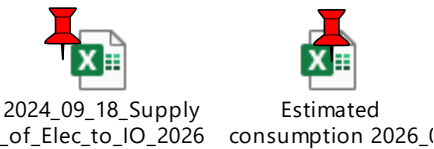
19.4 Contract Manager

The Supplier/BRE shall nominate a Contract Manager for the entire duration of the Contract, who shall be the daily points of contact with the ITER Organization’s Responsible Officer. The Contract Manager shall be available via telephone and e-mail during regular business hours and for emergencies. The Supplier/BRE shall provide, upon signature of the Contract, a calendar detailing the regular business hours and for emergencies and contact details for the Contract Manager. This information may be updated when required.

20 Appendices

Appendix 1: 2026/2027/2028 Consumption profiles

The consumption forecast enclosed in this embedded document is provisional and for information.



Appendix 2: Baseload and Peak load

Off-Peak hours are not quoted on forward markets, consequently, Peak/Off-Peak is converted into Base load and Peak Load. The method to be used to convert Peak/off Peak to Baseload and Peak load shall be as noted below:



Example :

		MW	Nb of hours	Volume
A	Peak	160	3 120	499 200
B	Off-peak	100	5 640	564 000
			8 760	1 063 200

		MW	Nb of hours	Volume
B	Base	100	8 760	876 000
A-B	Peak	60	3 120	187 200
				1 063 200

Figure 3 Formula for the calculation of Base Load and Peak Load

Appendix 3: General details of the 400kV ITER Organization switch yard. (For information.)

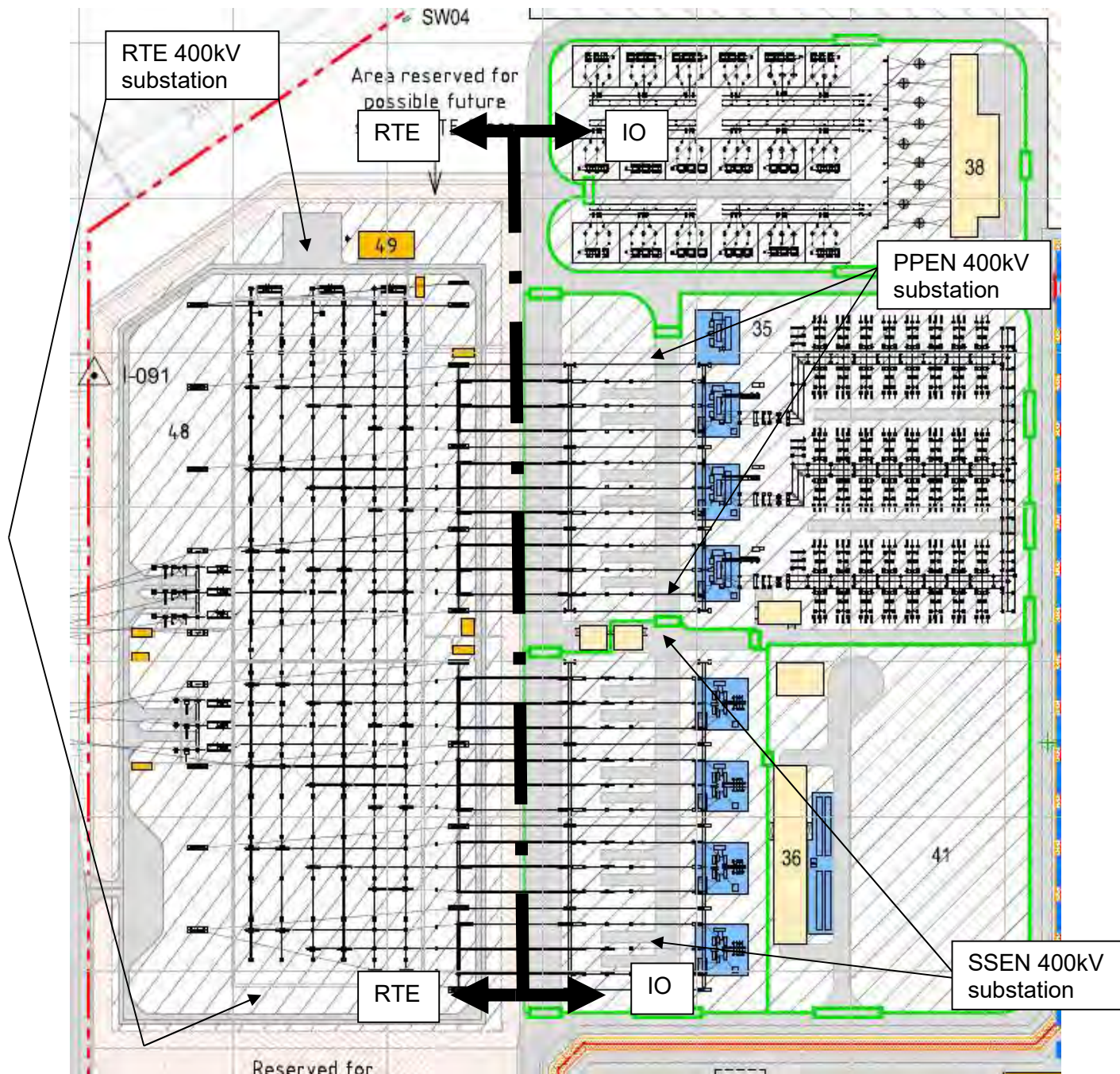


Figure 4 ITER site RTE 400kV substation and SSEN/PPEN 400kV substation.

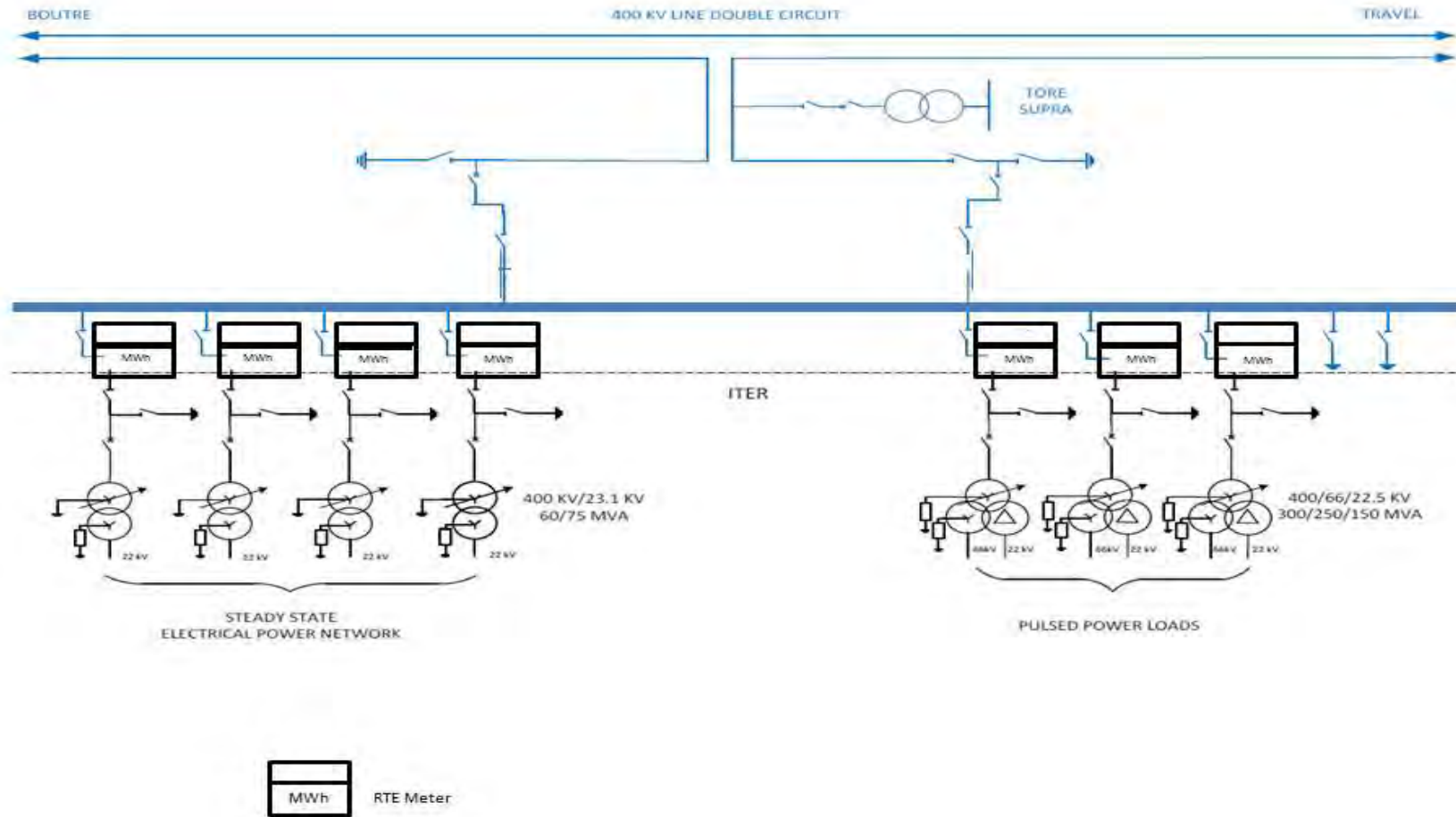


Figure 5 Single line diagram detailing RTE's 400kV substation and IO's SSEN/PPEN 400kV substation.

NOMINATIONS



IO/24/CFT/10030165/VML
Supply of electrical energy
to the ITER Organization via the RTE 400kV network for
the period 2026 to 2030 inclusive

Nominating Domestic Agency:

COMPANY NAME	WEB SITE link	POSTAL ADDRESS	POST CODE	CITY	COUNTRY	CONTACT PERSON	PHONE	E-MAIL	COMPANY INFORMATION (if any)	IO digital Procurement system (I PROC) registration number