+Call for Expertise: エキスパート募集
IO References: IO/21/CFE/10022459/INU
HOF and HIRA in support of the development of Equatorial Ports #08 and #17 with integrated diagnostic and Disruption Mitigation Systems
（統合計測と崩壊緩和システムの水平ポート#08 と#17 の開発サポートにおける HOF 及び HIRA）
IO 締め切り 2021 年 12 月 15 日(水)17 時現地時間、
(日本時間 2021 年 12 月 15 日(水)25 時、応募書類は ITER 機構へ直接提出のこと)

概要：
イーター機構（IO）では、上記タスクの支援をいただく作業を ITER 参加極の企業・機関等から募集します。応募を希望される企業・機関等は、所定の期限までに応募書類を直接 ITER 機構の下記担当までご提出下さい。

○ 今回の募集に関する書類は以下の通りです。
・招待状
・技術仕様書
・履歴書（CV）テンプレート
・見積もり提案書テンプレート
・誓約書
・守秘義務に関する誓約書(契約締結時に署名されること)

○ 応募者は、以下の申込用紙を ITER 機構に直接送付願います。
・履歴書（ITER 機構の招待状と技術仕様書で規定した要求事項と基準を満足していることを示す経験について明記されていること）
・誓約書（署名入り）
・見積もり提案書
（※提出書類は pdf ファイル 1 本にまとめて送付願います。）

○ 応募書類の提出先
ITER 機構の下記担当者宛に電子メールにて送付：
連絡先：**Ismail NBOU**
Procurement & Contracts Division
ITER Organization
電話：+33 4 42 177571
E-mail: ismail.nbou@iter.org

○　**目的**

この作業の目的は、技術開発と　計測の統合を支援することです。
および Equatorial Port#08 および#17 の崩壊緩和システム（DMS）で次の処理を実行します。

- 保守及び検査業務の人的及び組織的要因（HOF）分析
- ポートセルにおける人の作業に関連した危険有害性の特定とリスク評価（HIRA）。

HOF と HIRA の両方のタスクは、計測システムと DMS の設計の進化に伴うポートの統合レイアウトにおける最近の設計変更を反映するために必要です。DMS 真空拡張の分離手順の最適化をサポートするために特別な注意が必要です。

○　**作業範囲**

この作業の範囲には、関係するポートおよびテナントの保守点検手順によって予測されるさまざまな保守点検シナリオに対する人的および組織的要因（HOF）の評価とハザード分析が含まれます。

図 1.EP#08 のワークステーション配置の概略図（説明用）
（詳細は英文技術仕様書を参照ください）

○　**予想される期間**

この作業の総期間は 12 か月です。

○　**作業内容**

作業は 2 つのワークパッケージに分割されます。

1 WP 1:エリアハザード解析

目的は、ITER の職業上の安全手順に基づいて、エリアごとに統合されたハザード分析を実施し、異なる PBS からの情報を収集することです（ハザード識別とリスク評価-各設計レビューで利用可能な PBS ごとの HIRA）-インプットパッケージを参照し、それらの相互作用を考慮します。リスク評価プロセスの結果には、設計ソリューションを通じてリスクを除去または低減するすべてのリスク緩和措置を含めなければなりません。

1.1 入力

- OHS に関するフランスの法的要件
- この技術仕様
- 最新の契約入力パッケージ（特に ITER の労働安全手順、PBS HIRA）
- 本作業のフレームで実行された他のアクティビティの出力

1.2 作業

- IO 手順に従って、エリアごとに統合ハザード分析を実施します。
  - 各 PBS を識別します;
  - 危険を特定します;
  - 部屋を分類します (酸素欠乏、
  - 騒音、電気、病原体、 ATEX、レーザー、電磁気、汚染、放射線、 ...)
  - PBS 間の危険な相互作用を特定します
  - 横断的な問題を特定する(照明、アクセシビリティ...)
  - ワークステーションの識別
  - 危険やその他の安全上の問題の発生頻度を特定します
  - 職場/部屋/エリアに適用される安全上の注意/制限を特定します
  - 改善提案
  - 改善措置
- IO チームとのハザード分析に関する技術ミーティングの開催
- IO OHS チームと緊密に連携し、ガイドラインに従う

1.3 出力

- エリアごとの危険度分析レポート。
- これらのレポートは、次の手順で中間バージョンとともに提供されます。
  - ステップ#1:部屋に存在するハザードの集計
  - ステップ#2:ハザードに関する統合の問題
  - ステップ#3:ハザードに関するメンテナンスの問題
  - ステップ#4:部屋の安全性の改善と是正措置
- これらの報告書は、ALARA の実施（ORE および SDDR 評価のアウトプット）に従って行われた是正措置および変更の実施に従って更新されます。
  危険性解析パラメータが記入された区域保守データベース

2 WP 2-人的および組織的要因分析

ITER HOF プログラム［ITER_D_2 WBVKU］に基づき、 計測［ITER_D_NPEVB 6］に定義された要件に従って、人的および組織的要因（HOF）を分析します。HOF プログラムは、次の 2 つのレベルのアプローチに従います。

- 巨視的分析:この分析の目的は、メンテナンス操作のニーズ、作業環境(危険管理と必要な個別の保護、アクセス性の問題、技術的環境、性能要件など)によって生成される制約の概要を把握することです。類似の作業状況を有する他の施設からの経験の返還（REX）を含めるものとします。可能であれば、同様の労働状況にある他の施設からの経験の返還（REX）を含めるものとします(特に危険管理の観点か

ら、類似の特性を示す設備の設計/運転経験を有する契約者が望ましいです)。

- 微視的分析は、施設の安全目的を確保するために必要なポートセル区域における将来の可能な活動を代表する保守/検査シナリオを精緻化し、分析することから成ります。タスク分析方法は、保守/検査シナリオ分析に基づきます。それは、特に、特に、特に放射線学的/ベリリウム/他の毒性のあるゾーンに関して、環境的および物理的制約の観点から最も罰せられる将来の作業状況（ワークステーション）の分析のために、そして、人間と組織の信頼性問題に対処するための保護重要な活動 [PIA] をカバーするために、実践的な作業パフォーマンスのために発生する可能性のあるすべての運転条件をカバーします。

巨視的及び微視的研究の前に、現地作業場の設計のための既存の ITER ガイドラインのレビュー (現地) 及び補完的な基準レビューが行われます。

(関連する人体測定データベース [米国/EU 人口; 女性 5 パーセンタイル、男性 50 パーセンタイル。作業スペースと機器の到達性評価では 95 パーセンタイル男性、人間の通過性評価では 99 パーセンタイル男性]) 。

HOF 解析では、施設の安全目的を確実にするために必要な、PIC 構成要素への人の介入および/または放射線照射/汚染地域で実施された人の作業に関連する安全に対する人の寄与 [14] を可能な限り考慮します。

この分析は、全ての運転条件をカバーすることを目標に ITER における最も代表的な運転状況を特定し、リスクの重大性及び運転の複雑性の観点から最も不利なケースが実施されます。これらの解析は、結果が他の（類似した）ポートセル領域の設計に反映されるように、選択したポートセル領域に対して実行できます。

HOF 分析の結果は、健康と安全の要件を含む ALARA と ORE のアプローチに沿って、職場レイアウト、アクセス可能性(人の出入り、ワークステーションの作業スペース、および機器の到達可能性)、保守/検査の実現可能性(例えば、設備及び手順の設計)、および作業組織の要件と設計ソリューションを提供します。

2.1 入力

- この技術仕様
- 最新の契約入力パッケージ(特に ITER HOF プログラム、PBS メンテナンスプラン)
- 本作業のフレームで実施された他の活動のアウトプット

2.2 作業

- 現地の作業場の設計のための ITER ガイドライン (現地) 、及び ITER の特性に適合した追加的な設計要件をもたらす可能性のある国際基準及びガイドライン(参考文献 [1] 、 [2] 、 [3] に基づく)のレビューを行います。
- 選択したポートセル領域の巨視的調査を実施して、アクセス可能性、物理的な作業

条件、放射線/汚染ゾーン分割などの観点からメンテナンス操作の概要を把握します。

- 入力データ(設計仕様/説明、危険性の識別、保守/点検作業の説明、既存の運転モードなどの利用可能な情報を含む保守データベース)
- メンテナンスの事前分析(ワークステーションの分析、環境上の制約、PIC/SIC 装置、保守と点検のフェーズとタスク、タスクのパフォーマンス、パフォーマンス目標と基準に必要なツール)
- 経験を返す(類似の危険な作業環境における運転に関するデータ収集/形式化、ITER のポートセル区域設計のために学んだ教訓) [REX]
- 作業グループ/(ニーズ分析、予備的な声明、特定された HOF の問題など)ディスカッション
- IO HOF のマクロは、WP 1 (エリアハザード解析) で行うことができます。

- 人や機械の安全のための不安全作業を特定・分析し、改善提案（将来の作業状況の設計）を行うための顕微鏡的研究保全シナリオの作成（作業状況分析）
  - 安全実証のための安全事例を完成させるための保守・点検シナリオ（作業状況分析）の作成
  - 選択した検査/保守シナリオに基づいて、次のようなタスク/アクティビティを実行します。
    - 作業グループ内での設計ドキュメントのサポート、または IO メンテナンスの専門家や設計者へのインタビューに基づいて展開されるシナリオ。
    - IO が提供する 3 D モックアップに基づくシナリオの展開
    - IO が提供する物理モックアップに基づいて展開するシナリオ（可能な場合）

注 1:ITER の 3 D ツール（バーチャルリアリティ）は、人体測定データベース [米国/欧州] に沿って構築された人間のアバターを使用して、メンテナンス/検査シナリオのシミュレーションに使用し、少なくとも最初の反復では、ポートセル内の将来のハンドオンタスクを分析する必要があります。最終的な統合されたデモンストレーションは、物理的なモックアップを使用して実施できます。ただし、IO との話し合いと個別の合意が必要です。

注 2:検討されるシナリオには、作業員の救助及び避難だけでなく、現地介入の準備及び終了（後者は実地介入又は遠隔操作を指す）に関連する作業を含めるべきです。

  - 以下の寸法を定義します。
    - ワークステーション（整備のための工具及び機器の輸送を含む）及び救助/避難のための人の通路;
    - 身体の動き（人体測定データベースおよびタスク分析に基づく）およびメンテナンスシナリオ（タスク分析に基づく）中の工具/装置の取り扱いを考慮したワークスペース寸法;
  - 人と組織の信頼性を確保するために、ALARA の考え方に沿って、PIC 装置の

保守/検査のためのポートセル領域における作業組織の要件を定義します。

- 特に、スーツや他の個人用保護具で作業している間の操作性(到達距離、把握、取り扱いなど)を確保するために、機器の設計のための人間工学的要件を考慮します。
  - PIC が行なうべき作業（ITER の安全に対する人的貢献 [14] 参照）については、特に人間の信頼性に配慮すること
- 他のシステムが存在する可能性のある作業領域（ポートセル）でのシステム統合を検討し、ALARA の「曝露制限」 安全機能に関連する Safety Sensitive Task の分析に沿ってください。
- HOF データのトレーサビリティ(HOF はログと HOF 設計要件データベースの更新を発行し、メンテナンスデータベースは HOF の結果で更新します。)
- Initiate Working Group または IO スタッフとのディスカッション(ニーズ分析、予備的な声明、特定された HOF の問題など)

- 統合メンテナンス手順開発への貢献、統合技術会議への参加
- 関係する IO チームおよび専門家との間で、HOF に関する技術ミーティング（ワーキンググループ）を開催します
- 地域統合整備評価報告書及び地域整備報告書の見直し

2.3 出力

1. HOF 介入方法（ヒューマンファクター統合プラン）

2. ITER のポートセル区域の設計を支援し、確認された優良事例を ITER の保守戦略に組み込むための類似施設での経験の返還から得られた教訓;

3. HOF は、メンテナンス/検査シナリオに基づくタスク分析の結果をレポートします。第 1 閉じ込め障壁を開放しなければならないワークステーションについて、特別な考慮がなされます。

すべての HOF 成果物は、IO HOF RO によってレビューされ、承認されます。

○ **責任**

1.契約者の責任

これらの技術仕様書に記載されたタスクを成功裡に遂行するために、契約者は以下を行うものとします。

- 契約者は、その任務を遂行するために提供されたすべての入力情報を保証するものとします。
- は IO のプロパティを保持し、本仕様で指定されたアクティビティ以外には使用しないものとします。
- ·契約者は、そのすべての資源の訓練及び指導を担当するものとします。

- 契約者は、本仕様に記載されている作業を実施するのに適した組織を提供するものとします。
- 契約者は、IO が承認した QA 計画に従って作業する必要があります。
- 契約者は、関連するすべての追加文書および IO プロセス(ハンドブック、輸出管理､知的所有権、...#ハンドブックス､ソウニュウリョクカンリ#)を考慮に入れて、本仕様に従って作業を実行するものとします。契約者は、ITER ソフトウェアプラットフォームを使用して、第 11 章に列挙されたすべての書類を作成し、管理する責任を負うものとします。
- 契約者は、IO の代表者に対し、作業の進捗状況を追跡することを可能にするために、その作業場所及び関連文書への完全なアクセスを提供するものとします。
- 契約者は、特に人的及び組織的要素の分野における契約履行のために、適切に資格を有し経験豊富な人員（SQEP）を提供するものとします（HOF SQEP の資格基準については、S 15 「安全要件」 を参照のこと）。

各活動の作業開始に先立ち、契約者は、IO から提供された入力技術情報を完全性及び一貫性のために検討するものとし、また、発見したいかなる欠陥についても IO の代表者に通知するものとします。契約者は、誤りについて責任を負わないものとします。
当該審査中に合理的に検出できなかった技術情報の入力;このレビューの期間は、契約者と IO の代表者の間で合意され、納品スケジュールに影響を与えません。

2. IO の責任

ITER 機構は､本文書に規定する作業を行うために必要なすべてのデータ及び情報を利用可能なものとします。

- ITER の品質及び安全規則に従った活動を達成するために必要な IO 手順;
- 計測設計に関する情報および窓アセンブリ設計開発の要件。

イーター機構は、契約者に対し、イーター文書データベース（IDM）上の文書を検討する可能性を与えます。
IO は、契約者が本仕様に従った義務を適時に履行することを要求するすべての技術データ及び書類を契約者に利用させるものとします。
それらを利用可能にするのに 2 週間以上の遅延があった場合、契約者は、IO の代表者にワークパッケージの引渡しに対する潜在的な影響を通知し、実施すべきすべての修正措置を合意し、定義するものとします。

○ 成果物のリストと期限

（中身については英文技術仕様書を参照ください）

○ 特別な要件と条件

タスクをタイムリーに完了するには、次のスキルが必要です。

- 機械工学の経験;
- 遠隔操作/保守の経験;
- フランスの原子力安全規制の適用経験;
- インターフェース管理の経験;
- スケマティック表現の定義;
- 設計とりまとめ;
- 技術文書の生成;
- システム要件管理;
- 技術的リスク分析

【※ 詳しくは添付の英語版技術仕様書「**CFE - HOF and HIRA in support of the development of Equatorial Ports #08 and #17 with integrated diagnostic and Disruption Mitigation Systems**」をご参照ください。】

ITER 機構のウェブサイト
http://www.iter.org/org/team/adm/proc/overview からも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。

Route de Vinon-sur-Verdon - CS 90 046 - 13067 St Paul Lez Durance Cedex - France

Date: *17/11/2021*

Call for Expertise Ref: IO/*21*/CFE/*10022459/INU*

HOF and HIRA in support of the development of Equatorial Ports #08 and #17 with integrated diagnostic and Disruption Mitigation Systems

Dear Madam/Sir,

The ITER Organization (IO) requests eligible companies, institutions and other entities to provide their proposal for the provision of services to perform the task named above. The objective of this Call for Expertise (CFE) tender process is to acquire the services of one (1) suitably qualified expert for a maximum contract period of 12 months. Unless specifically requested by the IO, the tenderer should not submit multiple CVs offering a variation of technical experience levels and costs.

The following documents are attached to allow you to propose your candidacy:
- Annex I: Technical Specification ref. 6752AD v. 1.0
- Annex II: Technical Experience Profile / CV (template)
- Annex III: Price schedule & cost breakdown (template)
- Annex IV: Statement of exclusivity and availability
- Annex V: Draft Special Conditions Service Contract
- Annex VI: ITER General Terms & Conditions for Service Contracts version 2014
- Annex VII: Declaration of Background Intellectual Property (BIP) (template)

china eu india japan korea russia usa

Documents required with your proposal:
Tenderers must provide their own version of a technical proposal. As a minimum the list of documents required is as follows:
- Technical offer including an implementation/management/quality plan - dated and signed
- Experience Profile / CV
- Financial Proposal – to be submitted dated and signed as a separate pdf doc.
- Statement of Exclusivity & Availability - duly signed & returned.
- IP / Declaration of background (BIP) - duly signed & returned.

All documents submitted by the Tenderer shall become the property of the ITER Organization, and shall be considered strictly confidential.

Deadline for submission of proposals:
The time & date for receipt of proposals is: *17.*00 *CET* on *15/12/2021.*

Address for submission of proposal:
Proposals should be submitted by e-mail to: ***ismail.nbou@iter.org*** and copied to **Jongeun.Lee@iter.org**

Evaluation Process & Contract Award:

Proposals will be evaluated by an impartial, professionally competent technical Evaluation Committee of the ITER Organisation. A contract will be awarded on the basis of best value for money according to the following:

Technical Content - 60 points. The tenderer must provide details demonstrating their knowledge and experience in the required subject, including a description of how they propose to carry out the work/deliverables in accordance with the technical specification.

The Evaluation Committee shall evaluate the information provided in the bidder's technical proposal in relation to the key criteria areas. No other criteria will be used.

Evaluation Criteria.

#	Criteria description	Corresponding section in the technical specification ref 6752AD v. 1.0	Points
1	Contractor shall demonstrate the qualifications of the HOF specialists with the degree in Human & Organization Factors / Ergonomics	technical specification ref 6752AD v. 1.0	10
2	Contractor shall have at least 5 years of working experience in the hazard industry and being familiar with the safety demonstration / safety cases	technical specification ref 6752AD v. 1.0	10
3	Contractor shall be familiar with system engineering approach and with Human Factors and Ergonomics (HFE) methods and techniques for highly complex industrial/experimental systems	technical specification ref 6752AD v. 1.0	15
4	Contractor shall have performed the HFE activities for the design of workplaces for maintenance/local operations on installations	technical specification ref 6752AD v. 1.0	15
5	Contractor shall have justified experience in nuclear engineering environment (knowledge of off the shelf equipment, handling equipment, automatic robotic systems, I&C components, mechanical manufacturability…)	technical specification ref 6752AD v. 1.0	10

Financial Offer - 40 points. The lowest priced financial offer will receive the maximum score of 40 points. All other financial offers will be divided into the lowest priced offer in turn (next highest) providing a score that is inversely proportionate to the price being offered.

Following the completion of the evaluation process described above, the proposal with the highest score out of a maximum of 100 points will be deemed to represent the best value for money.

Eligibility
Tenderers from the following ITER Member States are eligible for tendering:

- European Union including Switzerland (EURATOM Members),
- Republic of India,
- Japan,
- People's Republic of China,
- Republic of Korea,
- Russian Federation,
- United States of America.

The ITER Organization reserves the right to broaden the eligibility to other countries if deemed appropriate.

Yours sincerely,

Jong Eun Lee
Procurement Officer
Engineering, Science, Operation and Corporate Section
Procurement and contracts division.

IDM UID
6752AD
VERSION CREATED ON / VERSION / STATUS
22 Oct 2021 / 1.0 / Approved
EXTERNAL REFERENCE / VERSION

Technical Specifications (In-Cash Procurement)

CFE - HOF and HIRA in support of the development of Equatorial Ports #08 and #17 with integrated diagnostic and Disruption Mitigation Systems

The purpose of the work is to support engineering development and integration of diagnostic and Disruption Mitigation Systems (DMS) in Equatorial Port #08 and #17 by performing

- a Human and Organizational Factors (HOF) analysis of maintenances and inspection operations
- Hazard Identification and Risk Assessment (HIRA) related to Human operations in the port cells.

Table of Contents

1 Purpose

The purpose of the work is to support engineering development and integration of diagnostic and Disruption Mitigation Systems (DMS) in Equatorial Port #08 and #17 by performing

- a Human and Organizational Factors (HOF) analysis of maintenances and inspection operations
- Hazard Identification and Risk Assessment (HIRA) related to Human operations in the port cells.

Both HOF and HIRA tasks are necessary to reflect recent design changes in the integration layout of the ports induced by the design evolution of diagnostic system and DMS. A specific attention is required in support of the DMS vacuum extensions disconnection procedure optimization.

2 Scope

The scope of the work includes Human and Organizational Factors (HOF) assessment and Hazard analysis for the different maintenance and inspection scenarios anticipated by Maintenance and Inspection procedures of the concerned ports and tenants.

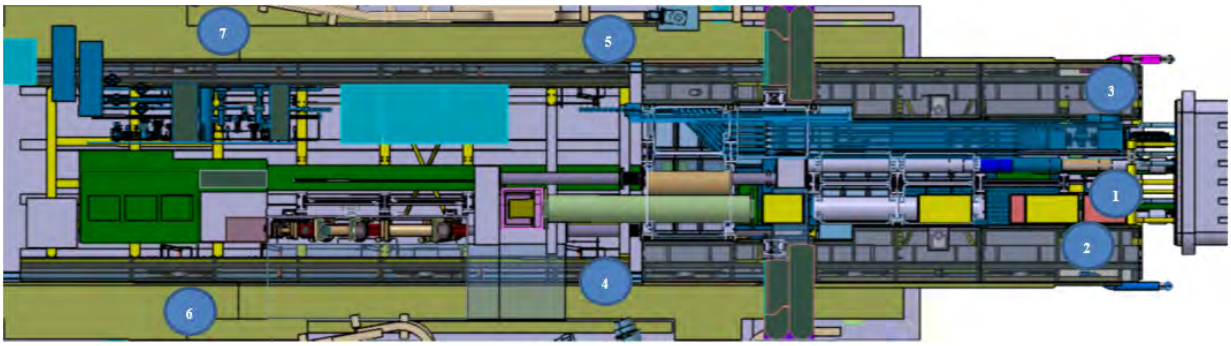

Figure 1. Schematic view (for illustration purposes only) of the work station disposition in EP#08.

3 Definitions

For a complete list of ITER abbreviations see: ITER Abbreviations (ITER_D_2MU6W5).

Acronym	Meaning
CAD	Computer Aided Design
HoF	Human Organizational Factor
ATP	Autorisation to Proceed
SDDR	Shutdown Dose Rate
EP	Equatorial port
FDR	Final Design Review
HIRA	Hazard Identification and Risk Assessment
ORE	Occupational Radiation Exposure
PCSS	Port Cell Support Structure
PDR	Preliminary Design Review
ISS	Interspace Support Structure
SIC	Structural Integrity Component

RO	Responsible Officer
PIA	Protection Important Activity

4 References

[1] ITER_D_YQSQ46 – Human and Organizational Factors Lessons Learned and Standard Requirements for ITER Maintenance and Local Operations
[2] 05_F-DIR_TF-17_PC_Accessibility_Requirement ITER_D_WVQ7V7
[3] Safe Access for Maintainability ITER_D_RUGWUK
[4] ITER_D_WQGAU9 – Input data report for EP#08 HIRA
[5] ITER_D_WQGDAQ – Hazard Identification and Risk Assessment report for EP#08
[6] ITER_D_WQFGJZ – Nuclear analysis report of EP#08
[7] Port Cell #11 maintenance Feasibility study report –FINAL-by Orano (ITER_D_WF8Y6D)
[8] ITER Procurement Quality Requirements (ITER_D_22MFG4)
[9] Procurement Requirements for Producing a Quality Plan (ITER_D_22MFMW)
[10] Quality Assurance for ITER Safety Codes (ITER_D_258LKL)
[11] ITER_D_QUK6LF - ITER Human & Organizational Factors Policy
[12] ITER_D_2WBVKU - ITER Human Factor Integration Plan
[13] ITER_D_SAKT22 - ITER Procedure for HOF Issues Management
[14] ITER_D_2B6TJB - Definitions of Human Contributions to ITER Safety
[15] ITER_D_WVVGZA - ITER Human Factors Engineering Glossary and Definitions
[16] ITER_D_2B7E6E - Overall Framework and Principles for Human and Organizational Factors Integration in ITER
[17] Protective equipment and hostile environment layout (ITER_D_RBYZ42 v1.1)
[18] ITER_D_JNPJ7T - Laser hazards table
[19] ITER_D_NPEVB6 Defined requirements for PBS 55 - Diagnostics
[20] ITER_D_2MU6W5 ITER Abbreviations
[21] ITER_D_KTU8HH Software Qualification Policy

5 Estimated Duration

The overall duration of this task order is 12 months.

6 Work description

The work is divided into 2 Work Packages

6.1 WP 1 – Area Hazard Analysis

The objective will be to perform an integrated hazard analysis per area based on ITER Occupational safety procedure, gathering information coming from different PBS (Hazard Identification and Risk Assessment – HIRA per PBS available at each Design review) – see input package, and considering their interaction. The outcome of the risk assessment process shall include all risk mitigation measures that remove or reduce the risk through design solutions.

6.1.1 Input

- French Legal Requirements concerning OHS
- This technical specification
- Contract Input package up to date (notably ITER Occupational safety procedure, PBS HIRA)

- Output of others activities performed in the frame of this work

6.1.2 Activities

- Perform an integrated hazard analysis per area according to IO procedure
  - ➔ Identify the PBSs present each area;
  - ➔ Identify the hazards present;
  - ➔ Classify the room according to IO criteria (Oxygen deficiency, Confined space, Noise, Electricity, Pathogenic agents, ATEX, Laser, Electromagnetism, contamination, irradiation,…)
  - ➔ Identify hazardous interactions between PBSs
  - ➔ Identify transverse issues (lighting, accessibility...)
  - ➔ Identify workstations
  - ➔ Identify frequency of exposure to hazards or any other safety issues
  - ➔ Identify the safety precautions / constraints / limitations applicable to the workplace / room / area
  - ➔ Propose improvement and corrective action
  - ➔ Follow-up the improvement and corrective actions implementation
- Organize technical meeting on Hazard Analysis with IO team
- Closely interact and follow guidelines of IO OHS team

6.1.3 Output

- Hazard Analysis report per area.
  These reports will be delivered with intermediate version with following steps:
  - ➔ Step #1: Compilation of hazards present in the room
  - ➔ Step #2: Compilation of integration issues regarding hazards
  - ➔ Step #3: Compilation of maintenance issues regarding hazards
  - ➔ Step #4: Room safety improvement and corrective actions
- These reports will be updated according to the implementation of corrective actions and changes done as per the ALARA implementation (Output of ORE and SDDR assessment).
  Area Maintenance Data base filled in with Hazard Analysis parameters

6.2 WP 2 – Human & Organizational Factor analysis

Human & Organizational Factors (HOF) analysis based on ITER HOF program [ITER_D_2WBVKU] and as per the defined requirements for Diagnostics [ITER_D_NPEVB6]. The HOF program will follow the two levels approach:

- **Macroscopic analysis**: the objective of this analysis will be to have an overview of the needs for maintenance operations, the constraints generated by the working environment (hazards management and individual protections needed, accessibility issues, technical environment, performance requirements, etc.). The Return of Experience (REX) from other facilities with similar working situations shall be included - if possible (the contractor with the design/operation experience on the installations representing similar characteristics, especially in terms of hazards management, is preferred).
- **Microscopic analysis** will consist in elaborating and analyzing the maintenance/inspection scenarios (representative for the future possible activity in the port cell areas necessary to ensure facility's safety objectives. The Task Analysis method will be based on maintenance/inspection scenarios analysis. It will cover all

operation conditions that may occur for hands-on tasks performance, in particular for the analysis of the future working situations (workstations) which are the most penalized in terms of environmental and physical constrains, especially for the radiological/beryllium/other toxic zones, and that cover protection important activities [PIA] to address the human and organizational reliability issues.

The Macroscopic and Microscopic studies will be preceded by the review of existing ITER guidelines for the design of local workplaces (on site) and the complementary standards review (including a relevant anthropometric database [US/EU populations; 5th percentile female, 50th percentile male, 95th percentile male for workspace and equipment reachability assessment; 99th percentile male for human passage assessment]).

The HOF analyses will take into account – as far as possible – the Human Contributions to Safety [14] related to any human intervention on PIC components and/or human work performed in irradiated/contaminated areas, necessary to ensure facility's safety objectives. The analyses will identify the most representative working situations in ITER with the goal to cover all operation conditions, and the most penalized cases in terms of risk severity and operational complexity is implemented. These analyses might be done on selected port cell areas, so as the results could be propagated to the design of other (similar) port cell areas.

The results of the HOF analyses will provide the requirements and design solutions for workplace layout, accessibility (human passage, workspace at workstations, and equipment reachability), maintenance/inspection feasibility (e.g. equipment and procedures design), and work organization in line with ALARA and ORE approaches, including Health and Safety requirements.

6.2.1 Input

- This technical specification
- Contract Input package up to date (notably ITER HOF program, PBS maintenance plan)
- Output of other activities performed in the frame of this work

6.2.2 Activities

- Perform the review of ITER guidelines for the design of local workplaces (on site) and the international standards and guidelines that might bring additional design requirements adapted to ITER specificities (based on the references [1], [2], and [3]).
- Perform macroscopic study of the selected port cell areas in order to have the overview of maintenance operations in terms of accessibility, physical working conditions, radiation/contamination zoning, etc.
    - ➔ Input data analysis (design specification/description, hazard identification, maintenance database with available information such as maintenance/inspection tasks description, existing operating modes, etc.)
    - ➔ Preliminary analysis of the maintenance tasks requirements (analysis of workstations, environmental constraints, PIC/SIC equipment, maintenance and inspection phases and tasks, tools needed for the tasks performance, performance objectives and criteria)
    - ➔ Return of Experience [REX] (data collection/formalization on the operations in similar hazardous working environments, lessons learned for the ITER port cell areas design)

- ➔ Working groups / discussions with IO staff (needs analysis, preliminary statements, HOF issues identified, etc.)
- ➔ The HOF macroscopic study can be done in collaboration with the WP1 (Area Hazard Analysis), on proposal of the IO HOF expert.

- Perform microscopic study in order to identify and analyze the unsafe operations for human and machine safety, and offer suggestions for possible improvements (design of future working situations)
  - ➔ Preparation of the maintenance/inspection scenarios (work situations analysis) to complete safety cases for safety demonstration
  - ➔ Perform the task/activity analysis based on the chosen inspection/maintenance scenarios following appropriate HOF techniques, e.g.:
    - Scenarios unfolding based on design documentation support within working groups or interview with IO maintenance experts and designers.
    - Scenarios unfolding based on 3D mock-ups provided by IO
    - Scenarios unfolding based on physical mock-ups provided by IO (if possible)

  NOTE 1: The ITER 3D tools (virtual reality), using the human avatars built up in line with the anthropometric database [US/European], should be used for the simulation of maintenance/inspection scenarios to analyse future hand-on tasks in the port cells – at least at the first iteration. The final – integrated demonstration might be done with physical mock-ups, subject to discussion and separate agreement with IO.
  NOTE 2: The scenarios to be studied should include the tasks related to the preparation and closing of local interventions (the latter referring to hands-on interventions or remote handling), as well as the rescue and the evacuation of workers.
  - ➔ Define the dimensions for:
    - Human passage towards workstations (covering the tools and equipment transport for the maintenance) and for rescue/evacuation;
    - Workspace dimensions taking into account the body movements (based on anthropometric database and task analysis) and tools/equipment handling during maintenance scenario (based on task analysis);
  - ➔ Define the requirements for work organization in port cell areas for the maintenance/inspection on PIC equipment and in line with ALARA approach, to ensure human and organizational reliability;
  - ➔ Consider the ergonomic requirements for the design of equipment to ensure their maneuverability (reaching distances, grasping, handling, etc.) especially while working in bubble suits and other Personal Protection Equipment;
    - The particular consideration in terms of human reliability should be given for any task to be performed on PIC (see the Human Contributions to ITER Safety [14])
  - ➔ Consider the system integration in the working zones (port cell areas) with potential impacts generated by the presence of other systems and in line with the ALARA approach (analysis of Safety Sensitive Tasks related to the “limitation of exposure to radiations” safety function);
  - ➔ Ensure the HOF Data traceability (HOF issues log and HOF design requirements data base update, Maintenance Database update with HOF results)
  - ➔ Initiate Working groups or discussions with IO staff (needs analysis, preliminary statements, HOF issues identified, etc.)
- Contribute to Integrated Maintenance procedure development, participating to integrated technical meeting

- Organize technical meetings (working groups) on HOF with concerned IO teams and experts
- Review the Area integrated maintenance assessment Report and the Area maintenance report

6.2.3 Output

1. Method for HOF intervention (Human Factors Integration Plan)
2. Lessons Learned from the Return of Experience in similar facilities to feed the design of ITER port cell areas and to incorporate identified good practices in ITER maintenance strategy;
3. HOF report with the results of Task Analyses based on maintenance / inspection scenarios. Specific considerations will be made on the workstation where the 1st confinement barrier will have to be opened.

All the HOF deliverables shall be reviewed and approved by IO HOF RO.

7 Inputs from IO

- CAD models (through DET procedure) of the EP#08 and EP#17 from the port plug closure plate to the port cell door, including the port plug, interspace, bio-shield plug, and port cell as well as tenants;
- 55.Q8 - Maintenance, Test & Inspection Plan (ITER_D_WQFY54)
- Outputs from EP#08 local SDDR assessment (ITER_D_WQFGJZ)
- 55.Q8 - ORE assessment associated with DMS vacuum extensions disconnection on the basis of bagging concept (ITER_D_4MSJ9Q)
- Definitive Maps for Phase I Areas (ITER_D_3GS3KM)
- 55.QH - Maintenance Test & Inspection Plan (ITER_D_45Q7H7)
- Outputs from EP#08 global SDDR assessment (ongoing, will be available in 2022 Q1)
- Outputs from EP#17 global SDDR assessment (ongoing, will be available in 2022 Q3)
- 55.QH - Input data report for HIRA (ITER_D_45QB2T)
- 55.QH - Hazard Analysis Report (ITER_D_54TDNP)
- 55.Q8 - Hazard Analysis Report – FDR (ITER_D_5ZKGTU)
- 55.Q8 - Input data report for HIRA (ITER_D_WQGAU9)
- 55.Q8 - Human and Organizational Factors Analysis (ITER_D_54S9JU)
- Dust Contamination reports - contamination assessment for specific maintenance activities at ITER [9],
- Surface and Airborne Contamination Mapping for a Test Compartment - Task 3A [10].
- ITER_D_QUK6LF - ITER Human & Organizational Factors Policy
- ITER_D_2WBVKU - ITER Human Factor Integration Plan
- ITER_D_SAKT22 - ITER Procedure for HOF Issues Management
- ITER_D_YQSQ46 – Human and Organizational Factors Lessons Learned and Standard Requirements for ITER Maintenance and Local Operations
- ITER_D_2B6TJB - Definitions of Human Contributions to ITER Safety
- ITER_D_2B7E6E - Overall Framework and Principles for Human and Organizational Factors Integration in ITER
- ITER_D_WVVGZA - ITER Human Factors Engineering Glossary and Definitions
- Safe Access for maintainability (ITER_D_RUGWUK v1.3)
- Protective equipment and hostile environment layout (ITER_D_RBYZ42 v1.1)

- ITER_D_JNPJ7T - Laser hazards table
- ITER_D_NPEVB6 Defined requirements for PBS 55 - Diagnostics
- Documents for Diagnostics – PBS55 (for information)

Generic Diagnostic Port Plug Requirements (33LH72 v5.4)
Access space available inside the port cells when using the Personnel Access Door (SKJNGV v1.1)
Access strategy to Port cells (SQ2KFH v1.0)
Port Plug Maintenance_List of Processes and Steps_12-02-2014 (BEUTMF v1.0)
Port Plug Maintenance Process Context (M38MRG v1.0)
Port Plug Maintenance_Processes 09 and 10 (BFER9E v1.0)
Action A37_Update list of operations for port plug removal and installation_v1-0 (C9Y7AL v1.0)
Action A37_Update list of operations for EQ PP 11_v1-1 (C9YN3C v1.0)
Maintenance of Port Plug_Summary Report (N3UWNJ v1.1)
Hands-on maintenance scheme proposal - presentation to PTF (Q4V8Q9 v1.0)
Port Cell Maintenance Standardization Preliminary Assessment (Q4SV8E v1.1)
Port Cell Maintenance - Port Plug Removal Process & VV Inner Environment Evolution (UPU6WP v1.0)
Maintenance Isolators for flange Breaching (ITER_D_UPU9HN v1.0)
Detailed_Study_of_Installation_and_Replacement_Procedure (SZRNM7 v1.1)
11. Port Integration - Standardisation - ISS, Bioshield, PCSS Status_T.Giacomin (UHU9QX v1.2)
ITER_D_VESKZM - Port Plug Removal Strategy(v2.0)
ITER_D_V5CKAW - Port Cell Door Airlock_Pre-Concept
ITER_D_URPHNL - D.1 Modular ISS / PCSS and bio-shield concept design presentation
ITER_D_URPVX5 - D.3 Modular ISS/PCSS Technical Issues: Remote Handling, Maintenance, ORE
ITER_D_UZAVCZ - D.7 Vacuum extension and contamination control
ITER_D_VVU6QF - Equatorial Ports Breach evolution_Sealign Flange to Cask Docking Flange

8 Responsibilities

8.1 Contractor's obligations

The Contractor shall ensure that he complies with the provisions of the Framework Contract in particular with the following:

- The Contractor shall guaranty that all input information provided to perform the task remain property of IO and shall not be used for any other activity than the one specified in this specification.
- The Contractor shall be in charge of the training & coaching of all its resources.
- The contractor shall provide an organization suitable to perform the work as describe in this specification;
- The contractor shall work in accordance with the QA plan approved by IO;
- The contractor shall perform the activities accordingly to this specification taking into account all relevant additional documents and IO processes into account (hand books,

export control, intellectual properties, …); The Contractor shall be responsible to produce and manage, using the ITER software platform, all the documents listed in chapter 11.

- The Contractor shall provide to the IO representative full access to its work premises and related documentation, to permit to follow up the progress of the work
- The Contractor shall provide the Suitably Qualified and Experienced Personnel (SQEP) for the contract performance, especially in the area of Human and Organizational Factors (see section 15 “Safety Requirements” for the qualification criteria of HOF SQEP)

Prior to the start of work on each activity, the Contractor shall review the input technical information provided to it by IO for completeness and consistency, and shall advise the IO representative of any deficiencies it may find. The contractor shall not be responsible for errors in the input technical information which could not be reasonably detected during such review; duration of this review will be agreed between Contractor and IO representative and will have no impact on the delivery schedule.

8.2 Obligations of the ITER Organization

The ITER Organization shall make available all data and information necessary to perform the activities specified in the present document.

- IO procedures required to achieve the activities according to ITER quality and safety rules;
- Information on diagnostic design and requirements for the development of the window assembly design.

The ITER Organization shall give the possibility to the contractor to review documents on the ITER documents database (IDM).

IO shall make available to the Contractor all technical data and documents which the Contractor requires to carry out its obligations pursuant to this specification in a timely manner. For delays of more than two weeks in making them available, the Contractor shall advise IO representative of the potential impact on the delivery of the Work Packages, to agree and define all the correction actions to take in place.

9 List of deliverables and due dates

N°	DELIVERABLE	EXPECTED DATE
D1	For EP#08 – Update input data report for HIRA per area. HIRA report per area. ➔ Step #1: Compilation of hazards present in the room ➔ Step #2: Compilation of integration issues regarding hazards ➔ Step #3: Compilation of maintenance issues regarding hazards ➔ Step #4: Room safety improvement and	T0+1 Month

	corrective actions	
D2	For EP#08 - Perform macroscopic study of the selected port cell areas in order to have the overview of maintenance operations in terms of accessibility, physical working conditions, radiation/contamination zoning, etc. Perform microscopic study in order to identify and analyze the unsafe operations for human and machine safety, and offer suggestions for possible improvements (design of working situation). For EP#08 FDR-2 and FDR-3 - HoF Report (progressive) with the results of Task Analyses based on maintenance / inspection scenarios. Specific considerations will be made on the workstation where the 1st confinement barrier will have to be opened.	T0+5 Months
D3	For EP#17 - Update input data report for HIRA per area. HIRA report per area. ➔ Step #1: Compilation of hazards present in the room ➔ Step #2: Compilation of integration issues regarding hazards ➔ Step #3: Compilation of maintenance issues regarding hazards ➔ Step #4: Room safety improvement and corrective actions	T0+6 Months
D4	For EP#17 - Perform macroscopic study of the selected port cell areas in order to have the overview of maintenance operations in terms of accessibility, physical working conditions, radiation/contamination zoning, etc. Perform microscopic study in order to identify and analyze the unsafe operations for human and machine safety, and offer suggestions for possible improvements (design of working situation). For EP#17 FDR - HOF Report (progressive) with the results of Task Analyses based on maintenance / inspection scenarios. Specific considerations will be made on the workstation where the 1st confinement barrier will have to be opened.	T0+11 Months
D5	For EP#17 - Update of HOF and Hazard Analysis report according to - implementation of corrective actions and changes done as per the ALARA implementation (ORE and SDDR) - Comments of the reviewer in IDM For EP#08 - Update of HOF and Hazard Analysis report according to - implementation of corrective actions and changes done as per the ALARA implementation (ORE and SDDR	T0+12 Months

	regulations). - Chits during FDRs of EP#08 - Comments of the reviewer in IDM	

10 Acceptance Criteria

The reports submitted via IDM will be always reviewed by technical experts of PBS55 nominated by the IO-TRO and by other relevant IO experts where applicable. Revision can be delegated upon consideration of the respective nominees.

The memos submitted via IDM by the Contractor are for general information. No revision nor approval processes are required.

11 Specific requirements and conditions

The Contractor's team shall cover all disciplines that may reasonably be required to carry out the Scope of Work.

The contractor shall demonstrate the qualifications of the HOF specialists (Suitably Qualified and Experienced Personnel [SQEP]):

- With the degree in Human & Organization Factors / Ergonomics (see section 15 for the HOF qualifications requirements),
- Having at least 5 years of working experience in the hazard industry and being familiar with the safety demonstration / safety cases,
- Being familiar with system engineering approach and with HFE methods and techniques for highly complex industrial/experimental systems,
- Having performed the HFE activities for the design of workplaces for maintenance/local operations on installations.

In addition, the following skills are necessary for the success of the activity:

- Strong experience in Mechanical Design in Nuclear Field (knowledge of off the shelf equipment, handling equipment, automatic robotic systems, I&C components, mechanical manufacturability…).
- Maintenance and HIRA experience is a strong commitment for the job to be performed.
- Familiarity with ITER Organization is an advantage.
- Understanding of the contamination and radiological aspects in nuclear facility (relevant to ITER Port Cells and Hot Cells environment).
- Ability to work with CATIA V5, AutoCAD 2D.
- Ability to produce technical documentation (i.e. calculation notes, 2D/3D drawings, design description document, system requirement docs, interface sheets…).
- Demonstrated and practical experience for participants in maintenance in nuclear facility (confinement management, ALARA) on piping, mechanical equipment's
- Experience in nuclear engineering design (equipment to be maintained, maintenance tools, handling)

The use of the Virtual Room will be possible under request from the contractor with a delay of 1 week. IO will assist the contractor for using the virtual Room. This activity will be performed in close collaboration with IO RH and DCIN representatives with whatever additional IO support as needed.

It is noted that Contractor's personnel visiting the ITER site will be bound by the rules and regulations governing safety and security.

The Contractor shall have and maintain the necessary equipment and licenses to run the software tools required to carry out the tasks and produce the deliverables in accordance with the tools adopted by the IO. The Contractor shall ensure that experts are adequately supported and equipped. It shall ensure that there is sufficient administrative, secretarial and interpreting provision to enable experts to concentrate on their primary responsibilities.

The official language of the ITER project is English. Therefore, all input and output documentation relevant to this Contract shall be in English. The Contractor shall ensure that all the professionals in charge of the Contract have an adequate knowledge of English, to allow easy communication and adequate drafting of technical documentation. This requirement also applies to the Contractor's staff working at the ITER site or participating in meetings with the ITER Organization.

The work described here is a Protection Important Activity (PIA). As such, it must be independently reviewed by the supplier and records of the revision must be produced.

All the files involved in the execution of the work must be submitted to ITER IO as a specific deliverable called "Acceptance Data Package" (ADP). This ADP will include, as minimum, the original CAD models, the simplified CAD models and records of independent verification. Additional content of the ADP can be specified by the TRO until the contract closing meeting.

12 Work Monitoring / Meeting Schedule

The work will be started by a dedicated kick-off meeting (KOM) at ITER premises and managed by means of Progress Meetings. It is expected that Progress Meetings will be held biweekly at ITER premises.

The main purpose of the Progress Meetings is to allow the ITER Organization/Diagnostics Division and the Contractor Technical Responsible Officers to:

- Allow early detection and correction of issues that may cause delays;
- Review the completed and planned activities and assess the progress made;
- Permit fast and consensual resolution of unexpected problems;
- Clarify doubts and prevent misinterpretations of the specifications.

The ITER Organization and/or the Contractor may request additional meetings to address specific issues to be resolved.

The Contractor will work predominantly on IO site in order to accelerate the common understanding of the context and focus the effort towards the needed direction. The Contractor shall be present at ITER premises for the PDRs of EP#17 and FDR of EP#08.

13 Delivery time breakdown

T0 is the date of the kick-off meeting.

The PDRs closure of the EP#17 is scheduled for Q1 2022.

The FDR-2 for the EP#08 is planned for Q1 2022.

The FDR-3 for the EP#08 is planned for Q4 2022.

14 Quality Assurance (QA) requirements

The organisation conducting these activities should have an ITER approved QA Program or an ISO 9001 accredited quality system.

The general requirements are detailed in [8].

Prior to commencement of the task, a Quality Plan must be submitted for IO approval giving evidence of the above and describing the organisation for this task; the skill of workers involved in the study; any anticipated sub-contractors; and giving details of who will be the independent checker of the activities (see [9]).

Documentation developed as the result of this task shall be retained by the performer of the task or the DA organization for a minimum of 5 years and then may be discarded at the direction of the IO. The use of computer software to perform a safety basis task activity such as analysis and/or modelling, etc. shall be reviewed and approved by the IO prior to its use, in accordance with [8].

The use of computer software to perform task activity such as analysis and/or modelling, etc shall be reviewed and approved by the IO prior to its use, it should fulfil IO document on Software Qualification Policy_[21].

15 Safety requirements

ITER is a Nuclear Facility identified in France by the number-INB-174 (“Installation Nucléaire de Base”).

For Protection Important Components and in particular Safety Important Class components (SIC), the French Nuclear Regulation must be observed, in application of the Article 14 of the ITER Agreement.

The HOF task is a PIA:

- The Order 7th February 2012 applies to all the components important for the protection (PIC) and the activities important for the protection (PIA).
- The compliance with the INB-order must be demonstrated in the chain of external contractors.
- In application of article II.2.5.4 of the Order 7th February 2012, contracted activities for supervision purposes are also subject to a supervision done by the Nuclear Operator.
- The list of the requirements, including defined requirements [20], applicable for the PBS 55 are listed in ITER_D_28B39L - SRD-55 (Diagnostics) from DOORS (version 5.2)
- The contractor’s personnel, whose activities have the potential to impact on nuclear safety (notably, performing the analyses of human contributions to safety and ALARA) have to be **suitably qualified and experienced (SQEP)**[1] to carry out their jobs. The contractor’s organization will show that the HOF analysis is l lead by HOF SQEP, who should be able to demonstrate a formally recognised and relevant academic qualification and experience commensurate with the seniority of the role. (In France, the formally recognized qualification in HOF is equivalent to University Master 2 or PhD level with **at least one full year** devoted to ergonomics/human factors[2]).

[1] A suitably qualified and experienced person (SQEP) is an individual who has the requisite qualifications, training and experience – effectively, the competence – to carry out tasks that may affect the safety of any operations or activities on the site.

[2] The minimum qualification criteria to perform the HOF/Ergonomic analyses in France are described in Association for the acknowledgment of European ergonomist professional designation [ARTEE].

For the Protection Important Components, structures and systems of the nuclear facility, and Protection Important Activities the contractor shall ensure that a specific management system is implemented for his own activities and for the activities done by any Supplier and Subcontractor following the requirements of the Order 7th February 2012 ITER_D_7M2YKF.

This task is a PIA.

“The supplier must comply with the all requirements expressed in “Provisions for implementation of the generic safety requirements by the external actors/interveners” (SBSTBM)”

ANNEX II - TECHNICAL EXPERIENCE PROFILE

(max 5 pages)

Profile name:

Job title:

Institution (Date from - Date to)	Degree(s) or Diploma(s) obtained:

Language skills: Indicate competence on a scale of 1 to 5 (1 - excellent; 5 - basic)

Language	Reading	Speaking	Writing

Membership of professional bodies:

Relevant experience within company:

Key qualifications: (Relevant to the project)

Other skills: (e.g. Computer literacy, etc.)

Specific international experience:

Country	Date from - Date to

Professional experience (Relevant to the project)

Date from – Date to	Location	Company & reference person	Position	Description

Other relevant information (e.g., Publications)

ANNEX III a – PRICE SCHEDULE

Contract: HOF and HIRA in support of the development of Equatorial Ports #08 and #17 with integrated diagnostic and Disruption Mitigation Systems
Reference: IO/*21*/CFE/*10022459*/*INU*

All prices shall be in Euros (€) net of all duties and taxes. As an international organisation the ITER Organization is exempt from all taxes and duties. Applicable taxes (if any) shall be shown separately. The Financial Offer shall be submitted in the basis of the following:
Having examined all the Documents attached to this Request for Quotation, including the Technical Specification for the performance of the *Supply / Services*, and having examined all conditions and factors which might in any way affect the cost or time of performance thereof, we the undersigned, offer to complete the Supply / Services upon the terms and conditions set forth in the Proposal Documents for the following price:

D#	Deliverable	Due date	Amount in EUR
D01	For EP#08 – Update input data report for HIRA per area. HIRA report per area. • Step #1: Compilation of hazards present in the room • Step #2: Compilation of integration issues regarding hazards • Step #3: Compilation of maintenance issues regarding hazards • Step #4: Room safety improvement and corrective actions	T0 + 1 months	***to be added***
D02	For EP#08 - Perform macroscopic study of the selected port cell areas in order to have the overview of maintenance operations in terms of accessibility, physical working conditions, radiation/contamination zoning, etc. Perform microscopic study in order to identify and analyze the unsafe operations for human and machine safety, and offer suggestions for possible improvements (design of working situation). For EP#08 FDR-2 and FDR-3 - HoF Report (progressive) with the results of Task Analyses based on maintenance / inspection scenarios. Specific considerations will be made on the workstation where the 1st confinement barrier will have to be opened.	T0 + 5 months	***to be added***
D03	For EP#17 - Update input data report for HIRA per area. HIRA report per area. • Step #1: Compilation of hazards present in the room • Step #2: Compilation of integration issues regarding hazards • Step #3: Compilation of maintenance issues	T0 + 6 months	***to be added***

	regarding hazards • Step #4: Room safety improvement and corrective actions		
D04	For EP#17 - Perform macroscopic study of the selected port cell areas in order to have the overview of maintenance operations in terms of accessibility, physical working conditions, radiation/contamination zoning, etc. Perform microscopic study in order to identify and analyze the unsafe operations for human and machine safety, and offer suggestions for possible improvements (design of working situation). For EP#17 FDR - HOF Report (progressive) with the results of Task Analyses based on maintenance / inspection scenarios. Specific considerations will be made on the workstation where the 1st confinement barrier will have to be opened	T0 + 11 months	***to be added***
D05	For EP#17 - Update of HOF and Hazard Analysis report according to - implementation of corrective actions and changes done as per the ALARA implementation (ORE and SDDR) - Comments of the reviewer in IDM For EP#08 - Update of HOF and Hazard Analysis report according to - implementation of corrective actions and changes done as per the ALARA implementation (ORE and SDDR regulations). - Chits during FDRs of EP#08 - Comments of the reviewer in IDM	T0 + 12 months	***to be added***
		Total	

T0= kick off meeting date

The proposed milestone payment plan is as follows:

M#	Details	Estimated due date	Amount in EUR
M1	Successful completion of *D01*	T0 + 2 months	***to be added***
M2	Successful completion of *D02*	T0 + 6 months	***to be added***
M3	Successful completion of *D03*	T0 + 7 months	***to be added***
M4	Successful completion of *D04*	T0 + 12 months	***to be added***
M5	Successful completion of *D05*	T0 + 13 months	***to be added***
		Total	***to be added***

COMPANY STAMP

Signature:

Name: .....

Position: .....

Tel: .....

Email: .....

Date: .....

Annex III b Price Breakdown

Base Price

COST BREAKDOWN:				Page no. 1 of 1
Tender Ref	IO/21/CFE/10022459/INU		TENDERER:	
Technical Specification	6752AD_v1.0		Representative:	
Contractual			Name & Title:	
			Signature:	

	ALL COSTS TO INCLUDE OVERHEADS AND PROFIT					TOTAL EUR
A	LABOUR					
Direct Labour cost categories Description		*Profile*	*Estimated No. of hours*	*EUROS per hour*		*Net amount*
						€0.00
						€0.00
						€0.00
						€0.00
						€0.00
						€0.00
						€0.00
						€0.00
						€0.00
						€0.00
	Total Labour Hours and Cost		0 hours		A	€0.00
B	INTERNAL SPECIAL FACILITIES					
	Description	*Type of unit*	*No. of units*	*Unit rates in EUR*		
						0
						0
	Total Internal Special Facilities Cost				B	€0.00
C	OTHER COST ELEMENTS					Amount in €
	Items		No of purchase	Price per unit in EUR		
			0	€0.00		€0.00
			0	€0.00		€0.00
			0	€0.00		€0.00
			0	€0.00		€0.00
					Sub-Total	€0.00
			No of trips / persons	Rates per trip in EUR		
	Lumpsum Travel Costs		0	€0.00		€0.00
	Miscellaneous/risks					€0.00
	Total Other Cost				C	€0.00
D	TOTAL COST			A+B+C	D	€0.00
E	TOTAL SUB-CONTRACTOR PRICE (price breakdown to be provided for each sub-contractor)				E	€0.00
F	TOTAL OVERALL COST				D+E	F €0.00
G	Discount /					G €0.00
H	*TOTAL PRICE FOR ITER ORGANIZATION				F-G	€0.00

If insufficient space is available to identify all required information, please insert lines or add additional sheets

ANNEX IV - STATEMENT OF EXCLUSIVITY AND AVAILABILITY

Contract: HOF and HIRA in support of the development of Equatorial Ports #08 and #17 with integrated diagnostic and Disruption Mitigation Systems IO/21/CFE/10022459/INU

(To be completed by the bidding company and/or their designated representative)

I the undersigned, hereby declare that I agree to take part in the above-mentioned Call for Expertise.

I further declare that I am able and willing to work

- for the period(s) foreseen in the Technical Specification attached to the above referenced Call for Expertise for the completion of the works proposed and
- within the execution period of the specific contract which is scheduled to run from date of Kick off for 12 months.

I confirm that I am not engaged in another contract financed by the ITER Organization whereby the services are required at the same time or during the above periods. I confirm that I will only invoice the ITER Organisation for works or services completed in relation to this contract, and not under any other contract.

Furthermore, should this offer be accepted, I am fully aware that if I am not available at the expected start date of the services for reasons other than ill-health or *force majeure*, the contract award notification letter may be retracted and rendered null and void.

Name	
Signature	
Date	

Route de Vinon-sur-Verdon - CS 90 046 - 13067 St Paul Lez Durance Cedex - France

(DRAFT) SERVICE CONTRACT

CONTRACT NUMBER – [IO/20/CT430000xxxx

The ITER International Fusion Energy Organization, hereinafter referred to as "the ITER Organization", represented by the Director-General, who is represented for the purposes of the signature of this Contract by [name in full, function, department],

on one part,

and

[official name in full]
[*official legal form*]
[*statutory registration number*]
[official address in full]
[*VAT registration number*]

(hereinafter referred to as "the Contractor"), represented for the purposes of the signature of this Contract by [name in full and function,] *duly authorized to sign on behalf of the Company (or the members of the consortium).*

on the other part,

HAVE AGREED

the **Special Conditions** and the following Annexes:

Annex I General Conditions for ITER Organization Service Contracts ("the General Conditions")

Annex II Technical Specifications 6752AD V1.0 of CFE IO/21/CFE/10022459/INU

Annex III Contractor's Offer (No [*complete*] of [*complete*])

Annex IV ITER Organization Internal Regulations concerning work on site (applicable to a Contract or working at ITER)
link http://www.iter.org/org/team/adm/proc/generalinfo

Annex V Contract or Safety Management Procedure related to ITER
link http://www.iter.org/org/team/adm/proc/generalinfo

Annex VI Declaration of Background Intellectual Property

Annex VII Template for Declaration of Generated Intellectual Property

which form an integral part of this Contract (hereinafter referred to as "the Contract ").

The terms set out in the Special Conditions shall take precedence over those in the other parts of the Contract. The hierarchy of documents shall follow the numbering of the Annexes. Thus the terms set out in the Annex I shall take precedence over those in Annexes II, III, etc...

Subject to the above, the documents forming part of the Contract are to be taken as mutually explanatory. Ambiguities or discrepancies within or between these documents shall be explained or rectified by a written instruction issued by the ITER Organization, subject to the rights of the Contract or under Article 33 of the Annex I should the Contractor dispute such instruction.

I – SPECIAL CONDITIONS

ARTICLE I.1 - SUBJECT

I.1.1. The subject of the Contract is to provide support engineering development and integration of diagnostic and Disruption Mitigation Systems (DMS) in Equatorial Port #08 and #17 by performing a Human and Organizational Factors (HOF) analysis and Hazard Identification and Risk Assessment (HIRA) related to Human operations in the port cells.

I.1.2. The Contractor shall execute the tasks assigned to him in accordance with the Technical Specifications and Contractor's offer annexed to the Contract (Annexes II and III respectively).

ARTICLE I.2 – DURATION, ENTRY INTO FORCE AND PERFORMANCE OF SERVICES

I.2.1. The Contract shall enter into force on the date on which it is signed by the last contracting party. Provision of the services may under no circumstances begin before the date on which the Contract enters into force.

I.2.2. The services shall be delivered according to the schedule provided in Article I.5.2.
The delivery dates provided in Article I.5.2 shall not be extended without a formal confirmation letter issued by the ITER Organization or written amendment. This extension shall not be considered as a waiver of liquidated damages unless so specifically mentioned in the extension.

I.2.3. All periods specified in the Contract are calculated in calendar days. The Provision of the services shall start from the date of entry into force of the Contract.

ARTICLE I.3 – VALIDITY

Notwithstanding termination of the Contract, its provisions shall continue to bind the Parties in so far and for as long as may be necessary to give effect to their respective rights and obligations.

ARTICLE I.4 – CONTRACT PRICE

I.4.1 The *fixed lump-sum total amount* to be paid by the ITER Organization under the Contract shall be EUR [amount in figures and in words] excluding VAT, covering all services provided. The ITER Organization shall not accept liability for any expenditure beyond the aforementioned maximum amount.

ARTICLE I.5 – PAYMENT FORMALITIES AND PERIOD

I.5.1. Payments shall be executed only if the Contract or has fulfilled his contractual obligations by the date on which the invoice is submitted by the Contractor to the ITER Organization.

The payment execution due date is thirty (30) days after receipt of a correctly rendered invoice and all necessary supporting documents. If the acceptance of a deliverable by the ITER Organization is a condition for payment, the 30 days due date starts after the ITER Organization has: (i) accepted the deliverable(s) and (ii) received a correctly rendered invoice.

In addition, for the final Payment, the following additional documents shall be provided:

- A certification issued by the Contractor and validated by the IO-CRO (as defined under Article I.7) of satisfactory delivery of all deliverables within the delivery dates foreseen under this Contract, completion of the Services and, whenever applicable, completion of other obligations to be fulfilled, in accordance with the stipulations of this Contract;
- Copies of supporting documents that may be required by the IO as evidence of satisfactory contractual performance; and
- Declaration of any intellectual property resulting from Services undertaken for the purpose of the Contract, or a formal declaration that no intellectual property has been generated, using the template provided in Annex VII to the present Contract. If applicable, such declaration shall be made on behalf of the industrial consortium and/or subcontractors.

I.5.2. The payment and delivery schedule is the following:

D#	Deliverable	Due date	Amount in EUR
D01	For EP#08 – Update input data report for HIRA per area. HIRA report per area. • Step #1: Compilation of hazards present in the room • Step #2: Compilation of integration issues regarding hazards • Step #3: Compilation of maintenance issues regarding hazards • Step #4: Room safety improvement and corrective actions	T0 + 1 months	***to be added***
D02	For EP#08 - Perform macroscopic study of the selected port cell areas in order to have the overview of maintenance operations in terms of accessibility, physical working conditions, radiation/contamination zoning, etc. Perform microscopic study in order to identify and analyze the unsafe operations for human and machine safety, and offer suggestions for possible improvements (design of working situation). For EP#08 FDR-2 and FDR-3 - HoF Report (progressive) with the results of Task Analyses based on maintenance / inspection scenarios. Specific considerations will be made on the workstation where the 1st confinement barrier will have to be opened.	T0 + 5 months	***to be added***
D03	For EP#17 - Update input data report for HIRA per area. HIRA report per area. • Step #1: Compilation of hazards present in the room • Step #2: Compilation of integration issues regarding hazards	T0 + 6 months	***to be added***

	• Step #3: Compilation of maintenance issues regarding hazards • Step #4: Room safety improvement and corrective actions		
D04	For EP#17 - Perform macroscopic study of the selected port cell areas in order to have the overview of maintenance operations in terms of accessibility, physical working conditions, radiation/contamination zoning, etc. Perform microscopic study in order to identify and analyze the unsafe operations for human and machine safety, and offer suggestions for possible improvements (design of working situation). For EP#17 FDR - HOF Report (progressive) with the results of Task Analyses based on maintenance / inspection scenarios. Specific considerations will be made on the workstation where the 1st confinement barrier will have to be opened	T0 + 11 months	***to be added***
D05	For EP#17 - Update of HOF and Hazard Analysis report according to - implementation of corrective actions and changes done as per the ALARA implementation (ORE and SDDR) - Comments of the reviewer in IDM For EP#08 - Update of HOF and Hazard Analysis report according to - implementation of corrective actions and changes done as per the ALARA implementation (ORE and SDDR regulations). - Chits during FDRs of EP#08 - Comments of the reviewer in IDM	T0 + 12 months	***to be added***
		Total	

T0* = Date of Kick off

I.5.3. payment schedule is the following:

M#	Details	Estimated due date	Amount in EUR
M1	Successful completion of D01	T0 + 2 months	***to be added***
M2	Successful completion of D02	T0 + 6 months	***to be added***
M3	Successful completion of D03	T0 + 7 months	***to be added***
M4	Successful completion of D04	T0 + 12 months	***to be added***
M5	Successful completion of D05	T0 + 13 months	***to be added***
		Total	***to be added***

ARTICLE I.6 – BANK ACCOUNT

Payments shall be made to the Contractor's bank account denominated in the Contract's currency, identified in the duly filled Financial Identification Form. The Financial Identification Form shall be provided by the ITER Organization in a timely manner.

It is the Contractor's obligation to return this form to the ITER Organization in a timely manner. No payments can be made until the ITER Organization is in possession of this document.

ARTICLE I.7 – GENERAL ADMINISTRATIVE PROVISIONS

Any communication relating to the Contract shall be made in writing and shall bear the Contract reference. Ordinary mail shall be deemed to have been received by the ITER Organization on the date on which it is registered by the responsible Department indicated below.

Communications shall be sent to the following addresses:

a) ITER Organization:

i. Technical Content
ITER Organization
Name of Responsible Officer
Route de Vinon sur Verdon, CS 90 046,13067 Saint Paul Lez Durance, France
Email :
Tel :

ii. Contractual Content
ITER Organization
Ismail NBOU
Procurement and Contracts Division / *ESOC*
Route de Vinon sur Verdon, CS 90 046, 13067 Saint Paul Lez Durance, France
Email : ismail.nbou@iter.org

iii. Financial
ITER Organization
Finance and Budget Division / ATS
Route de Vinon sur Verdon, CS 90 046, 13067, Saint Paul Lez Durance, France
Email : accounting@iter.org
Tel :

b) Contractor:

i. Technical Content
Mr/Mrs/Ms [complete]
[Function]
[*Company name*]
[Official address in full]
Email :
Tel :

ii. Contractual Content

Mr/Mrs/Ms [complete]
[Function**]**
[*Company name***]**
[Official address in full**]**
Email :
Tel :

iii. Financial
Mr/Mrs/Ms [complete]
[Function**]**
[*Company name***]**
[Official address in full**]**
Email :
Tel :

ARTICLE I.8 – PRIVILEGES AND IMMUNITIES

Nothing in or relating to this Contract shall be deemed a waiver, express or implied, of any of the privileges and immunities of the ITER Organization, its staff, experts and the representatives of the ITER Members.

ARTICLE I.9 – SAFETY AND SITE ACCESS

I.9.1. The Contract or shall be responsible for the observance by himself, his employees and sub-contractors of all safety precautions necessary for their protection and the protection of any other persons, including all precautions required to be taken by or under or pursuant to any applicable legislation. For the avoidance of doubt this includes the ITER Organization Internal Regulations concerning Work, Health, Safety and Security for persons undertaking activities on the ITER Site (see Annex IV), the Contract or Safety Management Procedure related to ITER (see Annex V).

I.9.2. The Contractor shall adhere to the site access procedure when entering the ITER Site. The ITER Organization shall provide the Contract or with any necessary information and documentation for site access.

ARTICLE I.10 – OTHER SPECIAL CONDITIONS

STANDARD ARTICLES

I.10.1. Article 8.2 of Annex I: The period of time in which to approve the report is 15 calendar days

I.10.2. Article 2 of Annex I will be replaced as follows:

> Article 2.1 The ITER Organization is governed by its constitutive agreements, the Agreement on the Establishment of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project and the Agreement on the Privileges and
> Immunities of the ITER Organization both signed on 21 November 2006.

Article 2.2 Without prejudice to the ITER Organization's status, the contract shall be governed in accordance with its true meaning and effect.

Subsidiarily, reference to French law shall be made for, and only for:

(i) the interpretation of a contract provision when such provision is ambiguous or unclear, in which case, such interpretation shall only be made for said provision, and not in respect of the contract as a whole; or

(ii) When specific provisions of French law are of overriding mandatory effect. Article 2.3. The language used shall be English.

SIGNATURES

For the Contractor, [*Company name*/forename/surname/function]	For the ITER Organization*, Name Function
Signature[s]: _____	Signature[s]:_____
Done at [ ], [date]	Done at St. Paul Lez Durance , [date]

In duplicate in English.
Original : ITER Procurement and Contracts Division

GENERAL CONDITIONS FOR ITER ORGANIZATION SERVICE CONTRACTS

(2014)

Article 1. Definitions

1.1 The headings and titles in these General Conditions shall not be taken as part thereof or be taken into consideration in the interpretation of the Contract.

1.2 Where the context so permits, words in the singular shall be deemed to include the plural and vice versa, and words in the masculine shall be deemed to include the feminine and vice versa.

1.3 Words designating persons or parties shall include firms and companies and any organisation having legal capacity.

1.4 Days shall have the meaning of calendar days; a year is made of 365 days.

Article 2. Law and language of the Contract

2.1 The ITER Organization is governed by international agreements ("Agreement on the Establishment of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project "so-called "ITER Agreement" and the "Agreement on the Privileges and Immunities of the ITER International Fusion Energy Organization for the Joint Implementation of the ITER Project") = establishing the ITER Organization and its privileges and immunities.

2.2 The applicable law for Contract interpretation is French law.

2.3 The language used shall be English.

Article 3. Communications

3.1 Official Communications between the ITER Organization and the Contractor shall be exclusively in writing. Unless otherwise specified in the Special Conditions, communications between the ITER Organization on the one hand, and the Contractor on the other hand, shall be sent by telex, fax transmission, e-mail or delivered by hand, to the addresses designated by the parties for that purpose.

3.2 If the person sending a communication requires acknowledgement of receipt, he shall indicate this in his communication. Whenever there is a deadline for the receipt of a written communication, the sender should ask for an acknowledgement of receipt of his communication. In any event, the sender shall take all necessary measures to ensure receipt of his communication.

3.3 Wherever the Contract provides for the giving or issue of any notice, consent, approval, certificate or decision, unless otherwise specified such notice, consent, approval, certificate or decision shall be in writing and the words "notify", "certify", "approve" or "decide" shall be construed accordingly. Any such consent, approval, certificate or decision shall not unreasonably be withheld or delayed.

Article 4. Performance of the Contract

4.1 The Contractor's obligations are stated in the Special Conditions and the other relevant Annexes. The Contractor accepts any obligation and all costs not expressly agreed in the contract that are nevertheless necessary to provide the services as described in the Contract.

4.2 The Contractor shall implement the Contract with due care and diligence. The Contractor shall have sole responsibility for complying with all legal obligations incumbent on him, notably those resulting from employment, tax and social legislation.

4.3 The Contractor shall have sole responsibility for taking the necessary steps to obtain any permits, visas, Intellectual Property rights or licenses required for performance of the Contract under the laws and regulations in force at the place(s) where the tasks assigned to him are to be executed. In particular, the Contractor is responsible for obtaining any export licenses, and such licenses shall be obtained within delivery period and are included in the contract price.

4.4 Any reference made to the Contractor's staff in the Contract shall relate exclusively to individuals involved in the performance of the Contract.

4.5 The Contractor must ensure that any staff performing the Contract has the professional qualifications and experience required for the execution of the tasks assigned to him.

4.6 The Contractor shall neither represent the ITER Organization nor behave in any way that would give such an impression. The Contractor shall inform third parties that he is not employee of the ITER Organization.

4.7 The Contractor shall have sole responsibility for the staff who executes the tasks assigned to him. The Contractor shall make provision for the following employment or service relationships with his staff:

- The staff executing the tasks assigned to the Contractor may not be given orders directly by the ITER Organization except for operational and safety matters necessary for the performance of the Services;
- The ITER Organization may not under any circumstances be considered to be the staff's employer and the said staff shall undertake not to invoke in respect of the ITER Organization any right arising from the contractual relationship between the ITER Organization and the Contractor.

4.8 In the event of a Contractor's staff does not correspond to the profile required by the Contract or the staff member does not perform as required in the Contract, the Contractor shall replace him without delay.. Replacement staff must have the necessary qualifications and be capable of performing the Contract under the same contractual conditions. The Contractor shall be responsible for any delay in the execution of the tasks assigned to him resulting from the replacement of staff in accordance with this Article.

4.9 The Contractor shall have in place, for the duration of the contract, a Project Manager able to provide the requested project management support and possessing all the competences required to perform the task. This function shall be described in the technical specifications describing the distribution of roles and responsibilities and the workflow.

4.10 The Contractor shall demonstrate that its organization takes into account that continuity is maintained through appropriate training and efficient handover during staff movements.

4.11 Under no circumstances, the Contractor shall accept or perform any task if not foreseen and for which no financial provision was agreed in the Contract.

4.12 Should any unforeseen event, action or omission directly or indirectly hamper execution of the tasks, either partially or totally, the Contractor shall immediately and on his own initiative record it and report it to the ITER Organization. The report shall include a description of the problem and an indication of the date on which it started and of the remedial action taken by the Contractor to ensure full compliance with his obligations under the Contract. In such event the Contractor shall give priority to solving the problem rather than determining liability.

4.13 In the event of the Contractor not complying with the scope of work assigned by the ITER Organization, the ITER Organization reserves the right to inform the Contractor of such erroneous or incorrect actions in writing.

In such instances, the ITER Organization reserves the right to instruct the Contractor to perform any re-work necessary to make good any erroneous work or services of his own volition at the Contractor's own cost. Such re-work will not be reimbursable and will be executed in a manner so as not to affect adversely on the progress of other parallel contract scope activity by the Contractor.

4.14 Should the Contractor fail to perform his obligations under the Contract in accordance with the provisions laid down therein, the ITER Organization may - without prejudice to its right to terminate the Contract - reduce payments in proportion to the scale of the failure.

4.15 For any interruption of services due to the Contractor and beyond the control of the ITER Organization, the Contractor is responsible to provide the ITER Organization with a recovery plan within 5 working days from the occurrence of such interruption.

Article 5. Replacement of Personnel

5.1 The Contractor shall make changes to the Contractor's personnel in the following cases:

a. In the event of death, in the event of illness or in the event of accident of Contractor's personnel;
b. If it becomes necessary to replace Contractor's personnel for any other reasons beyond the Contractor's control (e.g. resignation).

5.2 Where Contractor's personnel are to be replaced, the replacement staff must possess at least equivalent qualifications and experience. Where the Contractor is unable to provide a replacement with equivalent qualifications and/or experience, the ITER Organization may either decide to terminate the Contract, if the proper performance of it is jeopardized, or, if it considers that this is not the case, accept the replacement, provided that the rates of the latter are renegotiated to reflect the appropriate qualifications and/or experience.

5.3 Additional costs incurred due to the replacement are the responsibility of the Contractor. The ITER Organization shall make no payment for the period when the Contractor's to be replaced is absent. The replacement of any Contractor's staff, must be proposed by the Contractor within fifteen (15) calendar days from the first day of the Contractor's absence.

Article 6. Supply of documents

6.1 Within 30 days of the signature of the Contract, the ITER Organization shall, where necessary, provide the Contractor, free of charge, with a copy of the drawings prepared for the implementation of the Contract and a copy of the specifications and other Contract documents. The Contractor may purchase additional copies of these drawings, specifications and other documents, in so far as they are available. Upon termination of this Contract, the Contractor shall return to the ITER Organization all drawings, specifications and other documents given to him with the purpose of giving execution to the Contract.

6.2 Unless it is necessary for the purposes of the Contract, the drawings, specifications and other documents provided by the ITER Organization shall not be used or communicated to a third party by the Contractor without the prior consent of the ITER Organization.

Article 7. Performance guarantee

7.1 ITER Organization may request a performance guarantee. The Contractor shall, together with the return of the countersigned Contract, furnish ITER Organization with a guarantee for the full and proper execution of the Contract. The amount of the guarantee shall be specified in the Special Conditions.

7.2 The performance guarantee shall be held against payment to the ITER Organization for any loss resulting from the Contractor's failure to perform his contractual obligations fully and properly.

7.3 The performance guarantee shall be in the format provided by the ITER Organization and may be provided in the form of a first-demand bank guarantee.

7.4 The performance guarantee shall be denominated in the currency in which the Contract is payable. No payments shall be made in favour of the Contractor prior to the provision of the guarantee. The guarantee shall continue to remain valid until the Contract has been fully and properly performed.

7.5 During the execution of the Contract, if the natural or legal person providing the guarantee is not able to abide by his commitments, the guarantee shall cease to be valid. The ITER Organization shall give formal notice to the Contractor to provide a new guarantee on the same terms as the previous one. Should the Contractor fail to provide a new guarantee, ITER Organization may terminate the Contract. Before so doing, the ITER Organization shall send a registered letter with acknowledgement of receipt, which shall set a new deadline of no less than 15 days from the day of delivery of the letter to extend or provide a new guarantee.

7.6 The ITER Organization shall demand payment from the guarantee of all sums for which the guarantor is liable under the guarantee due to the Contractor's default under the Contract, in accordance with the terms of the guarantee and up to the value thereof. Before making any claim under the performance guarantee, ITER Organization shall notify the Contractor stating the nature of the default in respect of which the claim is to be made.

Article 8. Approval of Contractor's documents

8.1 The Contractor shall submit to the ITER Organization for approval:

- the drawings, documents, samples and/or models, according to the time limits and procedures laid down in the Technical Specifications and/or Special Conditions;
- such other documents as the ITER Organization may reasonably require for the implementation of the Contract.

The Contractor warrants that all the documentation delivered in the frame of the Contract shall:

- be fit for its intended purpose; and
- otherwise comply with the requirements set forth in the Technical Specifications.

8.2 The ITER Organization is committed to review the documents submitted by the Contractor, to provide comments for implementation by the Contractor, to approve the documents thereof or to reject them within the time specified in the Special Conditions. If a document is rejected the ITER Organization will provide the Contractor with the technical grounds that justify the rejection, the ITER Organization may also provide comments to the rejected document that the Contractor undertakes to implement in the revised document. Any rejected document must be modified according to the ITER Organization's comments and resubmitted by the Contractor without delay; this Article shall reapply to any documents resubmitted by the Contractor.

8.3 If the ITER Organization fails to notify its decision of approval referred to in Article 8.2 within the deadlines referred to in the Contract or the approved programme of implementation, such drawings, documents, samples or models shall be deemed to be approved on expiry of the deadlines. If no deadline is specified, they shall be deemed to be approved 30 days after receipt.

8.4 Approved drawings, documents, samples and models shall be signed or otherwise identified by the ITER Organisation and may only be departed from on ITER Organization's instructions. Any of the Contractor's drawings, documents, samples or models which the ITER Organization refuses to approve shall immediately be modified to meet the requirements of the ITER Organization and resubmitted by the Contractor for approval by the ITER Organization.

8.5 The approval of the drawings, documents, samples or models by the ITER Organization shall not relieve the Contractor from any of his obligations under the Contract.

8.6 ITER Organization shall have the right to inspect all drawings, documents, samples or models relating to the Contract at the Contractor's premises at all reasonable times.

Article 9. Liability

9.1 The ITER Organization shall not be liable for damage sustained by the Contractor in performance of the Contract except in the event of wilful misconduct or gross negligence on the part of the ITER Organization causing such damage.

9.2 The Contractor shall be liable for any loss or damage caused by himself in performance of the Contract, including in the event of subcontracting. The ITER Organization shall not be liable for any act or default on the part of the Contractor in performance of the Contract.

9.3 The Contractor shall hold harmless the ITER Organization in the event of any action, claim or proceeding brought against the ITER Organization by a third party as a result of damage caused by the Contractor in performance of the Contract. The Contractor shall indemnify and keep the ITER Organization free from any claims or complaints concerning any governmental or local fines, taxes, excises or assessments arising from failure by the Contractor to carry out its obligations under this contract.

9.4 In the event of any action brought by a third party against the ITER Organization in connection with performance of the Contract, the Contractor shall assist the ITER Organization. Expenditure incurred by the Contractor to this end shall be borne by the Contractor.

9.5 The Contractor shall respect and abide by all relevant laws and regulations in force in the territory where the services are performed and shall ensure that his personnel, Contractor's and subcontractors' personnel also respect and abide by all such laws and regulations. The Contractor shall hold harmless the ITER Organization against claims and proceedings arising from any

infringement by the Contractor, his personnel, Contractor's and subcontractors' personnel of such laws and regulations.

Article 10. Conflict of interest

10.1 The Contractor shall take all necessary measures to prevent any situation that could compromise the impartial and objective execution of the Contract. Such conflict of interest could arise in particular as a result of economic interest, political or national affinity, family or any other relevant connection or shared interest. Any conflict of interest which arises during the performance of the Contract shall be notified to the ITER Organization in writing without delay. In the event of the occurrence of such conflict, the Contractor shall immediately take all necessary steps to resolve it.

10.2 The ITER Organization reserves the right to verify that the remedying measures are adequate and may require additional measures to be taken, if necessary, within a time limit which it shall set. The Contractor shall ensure that his staff, board and directors are not placed in a situation which could give rise to conflicts of interest. Without prejudice to Article 5 the Contractor shall replace, immediately and without compensation from the ITER Organization, any member of his staff exposed to a conflict of interest situation.

10.3 By signing this Contract, the Contractor declares:

- that he has not made and will not make any offer of any type whatsoever from which an advantage can be derived under this Contract;
- that he has not granted and will not grant, has not sought and will not seek, has not attempted and will not attempt to obtain, and has not accepted and will not accept, any advantage, financial or in kind, to or from any third party whatsoever, where such advantage constitutes an illegal practice or involves corruption, either directly or indirectly, inasmuch as it is an incentive or reward relating to performance of the Contract.

10.4 The Contractor shall inform in writing the contractual obligations of the Parties to his staff, board members, and directors as well as to any other third party involved with the performance of the Contract. A copy of the instructions given and the undertakings made in this respect shall be sent to the ITER Organization should it so request.

Article 11. Payment

11.1 At the end of each of the periods indicated in Special Conditions, the Contractor shall submit to the ITER Organization a formal request for payment accompanied by the following documents:

- Any report or deliverable (technical) report in accordance with the instructions laid down in the Special Conditions;
- The relevant invoices indicating the reference number of the Contract to which they refer.

11.2 If the report is a condition for payment, on receipt the ITER Organization shall have such a period of time agreed upon the parties in which:

- To approve it, with or without comments or reservations;
- To suspend such period and request additional information; or
- To reject it and request a new report.

11.3 If the ITER Organization does not react within this period of time, the report shall be deemed to have been approved. Approval of the report does not imply recognition either of its regularity or of the authenticity, completeness or correctness of the declarations or information enclosed.

11.4 Where the ITER Organization requests a new report because the one previously submitted has been rejected, this shall be submitted within two weeks. The new report shall likewise be subject to the above provisions.

Article 12. General provisions concerning payments

12.1 Payments shall be deemed to have been made on the date on which the ITER Organization's account is debited.

12.2 The payment periods referred to in the Special Conditions may be suspended by the ITER Organization at any time if it informs the Contractor that his payment request is not admissible, either because the amount is not due or because the necessary supporting documents have not been properly produced. In case of doubt on the eligibility of the expenditure indicated in the payment request, the ITER Organization may suspend the time limit for payment for the purpose of further verification, including an on-the-spot check, in order to ascertain, prior to payment, that the expenditure is eligible.

12.3 The ITER Organization shall notify the Contractor accordingly by registered letter with acknowledgment of receipt or by email. Suspension shall take effect from the date of receipt of the letter. The remainder of the period referred to in the Special Conditions shall begin to run again once the suspension has been lifted.

12.4 In the event of late payment, without prejudice to Article 12.2 above, the Contractor may claim interest within two months of receiving the payment. Interest shall be calculated at the rate applied by the European Central Bank to its most recent main refinancing operations ("the reference rate") plus 1.5 percentage points ("the margin"). The reference rate in force on the first day of the month in which the payment is due shall apply. Such interest rate is published in the C series of the Official Journal of the European Union. Interest shall be payable for the period elapsing from the calendar day following expiry of the time limit for payment up to the day of payment. Suspension of payment by the ITER Organization may not be deemed to constitute late payment.

12.5 The ITER Organization may request Contractor's staff to travel and work at places other than ITER site, in this case travel mission expenses are claimed by the Contractor according to the following principles:

- Only economy class flights are reimbursed by the ITER Organization;
- Subsistence expenses reimbursement rate for the Contractor's employee shall be reimbursed at ITER Organization's per diem rates (DSA, daily subsistence allowance) for each overnight on mission, from the time of departure until the time of return, on the basis of the quickest, most direct route. If travelling lasts more than 30 consecutive days, the DSA will be reduced by 20% starting on the 31st day overnight inclusively;
- Travel by train (second or first class);
- Travel by private car reimbursement rate is 0.50 € / km plus toll and parking expenses when flight or train are not available;
- Visa expenses (only fees of embassy, consulate or visa centre) will be reimbursed.

12.6 All other expenses are considered to be included in the DSA. All claims for mission travel will be reimbursed only when supported by invoices and flight tickets.

Article 13. Recovery

13.1 If total payments made exceed to the amount actually due under the Contract or if justified in accordance with the terms of the Contract, the Contactor shall reimburse the appropriate amount in euro or other currency indicated in the contract on receipt of the debit note, in the manner and within the time limits set by the ITER Organization.

13.2 In the event of failure to pay by the deadline specified in the request for reimbursement, the sum due shall bear interest at the rate indicated in Article 12.4

Article 14. Property of the ITER Organization and Property of the Contractor

14.1 Where for the purpose of the Contract the ITER Organization provides to the Contractor access to drawings, files, technical data, computer programs, source codes, and any other item of property, the ITER Organization remains the sole owner of any item provided.

14.2 These items may only be used by the Contractor for the purposes of the Contract. The distribution, reproduction or use by a third party without prior written approval by ITER Organization is strictly forbidden.

14.3 All property of the Contractor while at the ITER Organization premises shall be at the risk of the Contractor and the ITER Organization shall accept no liability for any loss or damage to that property or caused by that property except where any such loss or damage was caused or contributed to by any act, neglect or default of any employee of the ITER Organization acting in the course of his employment. The ITER Organization shall accept liability only to the extent to which such loss or damage is so caused or contributed to.

Article 15. Intellectual Property Permits and Licenses

15.1 The Contractor shall be responsible for obtaining all permits and licenses required for the implementation of the Contract under the laws and regulations in force at the place(s) at which the works under the Contract are to be carried out, except as otherwise agreed by the Parties.

15.2 If the Contactor is unable to obtain any of the permits and licenses referred to above, he shall forthwith inform the ITER Organization, who after consultation with the Contractor and with due regard to the effect of this situation upon the works, shall decide whether all or any of the works are to be discontinued.

Article 16. Intellectual Property and Information

16.1 Definitions

The ITER Organization is submitted to the Annex on Information and Intellectual Property of the ITER Agreement. For the purposes of this Contract, the terms Information, Intellectual Property, Background Intellectual Property and Generated Intellectual Property shall have the meaning provided as follows, in compliance with the ITER Agreement and its IIP Annex:

"Intellectual Property" shall have the meaning defined in Article 2 of the Convention Establishing the World Intellectual Property Organization, done at Stockholm on July 14, 1967. It may include confidential information such as know-how or trade secrets provided that they are unpublished, and in written or otherwise documented form, and

a. have been held in confidence by their owner;
b. are not generally known or available to the public from other sources, and/or are not generally available to the public in printed publications and/or other readable documents;
c. have not been made available by their owner to other parties without an obligation concerning confidentiality; and
d. are not available to the receiving party without an obligation concerning confidentiality.

"Information" shall mean published data, drawings, designs, computations, reports and other documents, documented data or methods of research and development, as well as the description of inventions and discoveries, whether or not protectable, which are not covered by the term Intellectual Property as defined in the paragraph above.

"Background Intellectual Property" shall mean Intellectual Property that has been or is acquired, developed or produced, before the entry into force of the Contract, or outside the scope of this Contract.

"Generated Intellectual Property" shall mean Intellectual Property that is generated or acquired with full ownership by the ITER Organization pursuant to and in the course of the performance of this Contract.

16.2 Background Intellectual Property (hereinafter referred to as "BIP")

The Contractor shall declare in the Intellectual PropertyBIP declaration any Intellectual Property which is held by the Contractor prior to the signature of the Contract or outside its scope and which is required for carrying out the Contract or for using the supplied goods. The declaration shall provide detailed information on the origin and ownership of the BIP as well as any legal restrictions relating to its use of which the Contractor is aware. In cases where there is no BIP, a declaration specifically stating the non-existence of BIP should be submitted. The declaration of the BIP constitutes part of the Contract.

Any other BIP identified after the signature of the Contract may only be added to the BIP declaration after approval of the IO. The Contractor shall justify why the existence of such BIP could not be invoked prior to the signature of the Contract and the IO shall decide if the addition may be accepted.

In case where the BIP belongs to a third party, its use was granted to the Contractor under a license agreement, the Contractor shall obtain from that third party all the rights allowing use of the BIP in conformity with this license agreement.

If all or part of the BIP is confidential, it must be clearly identified so in the declaration and special additional measures may be agreed between the Contractor and the ITER Organization to preserve its confidentiality.

BIP shall remain the property of the Contractor or the third party that owns this Intellectual Property.

The Contractor shall provide the ITER Organization or shall ensure the ITER Organization is provided a worldwide, non-exclusive, irrevocable, royalty-free licence to use the BIP if the BIP is required for carrying out the Contract and/or if the BIP is needed for the use of the Generated Intellectual Property developed under the Contractor for the use of the goods supplied under the Contract with the right for the ITER Organization to sub-license to the ITER Members under the same conditions and with the right for the ITER Members to sub-license within their respective territory for the purpose of fusion research and development.

The Contractor shall grant on fair and reasonable conditions to any third party nominated by the ITER Organization for the purpose of fulfilling a contract with the ITER Organization a license to use the BIP if such BIP is needed for using the Generated Intellectual Property under the Contract or the goods supplied under the Contract.

16.3 Ownership of the results and of Generated Intellectual Property

Any results (including reports and data such as maps, diagrams, drawings, specifications, plans, statistics, calculations, databases, software and supporting records or materials) or rights thereon, including copyright and other Intellectual Property rights, obtained/generated in the performance of the Contract (including those obtained/generated by subcontractors) shall be transmitted/reported without delay to the ITER Organization using the form provided in the Contract and shall be owned solely by the ITER Organization, which may use, publish, assign or transfer them as it sees fit, without geographical or other limitations, in compliance with the Intellectual Property rights existing prior to the Contract being entered into.

The Contractor shall upon completion of the Contract, deliver all such results to the ITER Organization. The Contractor may not retain copies of such documents and data and shall not use them for purposes unrelated to the Contract without the prior written consent of the ITER Organization.

The Generated Intellectual Property (GIP) resulting from the execution of the Contract is established by, inter alia, a comparison between the overall results of the Contract and the pre-existing knowledge and information incorporated in the BIP declaration. Any relevant information or knowledge not indicated in the BIP declaration will be considered as GIP. The Contractor shall therefore identify all the tasks leading to the results as well as the results themselves that can take the form of an invention, information, business confidential information, trade secrets, software, a database etc. The Contractor shall provide the GIP declaration as soon as the GIP is created.

If the Contractor wishes to use the GIP for his own needs, the ITER Organization shall grant permission on terms to be agreed.

The Contractor shall not publish articles relating to the supplies/services or refer to them when carrying out any services for others, or divulge information obtained from the ITER Organization, without the prior consent of the ITER Organization.

Intellectual Property The Parties acknowledge and expressly agree that the contract price is understood to be inclusive of all fees, royalties, and any other payment which may have been due by the ITER Organization to the Contractor for the above mentioned Intellectual Property rights.

The Contractor shall systematically and in due time report to the ITER Organization any creation of Generated IP using the form provided in to this Contract.

16.4 Management of Intellectual Property

The ITER Organization and the Contractor shall communicate to each other any information concerning Intellectual Property, which may impede the performance of the Contract.

At the first indication of any action and in particular the lodging of a claim for the Intellectual Property rights by a third party, even after performance of the Contract, the party implicated shall notify the other party thereof without delay, whereupon both Parties shall act jointly and shall exchange all information and evidence, which they may possess or obtain.

The fact that the supply or any part thereof is covered by an Intellectual Property owned by the Contractor, or in respect of which he possesses a license, shall not prevent the ITER Organization from repairing or causing repairs to be made to such a supply by whomsoever it may think fit, if the Contractor after having been consulted in the first instance cannot effect the repairs within a reasonable time limit and at a reasonable price.

In order to facilitate the management of Intellectual Property within the Contract and to ensure that Intellectual Property is duly protected where necessary, the Contractor shall report on the status of Intellectual Property in the context of the progress meetings with ITER Organization. During these progress meetings the Contractor shall give account of the status of the protection of the IP, creation of Generated IP, requests for access rights and any other IP related issue that may affect the proper execution of the Contract.

16.5 Third Party Intellectual Property Rights

The Contractor explicitly warrants and represents that in carrying out its activities in the Contract shall not infringe or misuse any third party Intellectual Property Rights.

The Contractor shall indemnify and hold harmless the ITER Organization concerning any claims against or costs, losses or damages, suffered or incurred by the ITER Organization, arising out of or in any way in connection with, any actual or alleged infringement or misuse of any Intellectual Property Rights:

- by the Contractor;
- arising out, or in any way in connection with, the carrying out of the Contractor's activities related to the Contract;
- arising out, or in any way in connection with, the exercise of Intellectual Property Rights granted to ITER Organization pursuant to this Contract.

Article 17. Confidentiality

17.1 The Contractor undertakes to treat in the strictest confidence and not make use of or divulge to third parties any information or documents which are linked to performance of the Contract. The Contractor shall continue to be bound by this undertaking after completion of the tasks and termination of the contract.

17.2 The Contractor shall obtain from each member of his staff, board and directors an undertaking that they will respect the confidentiality of any information which is linked, directly or indirectly, to execution of the tasks and that they will not divulge to third parties or use for their own benefit or

that of any third party any document or information not available publicly, even after completion of the tasks.

Article 18. Use, distribution and publication of information

18.1 The Contractor shall authorise the ITER Organization to process, use, distribute and publish, for whatever purpose, by whatever means and on whatever medium, any data contained in or relating to the Contract..

18.2 Unless otherwise provided by the Special Conditions, the ITER Organization shall not be required to distribute or publish documents or information supplied in performance of the Contract. If it decides not to publish the documents or information supplied, the Contractor may not have them distributed or published elsewhere without prior written authorisation from the ITER Organization.

18.3 Any distribution or publication of information relating to the Contract by the Contractor shall require prior written authorisation from the ITER Organization. It shall state that the opinions expressed are those of the Contractor only and do not represent the ITER Organization's official position.

18.4 The use of information obtained by the Contractor in the course of the Contract for purposes other than its performance shall be forbidden, unless the ITER Organization has specifically given prior written authorisation to the contrary.

Article 19. Taxation

19.1 The Contractor shall have responsibility for compliance with the tax laws which apply to him. Failure to comply shall make the relevant invoices invalid.

19.2 The Contractor recognises that the ITER Organization is exempt from all taxes and duties, including value added tax (VAT) pursuant to the international agreement on the privileges and immunities of the ITER Organization

19.3 The Contractor shall complete the necessary formalities with the relevant authorities to ensure that the goods and services required for performance of the Contract are exempt from taxes, duties including VAT.

19.4 Only if the direct exemption of taxes and duties at the source is legally not possible, the Contractor shall invoice them. This applies in particular to VAT invoiced in France.

19.5 In cases of Article 19.4 above, invoices presented by the Contractor shall indicate his place of taxation for VAT purposes and shall specify separately the amounts not including VAT and the amounts including VAT.

Article 20. Force majeure

20.1 Force majeure shall mean any unforeseeable and exceptional situation or event beyond the control of the contracting parties which prevents either of them from performing any of their obligations under the Contract, was not due to error or negligence on their part or on the part of a subcontractor, and could not have been avoided by the exercise of due diligence. Defects in equipment or material or delays in making it available, labour disputes, strikes or financial

problems cannot be invoked as force majeure unless they stem directly from a relevant case of force majeure.

20.2 If either contracting party is faced with force majeure, it shall notify the other party without delay by registered letter with acknowledgment of receipt or equivalent, stating the nature, likely duration and foreseeable effects.

20.3 Neither contracting party shall be held in breach of its contractual obligations if it has been prevented from performing them by force majeure. Where the Contractor is unable to perform his contractual obligations owing to force majeure, he shall have the right to remuneration only for tasks actually executed.

20.4 The contracting parties shall take the necessary measures to reduce damage to a minimum.

Article 21. Subcontracting

21.1 The Contractor shall not subcontract without prior written authorisation from the ITER Organization nor cause the Contract to be performed in fact by third parties.

21.2 Even where the ITER Organization authorises the Contractor to subcontract to third parties, he shall none the less remain bound by his obligations to the ITER Organization under the Contract and shall bear exclusive liability for proper performance of the Contract.

21.3 The Contractor shall make sure that the subcontract does not affect rights and guarantees to which the ITER Organization is entitled by virtue of the Contract.

Article 22. Assignment

22.1 The Contractor shall not assign the rights and obligations arising from the Contract, in whole or in part, without prior written authorisation from the ITER Organization.

22.2 In the absence of the above authorisation or in the event of failure to observe the terms thereof, assignment by the Contractor shall not be enforceable against and shall have no effect on the ITER Organization.

Article 23. Termination by the ITER Organization

23.1 The ITER Organization may, after giving the Contractor 15 days' prior notice, terminate the Contract in any of the following cases:

a. where the Contractor fails to fulfil its contractual obligations, after receiving formal notice in writing to comply, specifying the nature of the alleged failure, and after being given the opportunity to remedy the failure within a reasonable period following receipt of the formal notice, remains in serious breach of his contractual obligations;

b. where the Contractor is being wound up, is having his affairs administered by the courts, has entered into an arrangement with creditors, has suspended business activities, is the subject of proceedings concerning those matters, or is in any analogous situation arising from a similar procedure provided for in national legislation ;

c. where the Contractor has been convicted of an offence concerning his professional conduct by a judgment which has the force of res judicata;

d. where the Contractor has been guilty of grave professional misconduct proven by any means

which the ITER Organization can justify;

e. where the Contractor has not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which he is established or with those of the country applicable to the Contract or those of the country where the Contract is to be performed;

f. the Contractor has been convicted of fraud, corruption, involvement in a criminal organization or any other illegal activity detrimental to the ITER Organization's financial interest;

g. where the Contractor was guilty of misrepresentation in supplying the information required by the ITER Organization as a condition of participation in the Contract procedure or failed to supply this information;

h. where a change in the Contractor's legal, equity , technical or organizational situation could, in the ITER Organization's opinion, have a significant effect on the performance of the Contract. The decision shall be substantiated by a report of independent auditors to be nominated by the ITER Organization;

i. where the Contractor is unable, through his own fault, to obtain any permit or license required for performance of the Contract.

23.2 Termination shall be without prejudice to any other rights or powers of the ITER Organization and the Contractor under the Contract. The ITER Organization may, thereafter, conclude a Contract with a third party to remedy the failures of the Contractor. The Contractor's liability for delay in completion shall immediately cease upon termination without prejudice to any liability there under that may already have occurred.

23.3 The ITER Organization shall, upon the issue of the notice of termination of the Contract, instruct the Contractor to take immediate steps to bring the implementation of the supplies to a close in a prompt and orderly manner and to reduce expenditure to a minimum.

23.4 In the event of termination, the ITER Organization shall, as soon as possible and in the presence of the Contractor or his representatives or having duly summoned them, draw up a report on the supplies delivered and the work performed and take an inventory of the materials supplied and unused. A statement shall also be drawn up of monies due to the Contractor and of monies owed by the Contractor to the ITER Organization as at the date of termination of the Contract.

23.5 The ITER Organization shall not be obliged to make any further payments to the Contractor until the services are completed, whereupon the ITER Organization shall be entitled to recover from the Contractor the extra costs, if any, of providing the supplies or shall pay any balance due to the Contractor prior to the termination of the Contract.

23.6 If the ITER Organization terminates the Contract it shall be entitled to recover from the Contractor any loss it has suffered as a result of the termination.

Article 24. Termination by convenience by the ITER Organization

24.1 The ITER Organization may, of its own volition and without being required to pay compensation, terminate the Contract by serving a 15 days formal prior notice. Should the ITER Organization terminate the Contract, the Contractor shall only be entitled to payment corresponding to the services delivered and objectively justified irrevocable commitments entered into before the termination date. On receipt of the letter terminating the Contract, the Contractor shall take all

appropriate measures to minimise costs, prevent damage, and cancel or reduce his commitments. He shall draw up technical and financial reports for services rendered and irrevocable commitments up to the date on which termination takes effect, within a period not exceeding sixty days from that date.

24.2 The ownership of all documents, drawings, Intellectual Property rights, partially delivered services and unfinished work paid for by the ITER Organization under the provisions of this contract shall be vested in or transferred to the ITER Organization.

Article 25. Termination by the Contractor

25.1 If the ITER Organization is in material breach of its obligation under this Contract and pending that the Contractor can provide evidence that reasonable measures have been taken to eliminate or limit the consequences of said the ITER Organization's omissions or delays on his own performance, the Contractor may give notice to the ITER Organization requesting the ITER Organization to remedy to the said failure within 60 calendar days. Termination may only take place after the Parties have made all efforts to agree on corrective measures. Should the failure of the ITER Organization be not corrected, the Contractor shall send a letter mentioning the terminations reasons. Termination cannot take effect before 6 months unless otherwise agreed between the Parties. The Contractor may only claim any sums due by the ITER Organization for the Services performed prior to the effective date of termination of the Contract. The ITER Organization shall not be liable to pay compensation for loss of profits or any consequential damages.

Article 26.Substantial errors, irregularities and fraud attributable to the Contractor

Where, after the award of the Contract, the award procedure or the performance of the Contract prove to have been subject to substantial errors, irregularities or fraud, and where such errors, irregularities or fraud are attributable to the Contractor, the ITER Organization may refuse to make payments, may recover amounts already paid or may terminate all the contracts concluded with the Contractor in application of Article 21 above, in proportion to the seriousness of the errors, irregularities of fraud.

Article 27. Joint and several liability

When the Contractor is a joint venture or consortium, all partners of such an undertaking agree hereby to the ITER Organization that they shall exercise and will continue to exercise, in the performance of the Services and their other duties, obligations and liabilities pursuant to this Contract, all such reasonable skill, care and diligence as may be expected of a properly qualified and competent company experienced in carrying out work of a similar size, scope and complexity to the services, and the other duties, obligations and liabilities of the Contractor pursuant to this Contract in respect of the Services, and shall be jointly and severally liable to the ITER Organization for any failure.

Article 28. Insurances

The Contractor shall take out insurance against risks and damage relating to performance of the Contract and those required by the relevant applicable legislation. He shall also take out supplementary insurance as reasonably required by standard practice in the industry and/or stipulated in the Special Conditions and/or Technical Specifications. A copy of all the relevant insurance contracts shall be sent to the ITER Organization should it so request.

Article 29. Liquidated damages

29.1 Liquidated Damages payable under this Contract are the following:

- Liquidated Damages are agreed genuine pre-estimates of the losses incurred by the ITER Organization that may be reasonably anticipated from such failure to perform obligations;
- The amount of the Liquidated Damages will be a debt due by the Contractor to the ITER Organization;
- The ITER Organization shall have the right to deduct the amount accrued as Liquidated Damages from any debt or money due by the ITER Organization to the Contractor.

29.2 Should the Contractor fail to perform his obligations under the Contract within the time limits set by the Contract, then, without prejudice to the Contractor's actual or potential liability incurred in relation to the Contract or to the ITER Organization's right to terminate the Contract, the ITER Organization shall impose liquidated damages of a percentage of the contract price per calendar day of delay. In the case of deliverable-based contract, liquidated damages shall apply to each milestone in the amount of 0.2% of total value of each milestone payment detailed per calendar day of delay of a milestone its value, unless otherwise stipulated in the Special Conditions, with a maximum cumulative ceiling of 10% of the value of total contract price.

29.3 The Contractor may submit arguments against this decision within thirty days of notification by registered letter with acknowledgement of receipt or equivalent. In the absence of reaction on his part or of written withdrawal by the ITER Organization within thirty days of the receipt of such arguments, the decision imposing the liquidated damages shall become enforceable.

Article 30. Liquidated damages for non-availability (fee-based contracts)

30.1 If, during performance of the Contract, the Services are not available as required the Contractor shall pay liquidated damages of EUR 500.00 (five hundred euros) for each commenced calendar day for service not performed. Liquidated damages shall also be due if the service is partially available but the failure to provide the full availability of the service causes delay or results in the ITER Organization incurring additional costs.

30.2 The maximum amount of liquidated damages for non-availability applicable in any year shall be 10% of the annual price for the Service.

Article 31. Amendments

Any amendment to the Contract shall be the subject of a written agreement concluded by the contracting parties. An oral agreement shall not be binding on the contracting parties.

Article 32. Suspension of the Contract

Without prejudice to the ITER Organization's right to terminate the Contract, the ITER Organization may at any time and for any reason suspend execution of the tasks under the Contract or any part thereof. Suspension shall take effect on the day the Contractor receives notification by registered letter with acknowledgment of receipt or equivalent, or at a later date where the notification so provides. The ITER Organization may within sixty (60) calendar days following suspension give notice to the Contractor to resume the work suspended or terminate the Contract following Article 21. If the suspension under this article is cancelled or the period of the notification or any extension thereof expires, the Contractor shall resume work. The ITER Organization will make an equitable adjustment in the delivery schedule or contract price, or both, and the Contract shall be modified, in writing, accordingly if 1) the suspension results in an increase in the time required for, or in the Contractor's cost properly allocable to the performance of any part of the Contract; and 2) the Contractor asserts its right to the adjustment within thirty (30) days after receiving it.

Article 33. Settlement of disputes

33.1 In the event of any dispute arising out of or in connection with the present Contract, the parties agree to submit the matter to settlement proceedings under the International Chamber of Commerce dispute settlement mediation ICC Mediation Rules.

33.2 If the dispute has not been settled pursuant to the said ICC Mediation Rules within 45 days following the filing of a request for mediation or within such other period as the parties may agree in writing, such dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce of Paris by one or more arbitrators appointed in accordance with the said Rules of Arbitration. The arbitration proceedings in English shall take place in Paris, unless otherwise agreed by the parties.

Article 34. Ethics clauses

34.1 The Contractor must at all times act impartially and as a faithful adviser in accordance with the code of conduct of his profession. He shall refrain from making public statements about the project or services without the ITER Organization's prior approval. He may not commit the ITER Organization in any way without its prior written consent.

34.2 For the duration of the Contract the Contractor and his staff shall respect human rights and undertake not to offend the political, cultural and religious mores.

34.3 The Contractor may accept no payment connected with the Contract other than that provided for therein. The Contractor and his staff must not exercise any activity or receive any advantage inconsistent with their obligations to the ITER Organization.

34.4 The Contractor and his staff shall be obliged to maintain professional secrecy for the entire duration of the Contract and after its completion. All reports and documents drawn up or received by the Contractor shall be confidential.

34.5 The Contract shall govern the parties' use of all reports and documents drawn up, received or presented by them during the execution of the Contract.

34.6 The Contractor shall refrain from any relationship likely to compromise his independence or that of his staff. If the Contractor ceases to be independent, the ITER Organization may, regardless of injury, terminate the Contract without further notice and without the Contractor having any claim to compensation.

34.7 The ITER Organization reserves the right to suspend or cancel the Contract if corrupt practices of any kind are discovered at any stage of the award process and if the Contractor fails to take all appropriate measures to remedy the situation. For the purposes of this provision, "corrupt practices" are the offer of a bribe, gift, gratuity or commission to any person as an inducement or reward for performing or refraining from any act relating to the award of a Contract or implementation of a Contract already concluded with the ITER Organization.

34.8 Such unusual commercial expenses are commissions not mentioned in the main Contract or not stemming from a properly concluded Contract referring to the main Contract, commissions not paid in return for any actual and legitimate service, commissions remitted to a tax haven, commissions paid to a recipient who is not clearly identified or commissions paid to a company which has every appearance of being a front company.

34.9 The Contractor undertakes to supply the ITER Organization on request with all supporting documents relating to the conditions of the Contract's execution. The ITER Organization may carry out whatever documentary or on-the-spot checks it deems necessary to find evidence in cases of suspected unusual commercial expenses.

Article 35. Financial audits

35.1 The Contractor will allow the ITER Project designated auditors to audit the implementation of the Contract and conduct a full audit, if necessary, on the basis of supporting documents for the accounts, accounting documents and any other document relevant to the financing of the Contract. These audits may take place up to 5 years after the final payment.

35.2 To this end, the Contractor undertakes to give appropriate access, with three day notice, to designated auditors to the sites and locations at which the Contract is carried out, including its information systems, as well as all documents and databases concerning the technical and financial management of the Contract and to take all steps to facilitate their work. Access given shall be on the basis of confidentiality with respect to third parties, without prejudice to the obligations of public law to which they are subject. Documents must be easily accessible and filed so as to facilitate their examination.

Article 36. Performance Assessment

36.1 Three (3) months before the end of each year of the Contract, an assessment of the completion of the work may be performed by the ITER Organization (e.g. technical quality of the work, schedule compliance, capability to solve technical issues).

Such assessment shall be based on the following indicators:

- number of revisions / versions before approval of the deliverables;
- percentage deliveries on schedule;
- continuity of services;

- proper implementation of provisions for replacement of personnel.

Article 37. Internet Policy Compliance

37.1 The Contractor shall observe the following stipulations concerning the Internet Access Policy:

a. The Contractor must ensure that his employees comply with the ITER Organization's Internet access services and any restrictions and requirements designed to protect the ITER Organization's information, its computing resources and reputation;

b. On-site Contractor's staff using the ITER Organization Internet access service shall in particular:

- Ensure that their use of the service is wholly consistent with the purpose of the contract;
- Ensure that all communications are clearly marked with the name of the Company using them;
- Ensure that their use of the service does not bring the ITER Organization into disrepute;
- Notify immediately the ITER Organization's Security Officer of any actual or suspected security threat to the ITER Organization's automation resources.

37.2 On-site Contractor's staff using the ITER Organization Internet access service shall not:

a. Attempt to bypass any of the ITER Organization's security mechanisms either from within or outside the ITER Organization's premises.

b. Violate any national law by using the service. These laws generally prohibit the unauthorized alteration, modification, damage, destruction, or access to software or information, and also theft of services, fraud and embezzlement by using automated systems.

c. Make copies of copyrighted material, store such copies on the ITER Organization systems, place copies on the Internet or transmit them over the ITER Organization's networks.

d. Use the service for financial gain or private purposes (for example, conduct private business).

e. Use the service to conduct company business other than that covered by the Contract.

f. Use the service to intentionally copy computer programs from the Internet.

g. Use the service in any way that would expose the ITER Organization to claims of civil liability, for instance by:

- Transmitting defamatory (libelous or scandalous) statements;
- Transmitting, receiving or copying obscene material;
- Using offensive languages.

37.3 The ITER Organization's System Administrator may access and view an electronic mail, if this is necessary when investigating or correcting an operational problem. Consequently the ITER Organization shall not guarantee the privacy or confidentiality of the correspondence and use of the Internet access service by the Contractor's employees. Verification of same may be made each year by the ITER Organization by carrying out a random check in order to verify the correct use of access to the Internet.

ANNEX VII
DECLARATION OF BACKGROUND INTELLECTUAL PROPERTY

TO BE COMPLETED, SIGNED & RETURNED ON TENDERER'S LETTERHEAD
If there is no declarations the form must still be signed and returned with a mention as "not applicable".

Contract: HOF and HIRA in support of the development of Equatorial Ports #08 and #17 with integrated diagnostic and Disruption Mitigation Systems
Reference: IO/*21/CFE/10022459/INU*

The present form is to be used to report on the existing background. This document is not an assignment. It simply provides a disclosure of your background to ITER Organization and to any other Contractor if any.

A printed copy of this annex will be attached as part of the agreement between the Contractor and ITER Organization. Access rights, where applicable, will be based on the present declaration.

Background shall mean Intellectual Property or Information which is held by the Contractor prior to the signature of the Contract or outside its scope and which is needed for carrying out the Contract/Grant or for using the supplied goods

As appropriate, please respond to the queries in this form with brief comments and not simply state "yes" and "no". Please feel free to provide additional comments if deemed necessary.

IMPORTANT NOTICE:
I, declare the information contained in this form is correct to the best of my knowledge.

Name : _____

Signature: _____

Date : _____

Declaration Form (Background Intellectual Property Right) – PATENTS

(A)

Short title of the invention:							
Description:							
Is this background necessary to carry out the project?	NO		Explain:				
	YES						
Publications:							
Name of Inventor(s):							
Patented (yes / No) :							
Type of patent*	Filing date	Filing number	Grant date	Grant number	Expiration date	Owner	
Inventor(s):							

** If the same technology has been protected through a family of patents, please give details of all the patents. Include further rows if necessary.*

(B) List of licences granted with regard to the above patent

Lincensee	Type of licence	Expiration date	Countries	Royalty	Payment terms	Exclusivity	Registered?

Declaration Form (Background Intellectual Property Right) - COPYRIGHT

(A)

Short title of the work:						
Description:						
Is this background necessary to carry out the project?	NO		Explain:			
	YES					
Are there are any related rights involved, such as of producers, publishers, broadcasters, etc Please explain						
Publications:						
Name of creator(s):						
Ownership of the work:						
Legal Deposit (yes / No) :						
If yes	Name of notary or collecting society :		Date of deposit:		Registration Number:	

(B) List of licences granted with regard to the above copyright

Lincensee	Type of licence	Expiration date	Countries	Royalty	Payment terms	Exclusivity	Registered?

Declaration Form (Background Intellectual Property Right) - SOFTWARE/DATABASE

A)

Short title of the work:						
Description (including details of the intended purpose, programming language, hardware minimun requirements, etc…)						
Is this background necessary to carry out the project?	NO		Explain:			
	YES					
Please describe the new and original aspects of the creation						
Has any third party proprietary technology been used for the development of the software/database? Please give details						
Has any open source or free software components been used for the development of the software/database? Please give details						
For databases only: Has any data protected by third party copyright been used in the database? Please give details						
Publications:						
Name of creator(s):						
Ownership of the work:						
Legal Deposit (yes / No) :						
If yes	Name of notary or collecting society :		Date of deposit:		Registration Number:	

B) List of licences granted with regard to the above software/database

Lincensee	Type of licence	Expiration date	Countries	Royalty	Payment terms	Exclusivity	Registered?

Declaration Form (Background Intellectual Property Right) – TRADEMARKS

A)

Trademark			
Is this TM necessary to carry out the project?	NO		Explain:
	YES		
Owner			
Description			
Lis of classes (Nice classification)			

Territorial Scope of the TM*	Filing date	Filing number	Type of mark *	Registration date	TM origin **	Expiration date	Owner

* If the same sign has been protected through different TM registrations please provide details for each application/registration

B) List of licences granted with regard to the above trademark

Lincensee	Type of licence	Expiration date	Countries	Royalty	Payment terms	Exclusivity	Registered?

Type of the trade marks
- Word
- Figurative
- 3D
- Colour
- Sound
- Hologram
- Olfactory

Trade Mark origin
- International Application
- National Application
- Community Trade mark

Declaration Form (Background Intellectual Property Right) - KNOW HOW & TRADE SECRETS

Short title of the know how or trade secret:			
Description:			
Is this background necessary to carry out the project?	NO		Explain:
	YES		
Name of creator(s):			

Has the relevant information been made available to any third party	
NO	
YES	

Third parties to whom the information has been disclosed	NDA* (yes/no)	Date of NDA

* NDA stands for "Non Disclosure Agreement"

B) List of licences granted with regard to the above knowhow or trade secrets

Lincensee	Type of licence	Expiration date	Countries	Royalty	Payment terms	Exclusivity	Registered?

china eu india japan korea russia usa
Route de Vinon-sur-Verdon - CS 90 046 - 13067 St Paul Lez Durance Cedex
- France

Confidentiality Commitment[1]

HOF and HIRA in support of the development of Equatorial Ports #08 and #17 with integrated diagnostic and Disruption Mitigation Systems
IO/21/CFE/10022459/INU

I, the undersigned, hereby declare that I agree to undertake the tasks assigned to me under the above mentioned contract*.

I undertake to perform my duties honestly and fairly. My contribution to the activities in which I will be involved will be objective and will fully respect the principles of fairness and impartiality.

I undertake to hold in trust and confidence any ITER Project related information or documents. I undertake to use them only for the purposes of executing the tasks assigned to me and not to disclose them to any third party, including my employer.

I will endeavour to avoid any conflict of interest situation, either direct or indirect. Should any such situation arise, I will promptly inform the relevant Responsible Officer. I undertake neither to assist nor be associated with any external entity seeking to obtain contracts under the ITER project.

I understand that I will be held personally responsible for maintaining the confidentiality of any documents or electronic files received and for returning, erasing or destroying all confidential documents or files upon completing the tasks, unless otherwise instructed.

On conclusion of my assignment I will remain obligated to preserve the confidentiality for a period of 5 years.

Name:

Signature:

Date:

1 To be completed and signed by Contractor's staff to ensure confidentiality of all information available while working for the IO