

外部委託業者の募集

References: IO/23/OT/10027850/JPA

“Pipe removal of VVTS”

(VVTS の配管除去)

IO 締め切り 2024 年 1 月 22 日(月)

〇はじめに

本事前情報通知 (PIN) は、作業契約の入札授与および実行につながる公開入札調達プロセスの最初のステップです。

本文書の目的は作業範囲と入札プロセスに関する技術的な内容の基本的な要約を提供することです。

〇背景

ITER は平和利用の核融合発電の科学的小および技術的な実現可能性の実証を目的とした、国際共同研究開発プロジェクトです。ITER 機構の 7 つのメンバーは、欧州連合 (EURATOM が代表)、日本、中華人民共和国、インド、大韓民国、ロシア連邦、および米国です。

ITER の敷地はフランス南東部のブーシュデュローヌ地区にあり、ITER 本社 (HQ) もあるフランス CEA サン・ポール・レ・デュランス に近いところに位置しています。詳細については、ITER のウェブサイト <http://www.iter.org> を参照して下さい。

〇作業範囲

この調達の範囲は VVTS の配管除去です。

以前据付られたセクターからの解体後、IO は交換と修理の両方の作業を開始し、2024 年中に予定されている組立作業の再開に利用できる新しい VVTS セットの提供を計画しています。この戦略には、新しいパネルの再調達とは別に、パネルの修理の試みも含まれています。ITER プロジェクトで再利用する影響を受けるパネルの数分がそれにあたります。

この契約は、VV 熱シールドの配管除去と題し、不規則な熱シールドセクタ上の冷却パイプを除去するものです。

詳細については、付属書 II の技術仕様書 7J92LQ v1.5 を参照下さい。

〇調達プロセスと目的

目的は、競争入札プロセスを通じて供給契約を落札することです。

この入札のために選択された調達手続きは公開入札手続きと呼ばれます。

オープン入札手順は、次の 4 つの主要なステップで構成されています。

➤ ステップ 1-事前情報通知 (PIN)

事前情報通知は公開入札プロセスの第一段階です。IO は、関心のある候補企業に対し、以下

の概略日程に示された期日までに担当調達担当官に添付の関心表明フォームで以下の情報を提出し、競争プロセスへの関心を示すよう正式に要請します。

- 会社名
- 登録の国名
- 担当者名、email アドレス、肩書および電話番号

特に注意:

関心のある候補企業は、IO Ariba の電子調達ツール「IPROC」に登録してください（まだ登録していない場合）。手順については、

<https://www.iter.org/fr/proc/overview>

を参照してください。

Ariba (IPROC) に登録する際には、お取引先様に最低 1 名の担当者の登録をお願いします。この連絡担当者は、提案依頼書の発行通知を受け取り、必要と思われる場合は入札書類を同僚に転送することができます。

➤ ステップ 2-入札への招待

PIN の発行から 10 作業日経過後、提案依頼書 (RFP) を「IPROC」に掲載します。この段階では、担当の調達担当者に関心を示し、かつ IPROC に登録している関心のある候補企業は、RFP が公表された旨の通知を受けることができます。その後、RFP に詳述されている入札説明書に従って提案書を作成し、提出します。

このツールに登録されている企業のみが入札に招待されます。

➤ ステップ 3-入札評価プロセス

入札者の提案は、IO の公平な評価委員会によって評価されます。入札者は、技術的範囲に沿って、かつ、RFP に記載された特定の基準に従って作業を実施するために、技術的遵守を証明する詳細を提供しなければなりません。

➤ ステップ 4-落札

認定は、公開されている RFP に記載されている、コストに見合った最適な価格または技術的に準拠した最低価格に基づいて行われます。

○概略日程

概略日程は以下の通りです：

マイルストーン	暫定日程
事前指示書 (PIN) の発行	2024 年 1 月 12 日
関心表明フォームの提出	2024 年 1 月 22 日

iPROC での入札への招待 (ITT) の発行	2024 年 1 月 22 日
明確化のための質問の締め切り	2024 年 2 月 20 日
明確化のための質問への回答締め切り	2024 年 2 月 23 日
入札提出	2024 年 3 月 4 日
契約授与	2024 年 3 月
契約調印	2024 年 3 月

○契約期間と実行

ITER機構は2024年の3月ごろ供給契約を授与する予定です。予想される契約期間は38週間の予定です。

○経験

契約者は、IO の規則と安全性の要求に十分に準拠する能力と経験を持っていることを示す必要があります。

○候補

参加は、個人またはグループ/コンソーシアムに参加するすべての法人に開放されます。法人とは、法的権利及び義務を有し、ITER 加盟国内に設立された個人、企業又は機構をいいます。ITER 加盟国は欧州連合(EURATOM メンバー)、日本、中華人民共和国、インド共和国、大韓民国、ロシア連邦、アメリカ合衆国です。

法人は、単独で、またはコンソーシアムパートナーとして、同じ契約の複数の申請または入札に参加することはできません。共同事業体は、恒久的な、法的に確立されたグループ又は特定の入札手続のために非公式に構成されたグループとすることができます。

コンソーシアムのすべての構成員(すなわち、リーダーと他のすべてのメンバー)は、ITER 機構に対して連帯して責任を負います。

コンソーシアムとして許可されるために、その点で含まれる法人はコンソーシアムの各メンバーをまとめる権限をもつリーダーをもたなければなりません。このリーダーはコンソーシアムの各目メンバーのために責任を負わなければなりません。

指名されたコンソーシアムのリーダーは、入札段階で、コンソーシアムのメンバーの構成を説明する予定です。その後、候補者の構成は、いかなる変更も ITER 機構に通知することなく変更してはなりません。かかる認可の証拠は、すべてのコンソーシアムメンバーの法的に授権された署名者が署名した委任状の形式で、しかるべき時期に IO に提出しなければなりません。

どのコンソーシアムメンバーも IPROC に登録する必要があります。

【※ 詳しくは添付の英語版技術仕様書「**Pipe removal of VVTS**」をご参照ください。】

ITER 公式ウェブ <http://www.iter.org/org/team/adm/proc/overview> から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。

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

＜ITER 機構から参加極へのレター＞

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

PRIOR INDICATIVE NOTICE (PIN)

OPEN TENDER SUMMARY

IO/24/OT/10027850/JPA

for

Pipe removal of VVTS

List of annexes:

- Annex I – Expression of Interest
- Annex II – Technical Specifications 9XJ7AS v1.2

Abstract

The purpose of this summary is to provide prior notification of the IO's intention to launch a competitive Open Tender process in the coming weeks. This summary provides some basic information about the ITER Organisation, the technical scope for this tender, and details of the tender process.

1 Introduction

This Prior Indicative Notice (PIN) is the first step of an Open Tender Procurement Process leading to the award and execution of a Service Contract.

The purpose of this document is to provide a basic summary of the technical content in terms of the scope of work, and the tendering process.

2 Background

The ITER project is an international research and development project jointly funded by its seven Members being, the European Union (represented by EURATOM), Japan, the People's Republic of China, India, the Republic of Korea, the Russian Federation and the USA. ITER is being constructed in Europe at St. Paul–Lez-Durance in southern France, which is also the location of the headquarters (HQ) of the ITER Organization (IO).

For a complete description of the ITER Project, covering both organizational and technical aspects of the Project, visit www.iter.org.

3 Scope of Work

The scope of this the procurement is the pipes removal of VVTS.

Following dismantling from earlier installed sectors, the IO has initiated both replacement as well as repair activities provide new sets of VVTS available for restart of assembly activities, scheduled in the course of 2024. Including in the strategy, apart from re-procuring new panels, is the attempt to repair panels. For that number of affected panels for re-use in the ITER project.

This contract, named *Pipe removal of VV Thermal Shields*, is to removal of cooling pipe on irregular thermal shield sectors.

For more details, please refer to Annex II -Technical Specifications 7J92LQ v1.5

4 Procurement Process & Objective

The objective is to award a Service Contract through a competitive bidding process.

The Procurement Procedure selected for this tender is called the **Open Tender** procedure.

The Open Tender procedure is comprised of the following four main steps:

➤ Step 1- Prior Information Notice (PIN)

The Prior Information Notice is the first stage of the Open Tender process. The IO formally invites interested Suppliers to indicate their interest in the competitive process by returning to the Procurement officer in charge the attached “Expression of Interest and PIN Acknowledgement” (Annex I) by the date indicated under the procurement timetable.

Special attention:

Interested tenderers are kindly requested to register in the IO Ariba e-procurement tool called “iPROC”, if they have not already done so. You can find all links to proceed along with instruction going to: <https://www.iter.org/fr/proc/overview>.

When registering in iPROC, suppliers are kindly requested to nominate at least one contact person. This contact person will be receiving the notification of publication of the Request for Proposal and will then be able to forward the tender documents to colleagues if deemed necessary.

➤ Step 2 - Invitation to Tender

After 10 calendar days of the publication of the PIN, the Request for Proposals (RFP) will be published on our digital tool “iPROC”. This stage allows interested bidders who have indicated their interest to the Procurement Officer in charge AND who have registered in iPROC to receive the notification that the RFP is published. They will then prepare and submit their proposals in accordance with the tender instructions detailed in the RFP.

Only companies registered in this tool (iPROC) will be invited to the tender.

➤ Step 3 – Tender Evaluation Process

Tenderers proposals will be evaluated by an impartial evaluation committee of the IO. Tenderers must provide details demonstrating their technical compliance to perform the work in line with the technical scope and in accordance with the particular criteria listed in the RFP.

➤ Step 4 – Contract Award

A Service contract will be awarded on the basis of best value for money according to the evaluation criteria and methodology described in the RFP.

Procurement Timetable

The tentative timetable is as follows:

Milestone	Date
Publication of the Prior Indicative Notice (PIN)	12/01/2024
Submission of expression of interest form	22/01/2024 (10 days after PIN publication)
Invitation to Tender (ITT) launched on iPROC	22/01/2024
Clarification Questions Deadline	20/02/2024
Clarification Response Deadline	23/02/2024
Tender Submission	04/03/2024
Contract Award	March 2024
Contract Signature	March 2024

5 Quality Assurance Requirements

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

6 Contract Duration and Execution

The ITER Organization should award the Service Contract around March 2024. The contract duration shall be 38 weeks.

7 Experience

The candidates shall need to demonstrate that they have the capabilities to supply the required goods and services in full compliance with the applicable standards as well as with the ITER quality and safety requirements.

8 Candidature

Participation is open to all legal entities participating either individually or in a grouping/consortium. A legal entity is an individual, company, or organization that has legal rights and obligations and is established within an ITER Member State, being, the European Union (represented by EURATOM), Japan, the People's Republic of China, India, the Republic of Korea, the Russian Federation and the USA.

Legal entities cannot participate individually or as a consortium partner in more than one application or tender of the same contract. A consortium may be a permanent, legally established grouping, or a grouping which has been constituted informally for a specific tender procedure. All members of a consortium (i.e. the leader and all other members) are jointly and severally liable to the ITER Organization.

In order for a consortium to be acceptable, the individual legal entities included therein shall have nominated a leader with authority to bind each member of the consortium, and this leader shall be authorised to incur liabilities and receive instructions for and on behalf of each member of the consortium.

It is expected that the designated consortium leader will explain the composition of the consortium members in its offer. Following this, the Candidate's composition must not be modified without notifying the ITER Organization of any changes. Evidence of any such authorisation shall be submitted to the IO in due course in the form of a power of attorney signed by legally authorised signatories of all the consortium members.

All consortium members shall be registered in IPROC.

9 Sub-contracting Rules

All sub-contractors who will be taken on by the Contractor shall be declared with the tender submission in iPROC. Each sub-contractor will be required to complete and sign forms including technical and administrative information which shall be submitted to the IO by the tenderer as part of its tender.

All declared sub-contractors must be established within an ITER Member State in order to participate.

The IO reserves the right to approve (or disapprove) any sub-contractor which was not notified in the tender and request a copy of the sub-contracting agreement between the tenderer and its subcontractor(s). Rules on sub-contracting are indicated in the RFP itself.

ANNEX I

EXPRESSION OF INTEREST & PIN ACKNOWLEDGEMENT

To be returned by e-mail to: jessica.pilla@iter.org copy andrew.brown@iter.org

TENDER No. **IO/24/OT/10027850/JPA**
DESIGNATION of SERVICES: **Pipe removal of VVTS**
OFFICER IN CHARGE: **Jessica PILLA – Procurement & Contracts Division
ITER Organization**

- ☐ WE ACKNOWLEDGE HAVING READ THE PIN NOTICE FOR THE ABOVE MENTIONED TENDER
- ☐ WE INTEND TO SUBMIT A TENDER

Are you registered in Iproc (only entities registered in iPROC will be invited to tender)::

- ☐ YES
- ☐ NO, but we shall register before the tender launch

.....

Signature:

COMPANY STAMP

Name:

Position:

Tel:

E-mail

Date:

ANNEX I

Technical Specifications (In-Cash Procurement)

Technical Specifications for Pipe removal of VVTS

Removal of pipe on irregular sector OB LH/RH

Removal of local pipe on 3 standard VVTS sector

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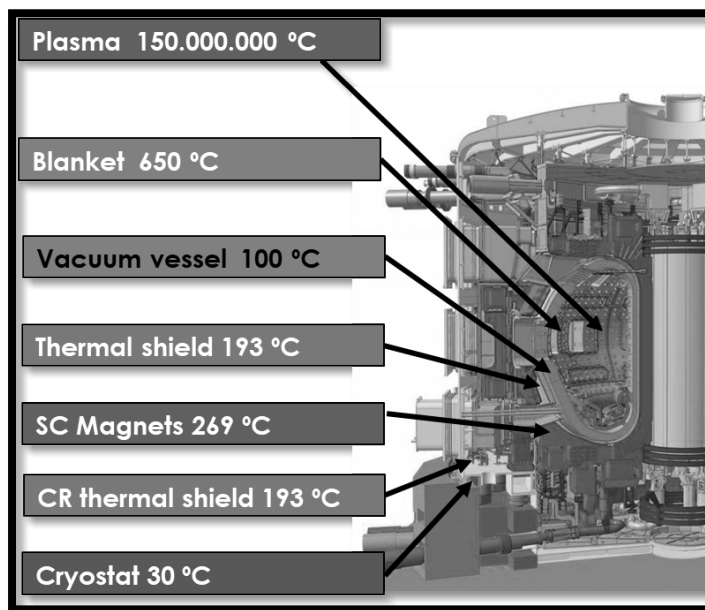
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1 Preamble

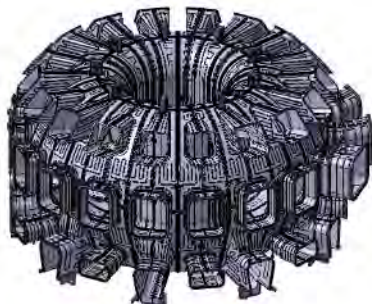
This Technical Specification is to be read in combination with the General Management Specification for Service and Supply (GM3S) – [Ref 1] that constitutes a full part of the technical requirements.

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

The thermal balance in the ITER fusion reactor characterizes by a strong temperature gradient among the different interface components. Main challenge is to segregate the very high (vacuum chamber) temperature with the cryogenic conditions that allow the magnets to function under superconductivity.

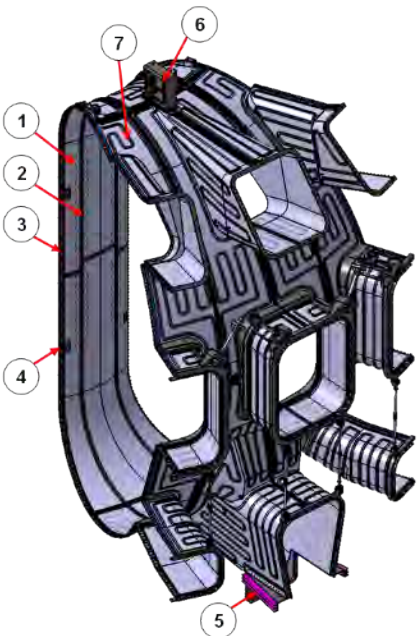


The Vacuum Vessel Thermal Shield (VVTS) system is a torus shaped assembly that fits in between the vacuum vessel sector and the Toroidal Field coil to interface the largest temperature gradient. It consists of 27 segments, being 9 in-board (IB) and 18 out-board (OB).

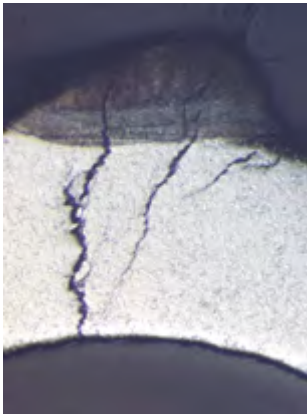
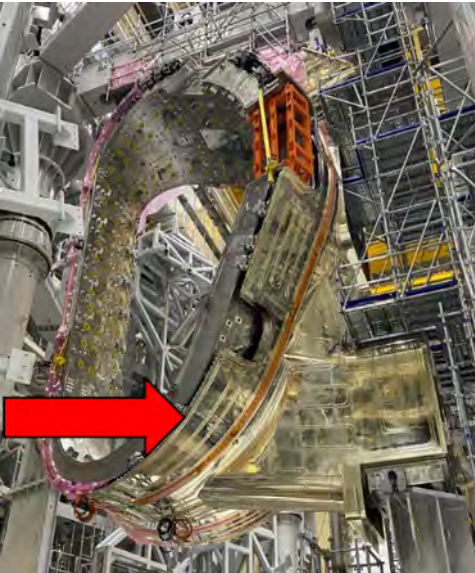


VVTS are made of 20mm-thick SUS304 panels and DN8 ($\phi 13.5$) SUS pipes, and G10 insulation and distinct for OB between a Left Hand (LH) and Right-Hand panel (RH)

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Model	No.	Parts	Material	Standards
	1	Plate	EN 1.4311(SS 304LN) * Permeability<1.05 * Co Contents: 0.1wt% max	EN 10028-7
	2	Joint flange		
	3	Splice plate		
	4	Support bolted plate		
	5	Labyrinth		
	6	Hook cover		
	7	Cooling tube	SS TP304L	ASTM A312/312M
	8	Insulation	G10	NEMA
	9	Stopper	G10	NEMA
	10	Bolt	SA193-B8M (SS 316)	ASTM A193
	11	Nut	SA194-8M (SS 316)	ASTM A194
	12	Washer	SS 316L	ASTM A240/240M

In 2022, the TF side cooling tubes were found to contain Stress Corrosion Cracking (SCC) due to a manufacturing defect. This is affecting the leak tightness and integrity of the component. The SCC is on various panels visible from the outside.



The IO has decided to repair or replace the entirety of the cooling pipes to recover the situation and remove the risks of pipe failures.

2 Purpose

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Following dismantling from earlier installed sectors, the IO has initiated both replacement as well as repair activities provide new sets of VVTS available for restart of assembly activities, scheduled in the course of 2024.

Including in the strategy, apart from re-procuring new panels, is the attempt to repair panels. For that number of affected panels for re-use in the ITER project.

This contract, named *Pipe removal of VV Thermal Shields*, is to removal of cooling pipe on irregular thermal shield sectors.

3 Acronyms & Definitions

3.1 Acronyms

The following acronyms are the main one relevant to this document.

Abbreviation	Description
CRO	Contract Responsible Officer
GM3S	General Management Specification for Service and Supply
IO	ITER Organization
PRO	Procurement Responsible Officer
VVTS	Vacuum Vessel Thermal shield
OB	Outboard
IB	In-Board
NDT	Non-destructive test
FPT	Fluorescent Penetrant Test
ITP	Inspection test plan
VI	Visual inspection

3.2 Definitions

Contractor: shall mean an economic operator who have signed the Contract in which this document is referenced.

4 Applicable Documents & Codes and standards

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4.1 Applicable Documents

This is the responsibility of the Contractor to identify and request for any documents that would not have been transmitted by IO, including the below list of reference documents.

This Technical Specification takes precedence over the referenced documents. In case of conflicting information, this is the responsibility of the contractor to seek clarification from IO.

Upon notification of any revision of the applicable document transmitted officially to the contractor, the contractor shall advise within 4 weeks of any impact on the execution of the contract. Without any response after this period, no impact will be considered.

- [1] Quality Classification Determination v5.2; ITER_D_24VQES
- [2] ITER Procurement Quality Requirements v5.1; ITER_D_22MFG4
- [3] Codes and Standards for ITER Mechanical Components v4.0; ITER_D_25EW4K
- [4] Codes and Standards for ITER Thermal Shield v1.1; ITER_D_3VWRK2
- [5] ITER Procurement Quality Requirements v5.1; ITER_D_22MFG4
- [6] Procedure for Management of Nonconformities v9.1; ITER_D_22F53X
- [7] DET-07400 VVTS CAD model v2.0; ITER_D_8PMPQC
- [8] Requirements for Producing a Quality Plan v4.0; ITER_D_22MFMW
- [9] Thermal Shield Inspection Procedure v1.1; ITER_D_7JZDT4
- [10] Standard Wipe Test v1.1; ITER_D_3PEAK3
- [11] Procedure_CMA_ Scaffolding Operations Management v8.1; ITER_D_YRJQ87
- [12] Requirements for DA / Supplier / Subcontractors Deviations & Nonconformities (22F53X)
- [13] Requirements for Preparing/Implementing a Manuf. and Inspection Plan (ITER_D_22MDZD)

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4.2 Applicable Codes and Standards

This is the responsibility of the contractor to procure the relevant Codes and Standards applicable to that scope of work.

- ASME Section VIII Division 2 for design and manufacturing of TS main components
- ASME B31.3, Category M for design and manufacturing of cooling pipes and manifolds
- ASME Section V, VIII and B31.3 for non-destructive examination
- ANSI/ASNT-CP-189 for qualification and certification of non-destructive testing personnel
- ASME B31.3 and PED/ESP for pressure test of piping & manifolds

5 Scope of Work

This section defines the specific scope of work for the service, in addition to the contract execution requirement as defined in Ref [1].

A. Irregular OB LH/RH pipe removal and FPT

- 1) Pipe removal of two irregular OBs segment
- 2) Local area weld bead removal, surface polishing & FPT

Those area will be identified by IO (IO will do VI after the pipe removal). We expect up to 20 area per segment.

B. 3 standard VVTS sector local pipe removal and FPT

Local area weld bead removal and surface polishing on identified area selected by IO after VI.

Scope is 3 IBs, 6 OBs, 12 shrouds.

We expect for

IB/OB: around 4 area per panel

Shrouds: 1 area per shroud

5.1 Preparation of the work area (scope IO)

Preparation of the work area prior to pipe removal works will be done by the IO and consists of the following activities:

- A. Installation of Scaffolding to access area
- B. Protection on the spread of silver dust

5.2 Pipe removal (scope contractor)

- C. Attachment of protective films to all surfaces other than the area related to pipe removal, buffing.

SERVICE

Protective films in accordance with vacuum handbook and locally applied on the areas to be protected around the to-be cut area(s)

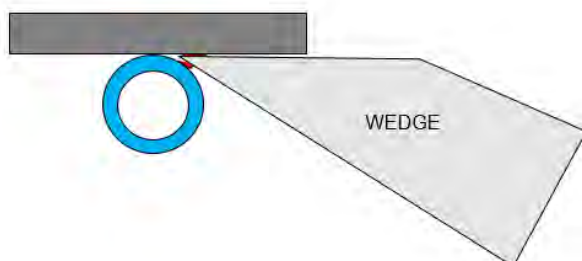
Masking tape



D. Preparation of tools and prepare pipe cutting tools

Contractor is free to use the tools considered most suitable for the works, it shall be nevertheless approved by IO Vacuum team or part of IO Vacuum handbook. IO can be contacted to provide feedback on most suitable tools to be used following IO test performed in June/July 2023.

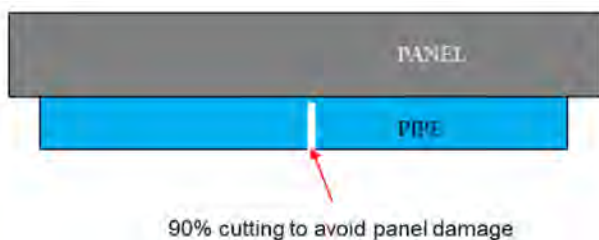
Use of a wedge (provided by contractor) is required for lifting locally the pipe to provide better access to the cutting area



E. Removal of pipe lines and grinding

For full pipe removal, the process consists of starting to cut the weld bead cutting by appropriate tool followed by lifting the pipe from panel by the wedge.

If the pipe is detached from the VVTS it can be cut completely. If still attached to the panel, around 90% cutting should be performed to avoid the damage of the panel, as shown below.



After which the process repeats until the pipe (section) is removed.

The surface under the pipe should not be damaged and special care is to be taken this is prevented as much as possible during the pipe removal process.

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5.3 Finishing activities

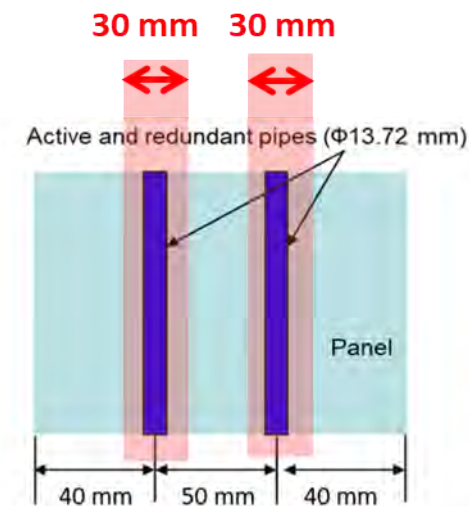
Following removal of pipes and grinding/buffing visual inspection is to take place to view locally presence of indications.

After cutting of the weld beads and removal of the pipes, grinding is applied to remove protruded weld beads **on local areas** selected by IO.

Following a visual inspection, buffing is required to meet the roughness condition ($R_a \leq 0.24 \mu\text{m}$). Roughness is to be confirmed by a calibrated roughness meter.

Around the removed pipe area, a Silver coating layer (Ag: $6 \sim 8 \mu\text{m}$, Ni: $3 \sim 5 \mu\text{m}$) will be removed as part for the grinding process. This is foreseen as minimum $30 \mu\text{m}$ shall be removed by buffing process.

Buffing material shall not contain halogen, chloride and sulfur. It is not necessary to apply buffing to the entire surface. Only a limited (narrow+ width band area of the panel around the pipe should be buffed. (See picture below.)



F. NDT (VI, FPT, Eddy Current and/or replica)

Contractor can use their own NDT procedure to localize indications and their corresponding depth but all means shall be accepted by IO and, in case of PT, under restriction of use of penetrant.

Proposed NDT methods include

- Visual inspection
- Fluorescent PT

Visual inspection is conducted by the IO.

Luminescent PT is conducted by the contractor:

- Pre-clean
- Apply penetrant (dye penetrant Sherwin HM-3A or equivalent)
- leave to dwell (minimum 20 min) and first wash off with water
- Apply emulsifier (example: Babbco N 120 CO2 or equivalent)
- Second wash off with water and drying (hot air allowed)
- Inspection

Both dye penetrant and developer mentioned above are indicative, contractor proposal must be agreed by IO prior to use.

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Replica testing is conducted only on selected indications where the total amount of replica tests is limited to 10 for the full contract. Method and used materials will be agreed between contractor and IO prior to execution

5.4 Packing

Segment shall be repacked by the contractor using vinyl protection for storage.

6 Location for Scope of Work Execution

The work will be carried out in IO premises. Building 55 (depending of space on site, Building 56 can be an other solution) is the forecasted area for the activity.

7 List of deliverables and due dates

Scaffolding will be delivered by IO and will be ready at T0+1 week.

Scaffolding needs will be defined in tendering process by contractor and needs to be agreed before the contract signature. Modification of scaffolding will be possible only after cleaning of working area. Shall be announced at least 48 hours in advance and will take 48 hours. This duration has to be considered by contractor in planning.

Activity will be performed in sequence, most probably in B55 (depending of space on site, Building 56 can be an other solution).

One sector will be set ready for contractor to perform activities.

- VVTS OB segment ready for pipe removal: T0+1 week
- First standard VVTS IB/OB segment ready for local removal: T0+1 week

The Supplier shall provide IO with the documents and data required in the application of this technical specification, the GM3S Ref [1] and any other requirement derived from the application of the contract.

A minimum, but not limited to, list of documents is available hereafter with associated due dates:

#	Description	Acceptance criteria	Delivery time
0	Contract signature		T0
1	Documentation <ul style="list-style-type: none"> • Quality plan • Work methods description • ITP 	All documents in IDM for review	T0+1 week

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	<ul style="list-style-type: none"> • All applicable procedures • PPSPS 		
2	Documentation approved (D1)	All documents approved in IDM by IO	T0+2 weeks
3	OB pipe removal for one segment.	Work completed (FPT conform)	T0+10 weeks
4	OB pipe removal for second segment.	Work completed (FPT conform)	T0+18 weeks
5	OB pipe removal for third segment.	Work completed (FPT conform)	T0+26 weeks
6	OB pipe removal for forth segment.	Work completed (FPT conform)	T0+36 weeks
7	Local Pipe removal (for regular sectors)	Work completed (FPT conform)	Between T0+3 and T0+36 weeks
8	Final completion dossier delivery	Documentation approved in IDM by IO	T0+38 weeks

Finalization of the contract work: work is completed, the worksite is vacated and all documentation in approved in IDM by IO.

Supplier is requested to prepare their document schedule based on the above and using the template available in the GM3S Ref [1] appendix II ([click here to download](#)).

8 Quality Assurance requirements

The Quality class under this contract is [\[complete here\]](#), [Ref 1] GM3S section 7 applies in line with the defined Quality Class.

Quality Requirements shall be in accordance with the “ITER Procurement Quality Requirements” [2]. The ITER Quality Assurance Program shall be applied to all the work under this Contract. The ITER QA Program is based on IAEA Safety Standard GS-R-3 and on conventional QA principles and integrates the requirements of the INB Order dated 7 February 2012 [C2] on the quality of design, construction and operation in Basic Nuclear Installation. For this purpose, the Supplier and Subcontractors carrying out contracts placed under this Contract shall be in compliance with the QA requirements under the relevant ITER QA classifications, the requirements of the INB Order and shall have an IO approved QA Program or an ISO 9001 accredited quality system, complemented with the above-mentioned requirements.

Prior to commencement of any work under this Contract, a “Quality Plan” (QP) [12] shall be produced by the Supplier and Subcontractors and submitted to the IO for approval, describing how they will implement the ITER Procurement Quality Requirements.

Prior to commencement of any manufacturing, a “Manufacturing and Inspection Plan” (MIP) [13] shall be produced by the Supplier and Subcontractors and approved by the IO, who will

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mark up any intended intervention point. MIPs are used to monitor Quality Control and acceptance tests during the execution of the Contract. It should be noted that interventions additional to those required in this Technical Specification may be included on the MIP by the IO. The right of the IO listed above shall apply in relation to any Subcontractor and in this case the IO will operate through the Supplier. The overseeing of the quality control operation by the IO shall not release the Supplier from his responsibility in meeting any aspect of this Technical Specification.

Subcontractors not performing Critical Quality Activities (i.e. activities that if not performed correctly may affect safety, functionality or reliability) may be exempted from the requirement to supply Quality Plans and Manufacturing & Inspection Plans, subject to agreement by the IO.

All requirements of this Technical Specification and subsequent changes proposed by the Supplier during the course of execution of this Contract are subject to the Deviation Request process described in “Contractors Deviations and Non-conformities Procedure” [12].

Documentation developed as the result of this Contract shall be retained by the Supplier for a minimum of 5 years and then may be discarded at the direction of the IO.

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8.1 Documentation for all segments

In addition to the above general quality documentation, the following is required for all segments:

- I. Method statement describing the work is required
- II. Repair summary *per segment* showing
 - a. The repaired positions
 - b. Photo evidence of the situation before and after repair
 - c. Cut out length
 - d. NDT examination
- III. In case of any damage more than 2mm deep on the panel surface, non conformity and repair required
 - a. Non conformity management
 - b. Repair procedure

8.2 Documentation only for OBLH and RH

For any works on irregular segment from OBLH and RH

- IV. Inspection and test plan *per segment*, indicating hold and witness points of IO QC inspection.
 - 10) Pre-inspection meeting
 - 20) Preparation of works
 - Special scaffolding
 - PPE as per other works already performed.
 - Local air extraction
 - 30) Removal of pipe
 - 40). Visual inspection
 - 50). FPT
 - 60). Final dossier and handover to IO
- V. Qualification records of personnel
- VI. Used company procedures.
- VII. Material certificates (in case applicable)
- VIII. End of works dossier documentation, summarising all elements above including any NCRs

Note: all material used for cutting, cleaning or NDE shall be part of Vacuum Handbook.

In case the product is not part of Vacuum handbook, MAR shall be requested according <https://user.iter.org/?uid=VH2KDW>

8.3 Documentation for Standard VVTS sector local pipe removal

For any works on Standard Sector

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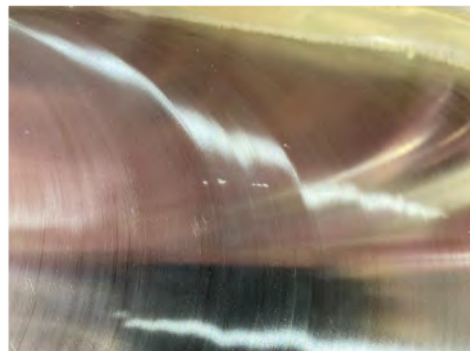
- IX. Inspection and test plan *per segment*, indicating hold and witness points of IO QC inspection
 - 10) Pre-inspection meeting
 - 20) Preparation of works
 - No tent will be used
 - PPE as per other works already performed
 - Local air extraction
 - 30) Removal of local area of pipe
 - 40). Visual inspection
 - 50). FPT
 - 60). Final dossier and handover to IO
- X. Qualification records of personnel
- XI. Used company procedures.
- XII. Material certificates (in case applicable)
- XIII. End of works dossier documentation, summarising all elements above including any NCRs

Contractor agrees that the(ir) reporting is handed to a next contractor as input for next works.

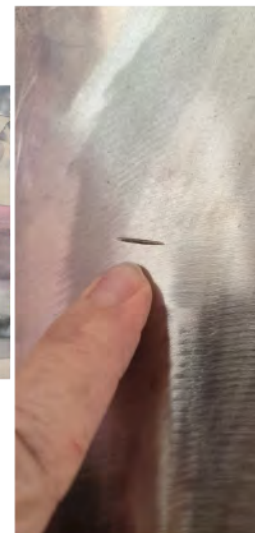
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In case of indications the following is to be applied:

If an indication is seen, grind to a depth of 0,2mm and re-conduct the inspection

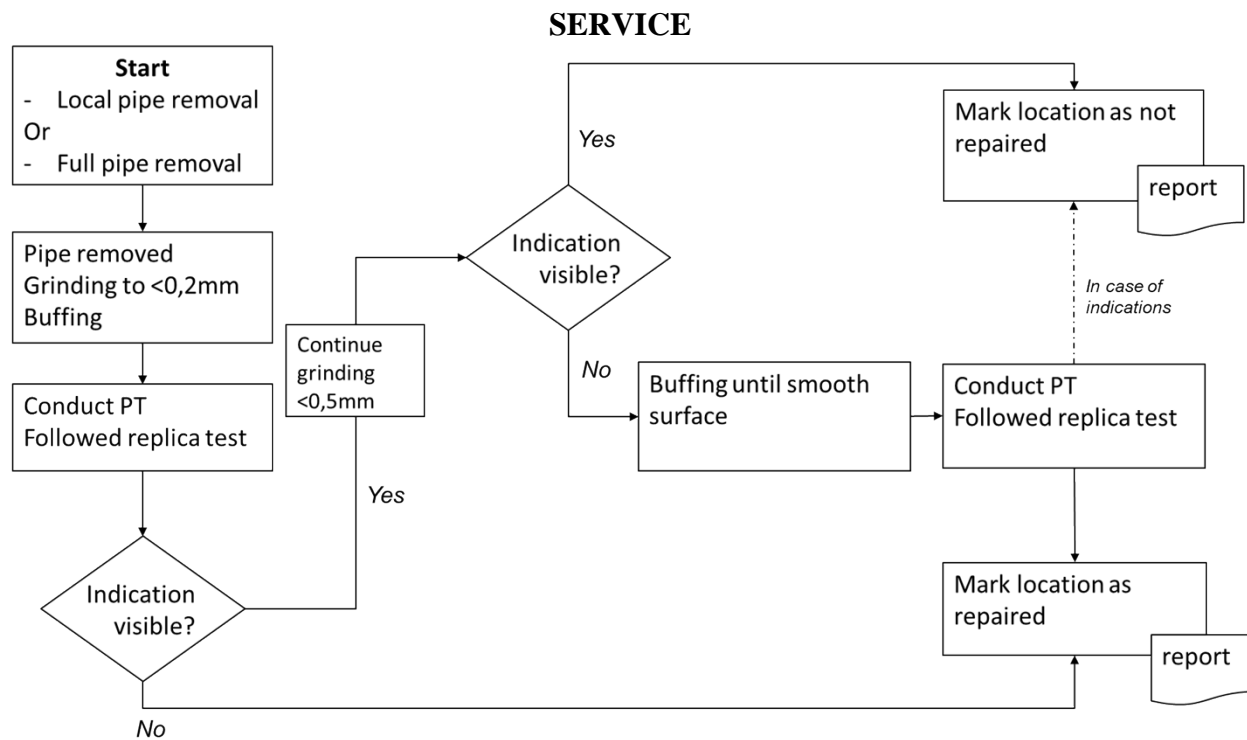


In case the indication persists at 0,2mm, then continue grinding to 0,5 mm and test again



In case of a deviation sustains $>0,5$ mm, no further grinding work is performed and the location is to be marked as unrepairable. The IO is to be notified and an assessment will follow.

The above process flow visually:



Scheme: Order of works in case of indications.

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9 Safety requirements

Applicable classification

[C1]

Classifications for VVTS

Classifications	Class
Safety Classification	Non-PIC
Vacuum Classification	VQC 2B (Main TS panel and supports) VQC 2A (Cooling pipes)
Remote Handling classification	N/A
Tritium classification	N/A
Quality Classification	1
Seismic Classification	SC-2
Metrology Classification	1
ESPN classification	N/A
PED classification	N/A
Other Classifications	N/A

[C2] Order dated 7 February 2012 relating to the general technical regulations applicable to BNI - FR (7GJHSE) translated for guidance in Order dated 7 February 2012 relating to the general technical regulations applicable to BNI - EN (7M2YKF) and the subsequent ASN decisions linked to this Order.

Work safety requirements.

IO would like to highlight the need to worker with special PPE, dust for silver coating is dangerous for health of the workers.

Respiratory protection shall be used, this will lead to additional constraint and a need of shift organisation for the contractor.

In addition, modification of scaffold would occur only in case of clean area. Contractor shall therefore clean the working area before any intervention of scaffolders.

It has to be noticed at the convenience of the contractor that cleaning of the area would be beneficial for the performance of the FPT. It will be more convenient for the inspector.

10 Specific General Management requirements

10.1 Contract Gates

N.A

10.2 Work Monitoring

Daily reporting is expected for this operation in order to anticipate blocking point.

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10.3 Meeting Schedule

Weekly meeting will be needed in order to anticipate coordination needs. Weekly meeting MOM to be submitted by the contractor.

10.4 CAD design requirements

This contract does not imply CAD activities.

10.5 [ANY OTHER SPECIFICITIES]

N.A

11 Appendices