



Announcement of PTT Public Company Limited

Registration Number 0107544000108

PR No. 1120016335

Subject: Bid for Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

As PTT Public Company Limited intends to invite written Bid for **Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859**

Place of delivery at as Article 9 of TOR

Within as Article 8 of TOR

according to the conditions/detail/drawing and the documentation attached to the announcement, which shall be considered as part of this Instruction to Bid, as follows:

- Terms of Reference	1 Set
- Price Bid Form	1 Set
- Form of Power of Attorney	1 Page
- Form of Bank Guarantee	1 Page
- PTT Supplier Sustainable Code of Conduct	1 Set
- Letter of Confirmation on Qualifications to Do Business with PTT	1 Page

Pre-Bid Conference for clarification shall be held at Conference via Microsoft Team (We will provide the online conference link to the registered company only) **GMT+7 (Local time)** on 04 August 2021 Registration for the Conference shall be during 15:00 to 15:15 and conference shall commence at 15:15 hours. (Speaker MR. PARINYA KAB-OY Employee ID No. 530047 Tel. +66 815535141)

The bidder who does not attend the pre-bid conference shall be ineligible to tender.

Submission of Bid Price, evidence and technical documents shall be on 15 September 2021 at 09:00 - 17:00 hour, as follows:

- Procurement section , GSP Procurement & Inventory Management, Division. Gas Separation Plant Rayong, 555 Sukhumvit Road, Mabtapud, Muang, Rayong 21150

Person who is interested may purchase Bid Documents at the price of Baht - per set (Vat included) from 27 July 2021 to 03 August 2021 during 09:00 - 16:00 (NOTE : The vender who interested this bid please provide the "Memorandum of Association" and



Announcement of PTT Public Company Limited

Registration Number 0107544000108

PR No. 1120016335

Subject: Bid for Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

"Email who intend the bid clarification" to Email : prangchanok.p.@pttplc.com within specific date/time as above ****GMT+7 (Local time)****) hours as follows:

- Procurement section , GSP Procurement & Inventory Management, Division. Gas Separation Plant Rayong, 555 Sukhumvit Road, Mabtapud, Muang, Rayong 21150
(MISS PRANGCHANOK PALAKAWONG Tel. 038-676178 (prangchanok.p@pttplc.com))

Announced on 27 July 2021

(MR. KRITSARA KHONGNUAL)

Procurement Section Head

Procurement section



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859		
By : MR. PARINYA KAB-OY MR. KUNARAK KUNAKULSAWAT	Create date : 14 July 2021 Rev.4 SAP PR No.1120016335	Division/Department : Maintenance Planning & Management Division
Related standard systems		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality	Safety	Health
		<input type="checkbox"/>
		Environment
		<input type="checkbox"/>
		Lab
		<input checked="" type="checkbox"/>
		Energy

Terms Of Reference

PTT Public Company Limited (hereinafter called “PTT”) would be interested to hire Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859 as following

1. Objective

The Gas Separation Plant of PTT wishes Life Time Overhaul of Siemens Gas Turbine, RB211 DLE 4 Engines by below; (hereinafter called “Service” or “Project”)

1.1 First Engine - Second Mid-life overhaul

- Model 24 G, Serial No. 1790G-859
- Engine removed from Sale Gas Compressor unit A GSP6
- Estimate Time Since Overhaul 25,000 Hrs.
- Estimate Time Since New 79,044 Hrs.
- Estimate Starts Since Overhaul : 24
- Estimate Successful Starts Since Overhaul : 9
- This engine is continues running (24/7).
- Estimated of change out engine : August 2021

1.2. Second Engine - Second Mid-life overhaul

- Model 24 G, Serial No. 1790G-850
- Engine removed from Sale Gas Compressor unit B GSP6
- Estimate Time Since Overhaul 25,000 Hrs.
- Estimate Time Since New 91,974 Hrs.
- Estimate Starts Since Overhaul : 36
- Estimate Successful Starts Since Overhaul : 14
- This engine is continues running (24/7).



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

- Estimated of change out engine : August 2021

1.3. Thirdth Engine - Full-life overhaul

- Model 24 GT, Serial No. 1890C-2066
- Engine removed from Gas Turbine Generator 3225-PGX-001 (ESP GTG6)
- Estimate Time Since Overhaul 25,000 Hrs.
- Estimate Time Since New 55,000 Hrs.
- Estimate Starts Since Overhaul : 19
- Estimate Successful Starts Since Overhaul : 8
- This engine is continues running (24/7).
- Estimated of change out engine : September 2021

1.4. Fourth Engine - Second Mid-life overhaul

- Model 24 GT, Serial No. 1890C-2041
- Engine removed from Sale Gas Compressor GSP5
- Estimate Time Since Overhaul 25,000 Hrs.
- Estimate Time Since New 81,000 Hrs.
- Estimate Starts Since Overhaul : 32
- Estimate Successful Starts Since Overhaul : 16
- This engine is continues running (24/7).
- Estimated of change out engine : December 2022

2. Bidder Qualifications

- 2.1 Bidder shall carry out the business involving the works to be offered.



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

- 2.2 Bidder shall not be the person with the previous record of the Contract being terminated by PTT as the result from committing the corrupted act.
- 2.3 Bidder shall not be a litigant in any arbitration dispute with PTT, whether the Bidder is appeared in PTT Approve Vendor List (PTT AVL) or not, unless otherwise the dispute has been resolved.
Bidder in Clause 2.2 and 2.3 shall include their shareholders and directors.
- 2.4 Bidder shall not be a person with a previous record of abandoning any work undertaken as declared by PTT and The Comptroller General’s Department.
- 2.5 Bidder shall be the person or persons who purchased/received the Bid Documents and may not assign to other persons the right to submit the Bid.
In the case of the Bidder being a partnership/ consortium/ joint venture, the mentioned Purchaser/ Receiver must be a party of the said partnership/ consortium/ joint venture. Hence, the Bidder in the form of partnership/ consortium/ joint venture shall be obligated as a joint debtor to PTT.
(Remark: A partnership/ consortium/ joint venture shall not be permitted to submit the Bid except it is stated clearly in the Terms of Reference that a partnership/ consortium/ joint venture is allowed to do so.)
- 2.6 On the day of the auction, should not have any joint interest with other bidders or is not a person who will cause obstruction for a fair auction.
- 2.7 The Contractor and Overhaul / Repair Workshop qualifications shall meet the following requirements:
 - The Contractor to qualify the bidding shall be the Overhaul Workshop that fully OEM authorized by Siemens for Maintenance, Repair and Overhaul Centre (MROC) for RB211-24GT DLE (SGT-A35 24GT DLE) engine and RB211-24G DLE (SGT-A35 24G DLE) engine. In case the contractor used the sub-contractor, the sub-contractor shall be the Overhaul Workshop that fully OEM authorized by Siemens also.
 - The Contractor shall submit the Certificate of Authority from Siemens of the Overhaul Workshop to confirm the authorization.
- 2.8 The bidders shall have never been on probation or had cancellation from hiring due to incorrect delivery in accordance with the requirement or does not comply with the occupational safety, health and environment of the Rayong gas separation



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859		
By : MR. PARINYA KAB-OY MR. KUNARAK KUNAKULSAWAT	Create date : 14 July 2021 Rev.4 SAP PR No.1120016335	Division/Department : Maintenance Planning & Management Division
Related standard systems		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality	Safety	Health
		<input type="checkbox"/>
		Environment
		<input type="checkbox"/>
		Lab
		<input checked="" type="checkbox"/>
		Energy

plant of PTT (or the oil refinery or other petro chemical plants).

2.9 The bidders shall enclose the Letter of Confirmation on Qualifications to Do Business with PTT on each bid.

3. Bid Evidence

Bid shall be enclosed in sealed envelope consisting of separate envelopes as follows:

(3.1) Envelope of bid qualification

(3.1.1) In case of Bid by a trading entity, there shall be enclosed a copy of a value added tax certificate and a copy of a commerce registration certificate, certified by the owner or manager and affixed with the official seal (if any).

(3.1.2) In case of Bid by a company or partnership registered in Thailand, there shall be enclosed a certificate of incorporation issued by the Ministry of Commerce which is not more than 6 (six) months recent as from the date after the day of issuance up to the date of submitting Bid document. Unless it is an original, such certificate shall be affixed with a signature of the authorized person and the official seal of the company or partnership in authentication thereof.

(3.1.3) In case of Bid by a company or partnership registered in a foreign country, Bidder shall enjoy no immunity or protection allowing non-submission to Thai court, unless such privileges and immunities have been waived by the instruction of Bidder’s government..

(3.1.4) In the case where the authorized person of the sole trading entity, company or partnership authorizes another person to sign and/or submit Bid Documents, there shall be enclosed a valid power of attorney clearly and correctly stating the authorization.

(3.1.5) Certified copy of Thai ID./passport of the authorized signatory or copy of Thai ID./passport of grantee and grantor attached to a power of attorney.

(3.1.6) In the case where registration of value added tax has been effected, there shall be enclosed a copy of VAT Certificate (Form Bhor. Por. 20).

(3.1.7) Letter of Confirmation on Qualifications to Do Business with PTT

(3.1.8) In case of Bid by a company or partnership registered in a foreign country, there shall be enclosed

- 1) Certificate of Incorporation and/or Memorandum of Association and/or any other documents likewise issued by the competent agency/organization, which enables to identify the authorized person including Bidder’s registered



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

objectives that accord with the procurement work.

2) Articles of Associations (If any)

3) Power of Attorney) (If any)

4) Certificate of specimen signature or other documents that present signature.(If any)

(3.1.8.1) The list of documents in (3.1.8) 1) - 3) must be notarized by Notary Public and legalized by Thai Embassy or Thai consulate which has the jurisdiction, not more than 1 year recent as from the date after the day of notarization and legalization up to the date of submitting Bid document.

(3.2) Envelope of technical documents :

Contractor is required to quote the Sealed Bid Technical Document, that have the technical document only (no price) by below

- Contractor is required to quote the Sealed Bid Technical Document, that have the technical document only (no price) by below
- Certificate of Authority from Siemens of the Overhaul Workshop that Contractor Used.
- Project Organization such as Project Manager, Project Engineer, Contact Point etc.
- Project Plan Schedule for the Life-Time Overhaul Scope as per Article 18. (Scope of work) in the Contractor Overhaul Facility.
- Draft Sample Report as per Article 19. (Instruction for Contract’s Documentation)
Technical Proposal follow Scope of Work as per TOR Including the Delivery Period, Term of Warranty, KPI Work Performance.
- Term of Reference sign all pages by authorized signatory, to confirm accept the PTT requirement.
- Draft Contract sign all pages by authorized signatory, to confirm no deviation from the original draft.

(3.3) Envelope of proposal :



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

Contractor is required to quote the Sealed Bid Price Proposal that have the Price in the fill form (Attachment 1,2,3,4) Fill form for bidding.

* Contractor who win award cannot change unit price from proposal for engine in this term and condition during 2021-2023.*

The contractor must send the Sealed Bid of each envelop (Bid qualification, Technical Proposal and Price Proposal) to the contact person and address below;

ATTENTION : MISS PRANGCHANOK PALAKAWONG

TELEPHONE No. : (66 - 38) 676178

ADDRESS : PTT Public Company Limited, Rayong Gas Separation Plant Procurement Section 555 Sukhumvit Road, Mab Ta Pud Subdistrict, Muang District, Rayong Province 21150 Thailand.

E-MAIL ADDRESS : prangchanok.p@pttplc.com

4. Bid Submission

4.1 Bidder shall fill the unit price or price of each item as well as the total price in the original Bid form issued by PTT or the quotation form of Bidder which shall have the contents in accordance with the Bid form issued by PTT, which shall include, but not be limited to, date of quotation, name of Bidder, subject of quotation, unit price or price of each item and the total price, and the wordings stating that Bidder shall comply with the terms and conditions of PTT. The Bidding Price shall exclude value added tax, be in GBP , cover all expenditures incurred until delivery. The amount in number and word shall clearly be stated. Any deletion or correction shall be initialed by the authorized person and affixed with an official seal (If any). Where the unit price or price of each item is inconsistent with the total price, or there is discrepancy between the “number” and “word”, then, the Parties shall mutually resolve such inconsistency or discrepancy. Unless otherwise determined by PTT and agreed by Bidder, Bid shall be valid for a period as determined by PTT. Unless otherwise determined by PTT, Bid shall be valid for a period of not less than 90 days from the day of the Bid submission or according to conditions determined by PTT and upon the Bidder irrevocably submitting bid documents according to Clause 3 and may not be withdrawn.



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

- 4.2 Upon the expiry of submitting the proposal and bidding, the submission of proposal and bidding to PTT is forbidden.
- 4.3 PTT procurement committee will check the qualifications of the bidder, if the bidder has a joint benefit with other bidders. In the event, the bidders have a joint benefit with other bidders, they shall be disqualified from the procurement.

5. Bid Security

Bidder is not required to place Bid Security.

6. Bid Evaluation Criteria

- 6.1 - For the consideration of this bidding submitting, PTT will consider by using the rules on price and performance
- Evaluation Criteria : Used the Technical Evaluate and Price Evaluate. The Contractor must pass the Technical Evaluate prior to start the Price Evaluate.
- Price Evaluate : Contractor is required to quote the Sealed Bid Price Proposal, that have the Price in the fill form as Attachment . **The Contractor that will award for each engine is the one that have the highest score from the Price Evaluate for each engine.** The highest score will be the represent of the lowest price. For example,

Engine S/N	Score of Contractor A	Score of Contractor B	Score of Contractor C
1890C-2066	80	90	80
1890C-2041	80	95	95
1790G-850	95	85	80
1790G-859	95	85	97

(Total Score = 100)



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

Contractor A will awarded for S/N 1790G-850

Contractor B will awarded for S/N 1890C-2066

Contractor B or C will awarded for S/N 1890C-2041

In the case that the score is equal, PTT will evaluate from the special offer from each Contractor such as Delivery Period, Term of Warranty, KPI Performance and etc.

Contractor C will awarded for S/N 1790G-859

7. Contract and Performance Security

7.1 Successful Bidder chosen by PTT shall contact PTT

(1) In case of the procurement which is not over 5,000,000 (five million) Baht or is not required to proceed under PTT conditions to be done in a form of a contract, the Successful Bidder which PTT agrees to perform Hire shall contact PTT to receive Work Order within 7 days from the date after the day notified by PTT (In the case of no Contractual Guarantee) or within 15 days from the date after the day notified by PTT (In the case with Contractual Guarantee)

(2) In case of the procurement which is above 5,000,000 (five million) Baht or is required to proceed under PTT conditions to be done in a form of a contract, successful bidder chosen by PTT shall contact PTT to receive letter of intent within 7 days from the date after the day notified by PTT and to contact PTT to enter into a contract with PTT within a period determined in such letter of intent.

In the event of non-compliance with the said clause 7.1 (1) or 7.1 (2), PTT shall confiscate the security (if any) If PTT needs to acquire substitution procurement from another person at a higher price, Bidder shall be responsible to pay PTT the difference within 30 days from the day after the date of notice thereof by PTT. PTT also reserve the right to claim any other damages arising therefore.

7.2 In execution of a Contract or Work Orderr, Successful Bidder is required to place the Contractual Guarantee.

In the case where the Contractual Guarantee is required and unless otherwise stipulated in the details attached to Work Order, Successful Bidder chosen by PTT (hereinafter called “Contractor”) shall submit to PTT, cash or Bank Guarantee or Thai vernment Bond or PTT Bond or PTT debenture 5percent of the price of the Contract or



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

Work Order (the fraction remaining shall be round up) to ensure the performance of its obligations under Contract/ Work Order. The Contractual Guarantee shall be returned when Contractor has been discharged from all obligations under the Contract/ Work Order.

- 7.3 Contractor shall be responsible to pay revenue stamp required for the Contract or Work Order at the rate stipulated in the Thai Revenue Code.
- 7.4 In case where Successful Bidder fails to enter into the Contract within the period of time specified by PTT or the Contractor fails to comply with the terms or conditions under the contract without reasonable cause, such person, upon PTT’s consideration, will be regarded as abandoner and his name will be removed from the Approved Vendor List of PTT.
- 7.5 The valid period of Performance bond will be calculated as below

8. Delivery

- 1 The maximum time period of work in overhaul facility is limited to 90 (Ninety) calendar days for each engine, starting from the date of confirmation letter to strip the engine from PTT to the date of completion of engine factory acceptance test (FAT) at Contractor’s facility excluding the approval period by PTT.
- 2 The delivery term is EXW at Contractor overhaul facility (INCOTERMS 2020).

9. Place of delivery

The contractor shall deliver the service and entire equipment at Contractor overhaul facility

10. Payment

10.1 The Contract price shall be paid by PTT to Contractor 4 times in the amount as per actual repair approved by PTT in UK Pounds Sterling (GBP) on the thirtieth (30th) day after

- PTT has received the Engine Test Report.
- PTT has received the commercial invoices and the supporting documents.
- The Materials Acceptance Committee of PTT has accepted the Services.



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

- Contractor has released the engine to PTT.

The times of payment would be following by below;

- Payment for Serial No. 1790G-859, Sale Gas Compressor unit A GSP6
- Payment for Serial No. 1790G-850, Sale Gas Compressor unit B GSP6
- Payment for Serial No. 1890C-2066, Gas Turbine Generator 3225-PGX-001 (ESP GTG6)
- Payment for Serial No. 1890C-2041, Sale Gas Compressor GSP5

The sequence of payment can be rearranged depend on the Schedule of Work.

10.2 The payment shall be made by bank transfer to the account as designated by contractor.

10.3 Payment shall be subject to deduction of penalty and/or amount disputed.

10.4 Contractor shall be responsible for duty stamp in the amount of 0.1% of the Contract Price in THAI BAHT

Note: (a) The Labor and Engine Performance Test cost will be paid at the actual cost same as or lower than the proposal propose from Attachment 1,2,3,4.

(b) The Repair Schemes will be paid at the actual cost depend on the condition of the engine but for each Protective Coatings and Repair Schemes type or unit price must be same as or lower than the proposal propose from Attachment 1,2,3,4 .

(c) The Replacement Part New and Serviceable will be paid at the actual cost depend on the condition of the engine but the average % mark up of new part and average % reduction of serviceable part from the Siemens price list must be same as or better than the proposal propose from Attachment 1,2,3,4 .

11. Penalty

If the schedule date for the Inspection & Overhaul is not achieved by contractor for reasons not attributable to PTT, contractor, without any demonstration of actual damages suffered by PTT, be liable to pay to PTT a penalty at an amount of



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

0.1 % (zero point one percent) of the actual price for each engine for each day of delay up to a maximum 5% of the actual price for each engine.

If the KPI from the Article 18 "Scope of Work" is not achieved by contractor

- KPI Component Repair : a 0.2% discount will be applied to the overhaul price for every 1% shortfall of serviceable parts total or part thereof to a maximum of a 5% shortfall

12. Contract

PTT reserves the right to use PTT's standard format of the Hire of work contract, as attached herein with this term of reference.

If there are any term in this Term and Condition or Draft Contract have conflict or mislead, PTT will have the right to justify the meaning of that Term.

13. Governing Law

The Contract shall be governed by and interpreted in accordance with the laws of the laws of England and Wales.

14. Warranty and Guarantee

The contractor shall warrant its work products following the date the PTT's committee has accepted the service successfully in accordance with the conditions set by the PTT as below.

14.1 In providing Services hereunder, Contractor shall perform as follows:

14.1.1 Contractor warrants that all workmanship and materials (including Parts and sub-assemblies) supplied during the performance of the Services by Contractor shall be free from defects.

14.1.2 If any defect in the Services becomes apparent during the warranty period, and which is shown to the reasonable satisfaction of PTT to be due to (i) Contractor 's defective workmanship or (ii) any defect in materials (including Parts and sub-assemblies) supplied during the performance of the



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

Services, Contractor shall in the case of defective workmanship provide all labor necessary to make good such defect and shall in the case of defective material repair or, at Contractor 's option, replace such defective material. Contractor's obligation such defect is conditional on PTT notifying Contractor in writing of such defect within 30 (Thirty) Days of it becoming apparent to rectify.

14.1.3 All costs associated with the removal, re-installation, transportation, customs, tax, insurance and other charges involved in repairing, replacing or returning defective equipment or part thereof to Contractor for rework under this warranty shall be paid for by Contractor, and after such rework has been carried out, in returning the equipment or part thereof back to PTT, shall be paid for by Contractor.

14.1.4 The warranty period shall commence on the date of delivery of engine and shall expire upon the condition below:

Term	Warranty Coverage
1	100% warranty coverage will be offered for the following period:- (i) Eighteen (18) months from delivery or; (ii) Completion of five hundred (500) cycles (a cycle is defined as a gas generator start from rest and acceleration to operating power).
2	50% warranty coverage will expire following 12 months after expiry of Term 1.
3	25% warranty coverage will expire following 12 months after the completion of Term 2.

14.1.5 If Contractor repairs or replaces any Part then the provisions of this Article 14.1 shall apply to the Part so repaired or replaced provided however the foregoing shall not serve to extend any warranty beyond forty eight (48) months the date of acceptance of the original Services.



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

14.2. It is expressly understood that Contractor is an independent contractor and that neither Contractor nor Contractor’s principals, partners, employees or subcontractors are servants, agents or employees of PTT and, as an independent contractor, Contractor agrees to comply with all laws, rules and regulations which now, or in the future, may be applicable to this business, equipment or employees engaged in, or in any manner connected with, Contractor’s performance hereunder.

14.3 Contractor hereby represents and warrants that it has adequate first class equipment in good working order and fully trained personnel capable of efficiently operation such equipment and performing such Services in a safe, proper and workmanlike manner for PTT.

14.4 Contractor represents and warrants that the use of any and all tools and equipment furnished by Contractor and used in Services provided for herein, does not infringe on any license or patent which has been issued or applied for, and Contractor agrees to indemnify and hold harmless PTT from any and all claims, demands, and caused of act and character in favor of or made by any patentee, licensee, or claimant of any right or priority to such tool or equipment, or the use thereof, which may result from or arise out of furnishing or use of any such tool or equipment by Contractor in connection with Services under this Contract.

14.5 The warranty stated above expressly excludes any normally scheduled maintenance activities which shall arise during the forty-two (42) month warranty period which includes, but is not limited to, the normal midlife cycle event and the normal overhaul cycle event. Any damage attributable to normal engine degradation typically expected at either the midlife cycle event or the overhaul cycle event is not covered by this warranty.

14.6 Subsequent to the Services provided, this warranty shall be subject to the following conditions:

- a. The Engine/Part was properly installed by personnel that are qualified to perform such work;
- b. Failure of a Part due to ordinary wear and tear, erosion, corrosion, temperature, pressure or other conditions in excess of or contrary to agreed OEM specifications is not covered by this warranty;
- c. The Engine/Part has been operated and maintained in accordance with OEM's guidelines and standards, and PTT’s handbooks;



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

d. The Engine has been used under normal operating conditions, has/have not been subjected to misuse, neglect or accident and has/have not subsequently been repaired or altered, except by Contractor (unless otherwise agreed in writing between both Parties); and

e. Where the Engine is to be stored for any period prior to installation, acceptance by Contractor of any warranty claim is conditional upon the Engine/Part being stored in accordance with the OEM’s recommended storage procedures. Contractor reserves the right to inspect the storage conditions of the Engine every six (6) months, if Contractor believes there may be a possibility of a violation of the storage procedures.

14.7 If PTT fails to furnish Contractor with the records, data, and documentation prior to Contractor assessing a warranty claim, then the eligibility of the warranty claim shall be at Contractor’s sole discretion. PTT shall also provide, in a timely manner, information as requested by Contractor to facilitate the warranty investigation. Warranty settlement is contingent on Contractor receiving all information and investigation results.

14.8 In case PTT asserts a warranty claim according to this Article, and as a result of the investigation, it is established that Contractor is not liable for the defects claimed, the costs of investigation as well as any other costs and expenses, including shipping, connecting with such claim shall be borne by the PTT.

14.9 Site of Rectification: All work carried out by Contractor under this warranty shall be performed at Contractor’s Premises, unless otherwise agreed.

15. Advance Payment

No Advance Payment

16. PTT Supplier Sustainable Code of Conduct) (When the contract having the value from 2 million Baht)

Successful Bidder who agrees to work, shall accept and conform with the “PTT Supplier Sustainable Code of Conduct” .PTT reserves the right to inspect if Bidder is in compliance. With the PTT Code of Conduct.



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

Vendors who have a plan to run business with PTT must act along PTT regulations and conditions, sustainable practice for PTT groups' vendors, including:

- 16.1 Vendors must run firms strictly along involved rules which covered business ethics, social responsibility, security and environment, for example, labor protection law, safety law, and environmental law. Moreover, vendors must run business with transparency, honesty and must not violate the intellectual property rights.
- 16.2 Vendors must have qualifications related to ESG Interception Criteria including:
 - (1) Vendors must not be appeared on corrupted company list of PTT at the period of form's submission.
 - (2) Vendors must have involved work permits along the defined laws.
 - (3) Vendors must not be judged to false in term of financial, environment, security and labor court. Furthermore, vendors must not be found in list of personality, juristic person and company that run business against Thai laws within 3 years before launching the auctions.
 - (4) Vendors must have firms' policies to will not hire youth labor that age below 15 years old.
 - (5) Vendors must have enterprises' policies to pay labor's compensation at least the defined legal minimum wage. In addition, vendors must not force employees to work more than the legal defined hours.
 - (6) Vendors must have SSHE management system in working place along the defined law and concern about employee's safety.
 - (7) Vendors must have management system of working area and also environmental liability, for instance, the leaking of dangerous substance in soil and underground water.

17. Contractor's performance evaluation

- 17.1 PTT shall evaluate vendors after the completion of the delivery of products/services in each delivery period, based on their work performance.
- 17.2 PTT reserves the right to use the vendor evaluation's result in order to determine the bidder's qualification for the next PTT's bidding.
- 17.3 In the case of any vendors in the PTT Approved Vendor List(PTT AVL) is given graded "D" from the vendor evaluation under a specific type of work, PTT reserves the right to delist such vendors from type of work



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

hereunder. The vendors shall not be permitted to register with PTT AVL under such type of work for at least 3 years from the delisted date.

- 17.4 If the vendor has any queries with regards to the vendor evaluation, the vendor shall submit the request in writing to the procurement unit of PTT for the explanation of such evaluation. The copy of the purchase order/contract and work result must be attached to the request. The vendor can access the system *ptvm.pttplc.com* for the results of vendor evaluation

18. Scope of Work

PTT requires life time overhaul of Siemens Gas Turbine, RB211 DLE 4 engines as below

- First Engine - Second Mid-life overhaul Model 24 G, Serial No. 1790G-859,
- Second Engine - Second Mid-life overhaul Model 24 G, Serial No. 1790G-850,
- Third Engine - Full life overhaul Model 24 GT, Serial No. 1890C-2066,
- Forth Engine – Second Mid-life overhaul Model 24 GT, Serial No. 1890C-2041,

For each engine the Contractor shall be responsible for all of the work as the following:

18.1 Transportation

PTT shall be responsible for engine transportation.

18.2 Disassembly / Reassembly / Inspection / Overhaul / Testing at Workshop

18.2.1 All work shall be carried out in compliance with RB211 specifications and standards for the Siemens Gas Turbine Generator. If there are any changes, revise or etc. concerning those specifications and/or standards, the latest revision shall be applied.

18.2.2 Perform engine disassembly (Strip) and cleaning.

18.2.3 Perform the detailed inspection of Major Parts, as per RB-211 overhaul standard.



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

- Combustion section. **The Contractor shall do mechanical adjustment for the “X-GAP”**. PTT do not allow the contractor to use program or other method to adjust primary temperature zone (TPZ).
- For Moog valve PTT will sent used spare for test engine only. New Moog valve will be order to shipping with overhauled engine, PTT will install by ourselves.
- All bearings are needed to be inspection.
- Engine accessory such as bleed valve, IGVs and etc.
- For IP bleed valve, Starting bleed valve and handling bleed valve if not install with this engine shall be install the new or serviceable part.
- All GG Lubrication routes are needed to be checked and clean.
- All O-rings of the Lubrication are needed to be changed with TAN resistance type (Viton) and checked for condition.
- Bearing Labyrinth Seal is needed to be checked for Damage.
- All Speed Probes (LW18358) in 01 and 03 module shall be replaced as new.
- RVDT for IGV (LW18760) shall be replaced as new. (The serial no. of RVDT must not in the range of 1307-1659 according SIL No. 0076)
- All solenoid for IP bleed valve, Starting bleed valve and handling bleed valve shall be replaced as new.
- Vent Valve Solenoid (ACM29196) shall be replaced as new.
- Check HP6 bleed valve compatibility.
- All bleed Valve (HP, IP, Starting, Handling) must be full overhaul or replace follow Siemens standard.
- Davis Valve must be full overhaul or replace follow Siemens standard.
- Weak Extinction Temperature shall be below Siemens standard or seeking approval from Siemens
 - TPZ<=1880 K. = Accept
 - TPZ 1880-1930 K. shall be seek approval from Siemens and PTT
 - TPZ >1930 K. = Not accept
- Flexible pipes shall be tested at mid life overhaul, And Replace flexible pipes as 2 full life
- For Hydraulic Oil Supply (H1) port shall be install 2 port model. (P/N. LW10327 and LW11093)



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

18.2.4 Submit the dismantling & inspection result including picture of damages, its comments and prices to PTT for **prior approval** before proceeding of any further works.

18.2.5 Discuss with PTT to conclude the replacement / repair / recondition requirements in accordance with the inspection result.

Note : Approval by PTT of any document or other kind of information supplied by PTT to CONTRACTOR shall not relieve Contractor from its responsibilities under the contract.

18.2.6 Recondition / Rework of Parts will be done as per the scope of works. The addition scope shall be declared to PTT for approval as per inspection report and some special requirements as per the Siemens Service bulletin.

18.2.7 Contractor must use the strategy for repair and overhaul of all part and component by the priority below;

1. Repair and overhaul of all part, component and accessories as much as possible.
2. Replace the part, component and accessories by the serviceable.
3. Replace the part, component and accessories by the new.
4. For Full life overhaul, sensors shall be replace all new sensor that state in below.

- T455 =17 ea.
- T31 = 3ea.
- T25= 2 ea.
- CP103 = 2 sensors , PN is 143-103-000-732 (Manufacturer)
- 39GGI= 1ea., PN is LW18157 (Siemens) or 444-134-000-144 (Manufacturer)
- 39GGC= 1ea., PN is LW18157 (Siemens) or 444-134-000-144 (Manufacturer)
- 39GGT= 1ea. ,PN is LW18157 (Siemens) or 444-134-000-144 (Manufacturer)
- 20GGBV = 1set. (PN S400004 and EB102442C)
- 20GGSBV1=1 ea. (only for RB211 24GT, Solenoid BV)
- 20GGSBV2=1 ea. (only for RB211 24GT, Solenoid BV)



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

5. For midlife overhaul, sensors shall be Calibrate and prove test Vibration casing CE134(39GGI, 39GGC,39GGT) and submit report to PTT

6. Engine Accessories must be overhaul such as Combustor and Davis valve (VIGV, Ram)

And to measuring the performance of Contractor PTT will have the KPI by below;

18.2.7.1. KPI Component Repair, for RB211 40% of total overhaul value is repair and rework costs.

18.2.8 Replacement of Parts, as per the conclusion with some special requirements.

18.2.8.1 Engine Bag replacement or repair depend on condition and Siemens standard.

18.2.8.2 Parts for replacement shall be **latest revision and part number** of Siemens’s brand new or overhauled parts depending on PTT’s comments. Contractor can recommend and propose the overhauled parts, if it is available in Contractor’s stock. Exchanged part shall be the latest revision and part number, depending on PTT’s comments, and may be opted in order to minimize the recondition period but the exchange price shall not exceed the recondition price.

18.2.9. Perform static / dynamic balance of engine, as required.

18.2.10. Reassemble the engine.

18.2.11. Assist to perform complete engine testing with regular gas fuel as per the GG test acceptance RB211 standard.

Record online test screen shall be submit to PTT

- Test schedule shall be according to Siemens standards.

18.2.12. After perform the performance test, the contractor must proceed the inhibit of the engine following Siemens Standard. (Specify inhibit liquid type in the report)

18.2.13 Spare part for engine change out shall be sent with engine that state in below.

- Screw RRE002540 = 114 ea.
- Nut RRE002291 = 114 ea.
- Washer W10A-4#43 = 168 ea.
- Spacer RRE010361 = 56 ea.



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

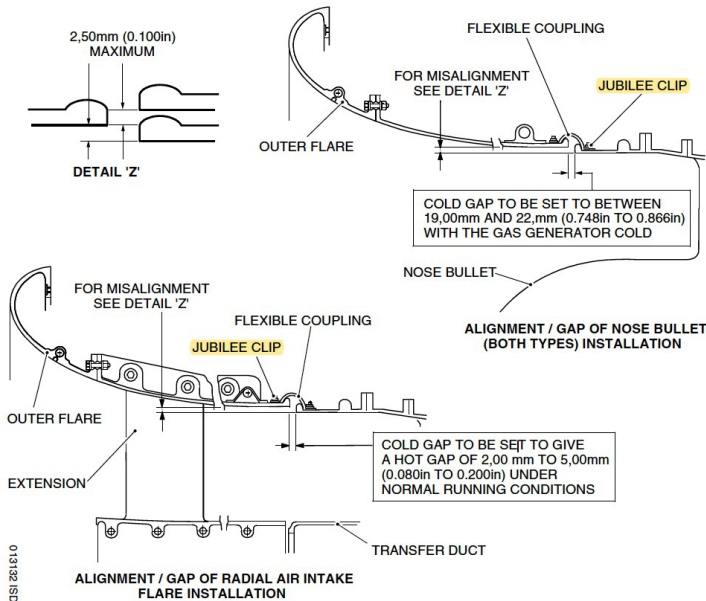
Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

- Seal bonded P346016 = 2 ea.
- Bellmouth Jubilee clip = 1 set.
-



- MOOG Servo Valve LW20532 (-8 to 8 mA) (only for RB211 24G) = 1 ea.
- MOOG Servo Valve LW20468 (-10 to 6 mA) (only for RB211 24GT)= 1 ea.
- LW18785 CLIP 7 WAY T455 T/C MOD 1296 = 20 ea.
- SOLENOID VALVE RRE094197 = 2 ea.
- SOLENOID VALVE 2-05V-601-002 R211-51-36 = 2 ea.

18.2.14. Return of the scrapped parts, as required by PTT.

18.2.15. Preparation for transport (packing for air-freight).

18.3 Witness of PTT's Delegates



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

Contractor shall, at the request of the PTT for approval and witness, provide the schedule and program of work which consists of the following;

- (a) Disassembling of the engine. (Bulk Strip)
- (b) detail inspection of Parts.
- (c) Re-assembling the engine.

19. Instruction for Contractor’s Documentation

The following documents and drawings shall be submitted by the Contractor in the quantities specified.

- 1 Documents and drawings for during working period. (1 copy)
 - o Bulk Strip Report, that must have the detail of following below;
 - o Engine receive condition including photograph.
 - o Electrical and Instrumentation Inspection.
 - o Module 01 – 06 Inspection including photograph.
 - o Recommended Workscope.
 - o Etc.
 - o Interim Technical Report, that must have the detail of part rejection, part change, detail of repair and etc. after detail inspection.
 - o Estimate Overhaul Price

19.2 Documents and drawings for final acceptance. (1 copy)

- o Bulk Strip Report
- o Interim Technical Report
- o Instrumentation and sensor test report (Calibrate and prove test Vibration casing CE134(39GGI, 39GGC,39GGT)
- o VDO record of borescope after performance test



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

- VDO record online test screen
- Certificate of transportation stand (if expire)
- Final Technical Report
- Air Distribution Factor Declaration Sheet for the Combustor
- Photographs Report that must have the detail of following below;
 - Arrival
 - Dispatch
 - Receipt
 - During on workscope
 - Reject Part
 - Etc.
- Test Report that must have the detail of following below;
 - Test Parameters
 - Test Performance Results
 - Steady State Vibration Results
 - Bleed Valve Operation
 - Oil System Parameters
 - Run Down Times
 - DLE Specific Acceptance Parameters
 - DLE Noise & Weak Extinction Map
 - IP Spool Speed Relationship to Exhaust Gas Horsepower
 - HP Spool Speed Relationship to Exhaust Gas Horsepower
 - Stator Outlet Temperature Relationship to Exhaust Gas Horsepower
 - Jet Pipe Temperature Relationship to Exhaust Gas Horsepower
 - T6(c) Relationship to Exhaust Gas Horsepower



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems					
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

- Specific Fuel Consumption Relationship to Exhaust Gas Horsepower including assumption and calculation.
- ECT Spread Results
- VIGV Schedule
- Test Summary
- Etc.
- Engine Release and Test Certificate for each Module (01 – 06) that must have the detail of following below;
 - Detail of Engine
 - Total Running Time Prior to This Release
 - Group A Limiter
 - Work Carried Out
 - Modification and Technical Instructions Carried Out
 - Group A Parts – Engine Build Log
 - Accessories – Engine Build Log that must have the Part No., Serial No., MOD No. and position install.
(Combustor, Injector, VIGV Ram, MOOG Valve, Bleed Valve and etc.)
 - Etc.
- Final Overhaul Price
- Standard Siemens Price List for the spare part that used
- Engine acceptance criteria
-
-

20. Technical Correspondence

ATTENTION: Mr. PARINYA KAB-OY, Mechanical Engineer or
Mr. KUNARAK KUNAKULSAWAT, Mechanical Engineer or
Mr. SUEBPONG KONGKHUN, Division manager.



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

Quality
 Safety
 Health
 Environment
 Lab
 Energy

RB211 24GT DLE			
General	Units	Limit	Criteria
NL Roll Down Time	sec	>=300	Accept
NH Roll Down Time	sec	>=180	Accept
Oil Consumption	Units	Limit	Criteria
Oil Consumption	l/hr	<=0.57	Accept
Vibration Limit Check	Units	Limit	Criteria
Front Vibration	mm/s avg	<=16	Accept
Center Vibration	mm/s avg	<=16	Accept
Rear Vibration	mm/s avg	<=16	Accept
EGT Spread	Units	Limit	Criteria
Observed Maximum EGT Spread	deg. C	<=130	Accept
Observed Minimum EGT Spread	deg. C	>= -130	Accept
Oil Scavenge Temperature	Units	Limit	Criteria
Lube Oil Temp L2	deg. C	<=200	Accept
Lube Oil Temp L3	deg. C	<=200	Accept
Lube Oil Temp L4	deg. C	<=200	Accept
Emissions Check	Units	Limit	Criteria
NOx at 100% Base Load	ppm	<=25	Accept
CO at 70% Base Load	ppm	<=25	Accept
Weak Extinction Check	Units	Limit	Criteria
Weak Extinction Point	deg. K	>1930	Not Accept
	deg. K	1880-1930	shall be seek approval from Siemens and PTT
	deg. K	<=1880	Accept
BOV Setting	Units	Limit	Criteria
BOV Open	rpm	>=344	Accept
	rpm	<=345	Accept
BOV Closed	rpm	>=351	Accept



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

	rpm	<=352	Accept
Test Parameter			
Units		Acceptance Summary	
EGPHC limit at the SOTC RP		HP	45,470
BSFCC limit at the EGHPC RP		BTU/HP.hr	6,009

TELEPHONE No. : (+66 - 38) 676435 or (+66 - 38) 676558

FAX No. : (66 - 38) 676439

E-MAIL: parinya.ka@pttplc.com or kunarak.k@pttplc.com or suebpong.k@pttplc.com



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

Quality
 Safety
 Health
 Environment
 Lab
 Energy

RB211 24GT DLE			
General	Units	Limit	Criteria
NL Roll Down Time	sec	>=300	Accept
NH Roll Down Time	sec	>=180	Accept
Oil Consumption	Units	Limit	Criteria
Oil Consumption	l/hr	<=0.57	Accept
Vibration Limit Check	Units	Limit	Criteria
Front Vibration	mm/s avg	<=16	Accept
Center Vibration	mm/s avg	<=16	Accept
Rear Vibration	mm/s avg	<=16	Accept
EGT Spread	Units	Limit	Criteria
Observed Maximum EGT Spread	deg. C	<=130	Accept
Observed Minimum EGT Spread	deg. C	>= -130	Accept
Oil Scavenge Temperature	Units	Limit	Criteria
Lube Oil Temp L2	deg. C	<=200	Accept
Lube Oil Temp L3	deg. C	<=200	Accept
Lube Oil Temp L4	deg. C	<=200	Accept
Emissions Check	Units	Limit	Criteria
NOx at 100% Base Load	ppm	<=25	Accept
CO at 100% Base Load	ppm	<=25	Accept
Weak Extinction Check	Units	Limit	Criteria
Weak Extinction Point	deg. K	>1930	Not Accept
	deg. K	1880-1930	shall be seek approval from Siemens and PTT
	deg. K	<=1880	Accept
BOV Setting	Units	Limit	Criteria



Subject : Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041 , 1890C-2066 ,1790G-850 , 1790G-859

By :
MR. PARINYA KAB-OY
MR. KUNARAK KUNAKULSAWAT

Create date : 14 July 2021
Rev.4
SAP PR No.1120016335

Division/Department :
Maintenance Planning & Management
Division

Related standard systems

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Quality	Safety	Health	Environment	Lab	Energy

BOV Open	rpm	>=336	Accept
	rpm	<=337	Accept
BOV Closed	rpm	>=345	Accept
	rpm	<=346	Accept
Test Parameter			
Unit			
Acceptance Summary			
SOTC limit at the EGHPC RP	K		1,515
BSFCC limit at the EGHPC RP	BTU/HP.hr		6,377

Evaluation Criteria

Life-Time Overhaul Siemens Gas Turbine, RB211 DLE

S/N: 1890C-2066, 1890C-2041, 1790G-850 and 1790G-859

Used the Technical Evaluate and Price Evaluate. The Contractor must pass the Technical Evaluate prior to start the Price Evaluate.

Technical Evaluate

Contractor is required to quote the **Sealed Bid Technical Proposal**, that have the technical document only (no price) by below,

1. Certificate of Authority from Siemens of the Overhaul Workshop that Contractor Used.
2. Project Organization such as Project Manager, Project Engineer, Contact Point etc.
3. Project Plan Schedule for the Life-Time Overhaul Scope as per Article 11 in the Contractor Overhaul Facility.
4. Draft Sample Report as per Article 11.
5. Technical Proposal follow Scope of Work as per Article 12. Including the Delivery Period, Term of Warranty, KPI Work Performance and Special Offer.
6. Term and Condition **sign all page**, to confirm accept the PTT requirement.
7. Draft Contract **sign all page**, to confirm no deviation from the original draft.

Price Evaluate

Contractor is required to quote the **Sealed Bid Price Proposal**, that have the Price in the fill form following. The Contractor that will award for each engine is the one that have the highest score from the Price Evaluate for each engine. The highest score will be the represent of the lowest price. For example,

Engine S/N	Score of Contractor A	Score of Contractor B	Score of Contractor C
1890C-2066	80	90	80
1890C-2041	80	95	95
1790G-850	95	85	80
1790G-859	95	85	97

Contractor A will awarded for S/N 1790G-850

Contractor B will awarded for S/N 1890C-2066

Contractor B or C will awarded for S/N 1890C-2041 . In the case that the score is equal, PTT will evaluate from the special offer from each Contractor such as Delivery Period, Term of Warranty, KPI Performance and etc.

Contractor C will awarded for S/N 1790G-859

Fill Form for Bidding RB211 24GT Full /1890C-2066				
Item	Description	Score	Filling Column	Remark
				How to Fill?
1	Labour	6.377		Fill in the Price in GBP
2	Engine Performance Test (Include Fuel and Oil for Test)	2.327		Fill in the Price in GBP
3	Repair Schemes (Repair + Coating)	43.804		Fill in the Price Sum in GBP from the attachment list
4	Replacement Part New (Include Standard Consumable Part)	47.492		Fill in the average % mark up from the Siemens Price List
Sum		100.000	-	-

Note : How to calculate the score & evaluate?

1. Who is offer the lowest price, lowest % markup or highest % reduce will give the maximum score.
2. The next step price or % will use the rule of three to calculate the score.
3. The lowest score from calculate will not less than 0. (No minus score)
4. The contract that have the highest score will award the bid.
5. It the score is equal, PTT will evaluate from the special offer.
6. If there is any blank (unfilled price) in the fill form, the bidder shall be disqualified for that engine.

Example Calculation Score :

- Labout Max Score : 8
- Contractor A Offer : 100 GBP and will get 8 Score
- Contractor B Offer : 150 GBP and will get 4 Score
- Contractor C Offer : 200 GBP and will get 0 Score

Fill Form for Bidding RB211 GT Second Mid 1890C-2041				
Item	Description	Score	Filling Column	Remark
				How to Fill?
1	Labour	8.0672		Fill in the Price in GBP
2	Engine Performance Test (Include Fuel and Oil for Test)	4.1103		Fill in the Price in GBP
3	Repair Schemes (Repair + Coating)	22.478		Fill in the Price Sum in GBP from the attachment list
4	Replacement Part New (Include Standard Consumable Part)	65.345		Fill in the average % mark up from the Siemens Price List
Sum		100	-	-

Note : How to calculate the score & evaluate?

1. Who is offer the lowest price, lowest % markup or highest % reduce will give the maximum score.
2. The next step price or % will use the rule of three to calculate the score.
3. The lowest score from calculate will not less than 0. (No minus score)
4. The contract that have the highest score will award the bid.
5. It the score is equal, PTT will evaluate from the special offer.
6. If there is any blank (unfilled price) in the fill form, the bidder shall be disqualified for that engine.

Example Calculation Score :

- Labour Max Score : 8
- Contractor A Offer : 100 GBP and will get 8 Score
- Contractor B Offer : 150 GBP and will get 4 Score
- Contractor C Offer : 200 GBP and will get 0 Score

Fill Form for Bidding RB211 24G Second Mid 1790-859				
Item	Description	Score	Filling Column	Remark
				How to Fill?
1	Labour	7.1622		Fill in the Price in GBP
2	Engine Performance Test (Include Fuel and Oil for Test)	6.4633		Fill in the Price in GBP
3	Repair Schemes (Repair + Coating)	53.207		Fill in the Price Sum in GBP from the attachment list
4	Replacement Part New (Include Standard Consumable Part)	33.168		Fill in the average % mark up from the Siemens Price List
Sum		100	-	-

Note : How to calculate the score & evaluate?

1. Who is offer the lowest price, lowest % markup or highest % reduce will give the maximum score.
2. The next step price or % will use the rule of three to calculate the score.
3. The lowest score from calculate will not less than 0. (No minus score)
4. The contract that have the highest score will award the bid.
5. It the score is equal, PTT will evaluate from the special offer.
6. If there is any blank (unfilled price) in the fill form, the bidder shall be disqualified for that engine.

Example Calculation Score :

- Labour Max Score : 8
- Contractor A Offer : 100 GBP and will get 8 Score
- Contractor B Offer : 150 GBP and will get 4 Score
- Contractor C Offer : 200 GBP and will get 0 Score

Fill Form for Repair Schemes (Repair + Coating) / RB211 24G Second Mid 1790-855				
Scheme	Description	Qty	Price/Unit	Price Sum
Module 01				
TI30143	IP Compressor Front Bearing - Overhaul	1		
FST5114F	Master Hydraulic Ram - Function test	3		
TI30076	Pipe assembly - Repair damage and fretting by welding	1		
FST5115F	Slave Hydraulic Ram - Function	1		
Module 02				
EFRS1085	Apply Dry Film lubricant to Rotor Blading (Per Stage)	5		
SPIP-01 IP	Compressor Blades Stage 1 - Superpolish to improve surface finish	1		
10362	Stage 2 Inner Shroud - Re-application of damping medium	1		
S405372-2	Stage 2 IP Inner Shroud - Re-application of abrasible lining	1		
10363	Stage 3 Inner Shroud - Re-application of damping medium	1		
S405372-3	Stage 3 IP Inner Shroud - Re-application of abrasible lining	1		
10364	Stage 4 Inner Shroud - Re-application of damping medium	1		
S405372-4	Stage 4 IP Inner Shroud - Re-application of abrasible lining	1		
10365	Stage 5 Inner Shroud - Reapplication of damping medium	1		
10366	Stage 6 Inner Shroud - Reapplication of damping medium	1		
Module 03				
TI30159	03 Casing - Fit Threaded Inserts & Studs at Starter Mounting Flange	1		
S405353	Air Seal Baffle - Renew Abradable Lining (LW14474)	1		
S405167	Cupwasher - Scallop / Planish to remove area of previous locking	8		
TI30142-HP	HP Thrust Bearings - Overhaul	1		
RP2120	Intermediate Casing - Re-protect with PL165	1		
RP181	Internal Wheelcase Cone assembly - Re-protect with Alumigold	1		
RP18542	IP Compressor Rear Stubshaft - Re-protect with SermeTel W	1		
S405371	IP Compressor Stepped Air Seal- Renew abrasible lining (LW12695)	1		
MCIPSS	IP Stubshaft - Machine to remove areas of corrosion	1		
TI30142-IP	IP Thrust Bearings - Overhaul	1		
LCCOAT	IP Turbine Shaft Lombard Coupling, Locking Sleeve and Shaft - Re-protect with SermeTel 'W'	1		
S405088	Labyrinth Seal Housing - Re-application of abrasible lining	1		
TI30055	Stage 7 OGV Ring - Re-application of abrasible lining and Re-protect	1		
RN5014	Stage 7 OGV Ring - Re-application of damping medium	1		
Module 04				
CTS1190-1	Combustion Swirler - Overhaul and Re-protect Secondary Outlet Window with SermaLoy J	9		
DLEFIFLO	DLE Fuel Injectors - Clean,Overhaul & Flow Test	9		
RP2724	HP Turbine Inner Race assembly - Re-protect with SermeTel W	1		
RP3953AB1	Stage 1 HP Inner Shroud - Re-application of abrasible lining	1		
RP3953AB2	Stage 2 HP Inner Shroud - Re-application of abrasible lining	1		
RP41176-1	Stages 1 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-2	Stages 2 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-3	Stages 3 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-4	Stages 4 HP Stator Vanes - Reprotect with SermeTel W	1		
RW/TV/R505	Discharge Nozzle Overhaul including replacement of the Letterbox Flange	9		
S405126-1	Stage 1 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-2	Stage 2 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-3	Stage 3 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-4	Stage 4 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-5	Stage 5 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-6	Stage 6 HP Compressor Casing - Re-application of rotor path lining	1		
S405215	HP Compressor Blade Lock Plate - Renew metal Tang	6		
S4052353	Stage 3 HP Inner Shroud - Renew feltmetal liner	1		
S4052354	Stage 4 HP Inner Shroud - Renew feltmetal liner	1		
S4052355	Stage 5 HP Inner Shroud - Renew feltmetal liner	1		
S405260	HP Seal Segments - Renew honeycomb lining (-24G)	18		
S405274	Combustor Support - Repair hard face coating	9		
S405278	DLE Locating Ring - Restore slots and replace hard-face coating (LW18222 / LW18279)	1		
S405288	24G, DLE & GT DLE HP NGV - Replace / Repair Impingement Plates	18		
S405289	DLE HP NGV - Re-application of protective coatings	18		
S405293	DLE & GT DLE HP NGV - Restoration of Inner / Outer Platform by welding	6		
S405370	DLE & GT DLE HP NGV - Repair cracks and erosion by Wide Gap Brazing	8		
S405405	24G / DLE HP Turbine Blade - Restore Aerofoil Surface Finish	92		
TI300051	Stage 1 HP Compressor Casing - Re-application of rotor path lining	1		
TI300052	Stage 2 HP Compressor Casing - Re-application of rotor path lining	1		
TI300053	Stage 3 HP Compressor Casing - Re-application of rotor path lining	1		
TI300054	Stage 4 HP Compressor Casing - Re-application of rotor path lining	1		
TI300055	Stage 5 HP Compressor Casing - Re-application of rotor path lining	1		
TI300056	Stage 6 HP Compressor Casing - Re-application of rotor path lining	1		
TI300293	HP Inner Shrouds - Re-protect with SermeTel W	4		
TI30029-3	HP Compressor Support Cone - Re-protect with SermeTel W	1		
TI300294	HP Compressor Stator Casing - Re-protect with SermeTel W	6		
TI300295	HP Compressor Locating Cones - Re-protect with SermeTel W	3		
TI300296	04 Outer Casing Front (DLE) - Reprotect with SermeTel W	1		
TI300297	04 Outer Casing Centre (DLE) - Re-protect with SermeTel W	1		
TI300298	04 Outer Casing Rear (DLE) - Reprotect with SermeTel W	1		

Fill Form for Repair Schemes (Repair + Coating) / RB211 24G Second Mid 1790-855				
Scheme	Description	Qty	Price/Unit	Price Sum
TI300299	04 Combustion Casings (DLE) - Re-protect with SermeTel W (9 off)	1		
TI30111	HP Seal Segment Retaining Ring - Repair fretage by welding	1		
TI30119	HP Seal Segments - Protect with SermaLoy 'J' coating	18		
TI30131	HP Nozzle Box Locating Guide Ring (DLE) - Repair worn location (LW18024)	1		
TI30172	Mod 1275 Stg 5 HP Vanes - application of protective coating	1		
TI30177	24G HP Turbine Blade - Restoration of Outer Shroud Geometry (Polymet & CM64) then Re-protect with Plat	90		
TI30177A	24G HP Turbine Blade - Restoration of Outer Shroud Geometry (Polymet & CM64) then Re-protect with Plat	85		
TVR134	Stage 4 HP Compressor Blades - Re-protect with SermeTel W	1		
Module 05				
1214RW	IP Bearing Retainer - Application of abrasible lining and Re-protect with SermeTel W	1		
EFR54580	IP Turbine Inner Race - Grinding of Race-way to remove pitting / scoring	1		
FRS5532	HP & IP Turbine Roller Bearing - Overhaul	2		
LW17472	HP/IP Bearing Support Panel/Seal Assy - Replace abrasible lining & re-protect	1		
RN5025/30	IP Turbine Shaft - Re-protect with SermeTel W	1		
RP4617	IP Turbine Inner Race assembly - Re-protect with SermeTel W	1		
RP49123BC	HP Bearing Retainer - Re-application of abrasible lining and Re-protect with SermeTel W	1		
S405087-2	IP NGV - Replace cooling tubes	15		
S405247	IP Turbine Blade - Repair Interlock & Non-Interlock faces, Seal Fins & Re-protect with SermaLoy 'J' coating	148		
S405252	IP Seal Segments - Replacement of honeycomb seal	34		
S405262	IP Turbine Blade - Dressing of aerofoil to remove areas of damage	148		
S405320	IP NGV - Repair cracks and erosion by Wide Gap Brazing	1		
S405326	IP NGV - Re-application of SermaLoy 'J' Coating	26		
S405344	HP/IP Bearing Support - Renew Pipe Insulation and Cover	1		
S405346	HP/IP Bearing Support - Renew damaged Pipe	1		
S405418	IP Seal Segment - Restoration of worn Sealing Fin	34		
TI300292	HP/IP Bearing Support - Re-protect with SermeTel W	1		
TI30107	05 Module Liner Segments - Protect with SermaLoy 'J' coating	17		
TI30120	IP Seal Segments - Protect with SermaLoy 'J' coating	34		
TI30148	Liner Segments - Removal of distortion and repair of cracking	17		
TI30156	IP Seal Segment - Weld repair of cracking to the Backing Plate	2		
TI30184	IP Locking Segment - Protect with a SermaLoy 'J' coating (per Segment)	17		
TI30199	HP Bearing Retainer - Re-application of abrasible lining and Re-protect with SermeTel W	1		
Module 06				
TI30041-1	Air Intake Fibre Glass Extension - Repair cracking to Fibre Glass	1		
DAVALVE	Davis Valve - Overhaul	1		
TI30029-6	Elbow (LW16620) - Re-protect with SermeTel W	1		
TI30166	Gas Manifold and Flexi-pipes - Pressure test	5		
TI30115	Gas Manifold Assembly - Repair damage and fretage by welding	2		
TI30076-1	Gas Manifold Assembly - Repair damage and fretage by welding	2		
CTS1160	Handling Bleed Valve - Overhaul and test	1		
CTS1161	HP Starting Bleed Valve - Overhaul and test	3		
CTS1159F	IP Bleed Valve - Function test	2		
CTS1159	IP Bleed Valve - Overhaul and	2		
RP661	IP BOV Air Outlet assembly - Reprotect	1		
TI30106	MOOG Valve - Overhaul and function test	1		
RPODB	Oil Distribution Block - Reapplication of protective coating	1		
PCP021	Oil Vent Block - Re-protect with PL165	1		
TI30076	Pipe assembly - Repair damage and fretage by welding	1		
TI30166-1	Pressure Test 6 off P3 Pipes	1		
TI30166-2	Pressure Test external Pipes	4		
TI30127	RB211 Engine Stand (-22, -24 and DLE) - Repair and Certify	1		
LW17099	Re-protect Engine Front Intake Mounting (LW17099)	1		
CTS1161	Starting Bleed Valve - Overhaul and test	3		
TI30097	Thrust Piston Cover -24G - Reapply Metco Lining	1		
TI30096	Thrust Piston Cylinder -24G - Reapply Metco Lining	1		
TL1108	Vent Valve - Function test	1		
Sum				

Fill Form for Repair Schemes (Repair + Coating) / RB211 24G Second Mid 1790-855

Scheme	Description	Qty	Price/Unit	Price Sum
Module 01				
TI30143	IP Compressor Front Bearing - Overhaul	1		
FST5114F	Master Hydraulic Ram - Function test	3		
TI30076	Pipe assembly - Repair damage and fretage by welding	1		
FST5115F	Slave Hydraulic Ram - Function	1		
Module 02				
EFRS1085	Apply Dry Film lubricant to Rotor Blading (Per Stage)	5		
SPIP-01 IP	Compressor Blades Stage 1 - Superpolish to improve surface finish	1		
10362	Stage 2 Inner Shroud - Re-application of damping medium	1		
S405372-2	Stage 2 IP Inner Shroud - Re-application of abrasible lining	1		
10363	Stage 3 Inner Shroud - Re-application of damping medium	1		
S405372-3	Stage 3 IP Inner Shroud - Re-application of abrasible lining	1		
10364	Stage 4 Inner Shroud - Re-application of damping medium	1		
S405372-4	Stage 4 IP Inner Shroud - Re-application of abrasible lining	1		
10365	Stage 5 Inner Shroud - Reapplication of damping medium	1		
10366	Stage 6 Inner Shroud - Reapplication of damping medium	1		
Module 03				
TI30159	03 Casing - Fit Threaded Inserts & Studs at Starter Mounting Flange	1		
S405353	Air Seal Baffle - Renew Abradable Lining (LW14474)	1		
S405167	Cupwasher - Scallop / Planish to remove area of previous locking	8		
TI30142-HP	HP Thrust Bearings - Overhaul	1		
RP2120	Intermediate Casing - Re-protect with PL165	1		
RP181	Internal Wheelcase Cone assembly - Re-protect with Alumigold	1		
RP18542	IP Compressor Rear Stubshaft - Re-protect with SermeTel W	1		
S405371	IP Compressor Stepped Air Seal- Renew abrasible lining (LW12695)	1		
MCIPSS	IP Stubshaft - Machine to remove areas of corrosion	1		
TI30142-IP	IP Thrust Bearings - Overhaul	1		
LCCOAT	IP Turbine Shaft Lombard Coupling, Locking Sleeve and Shaft - Re-protect with SermeTel 'W'	1		
S405088	Labyrinth Seal Housing - Re-application of abrasible lining	1		
TI30055	Stage 7 OGV Ring - Re-application of abrasible lining and Re-protect	1		
RN5014	Stage 7 OGV Ring - Re-application of damping medium	1		
Module 04				
CTS1190-1	Combustion Swirler - Overhaul and Re-protect Secondary Outlet Window with SermaLoy J	9		
DLEFIFLO	DLE Fuel Injectors - Clean,Overhaul & Flow Test	9		
RP2724	HP Turbine Inner Race assembly - Re-protect with SermeTel W	1		
RP3953AB1	Stage 1 HP Inner Shroud - Re-application of abrasible lining	1		
RP3953AB2	Stage 2 HP Inner Shroud - Re-application of abrasible lining	1		
RP41176-1	Stages 1 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-2	Stages 2 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-3	Stages 3 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-4	Stages 4 HP Stator Vanes - Reprotect with SermeTel W	1		
RW/TV/R505	Discharge Nozzle Overhaul including replacement of the Letterbox Flange	9		
S405126-1	Stage 1 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-2	Stage 2 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-3	Stage 3 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-4	Stage 4 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-5	Stage 5 HP Compressor Casing - Re-application of rotor path lining	1		
S405126-6	Stage 6 HP Compressor Casing - Re-application of rotor path lining	1		
S405215	HP Compressor Blade Lock Plate - Renew metal Tang	6		
S4052353	Stage 3 HP Inner Shroud - Renew feltmetal liner	1		
S4052354	Stage 4 HP Inner Shroud - Renew feltmetal liner	1		
S4052355	Stage 5 HP Inner Shroud - Renew feltmetal liner	1		
S405260	HP Seal Segments - Renew honeycomb lining (-24G)	18		
S405274	Combustor Support - Repair hard face coating	9		
S405278	DLE Locating Ring - Restore slots and replace hard-face coating (LW18222 / LW18279)	1		
S405288	24G, DLE & GT DLE HP NGV - Replace / Repair Impingement Plates	18		
S405289	DLE HP NGV - Re-application of protective coatings	18		
S405293	DLE & GT DLE HP NGV - Restoration of Inner / Outer Platform by welding	6		
S405370	DLE & GT DLE HP NGV - Repair cracks and erosion by Wide Gap Brazing	8		
S405405	24G / DLE HP Turbine Blade - Restore Aerofoil Surface Finish	92		
TI300051	Stage 1 HP Compressor Casing - Re-application of rotor path lining	1		
TI300052	Stage 2 HP Compressor Casing - Re-application of rotor path lining	1		
TI300053	Stage 3 HP Compressor Casing - Re-application of rotor path lining	1		
TI300054	Stage 4 HP Compressor Casing - Re-application of rotor path lining	1		
TI300055	Stage 5 HP Compressor Casing - Re-application of rotor path lining	1		
TI300056	Stage 6 HP Compressor Casing - Re-application of rotor path lining	1		
TI300293	HP Inner Shrouds - Re-protect with SermeTel W	4		
TI30029-3	HP Compressor Support Cone - Re-protect with SermeTel W	1		
TI300294	HP Compressor Stator Casing - Re-protect with SermeTel W	6		
TI300295	HP Compressor Locating Cones - Re-protect with SermeTel W	3		
TI300296	04 Outer Casing Front (DLE) - Reprotect with SermeTel W	1		

Fill Form for Repair Schemes (Repair + Coating) / RB211 24G Second Mid 1790-855				
Scheme	Description	Qty	Price/Unit	Price Sum
TI300297	04 Outer Casing Centre (DLE) - Re-protect with SermeTel W	1		
TI300298	04 Outer Casing Rear (DLE) - Reprotect with SermeTel W	1		
TI300299	04 Combustion Casings (DLE) - Re-protect with SermeTel W (9 off)	1		
TI30111	HP Seal Segment Retaining Ring - Repair frettage by welding	1		
TI30119	HP Seal Segments - Protect with SermaLoy 'J' coating	18		
TI30131	HP Nozzle Box Locating Guide Ring (DLE) - Repair worn location (LW18024)	1		
TI30172	Mod 1275 Stg 5 HP Vanes - application of protective coating	1		
TI30177	24G HP Turbine Blade - Restoration of Outer Shroud Geometry (Polymet & CM64) then Re-protect with Plat	90		
TI30177A	24G HP Turbine Blade - Restoration of Outer Shroud Geometry (Polymet & CM64) then Re-protect with Plat	85		
TVR134	Stage 4 HP Compressor Blades - Re-protect with SermeTel W	1		
Module 05				
1214RW	IP Bearing Retainer - Application of abrasible lining and Re-protect with SermeTel W	1		
EFRS4580	IP Turbine Inner Race - Grinding of Race-way to remove pitting / scoring	1		
FRS5532	HP & IP Turbine Roller Bearing - Overhaul	2		
LW17472	HP/IP Bearing Support Panel/Seal Assy - Replace abrasible lining & re-protect	1		
RN5025/30	IP Turbine Shaft - Re-protect with SermeTel W	1		
RP4617	IP Turbine Inner Race assembly - Re-protect with SermeTel W	1		
RP49123BC	HP Bearing Retainer - Re-application of abrasible lining and Re-protect with SermeTel W	1		
S405087-2	IP NGV - Replace cooling tubes	15		
S405247	IP Turbine Blade - Repair Interlock & Non-Interlock faces, Seal Fins & Re-protect with SermaLoy 'J' coating	148		
S405252	IP Seal Segments - Replacement of honeycomb seal	34		
S405262	IP Turbine Blade - Dressing of aerofoil to remove areas of damage	148		
S405320	IP NGV - Repair cracks and erosion by Wide Gap Brazing	1		
S405326	IP NGV - Re-application of SermaLoy 'J' Coating	26		
S405344	HP/IP Bearing Support - Renew Pipe Insulation and Cover	1		
S405346	HP/IP Bearing Support - Renew damaged Pipe	1		
S405418	IP Seal Segment - Restoration of worn Sealing Fin	34		
TI300292	HP/IP Bearing Support - Re-protect with SermeTel W	1		
TI30107	05 Module Liner Segments - Protect with SermaLoy 'J' coating	17		
TI30120	IP Seal Segments - Protect with SermaLoy 'J' coating	34		
TI30148	Liner Segments - Removal of distortion and repair of cracking	17		
TI30156	IP Seal Segment - Weld repair of cracking to the Backing Plate	2		
TI30184	IP Locking Segment - Protect with a SermaLoy 'J' coating (per Segment)	17		
TI30199	HP Bearing Retainer - Re-application of abrasible lining and Re-protect with SermeTel W	1		
Module 06				
TI30041-1	Air Intake Fibre Glass Extension - Repair cracking to Fibre Glass	1		
DAVALVE	Davis Valve - Overhaul	1		
TI30029-6	Elbow (LW16620) - Re-protect with SermeTel W	1		
TI30166	Gas Manifold and Flexi-pipes - Pressure test	5		
TI30115	Gas Manifold Assembly - Repair damage and frettage by welding	2		
TI30076-1	Gas Manifold Assembly - Repair damage and frettage by welding	2		
CTS1160	Handling Bleed Valve - Overhaul and test	1		
CTS1161	HP Starting Bleed Valve - Overhaul and test	3		
CTS1159F	IP Bleed Valve - Function test	2		
CTS1159	IP Bleed Valve - Overhaul and	2		
RP661	IP BOV Air Outlet assembly - Reprotect	1		
TI30106	MOOG Valve - Overhaul and function test	1		
RPODB	Oil Distribution Block - Reapplication of protective coating	1		
PCP021	Oil Vent Block - Re-protect with PL165	1		
TI30076	Pipe assembly - Repair damage and frettage by welding	1		
TI30166-1	Pressure Test 6 off P3 Pipes	1		
TI30166-2	Pressure Test external Pipes	4		
TI30127	RB211 Engine Stand (-22, -24 and DLE) - Repair and Certify	1		
LW17099	Re-protect Engine Front Intake Mounting (LW17099)	1		
CTS1161	Starting Bleed Valve - Overhaul and test	3		
TI30097	Thrust Piston Cover -24G - Reapply Metco Lining	1		
TI30096	Thrust Piston Cylinder -24G - Reapply Metco Lining	1		
TL1108	Vent Valve - Function test	1		
Sum				

Fill Form for Repair Schemes (Repair + Coating) / RB211 24GT Full /1890C-2066				
Scheme	Description	Qty	Price/Unit	Price Sum
Module 01				
RP1-17&18B	Front and Rear Inner Casings - Re-application of Protective coatings	1		
RP262	Hydraulic Ram location Bracket - Renew protective coating	3		
S405533-1	Re-protect Blanking Plates (LW15695) - 6 off	1		
TI30049	VIGV Journal Locations - Re-protect with Alumigold	1		
TI30206 - VIGV	Variable Inlet Guide Vanes - Re-protect with IPcote and a Smoothcoat coating (Per Vane)	34		
LW17282	Variable Inlet Guide Vanes (Mod 1165) - Re-protect with SermeTel W	34		
S405062	Actuating Ring - Repair fretting at Trunnion locations (per location)	34		
TI30094	Actuating Arm Spigots - Reclaim by flame plating	34		
TI30143	IP Compressor Front Bearing - Overhaul	1		
FST5115	Slave Hydraulic Ram - Overhaul and function test	3		
RP138	VIGV Actuating Arm - Re-application of protective coating	34		
RP278	VIGV Pivot Arms - Renew Phosphate protective coating	3		
S405001	IP Compressor Front Stepped Seal - Re-application of abrasible lining	1		
S405553	Air Intake Casing - Re-protect with PL101	1		
Module 02				
RN5023	Stage 6 & 7 IP Compressor Disc - Re-protect with SermeTel W	1		
S405256	Stage 6 IP Stator Vane assembly - Reclaim inner feet profile.	1		
S405372-1	Stage 1 IP Inner Shroud - Re-application of abrasible lining	1		
S405372-2	Stage 2 IP Inner Shroud - Re-application of abrasible lining	1		
S405372-3	Stage 3 IP Inner Shroud - Re-application of abrasible lining	1		
S405372-4	Stage 4 IP Inner Shroud - Re-application of abrasible lining	1		
S405372-5	Stage 5 IP Inner Shroud - Re-application of abrasible lining	1		
S405381	IP Compressor Front Stubshaft - Restore Journal by grinding location	1		
S405388	IP Compressor Blades (Stages 2-7) - Superpolish to 16 microns	1		
S405554	Stage 1 IP Compressor Disc - Re-protect with SermeTel W	1		
S405555	Oil Deflector - Re-protect with SermeTel 'W'	1		
S405556	IP Compressor Front Stubshaft - Re-protect with SermeTel W	1		
S405565	IP Compressor Curvic Coupling - Re-protect with SermeTel W	1		
SPIP-01	IP Compressor Blades Stage 1 - Superpolish to improve surface finish	1		
TI300637	Stage 1-6 IP Rotor path lining - Re-application of abrasible lining	1		
TI30071	IP Compressor Casings - Re-protect with PL101	1		
TI30206 - 1	Stage 1 IP Stator Vanes - Re-protect with IPcote and a Smoothcoat coating	1		
TI30206 - 2	Stage 2 IP Stator Vanes - Re-protect with IPcote and a Smoothcoat coating	1		
TI30206 - 3	Stage 3 IP Stator Vanes - Re-protect with IPcote and a Smoothcoat coating	1		
TI30206 - 4	Stage 4 IP Stator Vanes - Re-protect with IPcote and a Smoothcoat coating	1		
TI30206 - 5	Stage 5 IP Stator Vanes - Re-protect with IPcote and a Smoothcoat coating	1		
TI30206 - 6	Stage 6 IP Stator Vanes - Re-protect with IPcote and a Smoothcoat coating	1		
S405372-6	Stage 6 IP Inner Shroud - Re-application of abrasible lining	1		
TI30206-7	Stage 1-6 IP Stator Vanes - Re-protect with a Dense Pack coating	1		
1159RW-01	Stage 6 IP Stator Vane Assembly - Application of hard face coating	1		
S405113	Stage 1 Rotor Blade - Repair by dressing and cropping	37		
TI300232/3/4/5/6	Stage 1-4 Stator Vanes 392 Light blend/polish, reprotect Sermetal W, (ea blade)	392		
10367	Stages 1-4 IPC Vane Assy 4 Rubber injection (ea stage)	4		
EFRS1085	Stg 2 -5 Rotor Assy 7 PL237 blade roots	7		
S405423	Stg 6 -7 Rotor Disc 1 Corrosion removal by machining - bolt holes	1		
Module 03				
LCCOAT	IP Turbine Shaft Lombard Coupling, Locking Sleeve and Shaft - Re-protect with SermeTel 'W'	1		
RP18541	HP Compressor Front Stubshaft - Re-protect with SermeTel W	1		
RP18542	IP Compressor Rear Stubshaft - Re-protect with SermeTel W	1		
RP2120	Intermediate Casing - Re-protect with PL165	1		
S405088	Labyrinth Seal Housing - Re-application of abrasible lining	1		
S405167	Cupwasher - Scallop / Planish to remove area of previous locking	5		
S405353	Air Seal Baffle - Renew Abradable Lining (LW14474)	1		
TI30055	Stage 7 OGV Ring - Re-application of abrasible lining and Re-protect	1		
TI30142-HP	HP Thrust Bearings - Overhaul	1		
TI30152-2	Overhaul of 03 Module Internal Gearbox Bearings (LW10166)	1		
TSD5940P330	Internal Wheelcase Diaphragm - Re-application of Protective Coating	1		
MCIPSS	IP Stubshaft - Machine to remove areas of corrosion	1		
RN5014	Stage 7 OGV Ring - Re-application of damping medium	1		
RP1852	HP Stubshaft Inner Sleeve - Re-protect with SermeTel W	1		
S405371	IP Compressor Stepped Air Seal - Renew abrasible lining (LW12695)	1		
TI30152	Overhaul of 03 Module Internal Gearbox Bearings (LW10176)	1		
TI30152-1	Overhaul of 03 Module Internal Gearbox Bearings (FB224015)	1		
TI30152-3	Overhaul of 03 Module Internal Gearbox Bearings (LW10168)	1		
TI30171	HP Stubshaft - Machine to remove areas of corrosion	1		
MCIPSS	Bevel Gear Driven - Machine to remove areas of corrosion	1		
RP181	Internal Wheelcase Cone assembly - Re-protect with Alumigold	1		
TI30142-IP	IP Thrust Bearings - Overhaul	1		
TI300235	Stage 5 Vane Assy 1 Sermetal W protection	1		
TI300236	Stage 6 Vane Assy 1 Sermetal W protection	1		
10365	Stage 5 Vane Assy 1 Rubber inject iaw Mod	1		
10366	Stage 6 Vane Assy 1 Rubber inject iaw Mod	1		
Module 04				
DLEFIFLO	DLE Fuel Injectors - Clean, Overhaul & Flow Test	9		

Fill Form for Repair Schemes (Repair + Coating) / RB211 24GT Full /1890C-2066				
Scheme	Description	Qty	Price/Unit	Price Sum
CTS1190-1	Combustion Swirler - Overhaul and Re-protect Secondary Outlet Window with SermaLoy J	4		
EFRSD0380T	GT Stage 2 HP Compressor Casing - Re-application of rotor path lining	1		
EFRSD204T	GT Stage 5 HP Compressor Casing - Re-application of rotor path lining	1		
EFRSD464	Apply Dry Film Lubricant to Rotor Blading (Per Stage)	4		
FRS4386	HP NGV Rear Support - Restoration of worn diameter by Metal Spray	1		
LW18280	HP Nozzle Guide Vane Outer Locating Ring (DLE) - Replace hard-face coating (LW18280 / LW18224)	1		
RP2724	HP Turbine Inner Race assembly - Re-protect with SermeTel W	1		
RP3953AB1	Stage 1 HP Inner Shroud - Re-application of abrasion resistant lining	1		
RP41176-1	Stages 1 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-2	Stages 2 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-3	Stages 3 HP Stator Vanes - Re-protect with SermeTel W	1		
RW/OR/R1049	Support Ring Assembly (LW16655) - Renew hard face coating	1		
RW/TV/R505	Discharge Nozzle Overhaul including replacement of the Letterbox Flange	9		
S405093	HP Seal Segments - Repair cracking at birdmouth	3		
S405260	HP Seal Segments - Renew honeycomb lining (-24G)	18		
S405274	Combustor Support - Repair hard face coating	9		
S405278	DLE Locating Ring - Restore slots and replace hard-face coating (LW18222 / LW18279)	1		
S405285-1	Combustor Support - Repair worn location bore and hard face coating	9		
S405288	-24G, DLE & GT DLE HP NGV - Replacement of Impingement Plates	18		
S405290	24G/ GT & DLE HP NGV - Dress / re-profile Aerofoils including minor scallop	2		
S405369/2	-24G, DLE & GT DLE HP NGV - Restoration of inner /outer Platforms by welding & brazing	6		
S405370	DLE & GT DLE HP NGV - Repair cracks and erosion by Wide Gap Brazing	8		
S405417	GT DLE HP NGV - Re-application of Protective Coatings	18		
S405485	GT Stage 1 HP Compressor Casing (LW18506) - Replace hard face coating	1		
S405486	GT Stage 1 HP Compressor Casing - Re-application of rotor path lining	1		
S405487	Apply Dry Film Lubricant to the Stage 1 HP Compressor Casing	1		
S405490	GT Stage 3 HP Compressor Casing - Re-application of rotor path lining	1		
S405494	GT Stage 4 HP Compressor Casing - Re-application of rotor path lining	1		
S405496	GT Stage 6 HP Compressor Casing - Re-application of rotor path lining	1		
S405499	Re-protect the HP Hairpin Cone (LW18483)	1		
S405548	Re-protect the HP Support Cone (LK69722)	1		
SP16	Stage 4 & 5 HP Compressor Vanes - Superpolish	1		
TI300293	HP Inner Shrouds - Re-protect with SermeTel W	1		
TI30029-3	HP Compressor Support Cone - Re-protect with SermeTel W	1		
TI300294	HP Compressor Stator Casing - Re-protect with SermeTel W	6		
TI300295	HP Compressor Locating Cones - Re-protect with SermeTel W	3		
TI300296	04 Outer Casing Front (DLE) - Re-protect with SermeTel W	1		
TI300297	04 Outer Casing Centre (DLE) - Re-protect with SermeTel W	1		
TI300298	04 Outer Casing Rear (DLE) - Re-protect with SermeTel W	1		
TI300299	04 Combustion Casings (DLE) - Re-protect with SermeTel W (9 off)	1		
TI30061	HP Seal Segment - Replace honeycomb lining	17		
TI30111	Locating Ring (LK64379) - Repair fretting by welding	1		
TI30119	HP Seal Segments - Protect with SermaLoy 'J' coating	18		
TI30131	HP Nozzle Box Locating Guide Ring (DLE) - Repair worn location (LW18024)	1		
TI30206-1	Stage 1 HP Stator Vanes - Re-protect with SermeTel 'W' and a Smoothcoat coating	1		
TI30206-2	Stage 2 HP Stator Vanes - Re-protect with SermeTel 'W' and a Smoothcoat coating	1		
TI30206-3	Stage 3 HP Stator Vanes - Re-protect with SermeTel 'W' and a Smoothcoat coating	1		
TI30206-ST 4 BLADE	Stage 2 HP Blades - Re-protect with SermeTel 'W' and a Smoothcoat coating	1		
TVR134	Stage 2 HP Compressor Blades - Re-protect with SermeTel W	1		
S405497	STG 3 OUTER CASE 1 Replace hard face coating law S405485	1		
S405511	Cone Assy Supports 3 Sermetal W protection (ea support)	3		
S405506	STG 5 OUTER CASE 1 Replace hard face coating law S405485	1		
Module 05				
1214RW	IP Bearing Retainer - Application of abrasion resistant lining and Re-protect with SermeTel W	1		
EFRS4580	IP Turbine Inner Race - Grinding of Race-way to remove pitting / scoring	1		
FRS5532	HP/IP Turbine Bearing - Overhaul	2		
LW17472	HP/IP Bearing Support Panel/Seal Assy - Replace abrasion resistant lining & re-protect	1		
RN5025/30	IP Turbine Shaft - Re-protect with SermeTel W	1		
RP4617	IP Turbine Inner Race assembly - Re-protect with SermeTel W	1		
RP49123BC	HP Bearing Retainer - Reapplication of abrasion resistant lining and Re-protect with SermeTel W	1		
S405252	IP Seal Segments - Replacement of honeycomb seal	34		
S405262	IP Turbine Blade - Dressing of aerofoil to remove areas of damage	148		
S405344	HP/IP Bearing Support - Renew Pipe Insulation and Cover	1		
S405411	GT IP Turbine Blade - Recovery of Outer Shroud Abutment and Non-Abutment Face with Polymet	148		
S405412	GT IP Turbine Blade - Restoration of Sealing Fin by welding with INCO 625	148		
S405412 - Polymet 842	GT IP Turbine Blade - Restoration of Sealing Fin by welding with Polymet 842	148		
S405418	IP Seal Segment - Restoration of worn Sealing Fin	34		
S11515/IPT	IP Turbine Blade - Re-protect with SermaLoy 1515 coatings	148		
TI300292	HP/IP Bearing Support - Re-protect with SermeTel W	1		
TI30029-9	HP/IP Bearing Rear Support Sealing Sleeve (LK40843 / LK35935) - Re-protect with SermeTel W	1		
TI30107	05 Module Liner Segments - Protect with SermaLoy 'J' coating	17		
TI30120	IP Seal Segments - Protect with SermaLoy 'J' coating	34		
TI30148	Liner Segments - Removal of distortion and repair of cracking	17		
TI30184	IP Locking Segment - Protect with a SermaLoy 'J' coating (perSegment)	17		
TI30199	HP Bearing Retainer - Re-application of abrasion resistant lining and Re-protect with SermeTel W	1		

Fill Form for Repair Schemes (Repair + Coating) / RB211 24GT Full /1890C-2066				
Scheme	Description	Qty	Price/Unit	Price Sum
Module 06				
CTS1159	IP Bleed Valve - Overhaul and test	2		
CTS1160	HP Handling Bleed Valve - Overhaul and test	1		
CTS1161	HP Starting Bleed Valve - Overhaul and test	3		
DAVALVE	Davis Valve - Overhaul	1		
LW17099	Re-protect Engine Front Intake Mounting (LW17099)	1		
PCP021	Oil Vent Block - Re-protect with PL165	1		
RP661	IP BOV Air Outlet assembly - Re-protect	1		
RPODB	Oil Distribution Block - Reapplication of protective coating	1		
RPOSB	Oil Scavenge Block - Reapplication of protective coating	1		
TI30076	Pipe assembly - Repair damage and fretage by welding	1		
TI30076-1	Gas Manifold Assembly - Repair damage and fretage by welding	2		
TI30096	Thrust Piston Cylinder -24G - Re-apply Metco Lining	1		
TI30097	Thrust Piston Cover -24G - Reapply Metco Lining	1		
TI30106	MOOG Valve - Overhaul and function test	1		
TI30114	BOV Duct - Repair cracks by welding	1		
TI30127	RB211 Engine Stand (-22, -24 and DLE) - Repair and Certify	1		
TI30166	Gas Manifold and Flexi-pipes - Pressure test	5		
TI30166-1	Pressure Test 6 off P3 Pipes	1		
TI30166-2	Pressure Test external Pipes	1		
TI30187	GT HP7 Solenoid Valves - Function Test	1		
TL1108	Vent Valve - Function test	1		
Sum				

Fill Form for Repair Schemes (Repair + Coating) / RB211 GT Second Mid 1890C-2039				
Scheme	Description	Qty	Price/Unit	Price Sum
Module 01				
TI30166-2	Pressure Test 2 off Ram Pipes	1		
FSTS115-1	MOOG Hydraulic Ram - Overhaul and Function Test	2		
RB3795	VIGV - Dress aerofoil leading edge to remove corrosion / impact damage	34		
S405537	Variable Inlet Guide Vanes (Mod 1165 / 1569) - Re-protect with SermeTel W	34		
TI30166-2	Pressure Test external Pipes	1		
Module 02				
10367	Stages 1 to 6 Inner Shrouds - Re-application of damping medium	1		
EFRS4325-2	Stage 2 IP Stator Vane - Reclaim abutment faces to achieve build checks	2		
EFRS4325-3	Stage 3 IP Stator Vane - Reclaim abutment faces to achieve build checks	2		
EFRS4325-4	Stage 4 IP Stator Vane - Reclaim abutment faces to achieve build checks	2		
S405372-2	Stage 2 IP Inner Shroud - Re-application of abrasible lining	1		
S405372-3	Stage 3 IP Inner Shroud - Re-application of abrasible lining	1		
TI300232	Stage 2 IP Stator Vanes - Re-protect with a Dense Pack coating	1		
TI300233	Stage 3 IP Stator Vanes - Re-protect with a Dense Pack coating	1		
TI300234	Stage 4 IP Stator Vanes - Re-protect with a Dense Pack coating	1		
TI300235	Stage 5 IP Stator Vanes - Re-protect with a Dense Pack coating	1		
TI300236	Stage 6 IP Stator Vanes - Re-protect with a Dense Pack coating	1		
TI30071	IP Compressor Casings - Re-protect with PL101	1		
10361	Stage 1 Inner Shroud - Re-application of damping medium	1		
10365	Stage 5 Inner Shroud - Re-application of damping medium	1		
10366	Stage 6 Inner Shroud - Re-application of damping medium	1		
S405372-1	Stage 1 IP Inner Shroud - Re-application of abrasible lining	1		
EFRS1085	Apply Dry Film lubricant to Rotor Blading (Per Stage)	7		
RN5023	Stage 6 & 7 IP Compressor Disc - Re-protect with SermeTel W	1		
S405372-6	Stage 6 IP Inner Shroud - Re-application of abrasible lining	1		
S405381	IP Compressor Front Stubshaft - Restore Journal by grinding location	1		
S405388	IP Compressor Blades (Stages 3-7) - Superpolish to 16 microns	1		
S405423	Stage 6/7 Disc - Machine to remove corrosion	1		
Module 03				
TI30055	Stage 7 OGV Ring - Re-application of abrasible lining	1		
LCCOAT	IP Turbine Shaft Lombard Coupling, Locking Sleeve and Shaft - Re-protect with SermeTel 'W'	1		
LW19313	IP7 Offtake Block - Repair mating faces	1		
MCIPSS	IP Stubshaft - Machine to remove areas of corrosion	1		
RN5014	Stage 7 OGV Ring - Re-application of damping medium	1		
RP18541	HP Compressor Front Stubshaft - Re-protect with SermeTel W	1		
RP18542	IP Compressor Rear Stubshaft - Re-protect with SermeTel W	1		
RP2120	Intermediate Casing - Re-protect with PL165	1		
S405167	Cupwasher - Scallop / Planish to remove area of previous locking	8		
TI30142-HP	HP Thrust Bearings - Overhaul	1		
TI30142-IP	IP Thrust Bearings - Overhaul	1		
S405516	GT OGV Shroud Ring - Re-application of Abradable Lining	1		
TI30152-3	Overhaul of 03 Module Internal Gearbox Bearings (LW10168)	1		
Module 04				
EFRSD464	Apply Dry Film lubricant to Rotor Blading (Per Stage)	4		
FRS4386	HP NGV Rear Support - Restoration of worn diameter by Metal Spray	1		
RW/TV/R505	Discharge Nozzle Overhaul including replacement of the Letterbox Flange	9		
S405260	HP Seal Segments - Renew honeycomb lining (-24GT)	18		
TI300294	HP Compressor Stator Casing - Re-protect with SermeTel W	6		
TI300295	HP Compressor Locating Cones - Re-protect with SermeTel W	3		
LW18280	HP Nozzle Guide Vane Outer Locating Ring (DLE) - Replace hard-face coating (LW18280 / LW1822)	1		
S405093	HP Seal Segments - Repair cracking at birdmouth	3		
S405203	Stage 3 HP Compressor Casing - Replace Boroscope transfer tube	1		
SP16	Stage 4 & 5 HP Compressor Vanes - Superpolish	1		
TI30029-3	HP Compressor Support Cone - Re-protect with SermeTel W	1		
TI30111	Locating Ring (LK64379) - Repair fretting by welding	1		
TI30131	HP Nozzle Box Locating Guide Ring (DLE) - Repair worn location (LW18024)	1		
CTS1190-1	Combustion Swirler - Overhaul and Re-protect Secondary Outlet Window with SermaLoy J	9		
EFRSD0380T	GT Stage 2 HP Compressor Casing - Re-application of rotor path lining	1		
EFRSD204T	GT Stage 5 HP Compressor Casing - Re-application of rotor path lining	1		
RP2724	HP Turbine Inner Race assembly - Re-protect with SermeTel W	1		
RP41176-1	Stages 1 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-2	Stages 2 HP Stator Vanes - Re-protect with SermeTel W	1		
RP41176-3	Stages 3 HP Stator Vanes - Re-protect with SermeTel W	1		
RW/OR/R1049	Support Ring Assembly (LW16655) - Renew hard face coating	1		
S405274	Combustor Support - Repair hard face coating	9		
S405278	DLE Locating Ring - Restore slots and replace hard-face coating (LW18222 / LW18279)	1		
S405288	-24G, DLE & GT DLE HP NGV - Replacement of Impingement Plates	18		
S405369/2	-24G, DLE & GT DLE HP NGV - Restoration of inner /outer Platforms by welding & brazing	6		
S405370	DLE & GT DLE HP NGV - Repair cracks and erosion by Wide Gap Brazing	8		
S405417	GT DLE HP NGV - Re-application of Protective Coatings	18		

Fill Form for Repair Schemes (Repair + Coating) / RB211 GT Second Mid 1890C-2039				
Scheme	Description	Qty	Price/Unit	Price Sum
S405486	GT Stage 1 HP Compressor Casing - Re-application of rotor path lining	1		
S405490	GT Stage 3 HP Compressor Casing - Re-application of rotor path lining	1		
S405494	GT Stage 4 HP Compressor Casing - Re-application of rotor path lining	1		
S405496	GT Stage 6 HP Compressor Casing - Re-application of rotor path lining	1		
S405499	Re-protect the HP Hairpin Cone (LW18483)	1		
S405548	Re-protect the HP Support Cone (LK69722)	1		
TI300296	04 Outer Casing Front (DLE) - Re-protect with SermeTel W	1		
TI300297	04 Outer Casing Centre (DLE) - Re-protect with SermeTel W	1		
TI300298	04 Outer Casing Rear (DLE) - Re-protect with SermeTel W	1		
TI300299	04 Combustion Casings (DLE) - Re-protect with SermeTel W (9 off)	1		
TI30119	HP Seal Segments - Protect with SermaLoy 'J' coating	18		
TVR134	Stage 2 HP Compressor Blades - Re-protect with SermeTel W	1		
DLEFIFLO	DLE Fuel Injectors - Clean, Overhaul & Flow Test	9		
EFRSD464 / 409	Apply Dry Film lubricant to Rotor Blading (Per Stage)	3		
RP3953AB1	Stage 1 HP Inner Shroud - Re-application of abrasible lining	1		
S405285-1	Combustor Support - Repair worn location bore and hard face coating	9		
S405290	24G/ GT & DLE HP NGV - Dress / re-profile Aerofoils including minor scallop	2		
S405485	GT Stage 1 HP Compressor Casing (LW18506) - Replace hard face coating	1		
S405487	Apply Dry Film lubricant to the Stage 1 HP Compressor Casing	1		
TI300293	HP Inner Shrouds - Re-protect with SermeTel W	1		
TI30061	HP Seal Segment - Replace honeycomb lining	17		
TI30206-1	Stage 1 HP Stator Vanes - Re-protect with SermeTel 'W' and a Smoothcoat coating	1		
TI30206-2	Stage 2 HP Stator Vanes - Re-protect with SermeTel 'W' and a Smoothcoat coating	1		
TI30206-3	Stage 3 HP Stator Vanes - Re-protect with SermeTel 'W' and a Smoothcoat coating	1		
TI30206-ST	4 Stage 2 HP Blades - Re-protect BLADE with SermeTel 'W' and a Smoothcoat coating	1		
Module 05				
RP49123BC	HP Bearing Retainer - Re-application of abrasible lining and Re-protect with SermeTel W	1		
SJ1515/IPT	IP Turbine Blade - Crack test and Re-protect with SermaLoy 1515 coatings	148		
TI30184	IP Locking Segment - Protect with a SermaLoy 'J' coating (per Segment)	17		
1214RW	IP Bearing Retainer - Application of abrasible lining and Re-protect with SermeTel W	1		
LW17472	HP/IP Bearing Support Panel/Seal Assy - Replace abrasible lining & re-protect	1		
RN5025/30	IP Turbine Shaft - Re-protect with SermeTel W	1		
RP4617	IP Turbine Inner Race assembly - Re-protect with SermeTel W	1		
S405252	IP Seal Segments - Replacement of honeycomb seal	34		
S405344	HP/IP Bearing Support - Renew Pipe Insulation and Cover	1		
S405412	GT IP Turbine Blade - Restoration of Sealing Fin by welding with INCO 625	147		
S405418	IP Seal Segment - Restoration of worn Sealing Fin	34		
TI300292	HP/IP Bearing Support - Re-protect with SermeTel W	1		
TI30107	05 Module Liner Segments - Protect with SermaLoy 'J' coating	17		
TI30120	IP Seal Segments - Protect with SermaLoy 'J' coating	34		
TI30148	Liner Segments - Removal of distortion and repair of cracking	17		
TI30199	HP Bearing Retainer - Re-application of abrasible lining and Re-protect with SermeTel W	1		
EFRS4580	IP Turbine Inner Race - Grinding of Race-way to remove pitting / scoring	1		
FRS5532	HP/IP Turbine Bearing - Overhaul	2		
S405262	IP Turbine Blade - Dressing of aerofoil to remove areas of damage	148		
S405411	GT IP Turbine Blade - Recovery of Outer Shroud Abutment and Non-Abutment Face with Polymet	148		
S405412 -	GT IP Turbine Blade - Restoration Polymet 842 of Sealing Fin by welding with Polymet 842	148		
TI30029-9	HP/IP Bearing Rear Support Sealing Sleeve (LK40843 / LK35935) - Re-protect with SermeTel W	1		
Module 06				
RPODB	Oil Distribution Block - Re-application of protective coating	1		
RPOSB	Oil Scavenge Block - Re-application of protective coating	1		
CTS1159	IP Bleed Valve - Overhaul and test	2		
TI30106	MOOG Valve - Overhaul and function test	1		
TI30166-1	Pressure Test 7 off P3 Pipes	1		
TL1108	Vent Valve - Function test	1		
CTS1160	Handling Bleed Valve - Overhaul and test	1		
CTS1161	Starting Bleed Valve - Overhaul and test	3		
DAVALVE	Davis Valve - Overhaul	1		
LW17099	Re-protect Engine Front Intake Mounting (LW17099)	1		
TI30076	Pipe assembly - Repair damage and fretting by welding	1		
TI30096	Thrust Piston Cylinder -24G - Re-apply Metco Lining	1		
TI30097	Thrust Piston Cover -24G - Re-apply Metco Lining	1		
TI30127	RB211 Engine Stand (-22, -24 and DLE) - Repair and Certify	1		
TI30166	Gas Manifold and Flexi-pipes - Pressure test	5		
TI30166-2	Pressure Test external Pipes	1		
TI30187	GT HP7 Solenoid Valves - Function Test	1		
CTS1160	HP Handling Bleed Valve - Overhaul and test	1		
CTS1161	HP Starting Bleed Valve - Overhaul and test	3		
PCP021	Oil Vent Block - Re-protect with PL165	1		
RP661	IP BOV Air Outlet assembly - Re-protect	1		
TI30076-1	Gas Manifold Assembly - Repair damage and fretting by welding	1		

Fill Form for Repair Schemes (Repair + Coating) / RB211 GT Second Mid 1890C-2039				
Scheme	Description	Qty	Price/Unit	Price Sum
TI30114	BOV Duct - Repair cracks by welding	1		
Sum				

Fill Form for Bidding RB211 24G Second Mid 1790-859				
Item	Description	Score	Filling Column	Remark
				How to Fill?
1	Labour	7.1622		Fill in the Price in GBP
2	Engine Performance Test (Include Fuel and Oil for Test)	6.4633		Fill in the Price in GBP
3	Repair Schemes (Repair + Coating)	53.207		Fill in the Price Sum in GBP from the attachment list
4	Replacement Part New (Include Standard Consumable Part)	33.168		Fill in the average % mark up from the Siemens Price List
Sum		100	-	-

Note : How to calculate the score & evaluate?

1. Who is offer the lowest price, lowest % markup or highest % reduce will give the maximum score.
2. The next step price or % will use the rule of three to calculate the score.
3. The lowest score from calculate will not less than 0. (No minus score)
4. The contract that have the highest score will award the bid.
5. It the score is equal, PTT will evaluate from the special offer.
6. If there is any blank (unfilled price) in the fill form, the bidder shall be disqualified for that engine.

Example Calculation Score :

- Labout Max Score : 8
- Contractor A Offer : 100 GBP and will get 8 Score
- Contractor B Offer : 150 GBP and will get 4 Score
- Contractor C Offer : 200 GBP and will get 0 Score



Introduction

PTT Public Company Limited (“PTT”)’s mission is to conduct the business efficiently with good corporate governance through being a good corporate citizen by protecting the environment and improving the quality of life of the communities to ensure long-term sustainability of growth for the company. For that reason, PTT is committed to ensuring that the working conditions in PTT’s supply chain are safe, people are treated equally with respect and dignity, and the operating processes are environmentally responsible.

“PTT Supplier Sustainable Code of Conduct” is drawing upon internationally recognized standards in order to advance social and environmental responsibility. Therefore, PTT’s suppliers are obligated, in all of their activities, to operate in full compliance with the laws and regulations of the countries in which they operate whilst upholding the PTT policies concerning compliance with all applicable laws, Business Ethics, Human Rights, Health and Safety and Environment as indicated in each subsection of this code.

1. Business Integrity

1.1 Business Ethics and Transparency

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- **Fair Operating Practices**, by maintaining the highest standards of integrity in all business interactions. Corruption, extortion, and embezzlement are strictly prohibited which may result in contract termination and further legal action.
- **Anti-corruption**, by not tolerating, permitting, or engaging in bribery, corruption, or unethical practices whether in dealings with public officials or individuals in the private sector. Suppliers and contractors are prohibited from providing any forms of financial and non-financial payments to government officials.
- **Conflict of Interest**, by disclosing any suspected or actual conflicts of interest to PTT with relevant evidence. If PTT approves a case as an actual conflict of interest, the approval decision will be documented.
- **Intellectual Property**, by not sharing PTT’s intellectual property, confidential information or any other knowledge acquired with respect to PTT’s business (including information developed by suppliers/contractors and information relating to products, customers, suppliers, pricing, costs, know-how, strategies, programs, processes, and practices).
- **Confidentiality and Data Protection**, by executing a confidentiality agreement with PTT prior to the exchange of any confidential information. Suppliers and contractors are expected to maintain appropriate information security policies and procedures to secure access to PTT information. Any cases of unauthorized disclosure of confidential information, whether intentional or accidental, must be immediately reported to PTT.



- **Financial Integrity**, by maintaining accurate and transparent financial records in accordance with standard accounting practices. Financial records must be readily available for inspection during announced and unannounced audits by PTT or authorized third-party representatives.

PTT expects its suppliers and contractors to refer to the Corporate Governance Ethical Standards and Code of Business Ethics for further details and supporting references.

1.2 Quality Standards

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- **Delivering products and services** that meet agreed requirements with PTT and all applicable requirements as defined by regulatory agencies.
- **Full responsibility for the quality** of the products or services provided to PTT.
- **Full responsibility for the quality** of products and services provided by their **suppliers, subcontractors, service providers, and raw materials.**
- **Collaborating with PTT** on the continuous improvement of products and services quality for the mutual benefit of the company and suppliers/ contractors.

1.3 Legal Compliance

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- **Complying with all applicable national and/or local laws and regulations**, including but not limited to labor, immigration, occupational health and safety and the environment.
- **Maintaining all the necessary licenses and permits** to operate in compliance with international, national and local laws and regulations applicable to its business operations.
- **Notifying PTT** upon receiving notification of any regulatory inspection or legal action relating to suppliers or contractors' business activities with PTT.

1.4 Business Continuity

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- **Implementing a business continuity plan** that is maintained and tested to ensure the supply of products and services at all times, including situations of unplanned additional demand and in the event of major disruptions to operations.
- **Maintaining reserves of PTT products and services** to fulfill urgent purchasing orders.
- **Ensuring speed of assistance to PTT** in cases of production stalls or interruptions.



2. Corporate Social Responsibility

2.1 Human Rights

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- **Freedom of Labour**, by not engaging or employing people, under any circumstances, against their own free will.
- **Freedom of Association**, by respecting the legal right of employees to become members of a labour union or otherwise.
- **Prevention of Child Labour**, by not employing children below the legal minimum age requirement of any country. If the local law does not establish a minimum age, employees must be at least fifteen (15) years of age. Employees must be at least eighteen (18) years of age to perform night work or hazardous work, except where permitted by local laws
- **Wages and Benefits**, by complying with all applicable laws related to employee compensation, including those related to minimum wage, overtime hours and legally mandated benefits.
- **Working Hours**, by complying with local laws or agreements regarding working hours, overtime hours, and work during holidays.
- **Non-Discrimination**, by respecting diversity in the workplace and not engaging in any form of discrimination based on sexual orientation, race, color, religion, age, marital status, pregnancy, political affiliation, or disability in hiring and employment practices.
- **Layoff** practices that are managed in accordance with labour laws. Suppliers and contractors must not unfairly terminate any employment contract without valid reasons, which must legally be related to an employee's work performance.
- **Humane Treatment**, by respecting workers' rights and ensuring no harsh and inhumane treatment, including any form of mental or physical coercion, or verbal abuse of workers.
- **Foreign or Migrant Workers**, where if foreign or migrant workers are engaged, they are to be employed in full compliance with the labour and immigration laws of the host country. Prior to hiring, the basic terms of employment must be provided to workers in their native language or a language in which they understand. Passports and other forms of personal identification must remain in the worker's possession at all times and are never to be withheld by suppliers, facilities or any third party.
- Establishing **grievance mechanisms** that provide a means of anonymous grievance reporting and appropriate follow-up measures while protecting the confidentiality of the complainant.
- **Promoting positive labour relations** between employers and employees from the beginning to end of employment, including the process of contract signing, work assignments, employee



management, probation period, opportunities for development, a good work environment, talent attraction and retention, pay raises, welfare and benefits, transfers, and end of employment.

2.2 Social Responsibility

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- **Managing impacts on health, safety, and community security** throughout the entire project cycle, from project planning to execution, production, logistics, decommission and demolition, and decommissioning.
- **Respecting** surrounding communities and contributing positive benefits to societies in which they operate.
- **Participating** where possible, in voluntary, industrial, governmental or community-based corporate responsibility initiatives.

3. Safety

3.1 Occupational Health and Safety

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- **Managing production and service operations that adhere to relevant safety standards**, to ensure their own safety and that of others, while also complying with relevant laws and regulations on occupational health, safety, and the environment.
- **Ensuring that all operational facilities and working environment** are safe, hygienic, and regularly maintained. Personal protective equipment is to be provided appropriate to the nature of work or hazard. Procedures and systems are in place to manage, monitor and report occupational injuries and illnesses, including near-miss incidents and substandard acts/conditions in written form.
- **Implementing a monitoring process** to ensure that work practices comply with relevant safety laws and policies of suppliers and contractors or other applicable regulations (both internally and externally to the organization), including undergoing regular audits, and the monitoring and reporting of activities and safety performance effectiveness.
- **Communicating and creating awareness** of risks, control measures, regulations and safety standards among their employees and subcontractors. Information should be provided on potential hazards of operating equipment, products and services prior to delivery and in all instances of changes.

These expectations are general in application, and should be adopted by suppliers and contractors in conjunction with other applicable SSHE standards issued by PTT.



3.2 Security and Emergency Preparedness

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- Observing strict requirements for the selection of security forces.
- Identifying and assessing emergency situations to prepare plans and response procedures that minimize the impacts of emergency situations, which encompass: preparation, responses, post-emergency recovery, equipment, communication and evacuation procedures, worker training and drills, etc.
- Notifying immediately to PTT, where situations may become liable to PTT (such as oil spills and leakages, incompliance with operating permit, occupational injuries, fires, grievances, loss of assets, etc.), while conducting business with PTT or operating in PTT boundaries.

PTT expects its suppliers and contractors to apply these safety standards and emergency preparedness procedures in conjunction with other applicable Security Safety and Health standards issued by PTT to prevent potential impacts from business operations to employees, suppliers or contractors, society and the environment.

4. Environmental Management

4.1 Pollution Prevention and Resource Reduction

Expectation

As a minimum, PTT expects our suppliers and contractors to maintain a strong commitment to:

- Complying with environmental laws, regulations and standards; obtaining and maintaining permits, conducting regular audits, sampling and monitoring of relevant parameters are within their applicable legal limits such as air emissions, noise, wastewater discharge, soil and groundwater quality, ecosystem preservation
- Establishing protection standards and reducing environmental impacts from production, services and logistics throughout the entire operational cycle, by adhering to pollution prevention principles that include minimizing generation of waste, waste water, air emission, including efficient resource use.
- Implementing monitoring and reporting of environmental performance, such as greenhouse gas accounting, raw material and energy consumption, waste generation, waste water discharges, and air emissions.
- Reducing climate change impacts from greenhouse gases emissions.
- Preventing accidental releases of hazardous materials into the environment and creating adverse impacts on surrounding communities.



- Eliminating and reducing the use of restricted, toxic and hazardous constituents/substances in products and services, such as:
 - Chlorine, bromide, iodine (bleaching and dyeing)
 - Heavy metal dyes (chrome, copper, zinc and nickel)
 - PVC-based paints
 - Volatile organic solvent-based adhesives
 - Phenobcarb derivatives
 - Sulfur Hexafluoride (SF6)
 - Chrome compounds
 - Azo dyes
 - Formaldehyde
 - Sulphur dye
 - Phencyclidine (PCP)
- Promoting greater environmental responsibility and collaborating with PTT on the development of PTT Group's green products and services, and conducting business with environmental or social benefits to ensure the long-term sustainability of business of the company.

PTT expects its suppliers and contractors to apply these environmental standards, including climate change, product safety standards, biodiversity position in conjunction with other applicable Environment standards issued by PTT to prevent potential impacts from business operations to the environment.

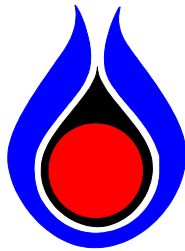
Officially signed and stamped by supplier

Company name: _____
Address: _____
Name-Surname: _____
Position: _____
Signature: _____
Date: _____

**CONTRACT
FOR**

.....

BETWEEN



PTT PUBLIC COMPANY LIMITED

AND

CONTRACT NO. PTT...../2/...../.....

**CONTRACT
FOR**

.....

This Contract is executed on the day both parties have affixed their signatures, by and between

**PTT PUBLIC COMPANY LIMITED
555 VIBHAVADI RANGSIT ROAD
BANGKOK 10900, THAILAND**

Tax Identification Number 3030362957

hereinafter referred to as “PTT” of the one part, and

.....
.....
.....

Tax Identification Number

hereinafter referred to as “CONTRACTOR” of the other part.

WHEREAS:

PTT desires to retain CONTRACTOR to perform service for
..... (hereinafter referred to “Services”) and CONTRACTOR
desires and agrees to undertake performance of Services under the terms and conditions set forth
in this Contract.

ARTICLE 1 DEFINITION

- 1.1 “Project” means
- 1.2 “Services” means services for the work as set forth under Article 2.
- 1.3 “Work” means all work to be performed and services to be rendered by CONTRACTOR in connection with the Project.
- 1.4 “Contract” means this Contract and the documents referred to herein and attached hereto as Exhibits.
- 1.5 “Effective Date” means the date as set forth under Article 19.

- 1.6 “Contract Price” means the maximum price to be paid by PTT to CONTRACTOR for the Scope of Services under this Contract.
- 1.7 “Business Day” means a day on which bank is open for business in Bangkok and / or in _____.
- 1.8 “Working Day” means a day that the CONTRACTOR’s and / or PTT’s offices are open for business.
- 1.9 “US Dollar”, “USD” means the lawful currency for the time being of the United State of America.
- 1.10 “Week” shall mean the period of seven (7) Days.
- 1.11 “Day” shall mean calendar day.
- 1.12 Words importing the singular include the plural and vice versa. Words denoting the masculine gender include the feminine gender and both shall include the neuter gender.

ARTICLE 2 SCOPE OF WORKS

Services to be performed by the CONTRACTOR under this Contract shall be as set forth in the Exhibits.

ARTICLE 3 CHANGE OF SCOPE OF WORKS

- 3.1 PTT may request and change in deletion from and/or addition to Services (hereinafter called “Change”).
- 3.2 Such Changes in Service(s) shall, unless otherwise agreed by PTT, be amended by written amendment to the Contract and shall in no way affect the rights or obligations of the parties hereto except as provided herein and all provisions of this Contract shall apply to such change unless otherwise expressly stated.
- 3.3 Should any Change in Services under this Article 3 prevent, delay or prejudice CONTRACTOR from or in fulfilling any of the obligations of CONTRACTOR set forth in this Contract, CONTRACTOR shall so notify PTT and PTT shall in writing confirm or withdraw the Change. If the Change is confirmed, the said obligations shall be modified appropriately by amendment mutually agreed by both parties.
- 3.4 Payment For such change in Services (if any) shall be made in accordance with Article 6 and 7.
- 3.5 Should PTT request, CONTRACTOR agree to perform services other than these specified in the Attachment and this Article 3 that are required or necessary in connection with the Project.

The cost of these special services shall not include in the Contract Price.

Payment for these special services shall be made in accordance with Article 6 and 7.

ARTICLE 4 CONTRACTOR'S PERSONNEL

4.1 Before commencement of Services, CONTRACTOR shall submit to PTT, the list of its key personnels and their resume to PTT.

CONTRACTOR shall not replace any of its key personnels, unless informed PTT [7 (seven)] Working Days in advance.

4.2 In providing Services, CONTRACTOR undertakes to apply its full technical and organizational experience and shall ensure that its personnel assigned under the Contract shall be fully qualified, experienced and competent.

4.3 Replacement for Cause

PTT shall have the right at its discretion to request CONTRACTOR to replace any of its employees if PTT considers that such employee misconducts himself or does not have the ability or is unable to perform his job satisfactorily. CONTRACTOR shall comply with such request immediately and shall take such measures as will enable him to carry on his duties without delay. Any expense(s) including labor cost(s) in connection with such removal shall be borne by CONTRACTOR.

ARTICLE 5 SHIPMENT OF CONTRACTOR SUPPLIED EQUIPMENT AND MATERIALS

Not applicable.

ARTICLE 6 PRICE

6.1 The remuneration of CONTRACTOR charged to PTT under this Contract shall constitute only remuneration in connection with the Contract.

6.2 The remuneration to be paid by PTT to CONTRACTOR for the Scope of Services shall be the amount as per actual repair approved by PTT which is not exceed
(.....) ("Contract Price")

6.3 The remuneration shall be paid in accordance with the Terms of Payment specified in the EXHIBIT.

ARTICLE 7 INVOICING AND PAYMENTS

7.1 Payment shall be made in GBP by means of telegraphic transfer to the CONTRACTOR's bank account designated by CONTRACTOR.

- 7.2 For payment purpose, if the due date falls on a non-business day in Bangkok and/or in....., the due date shall be the first following Business Day.
- 7.3 It is agreed that invoices presented to PTT by CONTRACTOR subjected to Article 7.7 are payable on the thirtieth (30th) Days after PTT's receipt of the Engine Test Report and the commercial invoice and the supporting documents, and the Materials Acceptance Committee of PTT has accepted the Services and CONTRACTOR has released the engine to PTT.
- 7.4 Payment shall be subject to tax deduction according to Thai taxation legislation (if any) and also subject to deduction of amount disputed.
- 7.5 In the event PTT disputed any invoiced amounts, PTT shall so notify CONTRACTOR in writing within 30 (thirty) Days from the receipt of the invoice, stating the reason PTT disputes the amount invoiced. PTT agrees to pay the undisputed portion of any invoice in accordance with Article 7.4 above. For the disputed portion, the CONTRACTOR shall make the appropriate corrections or changes and re-submit such invoiced amounts to PTT together with the succeeding month invoice.
- 7.6 All invoices shall be in a format satisfactory to PTT and shall be manually signed by authorized person(s) of the CONTRACTOR. Specimen signatures, power of attorney and Memorandum of Association as well as Articles of Association, attested by notary public and legalized by the Royal Thai Embassy or Thai Consulate, shall be submitted to PTT prior to the submission of the Contractor's first invoice. If there is any change of authorized person(s), the CONTRACTOR shall notify PTT and resubmit the new attested specimen signatures and power of attorney to PTT immediately.
- 7.7 The CONTRACTOR shall issue the official receipts of payment and deliver such receipts to PTT on the respective due date on which payment is due. Also the CONTRACTOR shall issue value added tax invoice to PTT upon every payment received from PTT.
- 7.8 The CONTRACTOR shall maintain the records of expenses in any and all invoices and make them available for audit by PTT at all reasonable time for up to 2 (two) years following the date of the last progress invoice.

ARTICLE 8 TAXES AND DUTIES

CONTRACTOR shall be responsible for and pay all prevailing taxes, duties, fees, permits and the like inside (Country of CONTRACTOR), for which CONTRACTOR and its subcontractors are liable.

- 8.1 CONTRACTOR shall pay when due, and its compensation shall be inclusive of, but not by way of limitation, all local, municipal state, and federal sales and use taxes, excise taxes, taxes on personal property owned by CONTRACTOR and all other government fees and taxes or charges of whatever nature applicable to the performance of this Contract.

- 8.2 CONTRACTOR shall pay or cause to be paid when due, but not by way of limitation, any and all payroll taxes and contributions which are measured by wages, salaries or other remuneration paid to persons employed by CONTRACTOR or his subcontractors in connection with the performance of Services or which arise by virtue of their employment and which now or hereafter are imposed by (Country of CONTRACTOR), any municipality, or any subdivision thereof, or any governmental body or agency including without limitation such taxes or contributions for unemployment insurance benefits, workmen's compensation, old age retirement benefits and disability benefits.
- 8.3 CONTRACTOR shall be responsible for duty stamp in the amount of 0.1% of the contract Price in Thai Baht.
- 8.4 CONTRACTOR shall pay or cause to be paid the actual required municipal taxes for hiring applicable to Services.
- 8.5 (Country of CONTRACTOR) income tax, including income tax of CONTRACTOR's personnel, shall be for CONTRACTOR's account, and CONTRACTOR shall be responsible for payment thereof.

CONTRACTOR shall be deemed to have obtained all information and taken all actions necessary with respect to said taxes etc.

ARTICLE 9 PERFORMANCE SECURITY

As a guarantee for the due and proper fulfillment of the Contract, CONTRACTOR shall submit to PTT a performance security in form of cash deposit, certified cheque, Thai Government Bond, bank draft payable to PTT or, an irrevocable bank guarantee issued by a first class Thai bank or Thailand Branch of International Bank acceptable to PTT.

The Performance Security shall ensure payment of any obligations, damages, penalties, liquidated damages, or expenses for which CONTRACTOR may become liable to PTT.

The value of the Performance Security shall amount to 5% (Five Percent) of the Contract Price and shall be denominated in the currency of the Contract.

The Performance Security shall be submitted to PTT on or before the execution date of Contract and shall remain valid and in full effect until the obligations of CONTRACTOR under this Contract have been fulfilled

ARTICLE 10 REVIEW AND APPROVAL

Any materials and documents prepared by CONTRACTOR, as they become available, shall be as and when required by PTT, subject to review and approval by PTT.

ARTICLE 11 CONFIDENTIALITY

11.1 Information obtained by CONTRACTOR from PTT, including all records or documents from PTT pertaining to Services, as well as the final result of Services, shall be considered confidential. CONTRACTOR will not, without prior written consent from PTT, disclose to a third party or publish even in excerpt such information, records, documents or results, except:

11.1.1 Information which at the time of disclosure is generally available to the public.

11.1.2 Information which after disclosure becomes generally available to the public by other party which is not CONTRACTOR.

11.1.3 Information which CONTRACTOR can show was in its possession prior to disclosure hereunder and which was not acquired directly or indirectly from PTT or as a result of performing Services hereunder.

11.2 CONTRACTOR undertakes that both during the term of the Contract and for a period of [10 (ten)] years from Effective Date it shall:

11.2.1 preserve and use its every reasonable efforts to cause its personnel to preserve the secrecy of any confidential information;

11.2.2 not disclose to any third party any confidential information except for the purpose of rendering Services in which case CONTRACTOR shall bind to secrecy such a third party in similar terms to that set forth under this Article 11.

11.2.3 not use any confidential information other than for rendering Services.

11.3 Subject to the right of third parties such as financial adviser the copyright in any confidential record, supplied to CONTRACTOR under the Contract shall, in the absence of any express provision to the contrary stated therein, be vested in PTT.

11.4 Likewise, all information provided by CONTRACTOR which has been clearly marked or identified as being confidential shall be treated by PTT with the same standard of care as required by CONTRACTOR under this Article 11.

ARTICLE 12 NOTICE OF COMPLETION AND FINAL ACCEPTANCE PRODEDURE

When CONTRACTOR deems he has fully completed Services, he shall within 10 (ten) Days thereafter give a written Notice of Completion of Services to PTT, specifying Services completed and the date it was completed. Within 30 (thirty) Days after receipt of said Notice of Completion, PTT may inspect Services and shall either reject the Notice of Completion and specify defective or uncompleted portions of Works, or shall give CONTRACTOR a written Notice of Acceptance of Services either for the purpose of final payment only, or for the purposes of final payment and final acceptance. In the event PTT rejects the Notice of Completion and specifies defective or uncompleted portions of Works, CONTRACTOR shall promptly remedy such defective and uncompleted portions of Works at CONTRACTOR's

expense, and shall again give PTT a written Notice of Completion of Services, specifying a new date for the completion of Works based upon the date such defective or uncompleted portions of Works were corrected. The foregoing procedure shall apply again and successively thereafter until PTT has given CONTRACTOR written Notice of Acceptance for purposes of final payment and final acceptance. Any failure of PTT to inspect or to reject Works or to reject CONTRACTOR's Notice of Completion as set forth above, shall not be deemed to be acceptance of Works for any purpose by PTT nor imply acceptance of or agreement with, said Notice of Completion.

ARTICLE 13 LIABILITY AND RESPONSIBILITY

- 13.1 In providing Services hereunder, CONTRACTOR shall correct or refurnish without cost to PTT any particular item of Works rendered hereunder which proves defective or erroneous, so long as CONTRACTOR is notified of the defect or error within 7 (seven) Days after notification of the defects.
- 13.2 It is expressly understood that CONTRACTOR is an independent contractor and that neither CONTRACTOR nor CONTRACTOR's principals, partners, employees or subcontractors are servants, agents or employees of PTT and, as an independent contractor, CONTRACTOR agrees to comply with all laws, rules and regulations which now, or in the future, may be applicable to this business, equipment or employees engaged in, or in any manner connected with, CONTRACTOR's performance hereunder.
- 13.3 CONTRACTOR hereby represents and warrants that it has adequate first class equipment in good working order and fully trained personnel capable of efficiently operation such equipment and performing such Work and Services in a safe, proper and workmanlike manner for PTT.
- 13.4 CONTRACTOR represents and warrants that the use of any and all tools and equipment furnished by CONTRACTOR and used in Works provided for herein, does not infringe on any license or patent which has been issued or applied for, and CONTRACTOR agrees to indemnify and hold harmless PTT from any and all claims, demands, and caused of act and character in favor of or made by any patentee, licensee, or claimant of any right or priority to such tool or equipment, or the use thereof, which may result from or arise out of furnishing or use of any such tool or equipment by CONTRACTOR in connection with Works under this Contract.
- 13.5 The warranty period shall commence on the date of delivery of each engine and shall expire upon the condition below:-

Term	Warranty Coverage
1	100% warranty coverage will be offered for the following period:- (i) Eighteen (18) months from delivery or; (ii) Completion of five hundred (500) cycles (a cycle is defined as a gas generator start from rest and acceleration to operating power).
2	50% warranty coverage will expire following 12 months after expiry of Term 1.
3	25% warranty coverage will expire following 12 months after the completion of Term 2

13.6 If CONTRACTOR repairs or replace any Part then the provisions of this Article 13.1 shall apply to the Part so repaired or replaced provided however the foregoing shall not serve to extend any warranty beyond forty eight (48) months from the date of acceptance of the original Services of each engine.

ARTICLE 14 INSURANCE

Not applicable.

ARTICLE 15 INDEMNITY

15.1 CONTRACTOR shall indemnify, protect, defend and hold harmless PTT and its employees from and against all loss, damage and claims of death and/or injury to CONTRACTOR's employees or its properties howsoever arising.

15.2 CONTRACTOR shall indemnify, protect, defend and hold harmless PTT from and against all loss, damage, expense or claims arising out of any violations of legal provisions or rights of third parties in respect to patent or copyrights introduced into Works rendered by CONTRACTOR.

15.3 PTT shall indemnify, protect, defend and hold harmless CONTRACTOR from and against all loss, damage, expense or claims arising out of any violations of legal provisions or rights of third parties in respect of patent or copyrights supplied by PTT to CONTRACTOR during the carrying out of Services.

15.4 IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, TORT, (INCLUDING NEGLIGENCE OF ANY DEGREE, GROSS OR OTHERWISE) OR OTHERWISE, SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE OR EXEMPLARY DAMAGES WHATSOEVER, INCLUDING BUT NOT LIMITED TO A LOSS OF USE, LOSS OF SALES, LOSS OF REVENUE, LOSS OF PROFITS, LOSS OF PRODUCT, LOSS OF CONTRACTS, ECONOMIC LOSS OR

CLAIMS FROM CUSTOMER'S CUSTOMERS, WHERE FORESEEABLE OR UNFORESEEABLE, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR ITS IMPLEMENTATION THEREOF.

- 15.5 THE TOTAL LIABILITY OF CONTRACTOR TO PTT UNDER THE CONTRACT SHALL BE LIMITED TO (I) TWICE THE CONTRACT PRICE OR (II) TWO MILLION POUNDS STERLING (GBP 2,000,000.00) FOR AVON OR FOUR MILLION POUNDS STERLING (GBP 4,000,000.00) FOR RB211 PER EACH ENGINE, WHICHEVER IS THE LESSER. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO (I) CONTRACTOR'S LIABILITY FOR LOSS OR DAMAGE TO THE PROPE1TY OF PTT WHERE SUCH PROPE1TY IS IN THE EXCLUSIVE CARE CUSTODY AND CONTROL OF CONTRACTOR IN WHICH CASE SUCH LIABILITY OF CONTRACTOR IS LIMITED TO THE REPLACEMENT VALUE OF SUCH PROPE1TY AND (II) ANY LIABILITY OF CONTRACTOR FOR DEATH OR PERSONAL INJURY RESULTING FROM THE NEGLIGENCE, GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF CONTRACTOR OR ANY OF ITS OFFICERS, EMPLOYEES OR AGENTS.

ALL LIMITED LIABILITY IN THIS ARTICLE SHALL BE APPLIED WITH THIS CONTRACT EXCEPT IN CASE OF GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OR FRAUD BY CONTARCTOR.

ARTICLE 16 CONTRACTOR'S DEFAULT

- 16.1 In the event of CONTRACTOR's failure to comply with any of the requirements of the Contract, PTT may give written notice to CONTRACTOR stating details of such failure. Upon receipt CONTRACTOR shall, at his own expense, promptly take all action necessary to remedy such failure. If CONTRACTOR shall fail to correct such default (or if immediate correction is not possible, shall fail to commence and diligently continue effective action to correct such default) within 5 (five) Days following notification thereof from PTT, PTT may cause further payments to CONTRACTOR to be held in abeyance and/or terminate the Contract according to Article 18.
- 16.2 A waiver by PTT of one default of CONTRACTOR shall not be considered to be a waiver of any subsequent default of CONTRACTOR, nor be deemed to amend or modify the terms of the Contract.

ARTICLE 17 PENALTY

In the event CONTRACTOR refuses or fails to complete Works or individual items or segments of Works or submit Notice of Completion, within the time(s) specified, or by the date(s) specified in this Contract, after allowances for any extension of time which may be granted (If any), entitled Change of Scope of Works, entitled Force Majeure, PTT shall be entitled to demand and receive penalty from CONTRACTOR in the amount(s) stated in the following paragraph.

PTT shall have the right to deduct the penalty from any moneys in its hands or otherwise due or to become due, to CONTRACTOR.

Penalty at an amount of zero point one percent (0.1%) of the Actual Price will be assessed for each engine for each day Services is late, up to a maximum of five percent (5%) of the Actual Price for each engine.

ARTICLE 18 DURATION AND TERMINATION

- 18.1 The Contract shall come into force on its Effective Date by virtue of Article 19 and shall terminate as hereinafter indicated in this Article 18.
- 18.2 The Contract shall normally terminate upon the expiration of CONTRACTOR's responsibilities, liabilities and warranty period.
- 18.3 In addition to the regular termination as described in this Article 18, PTT has the right at any time and at its absolute discretion to terminate the Contract. Such termination shall become effective immediately after delivery of written notice to CONTRACTOR or on such later date as specified in this notice, such date being the effective date of termination for the purposes of this Article 18.3
- 18.4 In the event of the notification to terminate the Contract under Article 18.3, or in the event of the termination under Article 18.2, CONTRACTOR shall either immediately or upon such other date as is specified in the notice under Article 18.3 :
 - 18.4.1 Discontinue its performance of Works if termination has occurred according to Article 18.3;
 - 18.4.2 Assign to PTT to the extent required by PTT all rights and titles and obligations connected therewith by virtue of Article 21;
 - 18.4.3 Terminate all obligations with third parties not assigned to PTT pursuant to Article 18.4.2;
 - 18.4.4 Deliver all documents, drawings and other data supplied to CONTRACTOR by or on behalf of PTT.
 - 18.4.5 CONTRACTOR shall be entitled to all sums due to CONTRACTOR in accordance with Article 6 up to the effective date of termination including any reasonable expense for the demobilization and PTT shall have no liability to CONTRACTOR for any damages or loss of profit sustained by CONTRACTOR as a result of termination.
- 18.5 PTT has the right at any time and at its absolute discretion to suspend all or any part of Services by giving not less than 10 (ten) Days notice to CONTRACTOR. Such notice of

suspension shall be given in consultation with CONTRACTOR and shall give the scope of Services to be suspended and the effective date thereof.

In the case of such suspension, CONTRACTOR shall be compensated for all reasonable costs incurred by CONTRACTOR as of the effective date if the suspension up to the date PTT notifies CONTRACTOR to resume or terminate Services.

Services or any part thereof so suspended shall be resumed by CONTRACTOR as soon as practicable after receipt of written notice from PTT to proceed therewith.

In the case of suspension of the whole of Services, if such written notice to resume Services is not given within 90 (ninety) Days, CONTRACTOR shall have the right to notify PTT of its intention to terminate and termination shall be effective 30 (thirty) Days after PTT's receipt of such notification unless notification of resumption of Services is given by PTT. In which event termination shall be in accordance with Article 18.5.

- 18.6 In the event that CONTRACTOR shall file a petition in bankruptcy, or shall make a general assignment for the benefit of his creditors, or if a petition in bankruptcy shall be filed against CONTRACTOR or a receiver appointed on account of his insolvency, or if he shall default in the performance of any express obligation to be performed by him under this Contract and shall fail to correct such default (or if immediate correction is not possible, shall fail to commence and diligently continue effective action to correct such default) within 10 (ten) Days following written notice thereof from PTT, PTT may without prejudice to any other rights or remedies PTT may have under this Contract, cause further payments to CONTRACTOR to be held in abeyance and/or terminate this Contract by written notice to CONTRACTOR specifying the date of termination. In the event of such termination by PTT, PTT may take possession of Works and finish Works by whatever method PTT may deem expedient.

In the event of termination by PTT under this Article 18.6 CONTRACTOR shall, upon request of PTT, promptly advise PTT of all outstanding subcontracts, rental agreements and purchase orders which CONTRACTOR has with other pertaining to performance of Works and furnish PTT with complete copies thereof. Upon request of PTT, Contractor shall assign to PTT in full and complete satisfaction to PTT, CONTRACTOR's title to materials and plant equipment for Works and those subcontracts, rental agreements and purchase orders designated by PTT which CONTRACTOR has with others pertaining to Works.

In the event of termination under this Article 18.6 by PTT, CONTRACTOR shall not be entitled to receive any further payment until Services is completed. If the Contract Price for the completed Services shall exceed the sum of the total cost to PTT of completing Services plus all amounts previously paid to CONTRACTOR for Services, such excess shall be paid by PTT to CONTRACTOR, or if such sum of the total cost to PTT of completing Services plus amounts previously paid to CONTRACTOR for Services shall exceed the Contract Price for the completed Services, CONTRACTOR shall promptly pay the difference to PTT, provided, PTT shall have the right and is authorized to set-off against and deduct from said excess if any, payable to CONTRACTOR any other

damages suffered by PTT due to said default or event giving rise to the termination or due to other defaults of CONTRACTOR to comply with the terms of this Contract, and CONTRACTOR shall be and shall continue to be fully liable for all such other damages of PTT. A waiver by PTT of one default of CONTRACTOR shall not be considered to be a waiver of any subsequent default of CONTRACTOR, not be deemed to amend or modify the terms of this Contract. CONTRACTOR expressly waives any formal notice of CONTRACTOR's failure to perform, or passive breach of, CONTRACTOR's express Contract obligations under this Contract.

18.7 In such event of termination the provisions of the Contract shall remain in force and effect only as to all Work performed prior to the effective date of the termination.

ARTICLE 19 EFFECTIVE DATE

This Contract shall become effective as from

ARTICLE 20 FORCE MAJEURE

20.1 If either PTT or CONTRACTOR is rendered unable in whole or in part, by Force Majeure, to perform or comply with any obligation of the Contract, upon giving notice and full particulars to the other party, such obligation shall be suspended during the continuance of the inability so caused and such party shall be relieved of liability for failure to perform the same during such period.

20.2 Both PTT and CONTRACTOR shall make all efforts to eliminate the situation of Force Majeure as soon as possible. If the situation of Force Majeure cannot be eliminated within a period of 1 (one) month, the parties shall meet to find a suitable solution taking into account the interests of both parties and if a suitable solution cannot be achieved after the condition of Force Majeure continues for a period of 3 (three) months, either party may terminate the Contract.

20.3 For the purpose of this Article 20, Force Majeure shall have the same meaning as enacted in the applicable Thai Civil and Commercial Code such as acts of God, act of civil or military authority, war, civil commotion, explosion, fire or earthquake, strikes, lock-outs.

ARTICLE 21 ASSIGNMENTS

21.1 PTT shall be entitled to assign either in whole or in part any of its rights and obligations under the Contract by giving CONTRACTOR prior written notification thereof.

21.2 CONTRACTOR shall not be entitled to assign in whole or in part any of its rights, obligation and/or benefits due or become due under the Contract without the prior written consent thereto of PTT.

21.3 CONTRACTOR, in order to be able to perform its obligations under the Contract efficiently, may, subject to PTT's prior written approval, subcontract certain Works

to other provided that CONTRACTOR shall remain responsible for the performance of Works so subcontracted in accordance with the Contract.

- 21.4 CONTRACTOR shall arrange that any rights and titles (together with the obligations connected therewith) relating to Works which CONTRACTOR may directly or indirectly acquire vis-a-vis third parties can, if so required by PTT, be assigned to PTT in the event of termination.

ARTICLE 22 COMMUNICATION

- 22.1 All reports and correspondence between PTT and CONTRACTOR or with any other party designated under the Contract shall be in English.
- 22.2 All notices and other communications to be sent by either party to the other shall be sent to the other party at its address referred to in the preamble of the Contract, provided that either party may at any time designate a different address to which notices and other communications are thenceforth be sent.
- 22.3 All notices and other communications between the party shall be effective only at the time of receipt and must be in the form of hand delivery, registered letter, or facsimiles. Notices made by facsimiles shall be confirmed by registered letter.

ARTICLE 23 REPRESENTATIONS

PTT and CONTRACTOR make no representations, covenants, warranties, guarantees and liabilities, express or implied, other than those expressly set forth herein.

ARTICLE 24 WAIVER

A waiver on the part of PTT or CONTRACTOR of any breach of any term, provision or condition of the Contract shall not constitute a precedent nor bind either party hereto to a waiver of any succeeding breach of the same or any other term, provision of condition of the Contract.

ARTICLE 25 CAPTIONS

Titles and captions used in this Contract are for convenience only and shall not be used in the interpretation of any of the provisions of this Contract.

ARTICLE 26 MODIFICATION TO CONTRACT

This Contract consists of the Contract document and the Exhibits thereto.

The Contract constitutes the entire agreement between PTT and CONTRACTOR and shall not be altered, amended or modified except in writing which shall bear the authorized signatures of both parties.

ARTICLE 27 TITLE AND USE

27.1 Title to all documents and the contents thereof furnished to CONTRACTOR by PTT in connection with this Contract shall remain with PTT and CONTRACTOR shall return them to PTT upon the completion of Works.

27.2 Title to all technical information, drawings, specifications, requisitions, calculations and other documents which have been prepared by CONTRACTOR and/of its subcontractors in connection with Works shall vest in PTT and PTT shall have the right to use said technical information, drawings, specifications, requisitions, calculations and other documents for the purpose of construction, operation, maintenance, repair, revision of or extensions.

ARTICLE 28 GOVERNING LAW AND DISPUTE RESOLUTION

28.1 The Contract shall be governed by and interpreted in accordance with the laws of England.

28.2 Any disputes which may arise between the parties, out of or in connection with this Contract, including any question regarding its existence, the breach, termination or validity hereof shall be amicably settled by negotiation between the parties. If the dispute is not resolved through negotiation between the parties, the parties agree that the dispute shall be submitted to the jurisdiction of the High Court of Justice of England and Wales sitting in London without recourse to arbitration.

28.3 CONTRACTOR shall abide by all rules and regulations of the Kingdom of Thailand and shall cause its personnel and subcontractors to do likewise. This Contract is executed in duplicate copies; both parties have read and understood the text. IN WITNESS WHEREOF, the parties hereto have entered into this Contract as of the day stated below.

WITNESS:

()

FOR: PTT PUBLIC COMPANY LIMITED

BY _____

()

DATE _____

WITNESS:

()

FOR:

BY _____

()

DATE _____

SAMPLE FORM OF PERFORMANCE SECURITY

(Bank as Guarantor)

_____ *(Bank's Name)* _____ Bank

Dated _____

In accordance with the provision of the Contract for _____ *(Title of Contract, Contract No. & Date, and its objectives)*

(hereinafter referred to as the Contract) the contents of which have been noted by us that Messrs., _____ *(Seller/Contractor/Advisor's Name)* (hereinafter referred to as the _____ *(Seller/Contractor/Advisor)*) has to deposit with PTT Public Company Limited (hereinafter referred to as PTT) a Performance Security for the proper and faithful performance of the _____ *(Seller/Contractor/Advisor's Name)* under the Contract in the amount not exceeding _____ *(Figure and words)*, we the _____ *(Bank's Name)* Bank, as instructed by the _____ *(Seller/Contractor/Advisor)*, irrevocably and unconditionally agree to guarantee, as joint obligor, due and punctual performance of the _____ *(Seller/Contractor/Advisor)* under the Contract and hereby undertake to promptly make the payment to PTT, without whatsoever right of objection on our part and without its first claim to the _____ *(Seller/Contractor/Advisor)*, in the amount not exceeding _____ *(Figure and words)*, in the event of the obligations of the _____ *(Seller/Contractor/Advisor's Name)* expressed in the above-mentioned Contract have not been fulfilled or become the default of Contract by the _____ *(Seller/Contractor/Advisor)*, which giving PTT the right to claim for penalties, costs, losses, damages or any expenses for which the _____ *(Seller/Contractor/Advisor)* becomes liable to PTT.

This Performance Security shall be valid and in full force and effect from _____ to _____ *(specify the guaranteed period)* and, in any circumstances, we shall not revoke this Performance Security during such period.

We further agree that no extension of time, which may be made between PTT and the _____ *(Seller/Contractor/Advisor)*, shall in any way release us from any liability under the Performance Security, and the guaranteed period shall be extended throughout such extension of time.

In witness whereof, we the _____ *(Bank's Name)* Bank by the authorized representative has signed and affixed the seal (if any) in the presence of witnesses.

(Signed) Bank
Seal (if any) (.....)
(Position)

(Signed) Witness
(.....)

(Signed) Witness
(.....)

Letter of Confirmation on Qualifications to Do Business with PTT

[Insert Place].....

[Insert Date]

We, [insert company name], having its registered office at _____
[insert address], telephone no. _____, e-mail _____ hereby, confirm that we, our partners and all of our directors (in case of a juristic person) are qualified to make a transaction with PTT according to the terms and conditions as stipulated in PTT's Rules and Regulations with respect to proposal/bid submission for Life time overhaul Siemens Gas Turbine RB211 DLE S/N: 1890C-2041, 1890C-2066, 1790G-850, 1790G-859 under the PTT Public Company' Announcement No. 1120016335 Dated 27 July 2021. We further confirm that:

- 1. Any of our contracts with PTT have never been terminated by PTT due to any fraudulent acts; and
- 2. We are not currently a party in any lawsuits or arbitration proceedings against PTT.

In additional, I am against corruption and all kinds of misbehavior, such as offering a bribe to PTT officer or any agent that is connecting with PTT in order to operate or exempt any activities for acquirement or securing of business or any unappropriated business profits, or offering a bribe that is illegal in Thailand and International, including to comply with PTT good corporate governance policy and not have any compromise with corruption (Zero Tolerance).

I hereby confirm that all the information given in this letter are true and up-to-date. Should there be any change or unqualified or violate to the Letter of Confirmation on Anti-Corruption, I shall promptly inform the change to PTT immediately.

If any of the above statements is false or if PTT later finds that we are not qualified so to make a transaction with PTT, we hereby consent to PTT revoking or cancelling any acts we would make with respect to the aforementioned transaction. We acknowledge that PTT may also claim for any damages or proceed to take any legal actions against us. In consenting and acknowledging so, we also waive our rights to any and all legal claims against PTT and/or our rights to claim any damages or compensations against PTT.

We agree that this letter is an important document and such qualifications above are the essence of entering into a contract with PTT. This letter shall constitute an integral part of documents required for proposal/bid submission.

By:

By:

(.....)

(.....)

Witness

Witness

By:

By:

(.....)

(.....)

Remark – in case of a juristic person, this letter must be signed and stamped (if any) by an authorised signatory of a corporate/partnership or attorney under a power of attorney.