



Announcement of PTT Public Company Limited

Registration Number 0107544000108

PR No. 1120020689 # 2

Subject: Bid for Purchase Manual Valve of Parallel HIPPS 42-inch project

As PTT Public Company Limited intends to invite written Bid for **Purchase Manual Valve of Parallel HIPPS 42-inch project**

Place of delivery at PTT Rayong Gas Separation Plant, 555 Sukhumvit Road, Mab Ta Phut, Muang, Rayong 21150.

Within as Article 9 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
- Form of Power of Attorney	1 Page
- Form of Bank Guarantee	1 Page
- PTT Supplier Sustainable Code of Conduct	1 Set
- Price Bid Form	1 Set
- Purchase Contract	1 SET

Person who is interested may purchase Bid Documents at the price of Baht - per set (Vat included) from 25 February 2025 to 03 March 2025 during 09:00 - 16:30 hours (NOTE : If vendors wish to participate in the Bid, please register via email at chalita_k@pttplc.com, siriwimon_u@pttplc.com , prangchanok.p@pttplc.com by the specified date and time stated in the announcement. Please include the PR No. 1120020689 in the subject of the email, attach a company certification document, and provide the email of the company representative who will attend the briefing and site visit.) 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)

Pre-Bid Conference for clarification shall be held at (Onsite) 2nd floor, Room M203, at the Bualuang Building, Rayong Gas Separation Plant, on 05 March 2025 Registration for the Conference shall be during 10:00 to 10:15 and conference shall commence at 10:30 hours.

(Speaker MR. NARUPON KHOCHASIN Employee ID No. 600222 Tel. 038676590 (narupon.k@pttplc.com))

Site examination shall be held at Rayong Gas Separation Plant on 05/03/2025 at 11:00 hour.

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

Submission of Bid Price, evidence and technical documents shall be on 02 April 2025 at 09:00 - 15:00 hour, as follows:



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Announced on 25 February 2025

(MR. KRITSARA KHONGNUAL)

Procurement Section Head

Procurement section



Subject : Purchase Manual Valve of Parallel HIPPS 42-inch project		
By : MR. NARUPON KHOCHASIN MR. TEERAYUT NIMNUY	Create date : 18 February 2025 Rev.3 SAP PR No.1120020689	Division/Department : Technical and Asset Engineering Division
Related standard systems		
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Quality	Safety	Health
		<input type="checkbox"/>
		Environment
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		Energy

Terms Of Reference

PTT Public Company Limited (hereinafter called “PTT”) would be interested to purchase the products Manual Valve for Parallel HIPPS 42-inch Project

The purchased products shall be a genuine, new and never been used. The products should not be old products kept in storage , be ready to use immediately and have characteristics as per the scope of work (TOR) mentioned in this set as following;

1. Objective

PTT Public Company Limited (PTT) desires to develop Parallel High integrity Pressure Protection System for Pipeline 42-inch for improving safety and reliability following IEC61511 Safety Lift Cycle at Gas Pipeline Processing Plant in PTT Gas Separation Plant

2. Bidder Qualifications

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

2.2 Bidder must not have the following characteristics as prohibited by the Blacklist:

2.2.1 Being a person or juristic person who has been convicted by the National Anti-Corruption Commission of Thailand (NACC), such a person shall no longer be considered to possess the prohibited characteristics described in this clause if they receive a final verdict of not guilty; or

2.2.2 Being a person or juristic person who is a party in any dispute or lawsuit against PTT that resulted in criminal penalties, excluding petty offenses.

The person or juristic person in the first paragraph shall be released from the prohibited characteristics (Blacklist) in the following cases:

2.2.2.1 A case where PTT is a defendant and a final judgment has been reached;

2.2.2.2 A case where PTT is the injured party and a final judgment has been reached indicating that the person did not commit the offense as charged;

2.2.2.3 A case where PTT is the injured party and a final judgment has been reached indicating that the person did commit the offense as charged, but the person has already served their punishment, completed their parole period, or has been awaiting sentence for at least three years; and



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2.2.2.4 A criminal case that has been resolved through the withdrawal of the complaint or lawsuit, or has been disposed from the directory.

In accordance with Clauses 2.2.2.1 to 2.2.2.4, if the counterparty is a juristic person, the directors of the limited company, partners with unlimited liability, or authorized directors of the public company limited, shall be subject to and exempt from the prohibited criteria (Blacklist) in the same manner as the juristic person.

In the case that Clause 2.2.2.3 applies and a final judgment is reached determining that the juristic person has committed an offense as charged, but it appears that the directors of the limited company, partners with unlimited liability, or authorized directors of the public company limited did not participate in the commission of the offense, and such directors or partners have resigned from the juristic person, then such directors or partners shall be released from the prohibited characteristics (Blacklist).

In the event that a final judgment imposes different period of punishment or parole on the juristic person, the directors of the limited company, partners with unlimited liability, or the authorized directors of the public company, the longest period of punishment or parole will be used to determine release from the prohibited characteristics.

2.2.3 Being a person or juristic person whose contract has been terminated by PTT due to committing the corrupted act against PTT;

2.2.4 Being a person or juristic person in the process of being ordered bankrupt by the court, or a person received a receivership order from the court in the context of a bankruptcy case, either temporarily or absolutely, and for which a final verdict has not been issued to resolve the case, cancel the bankruptcy, or discharge the bankruptcy, regardless of whether the court has approved a composition in bankruptcy for such person; and

2.2.5 Being a person or juristic person who has been in the Thailand designated list announced by the Anti-Money Laundering Office under the law of Counter-Terrorism and Proliferation of Weapon of Mass Destruction Financing Act. If the entity referred to in Clause 2.2 is a juristic person, the directors of the limited company, partners with unlimited liability, or the authorized directors of the public limited company, shall be included.

2.3 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.



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2.4 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.

2.5 On the day of announcement/bid invitation, should not have any joint interest with other bidders or is not a person who will cause obstruction for a fair auction.

2.6 Bidders must never be assessed at the level that should be improved (D) in annual evaluation after the completion of the delivery of products/services of PTT Public Company Limited - Gas separation plant during the past 1 year.

2.7 In the event that bidder is not registered in Thailand or does not have Thai nationality, bidder shall not be declared a Sanctioned Person by any authority for an activity applicable to this transaction with PTT. (Apply only transaction over 120,000,000 THB and bid is submitted by foreign individual or entity.)

2.8 Bidder must be an authorized distributor of the manufacturing plant with experience in at least 3 projects involving Manual Valve. The Manual Valve must have an outer diameter (OD) of 24-inches, be designed in a ball valve body type. Supporting evidence must include:

- 1) Project Details: A detailed description of at least three projects, including project titles and descriptions and
- 2) Customer References: Contact details of the project customers, including the company name, email address, and other relevant contact information and
- 3) Distributor Authorization: Official documentation, such as a letter of appointment, demonstrating the bidder’s status as an authorized distributor for the manufacturing plant.

2.9 Seller shall have a registered company capital of no less than 3,000,000 THB.

3. Pre-bid conference for clarification / Conduct site examination

The bidder must attend the pre-bid conference for clarification / conduct site examination/present the work on the date/time and location indicated by PTT in the announcement. If you do not listen to the explanation , it will be considered that the



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bidder abandons their right to participate in the bidding process and is not eligible to submit a bid for this work.

4. Bid Evidence

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

(4.1) Envelope of bid qualification

(4.1.1) In case of Bid by an individual business owner, 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).

(4.1.2) 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.

(4.1.3) 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..

(4.1.4) In the case where the authorized person of an individual business owner, company or partnership (“Entity”) does not sign the bid documents by himself and appoints a person to sign such documents on behalf of the Entity, such entity shall have to enclose a valid power of attorney which clearly and correctly states such authorization. The bidder may also have another person submit the said bid documents to PTT. However, the bidder has to certify that he will be responsible to PTT for any acts of such person in relation to submitting of the bid documents as if it is done on the bidder’s behalf.

(4.1.5) 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.

(4.1.6) 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).

(4.1.7) 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



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competent agency/organization, which enables to identify the authorized person including Bidder’s registered 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)

(4.1.7.1) The list of documents in (3.1.7) 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.

(4.1.7.2) In the event that the Bidder do not wish to proceed in (3.1.7.1) , the Bidder can submit Letter of Certification of Information and Documents submitted to PTT instead, according to attached Form.

(4.1.8) In case the Bidder is a joint venture, the following information is required:

(4.1.8.1) Description of the Joint Venture, the division of responsibilities, and the Scope of Work of each member during engineering, procurement, construction, training, and commissioning.

(4.1.8.2) Name of the leader of the Joint Venture and names and functions of the authorized representative(s) of the Joint Venture.

(4.1.8.3) Complete copy of the Joint Venture agreement, either signed by each of the members or evidence provided that each of the members will sign the agreement upon issuance of any Notice of Award.

(4.1.8.4) Confirmation of joint and several liability (The leader of the Joint Venture must be nominated. The leader shall be authorized to commit the Joint Venture and to act on its behalf in all matters related to the Bid and the Contract).

(4.1.8.5) Description of projects and working relationships if the members have previously collaborated on other projects.

(4.1.9) Information on Bidder: 1 copy of hardcopy and 1 electronic format

(4.1.9.1) Names and functions of the authorized representative (s) of the Bidder



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(4.1.9.2) Organization chart of Bidder’s company showing details of Bidder’s corporate organization.

(4.1.9.3) Bidder must be an authorized distributor of the manufacturing plant with experience in at least 3 projects involving Manual Valve. The Manual Valve must have an outer diameter (OD) of 24-inches, be designed in a ball valve body type. Supporting evidence must include:

- 1) Project Details: A detailed description of at least three projects, including project titles and descriptions and
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(4.2) Envelops of technical documents: 1 copy of hardcopy and 1 electronic format

(4.2.1) Scope of supply according to Article 18 Scope of Work

(4.2.2) Project Schedule

(4.2.3) Technical data The Manual valve design must follow the ball body valve type and comply with the specified brand listed in item 6.7. Ball Valve refer to Attachment 18.2 PTT GSP APPROVE BRAND LIST

(4.2.3.1) Manual Valve datasheet; Bidder shall submit equipment datasheet compare with PTT engineering specification and PTT equipment datasheet.

(4.2.3.2) Bidder shall submit documents as following requirement

(4.2.3.2.1) Manual valve & gearbox assembly drawing

(4.2.3.2.2) The manual valve gearbox sizing report must include the calculation formulas, taking into account the input parameters and the torque or thrust required for the valve at each operational position.

(4.2.3.3) Exceptions and Deviations list from PTT's Specification. (No deviation from the PROJECT SPECIFICATION shall be preceded by SELLER without prior written approval from PTT. PTT reserves the right to consider SELLER who is



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NO deviation as the first priority).Each section of Bidder's Proposal shall strictly follow the relevant requirements of this TOR. Bidders may propose exceptions to the Terms and Conditions of Contract by use of Exceptions and Deviations Form Attachment (technical). If Bidder wishes to submit an alternative bid, all exceptions to or deviations from the TOR shall be listed in Exceptions and Deviations Form Attachment giving a specific explanation for the reasons of request, an alternative formulation or term for such exception or deviation and the cost / time impact. This shall also include all cost impacts of any Project Execution items listed in the Project Execution Proposal or of any technical items listed in the Technical Proposal.

PTT has the right to request document and drawing after bid proposal submission in case that PTT consider the submitted document have unclear. PTT has the right to disqualify that SELLER who reject to submit requested document.

(4.3) Envelope of proposal: 1 hardcopy and 1 electronic format

(4.3.1) Price commercial proposal of Manual valve package

(4.3.1.1) Break-down Bid Prices (Attachment 18.1 Break-down Bid Price)

(4.3.1.2) Exceptions and deviations (Attachment 18.6 Exceptions and Deviations form)

(4.4) Each document (original or copy) comprising the Bid shall be submitted in separately sealed packages comprising Priced Commercial Proposal, Unpriced Commercial Proposal, Project Execution Proposal and Technical Proposal, which shall be clearly marked as follows:

“CONFIDENTIAL”

"Manual valves Package"

“PRICED COMMERCIAL PROPOSAL” or “UNPRICED COMMERCIAL PROPOSAL”

or “PROJECT EXECUTION PROPOSAL” or “TECHNICAL PROPOSAL”

“ORIGINAL” or “COPY”

(4.5) The Bid shall be addressed and submitted to



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RAYONG GAS SEPARATION PLANT

PTT PUBLIC COMPANY LIMITED

PURCHASE MANUAL VALVE OF PARALLEL HIPPS 42-INCH PROJECT

555 Sukhumvit Road, Mab Ta Phut, Muang Rayong 21150

Thailand

Attn: MR. NARUPON KHOCHASIN, Project Engineer

One (1) original and One (1) copy each of the Priced Commercial Proposal, Unpriced Commercial Proposal, Project Execution Proposal and Technical Proposal are required.

(4.6) The Bid shall be delivered to the above address by Bidder’s authorized representative on Bid Submission Date between 9.00 a.m. and 3.00 p.m., Thailand local time. Bids received outside this time period at the above address will not be considered and returned unopened.

5. Bidding

- 5.1 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 THB , 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



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provisions of the Civil and Commercial Code shall govern such inconsistency or discrepancy. 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 as from date after the day of the Bid submission or according to conditions determined by PTT and upon the Bidder irrevocably submitting bid documents according to Clause 4 and may not be withdrawn.

- 5.2 Upon the expiry of submitting the proposal and bidding, the submission of proposal and bidding to PTT is forbidden.
- 5.3 PTT procurement committee will check the qualifications of the bidder, (1) 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. (2) PTT shall verify bidder’s qualification by using reliable sources in accordance with international standards based on transparency and fairness. In the event that the bidder fall into any prohibited characteristics (Blacklist) as per clause 2.2, the procurement committee reserves the right to reject the proposal from those bidders.

6. Bid Security

Bidder is not required to place Bid Security.

7. Bid Evaluation Criteria

- 7.1 For the consideration of this bidding submitting, PTT will consider by using the rules on price.
- 7.2 Bidder who won the auction
PTT will consider from minimum price
- 7.3 In the event the bidder does not qualify as per clause 2, the evidences submitted are incorrect or incomplete as per clause 4 or the price is incorrect as per clause 5, the PTT procurement committee shall not consider the bidder unless the bidder’s specification or the purchased products ’s price is incomplete or the details are different from the company’s conditions which is not an essential matter and does not cause disadvantage to the other bidders or there is a slight error, the PTT procurement company shall consider to ease the disqualification of that bidder



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7.4 PTT reserves the right to not to ease the consideration of the following bidders;

- (1) Does not have the name in the list of the people buying or receiving auction documents from PTT
- (2) Has proposed details that differ from the company’s condition which are essential or are a disadvantage to other bidders.

7.5 In the event, the bidders have wrongfully proposed for the bidding such as submitting false documents or has appointed an ordinary person or legal entity in his behalf, the company shall revoke the auction and punish the bidder, no matter if the bidder is been chosen or not.

In the event, the bidder has proposed a low price, and it can be determined that the work cannot be operated as per the scope of work, PTT procurement committee will let the bidder submit the clarification together with the evidences to ensure that the work will be complete. If the clarification is unsound, PTT will reject the proposal or the price of the bidder. The bidder shall not claim for damages or expenses from PTT. PTT’s discretion shall be final

7.6 Prior to affixing the signature in the agreement, PTT may revoke the auction if it appears the bidder who won the bidding or who is chosen has joint benefits, has advantage with other bidders, is an obstruction for the competition, mutually represent other bidder or bid officer or it appears that the bidder is wrongfully proposing the bid.

8. Contract and Performance Security

8.1 Successful Bidder chosen by PTT shall contact PTT

(1) In case of the procurement which is not over 10,000,000 (Ten 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 Purchase shall contact PTT to sign a Purchase within the period specified by PTT

(2) In case of the procurement which is above 10,000,000 (Ten 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 sign a letter of intent and /or contract (as the case may be) within the period specified by PTT



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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.

8.2 In execution of a Contract or Purchase Order or Letter of Intent, 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 Purchase Order or Letter of Intent, Successful Bidder chosen by PTT (hereinafter called “Seller”) shall submit to PTT, cash or Bank Guarantee or Thai Government Bond or PTT Bond or PTT debenture 10percent of the price of the Contract or Purchase Order or Letter of Intent (the fraction remaining shall be round up) to ensure the performance of its obligations under Contract/Purchase Order or Letter of Intent. The Contractual Guarantee shall be returned when Seller has been discharged from all obligations under the Contract/Purchase Order or Letter of Intent.

8.3 In case where Successful Bidder fails to enter into the Contract within the period of time specified by PTT or the Seller 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.

9. Delivery

9.1 The seller shall deliver the goods to the PTT The seller shall deliver the goods to PTT as specified in the delivery schedule. The seller must adhere to the following timeline for delivery, excluding any period during which PTT does not grant access for work or orders a suspension of work. The seller is required to complete the work in eight stages as detailed below:

Milestone 1: Within 30 days after the date the seller signs the Letter of Intent (including weekends and public holidays, but excluding periods where PTT does not permit work or orders a suspension).



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- Deliverables: 1. Manual valve & gearbox datasheet. 2. Master document register.

Milestone 2: Within 90 days after the date the seller signs the Letter of Intent (including weekends and public holidays, but excluding periods where PTT does not permit work or orders a suspension).

- Deliverables:

1. Manual valve drawing.

2. Purchase order acknowledgment from the manufacturer, including order details (PO number, product descriptions, quantities, specifications), delivery terms, special notes (if applicable), and contact information.

Milestone 3: Within 365 days after the date the seller signs the Letter of Intent (including weekends and public holidays, but excluding periods where PTT does not permit work or orders a suspension).

- Deliverables: Completion of the factory acceptance test for the all Manual valve.

Milestone 4: Within 430 days after the date the seller signs the Letter of Intent (including weekends and public holidays, but excluding periods where PTT does not permit work or orders a suspension).

- Deliverables: Completion of local workshop testing of all manual valve to the site.

Milestone 5: Within 450 days after the date the seller signs the Letter of Intent (including weekends and public holidays, but excluding periods where PTT does not permit work or orders a suspension).

- Deliverables: Completion of delivery of all manual valve to the site.

Milestone 6: Within 520 days after the date the seller signs the Letter of Intent (including weekends and public holidays, but excluding periods where PTT does not permit work or orders a suspension).

- Deliverables: Completion of the site acceptance test for all manual valves.



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

Milestone 7: Within 560 days after the date the seller signs the Letter of Intent (including weekends and public holidays, but excluding periods where PTT does not permit work or orders a suspension).

- Deliverables: Submission of final documentation in accordance with the Master Document Register and the Document List outlined in Section 18: Scope of Work.

Each Delivery milestone is able to be re-ordered depending on which delivery milestone completes first.

9.2 The delivery term is DDP at PTT Rayong Gas Separation Plant ,AS PER INCOTERMS 2010

10. Place of delivery

The seller shall deliver the goods at The seller shall deliver the goods at the PTT Rayong Gas Separation Plant, 555 Sukhumvit Road, Mab Ta Phut, Muang, Rayong 21150., AS PER INCOTERMS 2010

11. Payment

11.1 PTT shall make the payment

7 milestones to the seller on the thirtieth (30th) days after PTT’s Acceptance Committee has accepted the goods successfully.

1st Payment: 10% of the contract price, after the completion of Milestone 1.

2nd Payment: 25% of the contract price, after the completion of Milestone 2.

3rd Payment: 20% of the contract price, after the completion of Milestone 3.

4th Payment: 10% of the contract price, after the completion of Milestone 4.

5th Payment: 20% of the contract price, after the completion of Milestone 5.

6th Payment: 5% of the contract price, after the completion of Milestone 6.

7th Payment: 10% of the contract price, after the completion of Milestone 7.

Each payment milestone is able to be re-ordered depending on which payment milestone completes first.

PTT shall pay the seller once the seller has delivered the products correctly and completely as per the agreement or memorandum and when PTT has received the products and the seller has requested to receive the payment.



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11.2 The seller shall submit evidence to receive the payment within 15 days starting from the next day PTT has inspected the products. The money shall be received depending on the time when the seller has submitted the evidence for request of payment.

11.3 The payment shall be made by bank transfer to the account as designated by seller.

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

12. Penalty

12.1 Penalty,

If the seller fails to deliver the products or works within the specified time, the seller shall be liable to pay a penalty at the rate of 0.2% (zero point two percent) of the value of the undelivered products or works per day of delay, starting from the day after the specified delivery date until the date PTT receives and fully accepts the products or works in correct and complete condition. The total penalty shall not exceed 10% (ten percent) of the total contract value. If the undelivered products are critical to or must be used in combination with the products already accepted by PTT, the penalty shall apply to the entire value of the related products.

12.2 Limitation of Liability,

The total liability of SELLER (including its subcontractors) on any claim, whether in contract, tort (including negligence) infringement or otherwise, arising out of, connected with or resulting from the manufacture, sale, delivery, resale repair, replacement or use of the PRODUCT or any other service shall not exceed the price allocable to the PRODUCT or service or part thereof that gives rise to the claim and in no event shall the total ability of SELLER hereunder exceed the Contract Price. Such Limitation of Liability shall not include any claim incurred by SELLER’s willful misconduct, fraud and gross negligence.

13. Warranty and Guarantee

13.1 The seller shall warrant its products for 720 days following the date the PTT's committee has accepted the goods successfully in accordance with the conditions set by the PTT.



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		Environment
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		Lab
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13.2 In the event of a defect or breach of any or all SELLER's guarantees hereinabove and such defect or breach having been notified by PTT to SELLER within guarantee period, then SELLER shall immediately at SELLER's own expense provide all services and make every effort to investigate the defect or breach of guarantee and propose adequate means of making good or correcting the defect or breach, shall take into account all possible means of minimizing hardship or damage caused to PTT in consequence of the defect or breach and the making good or correcting such defect or breach. During the investigation the SELLER shall continually keep PTT informed about its finding and shall be available for meeting action to be taken. As soon as possible after notification of the defect or breach by PTT to the SELLER, the SELLER shall make a written proposal to PTT stating all measures SELLER intend to take and the estimated duration of such measures.

13.3 Subject to PTT's approval of proposals made by SELLER according to article 13.2 hereinabove about the adequate measures to be taken by, SELLER shall immediately and with due diligence make good or correct all said defect or breach by repair or replacement or addition or alteration of any item of equipment and provide corrective engineering services or any other services necessary and required in the respective situation to make good or correct valve to the satisfaction of PTT.

13.4 Any and all costs and expenses incurred by SELLER for making good and correcting the defect or breach shall be borne by SELLER including but not limited to the cost for repair and replacement of items of equipment or material, customs duties, taxes and port charges, transportations of or materials from or to the site, dismantling and removal from the site and export of any defective item of equipment or material, installation, commissioning and any costs or expenses for modification, orrepetition of design, engineering, etc.

13.5 Should the SELLER neglect or refuse to supply a proposal under the article 13.2 to PTT immediately after the date of notification of the defect or breach by PTT, or should the SELLER fail to start or continue to make good or correct immediately any defect or breach of guarantee under article 13.1, PTT may take over and correct or make good or arrange for making good or correcting any defect or breach of guarantee itself and the cost thereof shall be borne and paid by SELLER without any loss of rights by PTT with respect to any guarantees under article 13.1



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		Environment
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		Lab
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		Energy

13.6 In the event that SELLER can prove that the defect claimed by PTT is due entirely to particular causes other than failure of SELLER to meet the guarantees under article 13.1, the provisions hereinabove shall apply, but the making good or corrective work shall be treated as a change requested by PTT.

13.7 If in pursuance of this article 13, the SELLER makes good or corrects any components or parts of HIPPS valves the provisions of this article shall apply to any and all corrected, repaired or replaced work for a period of 360 days from the date such corrections, repairs or replacements are put into operation and accepted by PTT after appropriate test to be agreed upon.

13.8 The guarantee period referred to in article 13.1 shall be extended for the HIPPS valves and any individual component or part of the HIPPS valves by the duration for which the HIPPS valves or their respective sections are out of operation due to defects or breaches of guarantees by the SELLER. The extension period for the HIPPS valves or the respective sections shall be calculated from the date PTT notifies the SELLER of the defect or breach until the HIPPS valves or sections are repaired or replaced, put back into operation, and accepted by PTT following agreed-upon tests.

14. Advance Payment

No Advance Payment

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

Successful Bidder who agrees to purchase/work/rent , 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.

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

15.1 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.



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15.2 Vendors must have qualifications related to ESG Interception Criteria including:

- (1) Vendors must not be tolerating, permitting, or engaging in bribery, corruption, or unethical practices whether in dealings with public officials or individuals in the private sector.
- (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.

16. Vendor Evaluation

- 16.1 PTT shall evaluate vendors after the completion of the delivery of products/services in each delivery period, based on their work performance.
- 16.2 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.
- 16.3 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 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.
- 16.4 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



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and work result must be attached to the request. The vendor can access the system *ptvm.pttplc.com* for the results of vendor evaluation

17. Personal Data Protection

17.1 Both parties agree to comply with the Thai Personal Data Protection Act and all applicable personal data protection laws including any subsequent amendments, other relevant rules and regulations of the jurisdiction where such party is mandated, in respect of collection, use and/or disclosure of any personal information. In this regard, each party represents and warrants that it has right and authority to disclose any personal information of any third party to the other party and has obtained all necessary consents from the relevant third party to disclose such personal information. Any collection, use and disclosure of personal information hereunder shall be conducted to the extent it is necessarily required for and in compliance with such law(s).

In the event that any performance hereunder of either party is considered to be a data controller or a data processor under Thai Personal Data Protection Act including any amendments, the parties agree to enter into a Data Processing Agreement, Data Sharing Agreement or any other similar documentation to ensure adequate level of data protection as required by law and such document shall be incorporated hereinto.

17.2 Subject to scope of works under this TOR, in the event that a bidder must become a Data Processor for and/or on behalf of PTT under Thai Personal Data Protection Act including any amendments, awarded bidder or any bidder informed to be selected shall meet PTT’s personal data protection standard. Such bidder shall complete Third Party Assessment form attached with this TOR and submit to Rayong Gas Separation Plant within 7 working days after the date on which the award is announced or informed by PTT, as the case may be.

In case that the result of Third Party Assessment does not meet PTT’s personal data protection standard, awarded bidder or any bidder informed to be selected shall strictly follow its obligations specified in Data Processing Agreement which form under 17.1



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Privacy Notice

<https://pttpdpa.pttplc.com/Privacy/106107>

18.Scope of Work

1. Definition

The following definitions will apply to the Agreement between the SELLER and PTT:

- 1 "PTT" shall mean the PTT Public Company Limited, its successors and assignees.
- 2 "SELLER" shall mean Compressor Manufacturer who awards the Contract, who shall be liable for PTT for any and all obligations and responsibilities under this contract.
- 3 "WORK" means any and all design, supply, construction and other WORK and services of and for the PLANT on a turnkey basis as specified to be furnished by SELLER under the CONTRACT and the fulfillment of all his obligations there under including CHANGEs in SCOPE OF WORK.
- 4 "SCOPE OF WORK" shall mean SELLER's scope of WORK.
- 5 "CHANGE" or "CHANGE IN THE WORK" means any change to the SCOPE OF WORK as approved by PTT.
- 6 "PROJECT SPECIFICATION" means PTT's project specification as agreed between PTT and SELLER and any addition or revision thereto made by CHANGEs in the SCOPE OF WORK, and incorporating any documents referenced therein.
- 7 "Site" shall mean the areas where the Work shall be performed as indicated in the Specifications and situated at PTT, Gas Separation Plant, Mab Ta Phut in the Rayong Province / Thailand.



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Quality	Safety	Health	Environment	Lab	Energy

2.Scope of supply

All materials supplied by the SELLER will be delivered on a DDP (Delivered Duty Paid) basis and shall include:

- 1 One Manul valve, 36-inch, with a design pressure rating for Class 900.
- 2 One Manul valve, 36-inch, with a design pressure rating for Class 600.
- 3 One Manul valve, 30-inch, with a design pressure rating for Class 600.

3.Scope of Work

Valve Design

All valves in hydrocarbon service shall be of antistatic design. Forging raw materials shall NOT be sourced from India or China.

In general valves shall be in accordance with ES-50.01 Specification for Piping Material Classes, ES-50.21 Specification for Pipeline Ball Valves and the Project Data Sheets which shall detail such requirements as:

- Valve Type
- Operation e.g. ¼ Turn
- Size
- Connection type
- Flange Rating
- Design Pressure and Temperature
- Full or reduced bore
- Materials
- Design Standard e.g. API 6D



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		Lab
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- Fire Rating i.e. API 6FA or API 607
- Sour Service Requirements
- The grease fitting material shall be designed using stainless steel.

Body Design: To minimize potential leak paths to the atmosphere, the valve must be a single-piece body casting. Two-piece or three-piece body designs are not allowed, as they may be prone to leakage due to pipe forces, stresses from fast closing, and other external factors.

Additionally, Project Data Sheets will detail gearbox/actuator and accessory requirements for the valve.

Where the stem cannot be increased in size or its material changed without significant project impact, a regulator and / or relief valve shall be fitted to limit the utility pressure to the actuator and limit the maximum torque to an acceptable level. Use of a regulator and / or relief valve for this purpose shall be considered only as a last resort and is subject to specific approval by the Purchaser on a valve by valve basis.

The valves shall be designed and constructed to be operable under the specific conditions outlined in the Process design data. Maximum and minimum operating pressures and temperatures of valves shall be specified and be in accordance with in the Process design data.

Fillet, T-joint, and corner-joint weld design will not be acceptable for main strength members.

If pups are specified for welding to the valve body, weld ends shall be prepared according to Figure 14 and Figure 15 (a) (e) or (f) of ASME B 31.8 Alternative configurations to Figure 15 are not permitted. At all cross sections, the wall thickness shall meet the requirements of ASME B31.8 Section 841 for the specified design conditions with a design factor “F” of 0.5



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Trim materials shall be suitable for the service conditions stated in the Process Data Sheet.

Seats and Seals – For soft seated valves the primary seat is a nylon insert with a secondary steel seat. Spring force is applied to the seat ring via Belleville rings to insure contact with the ball. A differential pressure in excess of 200 psi will exceed the spring force and move the seat ring away from the ball, thus relieving excess pressure in the body cavity to the downstream side of the valve.

When a differential pressure is applied across the valve (i.e., the valve is closed), sealing is provided only by the upstream seat ring. Leakage of the upstream seat ring will result in leakage into the body cavity. When the differential pressure between the body cavity and downstream of the seat ring exceeds 200 psi, pressure will force the downstream seat ring open, resulting in leakage through the valve. At line pressures less than 200 psi, both seat rings provide sealing. Seat to body seals shall be non-elastomeric.

The stem sealing system shall incorporate redundant seals. Seal material shall be non-elastomeric.

Unless bending moment requirements are provided in the Material Requisition, the valves will be considered adequate to withstand piping end loads provided that the conditions below are satisfied:

- 1) The section modulus and metal area at a plane normal to the flow passage through the region at the valve body crotch shall be not less than 110% of the section modulus and metal area of the piping connected to the valve body inlet and outlet nozzles.
- 2) The allowable stress for valve body material is equal to or greater than the allowable stress of the connected piping that of the connected piping material, the valve section modulus and metal area shall be not less than 110% of the section modulus and metal area of the connected piping multiplied by the ratio S_{pipe}/S_{valve} .



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Balls shall be trunnion mounted and solid, I.e., not hollow or fabricated construction.

Trunnion and Stem Journal Bearings – The Trunnion and stem feature PTFE (Teflon) impregnated stainless steel bearings. Lubrication to free the Trunnion is not required and no lubricating fitting is provided

Valves shall be equipped with body vent, bottom drain, and stem and seat sealant injection connections are shown in Valve configurations. Button-head fittings shall be provided on all sealant injection connections. All valves shall be drilled and tapped for the body cavity drain/vent, and fitted with a double isolation valve. For buried valves, the isolation valve shall be located above grade level and connecting pipework protected and strapped to the valve body. Pipework and isolation valve shall both conform to NACE MR-01-75, if required based on the service conditions. In addition, the isolation valve shall conform with the material requirements of Section 4.0. Remaining tapped holes shall be fitted with forged solid square head plugs, of the same basic materials as the valve body, in accordance with ANSI B16.14.

Valves shall be capable of double block and bleed with the valve in either the fully open or fully closed position.

Valves shall not have holes drilled thru the ball which communicate with the valve body cavity when the valve is in the fully open position.

All valves 4” and larger shall have secondary seat sealant injection capabilities

Valves intended for below ground service will be buried, and shall be equipped with operating extensions, the length to be as specified in the Material Requisition.

Extension piping shall be provided for all valves intended for underground service for all body penetrations as described in paragraph 3.9. All extension piping shall be Grade B, Schedule 80, seamless steel pipe. All connections



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for vent/drain pipe and valves shall be socket welded.

All valve body cavities including the gland extension shall be self relieving or double piston effect seat design. Contractor shall specify the differential pressure required for the valve body cavity to self relieve or double piston effect seat design.

Body – Components shall be forged material conforming to API 6D and this Specification and fabricated by welding. Allowable stress levels of all pressure containing components shall conform to the allowable stress values of ASME Section VIII. Welding procedures and interpretation of weld quality shall conform to ASME Sections IX and V. The hardness of the weld heat affected zone shall conform to NACE MR-01-75. All welds shall be 100% radiographically or ultrasonically inspected

Vent and drain devices for the valve body shall be provided such that the body cavity pressure can be vented and drained with the valve either in the open or closed position. For valves 14” and larger shall be equipped with drain pipe welded to the valve body and 2” flange-end ball valve.

All seals and soft seats that will come in contact with the gas, or NGL shall be of a 100% aromatic resilient material with a bubble tight metal seat back-up. The stem sealing system should employ a double seal design with a leak-off valve. Upper stem seals shall be replaceable while the valve is in operation. Provisions shall also be made to inject sealant to improve seal tightness in the event a seal is damaged.

Seller shall provide with his quotation the valve torque requirements at maximum differential pressure and minimum differential pressure at minimum design temperature conditions. Maximum allowable stem and stem extension torque data shall be provided.



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All 4” and larger ball valves shall provide with manual gear operators, they shall be supplied complete with steel hand wheels fitted with locking devices suitable for standard padlocks. All manually operated valves are to be lockable in both open and closed positions.

All valves shall be provided with stops at fully open and fully closed positions and open/close indicators on the stems. Hand wheels on valves and manual gear operators are to be permanently marked “OPEN” or “CLOSE” with an associated arrow to indicate the direction of rotation.

Valves shall have provision for lifting which will allow lifting of the valve and actuator in a balanced position. Any lugs welded to the valve shall be subject to magnetic particle inspection.

All valves shall be of ‘Fire Safe’ design in accordance with API 607 or API 6FA. Valves are to have anti-static devices fitted in accordance with BS 5351.

Pipeline bores for full bore ball valves to be pigged shall be specified. Manufacturer’s standard ball bore to API 6D may be used provided any internal step in wall at pup welds or flanges does not exceed 2 – 4 mm and any other change in bore to the ball is accomplished by a smooth transition.

For 14” and larger valves shall be welded body type with flange end. Should Weld-end valves is required, they shall be provided with one-meter pipe transition piece.

Valves 14” and larger welded body are furnished with a rotating seat ring feature that repositions the seat in relation to the ball with each cycle of operation of the valve. This feature reduces the possibility of leakage caused by wearing of the seat. PTT shall have the right to specified this special feature for critical isolation point.



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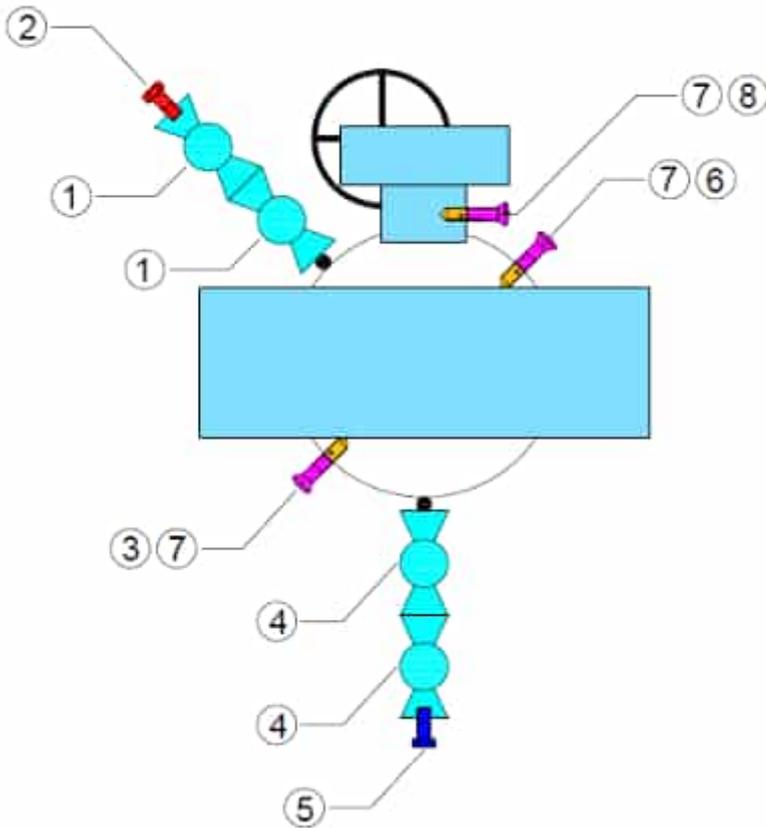
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Division

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| Quality | Safety | Health | Environment | Lab | Energy |





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NO	TYPE	METERIAL	CONNECT TO	CONNECTION TYPE
1	SMALL BALL VALVE	CS	VENT BODY	SW
2	BODY VENT FITTING	SS	VENT VALVE	SW
3	SEALANT FITTING	SS	UP STREAM SEAT	SW
4	SMALL BALL VALVE	CS	DRAIN BODY	SW
5	DRAIN PLUG	SS	DRAIN VALVE	SW
6	SEALANT FITTING	SS	DOWN STREAM SEAT	SW
7	INTERNAL CHECK VALVE	SS	STEM	SW
8	STEM SEALANT FITTING	SS	STEM	SW
9	BODY DRAIN FITTING	SS	DRAIN BODY	SW

A typical

configuration for all ball valves that will meet compliance requirement.

- For valve size 30” and larger, isolation valves and bleed size shall be at least 2” flange end ball valve
- All vent valve and drain valve which connected to a valve body shall be ASME class 1500.
- All spigot valve (e.g. valves used as bleed valves which connected to blind flange or a cap) shall be ASME Class 1500. Seal welded shall be conducted on thread connection prior valve shell hydrostatic pressure testing.

Valve Layout

Valve size greater than 6” shall be located in horizontal position for ease of installation.

Valve Operational Position

The best operation height is between 1,000 mm. and 1,350 mm above the level of operation. Hand-wheels at eye-level as well as at knee-level are to be avoided where possible because of the danger of injury. The lateral distance between the edge of the platform and the hand-wheel outside a platform shall be a minimum of 300 mm and a maximum of 600mm. 450mm is



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MR. TEERAYUT NIMNUY

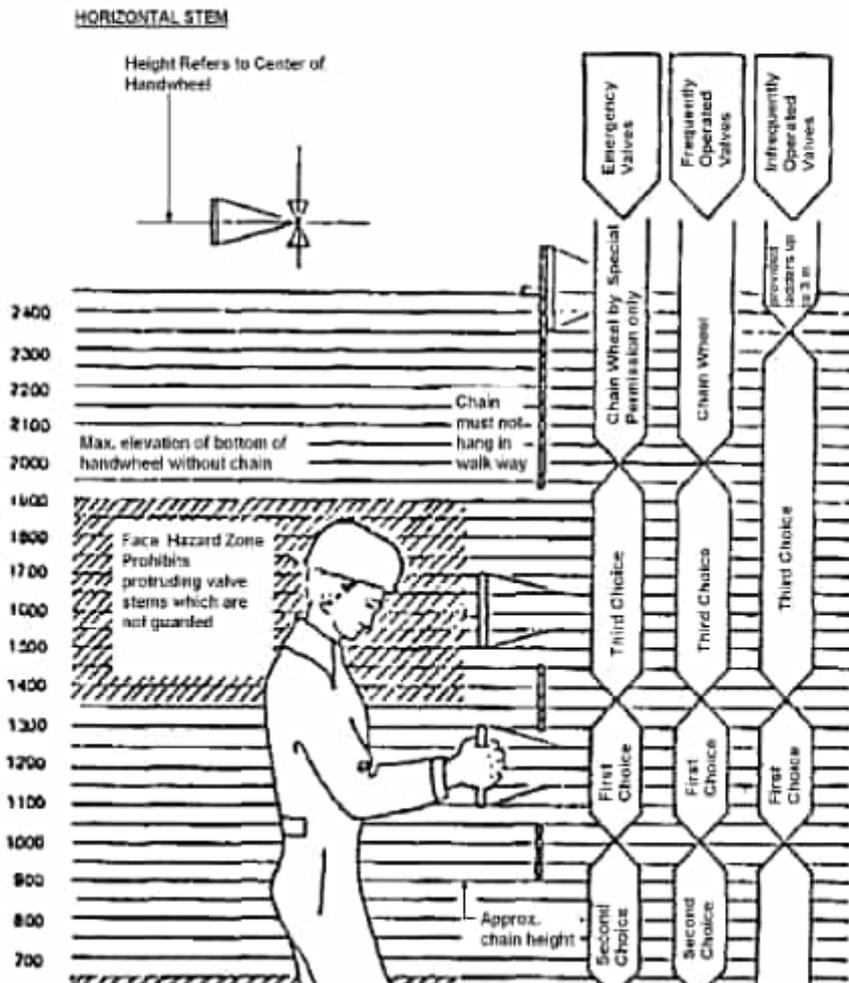
Create date : 18 February 2025
Rev.3
SAP PR No.1120020689

Division/Department :
Technical and Asset Engineering
Division

Related standard systems

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| Quality | Safety | Health | Environment | Lab | Energy |

recommended. Chain drives shall only be installed in exceptional cases, chain shall clear operating level by 1,000 mm.The operation position relates only to the valves which have to be operated during the running of the plant.





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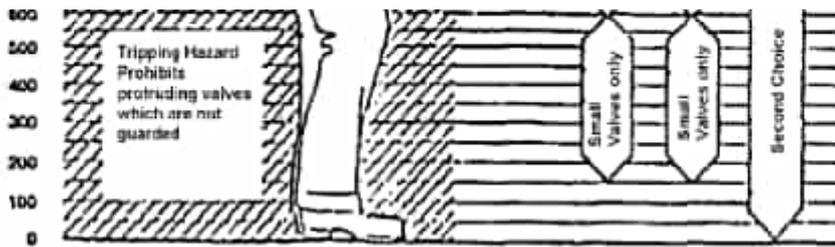
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Quality	Safety	Health	Environment	Lab	Energy



Requirements

Refer to ES.92.06 – Specifications for Painting

End Connections

- 1 The face to face dimensions shall comply with ANSI BS16.10 for all designs of valves with the exception of wafer type, between flange valves, e.g. butterfly valves.
- 2 The body end flanges of all flanged valves shall be drilled for through bolting. Flanges that are drilled and tapped for studs are not acceptable.
- 3 Gasket surface finish for raised face flanges shall be in accordance with ANSI B16.5 para 6.4.4.

Design Requirements for RTJ Connection

1. Compliance with Standards: The RTJ flanges shall comply with the dimensional requirements of ANSI/ASME B16.5 or API 6A, as applicable. The groove dimensions for the RTJ shall conform to ANSI B16.20 to ensure compatibility with metallic ring gaskets.
2. Pressure and Temperature Rating: RTJ connections shall be selected for applications requiring high pressure (e.g., Class 600 and above) or high-temperature environments.
3. Material and Corrosion Resistance: The flange material and metallic ring gasket shall be compatible with the process fluid



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Quality	Safety	Health
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		Lab
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		Energy

to prevent corrosion, erosion, or galling. Special coatings or materials (e.g., Inconel or stainless steel) shall be used where corrosive fluids are present.

4. Sealing Performance: The RTJ groove surface finish shall meet the requirements of ASME B16.5 or API 6A to ensure proper metal-to-metal sealing.

5. Bolt Tightening and Alignment: Ensure proper alignment and use of torque-controlled tightening for consistent gasket compression and to avoid damage to the sealing surfaces.

6. Inspection and Testing: All RTJ flanges must undergo NDE (Non-Destructive Examination) such as magnetic particle or ultrasonic testing as per applicable codes to verify groove integrity. Pressure testing must confirm the sealing capability of the RTJ connection.

QUALITY ASSURANCE, INSPECTION & TESTING

1) QUALITY ASSURANCE

The Seller shall demonstrate that they operate a quality system in accordance with an internationally recognized standard. The effectiveness of the quality system and the Seller's compliance with it shall be subject to monitoring by Purchaser and in addition, may be audited following an agreed period of notice.

The Seller shall submit a quality control program for Purchaser review at the time of Tender. The Seller shall provide facilities for, and cooperate with, Purchaser and Inspectors during manufacturing, assembly and testing.

2) INSPECTION

The Purchaser or its authorised representatives shall be permitted at all times free access to all parts of Seller’s workshops that concern the construction and testing of the Equipment.

Inspection and certification requirements for the Equipment shall be per ES- 99.03, specification for shop inspection.



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<input type="checkbox"/> Quality	<input checked="" type="checkbox"/> Safety	<input type="checkbox"/> Health
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		<input type="checkbox"/> Lab
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Inspection by the Purchaser shall not relieve the Seller of any guarantees, responsibilities or obligations to furnish equipment/materials to this specification and the appropriate Project Data Sheets as listed in the Technical Requisition.

3) TESTING

3.1 General

All stages of testing may be subject to witness and approval by the Purchaser and / or a third party verifier as identified by the Purchaser / Verifier in the inspection and test plan.

In general the following three major stages of testing shall apply:

- Gearbox testing (at gearbox suppliers works).
- Valve test (at valve manufacturers works).
- Integrated valve / actuator testing (FAT) (generally at either valve or gearbox manufacturer’s works).

In all cases, Seller shall confirm the location of all witness testing. The minimum scope for each stage of testing is summarised below.

The Seller shall supply a preliminary inspection and test plan (ITP) with the Tender.

The Seller shall provide the Purchaser with at least 14 calendar days advance notice to witness tests performed in either the Seller’s works or any sub-Sellers works.

Test equipment shall be supplied by the manufacturer and shall be calibrated within six months of the test date. All test equipment used shall have a current certification of accuracy from an approved test authority.

All test equipment used to measure the performance of the actuator shall be calibrated and used in accordance with the



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Quality	Safety	Health
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suppliers QA system.

The Seller shall maintain up-to-date documentation at all times reflecting the inspection/testing status of the equipment. However, the submittable documentation shall not be regarded as the total requirement.

The Purchaser may wish to inspect retained documentation such as internal test results, equipment logs and fault/correction records.

All testing shall be carried out in accordance with written procedures. Certificates shall be issued recording satisfactory completion of all tests and signed by the Sellers and/or Purchaser’s quality representative.

3.2 Valve Testing

Testing and certification for valves shall be in accordance with the project Data Sheets and Purchaser’s Seller data requirements lists and shall include the requirements of ES-50.21, Specification for Pipeline Ball Valves and the following as a minimum.

- 100% visual checking
- 100% hydrostatic testing, to ASME B31.8
- NDE in accordance with ES-50.21, Specification for Pipeline ball Valves (API 6D)
- Material test and traceability reports must be provided, along with EN 10204 3.2 certification, confirming that material inspection and testing have been conducted by both the manufacturer and an independent third party. This certification should be issued by accredited organizations, such as inspection agencies or notified bodies, that comply with the requirements of EN ISO/IEC 17020 or equivalent standards.
- Local workshop testing shall be conducted after delivery from the manufacturer to Thailand. The testing requirements shall include at least a functional test. However, the testing procedures and criteria must be approved by PTT. Additionally, the



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local workshop operations shall comply with the PTT-approved valve workshop standards.

Factory Acceptance Test (FAT) Criteria

The Factory Acceptance Test for the valve shall include the following:

- 1 Zero Leakage Test
 - 1.1 The valve must demonstrate zero leakage under both normal operating and design pressure conditions.
 - 1.2 Testing shall comply with applicable standards
- 2 Visual and Dimensional Inspection
 - 2.1 Conduct a detailed visual inspection to check for any manufacturing defects, improper assembly, or damage.
 - 2.2 Verify the dimensions and material compliance with the design specifications.
- 3 Operational Cycle Test
 - 3.1 Perform multiple operational cycles to ensure reliable performance under repeated use.
 - 3.2 The test shall include both normal and emergency operations.
- 4 Documentation and Reporting
 - 4.1 Ensure that all test results, calibration records, and certifications are documented and provided to the PTT.

However, the testing procedures and criteria must be approved by PTT

3.3 Commissioning and Startup

The Seller, in their tender, shall identify any special requirements or recommendations for Seller support during commissioning and start up of the equipment supplied. The Purchaser's final acceptance of the equipment will be subject to a performance test once the equipment has been installed and commissioned offshore.



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The Seller shall confirm that, if required, they are able to fully support the installation, testing and servicing of the actuator, accessories and valve assemblies and to offer specialist assistance from the actuator manufacturer where appropriate.

3.4 Site Support

The Seller, in their tender, shall provide details of their after sales support capability. Sellers shall advise their nearest service representative and nearest service facility.

4) INSPECTION AND TEST PLAN (ITP)

Sellers shall include an Inspection and Test Plan (ITP) in their Tender documents. The ITP shall list all inspections and tests proposed for the equipment by the Seller, between the date of ordering and the date of delivery.

The Seller shall be responsible for the planning and execution of all inspections and tests, but the Purchaser’s representative shall have the right to witness any or all of the manufacturing, inspection or tests.

The Purchaser and the Seller shall sign off the final version of the ITP, which, thereafter, shall form part of the contract documents.

The Seller shall notify the Purchaser, at least two weeks in advance, of the date on which any of the inspections or tests nominated as Hold or Witness points on the ITP are due to be carried out.

Certificates of Test shall be provided for each item of equipment to prove it has been satisfactorily tested to meet all requirements of its appropriate manufacturing standards, whether or not witnessed by the Purchaser.

Where appropriate, test certificates shall state values for all test results. Tests for which the results are indicated as pass or fail shall be qualified by the relevant acceptance criteria.



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NAMEPLATE DETAILS

All instruments shall be supplied tagged in accordance with the Project Data Sheets.

Tag plates shall be manufactured from 316 SS. Text and numbering shall be clearly engraved, paint filled and a minimum of 6mm high.

Tag plates shall be secured using stainless steel screws, stainless steel wire or stainless steel chain.

The 'open' and 'close' positions shall be clearly identified on the gearbox/actuator.

The actuator assembly shall have a stainless steel nameplate detailing the following information as a minimum:

- Purchase Order Number
- Valve/Gearbox/Actuator serial number
- Valve/gearbox/actuator tag number
- Gearbox output torque, at maximum/normal/minimum
- Action, e.g. 'fail open'
- Manufacturer's name
- Manufacturer's model numbers
- Date of manufacture
- Additional requirements associated with ES-50.21

All pressure regulators shall have a label identifying operating set pressure. This label shall be a warning label with red text and stating that the operating pressure must not be exceeded.

PAINTING

Each gearbox and its attached hardware shall be painted as outlined below. All metal surfaces shall be degreased, descaled and



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all rust removed.

One coat of suitable primer shall be applied over entire surface of actuator. One top coat of paint shall be applied over entire surface of actuator.

Corrosion resistant materials such as 316L SS shall not be painted, unless covered by thermal insulation, in which case the material shall be painted.

The gearbox and valve shall be painted.

All surface preparation, painting and protective coatings shall be in accordance with ES-92.06, Specification for Painting/Coating.

Alternative paint procedures may be proposed by the Seller, but shall be subject to the Purchaser’s approval.

Full technical data of the proposed paint manufacturers' products is to be provided by the Seller with his Tender.

4. Documents and Drawings

The Seller shall be responsible for providing all documentation in accordance with Seller Data Requirements List supplied by the Purchaser.

The Seller shall supply material certification for all pressure containing parts. All documentation shall be forwarded to Purchaser’s nominated address.



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Fabrication of any equipment shall not commence until the Purchaser has reviewed and approved calculations, drawings and any other design documentation.

- 1 Prepare and provide the outline drawings and documents of HIPPS Valves
- 2 Documents and Drawings Distribution shall generally be made by electronic transmittal in PTT CONZOL (Engineering Document Management System). For expediency, other telecommunications (telephone or email) may be used, however these communications shall be immediately responded by PTT.
- 3 Identification Numbering of Documents and Drawings shall be assigned number base on PTT ES-99.01 NUMBERING SYSTEM.
- 4 All Engineering Document and necessary documents shall be submitted to PTT for Approval.
 - 4.1 SELLER shall send all engineering documents and necessary document to be renamed Tag number by PTT for relate with existing, and then SELLER shall update Tag number following PTT requirement.
 - 4.2 Unless otherwise agreed, PTT shall be allowed a period of 5 (five) working days from the date of receipt to approve or comment on the drawing and document. If within said period so said approval or comment is given by PTT, SELLER may continue the work.
 - 4.3 Approval by PTT of any drawing or other kind of information supplied by PTT to SELLER shall not relieve SELLER from its responsibilities under the Contract.
- 5 SELLER shall submit monthly progress report to PTT. The report shall contain the following content:
- 6 S-Curve to show Percent of plan and actual of WORK
- 7 Work Progress Summary
- 8 Work Activity
- 9 Pictures
- 10 These documents and drawings shall submit to PTT for approval.

Note: SELLER shall submit documents and drawings list. In case the name of documents and drawings are different from list of documents and drawings, SELLER shall clarify the equivalence between SELLER's standard and PTT's requirement.



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- 1 Document List
- 2 Production schedule
- 3 Product technical literature
- 4 Completed Purchaser’s Project Data Sheets
- 5 Dimensional drawings of the valve and gearbox/actuator
- 6 Preliminary weight data
- 7 Valve and gearbox torque data complete with sizing calculations
- 8 Paint procedures.
- 9 Spare part list
- 10 Material Certifications
- 11 Documents shall be submitted to PTT for Approval.
- 12 Unless otherwise agreed, PTT shall be allowed a period of 5 (five) working days from the date of receipt to approve or comment on the drawing and document. If within said period so said approval or comment is given by PTT, SELLER may continue the work.
- 13 Approval by PTT of any drawing or other kind of information supplied by PTT to SELLER shall not relieve SELLER from its responsibilities under the Contract.
- 14 Inspection and Test Plan
- 15 GA Drawing for the combined valve / gearbox/actuator assembly including:
 - 15.1 All dimensions and materials of the components comprising the equipment to be supplied
 - 15.2 All support brackets
 - 15.3 Clearances required for maintenance / removal of equipment
 - 15.4 Weight of the valve and gearbox/actuator individually and the weight of the complete assembly.
 - 15.5 Test Procedures
 - 15.6 Test Results
 - 15.7 Material Traceability Certification



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15.8 Installation, operations and maintenance manual.

5. Witness Testing

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

- 1 Complete factory acceptance test of all manual valves with gearbox operation at manufacturing.
- 2 Complete factory acceptance test of all manual valves at Thailand valve workshop.
- 3 Complete site acceptance test of all manual valves at site.

Note: All items hereinabove shall be submitted within 30 days before the date of commencement of the required step, so that the PTT representatives will be at the SELLER facilities in reasonable time for approval and witness.

6. Site Acceptance Criteria

The Site Acceptance Criteria for the manual valve shall be based on the Normal Gas Composition and the Gas Inlet Facility process description as follows:

- 1 Zero Leakage Test
 - 1.1 The valve must demonstrate zero leakage under both normal operating
- 2 Operational Cycle Test
 - 2.1 Perform multiple operational cycles to ensure reliable performance under repeated use.
 - 2.2 The test shall include normal operations.
- 3 Documentation and Reporting
 - 3.1 Ensure that all test results, calibration records, and certifications are documented and provided to the PTT.

However, the testing procedures and criteria must be approved by PTT



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Division

Related standard systems



Quality



Safety



Health



Environment



Lab



Energy

7. Attached Documents and Reference Standard

PTT Engineering Specification Standard and International Standard	Document Name / Document Description
Attachment 18.1	Break-down Bid Price
Attachment 18.2	PTT GSP APPROVE BRAND LIST
Attachment 18.3	Class 900 Ball Valve Datasheet
Attachment 18.4	Class 600 Ball Valve 36-inch Datasheet
Attachment 18.5	SAMPLE FORM OF PERFORMANCE SECURITY - BANK AS GUARANTOR
Attachment 18.6	Exceptions and Deviations form of technical
ES-50.01	Piping Arrangement
ES-50.02	Piping Materials
ES-20.90	3D CAD Modeling Procedure
ES-50.91	3D Model Review Procedure
ES-50.21	Specification for Pipeline Ball Valve
ES-91.01	Equipment Noise Specification
ES-92.06	Painting



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ES-99.00.05	Basis Engineering Design Data (BEDD)
ES-99.01	Numbering System
ES-99.03	Shop Inspection
ES-99.04	Final Documentation
ES-99.05	Spare part
ES-99.06	Data handover
ES-96.20	General requirement in Equipment installation

19. Technical Correspondence

Attention: Mr. Narupon Khochasin

Telephone Number: +66 86 735 5255

E-mail: Narupon.k@pttplc.com

Attention: Mr. Teerayut Nimnuy

Telephone Number: +66 84 407 5469

E-mail: Teerayut.n@pttplc.com

20. The order of enforcement of conditions and attached documents

In the event of any inconsistency between this TOR and Contract / Conditions Attached to PO, the TOR shall take precedence.

Attachement 18.1 Price break down form

Note: This form is for the base bid price. Bidders may revise it to include additional details in the description, unit, or quantity based on the preliminary table.

Item No.	Description	Unit	Qty	Price / Unit	Sub Total
A.	Manual Valve (Please provide the detailed specifications for each item)				
1	Ball Valve 36" 900#				
2	Ball Valve 36" 600#				
3	Ball Valve 30" 600#				
Total A					
B.	Factory Site Acceptance Work				
Total B					
C.	Local Workshop Testing & Site Acceptance Work				
Total C					
D.	Transportation				
Total D					
E.	Engineering Work and Documentation				
Total E					
Grand Total (A+B+C+D+E)					



**PTT PUBLIC COMPANY LIMITED
RAYONG GAS SEPARATION PLANT
APPROVE BRAND LIST**

Rev	Description	Made by	Checked (Eng. Div.)	Approved (VP Eng.)
11	Internal Revise	Weradech N.	Suebpong K.	Soranai L.
12	Internal Revise	Weradech N.	Suebpong K.	Soranai L.
13	Internal Revise	Hirun W.	Sunvaris U.	Komgrit L.
14	GSP7 Review	Hirun W.	Sunvaris U.	Teerasan K.
15	Revised Name	Hirun W.	Klot B.	Teerasan K.
16	Revised Name	Hirun W.	Klot B.	Teerasan K.
17	Revised Name	Nattapong K.	Klot B.	Teerasan K.
18	Internal Revise	Nattapong K.	Klot B.	Teerasan K.
19	Internal Revise	Nutthapong K.	Klot B.	Teerasan K.

*= Temporary List (See note 10.)



RAYONG GSP'S BRAND LIST

General Requirement

Contractor shall follow the requirements based on the following understandings.

1. Contractor shall select vendors, for any equipment, who comply with the specifications and other requirements of the Contract form this brand List.
2. This vendors list covers the major equipment and materials supplied by Contractor and include auxiliary equipment and/or materials supplied by the package vendor(s). The package vendors, which are also subject to PTT's approval, shall select brand in accordance with this brand list and considering compliance with the specifications and other requirements of Contract.
3. Revision of brand list when necessary will be possible in the course of job execution but is subject to PTT's approval.
4. For equipment and materials other than categories not listed in the vendor list, Contractor shall select the vendor(s) considering compliance with the specifications and other requirements of the Contract.
5. Goods, equipment and material shall be manufactured/assembled in the country and by the manufacturer specified hereinafter.
6. Manufactured Factory in Thailand shall be considered as primary supplier.
7. For all Mechanical, Electrical and Instrument Equipment, PTT shall receive official written confirmation from the Original Vendor for the available of "After Sale Service by Local (Thai) authorized Dealers/Distributors". With such a written confirmation, the Original Vendor certifies that its authorized local dealer/distributor has fully agreed to provide the complete ranges of commissioning and after sale services to PTT and also know well all of information and status relevant to this Project.
8. Contractor shall neglect "Vendors" recommended by Licensor and shall use PTT Vendor List as mandatory.

*= Temporary List (See note 10.)



9. The source of all plate, pipe and fittings used in the fabrication of Pressure Vessels, Heat Exchangers or Pressure Piping Systems shall be subject to PTT approval. Only mills that can demonstrate supply of quality materials shall be use for the project.
10. "Temporary List (*)" is the Equipment which qualified through "document and technical review phase" and must have report from Maintenance or Manufacturing Plant Audit Report to ensure that equipment have qualified with PTT-GSP standard and practices to go through. This report must have within 3 years otherwise this brand will stay in temporary list or remove from list is upon decision of Engineering department manager
11. "Alternative Brand List (**)" is the Equipment which PTT may consider the equivalent specification and quality as stated brand in this document however the alternative brand shall be subject to PTT approval.
12. For process technology designed by Licensor, Contractor shall select equipment, machine or material that comply with the specifications and other requirements of the Contract from this brand List while Contractor and Licensor still guarantee the same performance.

*= Temporary List (See note 10.)



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*= Temporary List (See note 10.)



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เนื่องจากข้อจำกัดของขนาดไฟล์แนบในระบบ

บริษัทที่สนใจเข้าร่วมประมูลสามารถขอรายละเอียดข้อกำหนดฉบับสมบูรณ์

ได้ทาง Email ตามที่ระบุบนหน้าประกาศ

ภายในวันที่และเวลาที่กำหนดไว้บนหน้าประกาศ

Due to file attachment size limitations in the system, If vendor interested in participating in the bid can request the complete specification details via email as indicated on the announcement page, within the date and time specified on the announcement page.