

ภาคผนวก ๕

แผนการจัดการน้ำในภาพรวมของโครงการ



WATER CONSERVATION

INDORAMA POLYETER INDUSTRIES
RAYONG

WATER CONSERVATION INITIATIVES

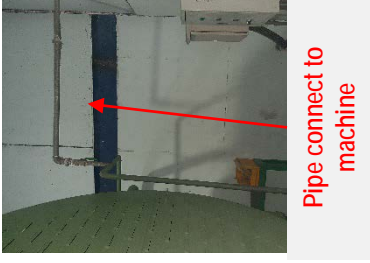
Location	System	Scheme	Quality	Saving
PSF 4	Pack / mold cleaning	1.Reuse blowdown cooling water Tow pit use for vacuum pyrolysis machine PSF-4.	CIW	9 m3/day
IPIRY ALL	Quenching Air	2.Reuse condense water from cooling coil to make up washer pit air condition system (Q/A, T/U)	CIW	4.8 m3/day
IPIRY ALL	Water treatment plant	3.Reuse water by take the waste water from backwash process to produce city water	CIW	30 m3/day
IPIRY ALL	GA	4.Reuse water by take in garden, Cleaning job	CIW	40 m3/day
IPIRY ALL	ETP	5.Reuse water by take in dewatering machine	CIW	48.3 m3/day
Total water saving				132.1 m3/day

PROJECT WATER CONSERVATION INITIATIVES

1.Reuse blowdown cooling water Tow pit use for vacuum pyrolysis machine PSF-4.



Reserve tank and pump station



For to control the water quality of the cooled water system, it is necessary to blow down the water from the system. IPI-RY was seen to be reuse by bringing the water to a reserve tank and then pumping it out to simply the vacuum pyrolysis machine of PSF 4 plant to clean the mold, which could can reduce the use of city water total 9 m3/day.

The project was a success and was a prototype for bringing blow down water from cooling systems. It was used in mold cleaning process, which is currently being expanded to use at POY and PSF 2-3.



Vacuum pyrolysis machine

PROJECT WATER CONSERVATION INITIATIVES

2. Reuse condense water from cooling coil to make up washer pit air condition system (Q/A , T/U)

In the spray washer system of quenching air , used water to spray as water mist, trapping dust from the air. Which water is lost as evaporation with the air The water supply is always filled with a float by using to keep it level IPI-RY It has been observed that from the cooling coil installed front the spray water dust system have condensed water at low temperatures by heat exchange always flows out.

Therefore, there is an idea to add such water by make tray and connecting pipe to the system for reduce city water to make up. We are start in 8 unit SP-1,2,3,4 in quenching air and SP-1,2,3,4 in take up and spinning air can save total 4.8 m3/day

5-4



Tray , PVC pipe connect fill to pit



Tray , PVC pipe connect fill to pit



Level is high float not make up

PROJECT WATER CONSERVATION INITIATIVES

3.Reuse water by take the water from backwash process to produce city water

In water production systems raw water that has been filtered by first precipitation method in clarify tank. Will be pumped to the next step by filtering sand. Usually, sand filter tanks are back washed with water and then discarded. We see that the said water can be stored in a reservoir for sedimentation pit before being pumped into the production process again. To reduce the purchase of raw water can save water 30 m3/day



Sand filter tank



Service pump to re filter

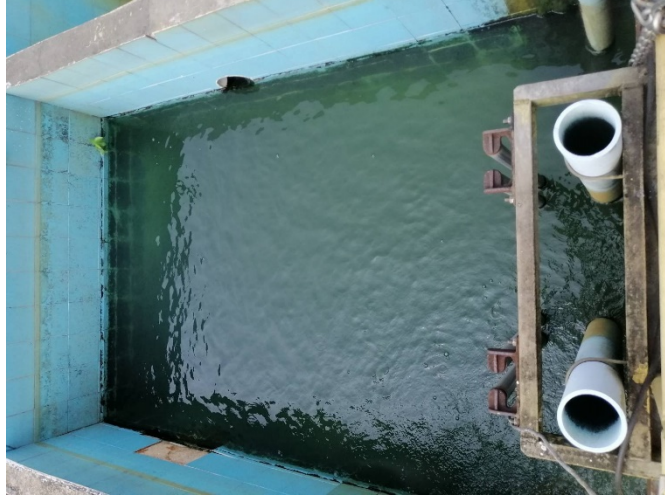


Clarify tank to precipitation method

PROJECT WATER CONSERVATION INITIATIVES

4.Reuse water by take in garden, Cleaning job

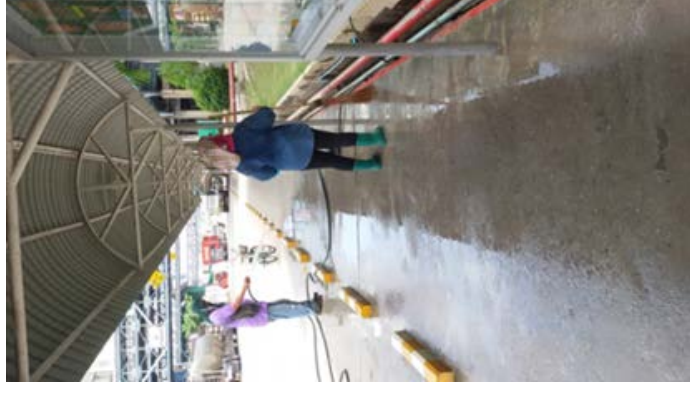
Wastewater from production process after finish that in waste water treatment system has the standard discharge water regulation. It will be stored in the reuse pond than pump to keep reuse tank in roof PM-2. The reuse water will be delivered along the pipe by gravity pressure throughout the factory for use in cleaning roads, watering plants instead of using city water. Can save water 40 m3/day



Sand filter tank



For garden job



For cleaning job

PROJECT WATER CONSERVATION INITIATIVES

5.Reuse water by take in dewatering machine

Wastewater from production process after finish that in waste water treatment system has the standard discharge water regulation. It will be stored in the reuse pond for use in the sludge dewatering process in the wastewater treatment system 24 hr running. Instead of using city water can save 48.3 m3/day



Reuse water tank



Process cleaning belt by reuse water



Dewatering machine

Legal Form – 1



Name/Initial:	POW	Requested Date:	23/09/2021																		
Business Area:	TGEE	Expected Completion Date:	27/09/2021																		
Subject:	ZLD trial test at site for IPI (Tuntex)																				
Contract Party:	INDORAMA POLYESTER INDUSTRIES (RAYONG) COMPANY LIMITED	Legal Ref:	LEG1146																		
	Government/Government Business Enterprise No (S:\Finance\Accounting\1-Manual\ข้อมูลแสดงบัญชีรายวันหน่วยงานรัฐวิสาหกิจ\หน่วยงานที่ต้องขึ้นแบบแสดงบัญชีรายวัน.pdf) If "Yes", Please complete and submit "บง1" form to Accounting. (S:\Finance\Accounting\1-Manual\ข้อมูลแสดงบัญชีรายวันหน่วยงานรัฐวิสาหกิจ\แบบแสดงบัญชีรายวัน บง.1.pdf)																				
Priority:	<input checked="" type="checkbox"/> High Importance <input type="checkbox"/> Low Importance																				
Type of Document:	<input checked="" type="checkbox"/> LOI (with "Termination & Reimbursement" conditions? <u>Yes</u>) <input type="checkbox"/> PO/Quotation <input type="checkbox"/> Limitation of Liability <input type="checkbox"/> Payment Term <input type="checkbox"/> Late Payment Charge <input type="checkbox"/> Termination <input type="checkbox"/> Cylinder Loss/Damage(PG) <input type="checkbox"/> Supply Agreement <input type="checkbox"/> Amendment (Master Agreement dated <u>Click here to enter a date.</u>) Key Terms & Conditions Check List (Please Check if <u>Deviated</u> from Standard Contract): <table border="0"> <tr> <td><input type="checkbox"/> 1. Exclusivity*</td> <td><input type="checkbox"/> 10. Relocation</td> </tr> <tr> <td><input type="checkbox"/> 2. Limitation of Liability (<u>No</u> Consequential) **</td> <td><input type="checkbox"/> 11. Termination & Penalty</td> </tr> <tr> <td><input type="checkbox"/> 3. Auto Price Escalation*</td> <td><input type="checkbox"/> 12. Price Increase beyond Formula</td> </tr> <tr> <td><input type="checkbox"/> 4. MTOP</td> <td><input type="checkbox"/> 13. Margin Enhancement</td> </tr> <tr> <td><input type="checkbox"/> 5. Quantity (Expected Volume)</td> <td><input type="checkbox"/> 14. Insurance (<u>No</u> Co-insured Requirement)**</td> </tr> <tr> <td><input type="checkbox"/> 6. Payment Term</td> <td><input type="checkbox"/> 15. Governing Law (<u>Thai</u>) **</td> </tr> <tr> <td><input type="checkbox"/> 7. Bank Guarantee</td> <td><input type="checkbox"/> 16. Change in Law**</td> </tr> <tr> <td><input type="checkbox"/> 8. Contract Term</td> <td><input type="checkbox"/> 17. Force Majeure**</td> </tr> <tr> <td><input type="checkbox"/> 9. Auto Renewal</td> <td></td> </tr> </table> <p>Note: MoU objective is cooperation to trial ZLD of recycle wastewater to get conceptual design and estimate OPEX cost for Indorama Polyester Industry Co., Ltd. at Rayong before scale up unit in long term project by separate work scope (BIG and IPI scope). Duration of contract is for trial period 60 days.</p> <input type="checkbox"/> Others:			<input type="checkbox"/> 1. Exclusivity*	<input type="checkbox"/> 10. Relocation	<input type="checkbox"/> 2. Limitation of Liability (<u>No</u> Consequential) **	<input type="checkbox"/> 11. Termination & Penalty	<input type="checkbox"/> 3. Auto Price Escalation*	<input type="checkbox"/> 12. Price Increase beyond Formula	<input type="checkbox"/> 4. MTOP	<input type="checkbox"/> 13. Margin Enhancement	<input type="checkbox"/> 5. Quantity (Expected Volume)	<input type="checkbox"/> 14. Insurance (<u>No</u> Co-insured Requirement)**	<input type="checkbox"/> 6. Payment Term	<input type="checkbox"/> 15. Governing Law (<u>Thai</u>) **	<input type="checkbox"/> 7. Bank Guarantee	<input type="checkbox"/> 16. Change in Law**	<input type="checkbox"/> 8. Contract Term	<input type="checkbox"/> 17. Force Majeure**	<input type="checkbox"/> 9. Auto Renewal	
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<input type="checkbox"/> 9. Auto Renewal																					
BU Management Approval:																					
Legal Opinions:	Finalized by PON per the commercial aspects in Term Sheet. 																				
Reviewed by:	SAY September 23, 2021	Approved by:	<i>[Signature]</i> 23/09/2021																		
Conclusion:	 * Exclusion or deviation of abovementioned Item 1 & 3 from Standard Contract shall be subject to approval by <u>BU Director</u> ** Exclusion or deviation of abovementioned Item 2 & 14-17 from Standard Contract shall be subject to approval by <u>MD</u>																				

Legal Form – 1



Approved by:	^{AK} BU Director <i>[Signature]</i>	^{PC} MD <i>[Signature]</i>
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MEMORANDUM OF UNDERSTANDING

THIS MEMORANDUM OF UNDERSTANDING (“MOU”) is made effective September 23, 2021 (the “**Effective Date**”), by and between;

INDORAMA POLYESTER INDUSTRIES (RAYONG) COMPANY LIMITED, a company incorporated under the law of Thailand, having its registered office at No.6, I-2 Road, Map Ta Phut Industrial Estate, Tambol Map Ta Phut, Amphur Muang Rayong, Rayong 21150, Thailand (hereinafter referred to as “**IPI**”), as the first part;

BANGKOK INDUSTRIAL GAS COMPANY LIMITED, a company incorporated under the law of Thailand, having its registered office at 11th Floor, Rajanakarn Building, 3 South Sathorn Road, Yannawa, Sathorn, Bangkok 10120 Thailand (hereinafter referred to as “**BIG**”), as the second part:

(hereinafter, individually referred to as the “**Party**” and collectively referred to as the “**Parties**”).

WHEREAS,

- (A) IPI has production plant in Map Ta Phut Industrial Estate, Rayong, which require technology and application to recycle wastewater from treated water in order to reduce freshwater consumption and improve cost at its own plant located at [No.6, I-2 Road, Map Ta Phut Industrial Estate, Tambol Map Ta Phut, Amphur Muang Rayong, Rayong 21150, Thailand] (hereinafter referred to as “**IPI’s site**”).
- (B) BIG has the capability, know-how, and expertise to provide technologies and applications of wastewater recycle treatment process for the purpose of recycle wastewater and other related applications which may help IPI’s overall process efficiency.
- (C) BIG and IPI are willing to co-study and trial Zero Liquid Discharge application (hereinafter referred to as “**ZLD**”) for use to treat impurity and recycle from treated wastewater which may help to prove concept design for wastewater treatment plant at IPI’s site.
- (D) IPI has agreed to associate itself for engagement in cooperation with BIG for technical and economics study of the Project, as defined herein, at IPI’s site with the intention to create the conceptual design and summarize document results of the Project and evaluate the possibility to enter into business opportunity agreement.

NOW, THEREFORE, the Parties agree to document the key terms and conditions of their agreement and be legally bound under the terms and conditions of this MOU as follows:

1. Objective of MOU

Upon the Effective Date and throughout the Term, as defined below, IPI agrees to associate itself for engagement in cooperation with BIG to treat impurity and recycle wastewater from treated water in order to reduce freshwater consumption and improve cost for use at IPI’s site by ZLD trial unit test for the purpose of confirm conceptual design and recycle wastewater quality by ZLD trial unit test with the intention to summarize and document and verify the possibility of feasibility study and evaluate to enter into business opportunity agreement or wastewater service agreement for use at IPI’s site per the terms and conditions set out herein (the description set forth in this paragraph is hereinafter referred to as the “**Project**”).

2. Term of Obligations

- 2.1 The term of this MOU shall be in effect for a period of six (6) months (“**Term**”), commencing from the Effective Date of this MOU. The Term of this MOU shall automatically be extended thereafter for another one (1) month period unless either Party gives at least fifteen (15) days termination notice to the other Party.
- 2.2 The success of the Project shall be considered from the result of ZLD trial test study showing technical justification as determined, developed, and agreed by the Parties in Section 4.2 (“**Success Criteria**”).
- 2.3 BIG shall provide and complete the equipment installation as stipulated in attachment B herein (“**Equipment**”) at IPI’s site within thirty (30) days from the Effective Date set forth

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herein (hereinafter referred to as “**Installation Completion Date**”) which BIG shall furnish IPI with a written notice of the Installation Completion Date in writing. Upon notification of Installation Completion Date from BIG, the Parties shall conduct and adjust all of process parameters and operating conditions as defined in Section 4, which this process shall be taken time not greater than fifteen (15) days (“**Tuning Period**”). Then upon the completion of Tuning Period, for the period of sixty (60) days, both Parties shall commence and document the trial of the Project in accordance with Section 3 and 4 herein (“**Trial Period**”).

3. Scope of Responsibilities

Each Party shall be responsible for the scope of work as follows:

3.1. IPI shall be responsible for:

- Providing technical data, operating conditions, result of water quality, and other required information to BIG;
- Assisting and suggesting technical and operation information during site survey, including safety and equipment training sessions to BIG’s personnel (if needed);
- Allowing BIG’s personnel reasonable access to the IPI site;
- Advising BIG of the estimated price projection and related technical and commercial information for studying Project;
- Furnishing area to install and remove the Equipment, meeting requirement of related laws, and cooperating with BIG for installation of Equipment in accordance with BIG’s recommendation and assistance;
- Providing access area for BIG’s crane and truck to enter to provide Equipment;
- Providing electrical supply for BIG during the Term;
- Supporting and providing responsible person to coordinate with BIG to measure, collect, and analyze data of water quality and operating conditions which shall include before and during Trial Period for the activities as follows:
 - Providing historical data of parameters before the Trial Period.
 - Providing data of water quality, operating conditions and/or related figures during Trial Period.
- Obtaining licenses under rules, regulation, laws by relevant government authorities to construct and install ZLD trial unit Equipment at IPI site;
- Providing wastewater daily analysis data to BIG, which all costs and expenses arising from the execution of the analysis shall be responsible by IPI; and
- Other activities as defined in Attachment C.

3.2. BIG shall be responsible for:

- Conducting the site survey without any damage to IPI property;
- Executing the engineering design related to the Project to IPI ;
- Providing and installing the ZLD trial unit and Equipment for use during the Trial Period per detail in the Attachment A at IPI site;
- Providing technical assistance during the Trial Period;

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- Evaluating and developing feasibility study report to IPI for the success of the Project by referring to the data provided by IPI; and
- Supporting Equipment installation guidance to set up the parameters including training on the Equipment operation and safety to IPI.
- Provide conceptual design to IPI after completion of ZLD trial test and the result satisfied the Parties in accordance with section 4.2.
- Within thirty (30) days after completion of the Project, remove the ZLD trial unit and Equipment out from IPI's site.
- Other activities as defined in Attachment C.

4. Success Criteria

- 4.1 During the Trial Period, IPI agrees and shall be responsible to control parameters of influent wastewater quality before treating as follows;

Description	Unit	Value
Wastewater flow rate	m3/hour	3 max.
pH		7.0 – 8.5
Turbidity	NTU	<15
EC	μS/cm	<1,800
TDS	mg/l	<900
T-Hardness	mg/l as CaCO3	< 250
M-Alkalinity	mg/l as CaCO3	< 200
Cl-	mg/l	< 200
SiO2	mg/l	<10
Iron	mg/l	< 0.7
TSS	mg/l	<20
Oil & Grease	mg/l	<1
COD	mg/l	<60

In case of nonconforming of influent wastewater quality as stipulated herein, IPI shall promptly notice BIG and use effort to comply the quality as quickly as possible. In this case, the Trial Period shall be resumed upon Parties' mutually agreement in which the influent and effluent quality are within control as stipulated herein and Section 4.2.

- 4.2 BIG agrees and IPI acknowledges that, based on parameters of influent quality as stated in Section 4.1, effluent quality will be measured by the measurement method as described in Attachment D to be conformed the condition as follow;

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Description	Unit	Value
Wastewater flow rate	m3/hour	3 max.
pH		
EC	μS/cm	< 20
TDS	mg/l	< 10
T-Hardness	mg/l as CaCO3	< 1
SiO2	mg/l	< 1
COD	mg/l	depend on water quality inlet

Remark: Please note that the main target of RO unit is not able to reduce COD.

If the effluent quality is out of control, BIG shall use the best effort to conform the condition of the effluent quality within twenty-four (24) hours.

For avoidance of doubt, the result of Success Criteria shall be determined from data collected during the Trial Period.

5. Trial Conclusion

Within thirty (30) days after completion of the Trial Period, both Parties shall discuss and conclude with condition follows;

- 5.1. In case that BIG achieves the Success Criteria as described in Section 4.2 and provides conceptual design to IPI, IPI shall discuss and conclude terms and conditions to enter into the business opportunity agreement or wastewater service agreement with BIG. In case that the Parties cannot reach the agreement, IPI may obtain terms and conditions from other suppliers and always afford BIG a reasonable opportunity to meet the bona fide final terms and conditions submitted by any such supplier.
- 5.2. In case that BIG cannot achieve the Success Criteria as described in Section 4.2, this MOU shall be terminated without any compensation to the other Party. Upon the termination or expiration, BIG shall remove all Equipment from IPI's site within thirty (30) days and IPI shall grant all necessary access to the IPI's site. The actual removal cost shall be responded by BIG.

6. Exclusion of Warranty

The warranty of Success Criteria in Section 4.2 shall not apply through any of the following:

- 6.1 Non-conforming of specification caused by IPI's failure to comply with BIG's written instructions and requirements or failure to comply the MOU.
- 6.2 Non-confirming of influent quality specification as stipulated in Section 4.1.
- 6.3 Non-conforming of specification due to Force Majeure.
- 6.4 Damage of the Equipment due to unauthorized alterations, misuse, or abuse by IPI or a third party.
- 6.5 The event of non-performance of the Equipment which is not attributed to BIG.

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7. Costs and Expenses

IPI agrees to pay BIG for Equipment rental charge during Trial Period in accordance with the following conditions;

Month Equipment Rental Charge : 230,000 BAHT per month

BIG shall invoice IPI for Equipment rental charge at the end of each month. All payments due to BIG hereunder shall be made to BIG at the location and by the means indicated on the invoice within thirty (30) days as from the date of invoice.

Unless otherwise agreed in this MOU, each Party shall be responsible for and bear all of its own costs and expenses, hereunder including but not limited to wage, accommodation, transportation, allowance and relevant costs paid to the Parties' employees, staffs, representatives, and neither Party is authorized or empowered to obligate or incur any costs or expenses on behalf of the other Party. Furthermore, each Party shall be responsible for and bear all of its own costs and expenses incurred in connection with the preparation and negotiation of this MOU and the potential business opportunity agreement.

In the event that the Parties agreed to appoint 3rd party firms or consultants to carry out any trials under the scope and terms of this MOU, which the Parties shall discuss the detail, methods and terms of such services prior to execution, both Parties shall equally share all cost relating to such services rendered by the 3rd party firms or consultants.

8. Confidential Information

8.1 Definition

8.1.1 "Disclosing Party" and "Receiving Party", both IPI and BIG will each be considered as "Disclosing Party" and "Receiving Party" when deemed appropriate pursuant to subsequent disclosure(s) made in accordance with this MOU. The terms "Disclosing Party" and "Receiving Party" shall include the respective subsidiaries and affiliated companies, employees, agents and representatives of each Party hereto.

8.1.2 "Confidential Information" shall include the following:

- a) all information whether disclosed by (i) verbally and literally or in tangible or intangible form or contained in reports, analyses, compilations, notes, studies or by means of demonstration device, sample of any kind computer software, documentation computer file including but not limited to trade secrets, computer software, data and know-how, copyrightable materials, inventions, marketing plans, strategies, business, financial and product development plans, timetables, forecasts and IPI lists as related to the products and services (current and prospective) of each of the Parties and employees information or any other document or in any other form regarding and relating to the purpose and/or Project of this MOU disclosed by the Disclosing Party to the Receiving Party or marked as being "Confidential", "Proprietary" or by such other appropriated legend so as to clearly indicated the proprietary nature of the information and any other information which may be reasonably regarded as being confidential (ii) the Receiving Party knows or has reason to know the disclosed information is confidential, trade secret or proprietary information of the Disclosing Party and (iii) all confidential information or proprietary information of a third party, which is disclosed by the Disclosing Party to the Receiving Party and the Disclosing Party desires the Receiving Party to keep as confidential information;
- b) all information including but not limited to new product, technical and non-technical information, technique, models, processes, equipment, work operation, process research and development, design details, specifications, engineering, trade secrets,

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computer software, data and know-how, copyrightable materials, inventions, sale and merchandising, marketing plans, strategies, business, financial, budgeting and product development plans, timetables, new prospect lists, any services or any other document or in any other form which resulting from Success Criteria or jointly feasibility study and co-evaluate by the Parties under this MOU.

- c) all information which shall be deemed as intellectual property i.e. patent, patent application, Trade Secrets, or any other similar nature;
- d) all oral communications regarding and relating to the Project and/or any information which the Receiving Party receives, in any form, during the visit at Disclosing Party's site or any other meeting between the Parties, whether by physical meeting or by teleconference;
- e) all copied, notes, compilations, studies, analyses, work product, and summaries of Confidential Information or other information Receiving Party derives from Confidential Information.

The confidentiality obligations contained in this MOU shall extend to the Confidential Information disclosed on a strict need-to-know basis to external advisers, under the responsibility of the Receiving Party which discloses such Confidential Information.

8.1.3 "Trade Secrets" shall mean all information which the Disclosing Party indicates as Trade Secret and/or claims protection under the Intellectual Property laws. Disclosing Party indicates that such information is not intended for public disclosure and has commercial value to Disclosing Party.

8.1.4 Notwithstanding the foregoing, the term "Confidential Information" shall not apply to information which:

- a) at the date of its receipt is becomes generally available to the public other than as a result of a disclosure by the Receiving Party;
- b) was already known to the Receiving Party on a non-confidential basis prior to being disclosed by the Disclosing Party;
- c) becomes available to the Receiving Party either before being furnished by the Disclosing Party from a source other than the Disclosing Party by the fact that such source was not subject to any breach of any confidential obligation and/or liability by transmitting the information to the Receiving Party and/or was not bound by a confidentiality agreement with the Disclosing party.
- d) is developed by the Receiving Party independently of any disclosure under this MOU as evidenced by the Receiving Party's written records. Should the developed Confidential Information is developed based on or by using any information retrieved from the Disclosing Party to this MOU, such information remains the property of the Disclosing Party and still has full legal rights on the disclosed Confidential Information; or
- e) is disclosed under operation of law or as required by an administrative governmental body or a court of competent jurisdiction, provided, however, the Receiving Party must notify the requesting body/court of the confidential nature of the requested information and give the Disclosing Party prompt notice of the request.
- f) In the event that the Receiving Party or its advisers are requested or required by law, regulation, supervisory authority or other applicable judicial or governmental order to disclose any Confidential Information, the Receiving Party will provide the

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Disclosing Party with prompt written notice of such request or requirement so that the Disclosing Party may seek an appropriate protective order. If, Disclosing Party fail to issue an appropriate protective order, the Receiving Party is compelled to disclose Proprietary Information, the Receiving Party will endeavor to disclose only that portion of the Confidential Information that it is strictly compelled to disclose and will exercise reasonable efforts to obtain assurance that confidential treatment will be accorded to that portion of the Confidential Information that is being disclosed.

For the purpose of Article 1) -3), information shall not be except from confidentiality and use restrictions merely because the information is contained in more general information in the possession of Receiving Party or in the public domain. In addition, any combination of information disclosed by Disclosing Party to Receiving Party or any work product developed by Receiving Party by using Confidential Information hereunder shall not be deemed to be within the foregoing exceptions merely because individual elements of features of that information are separately in the public domain or in the possession of Receiving Party.

- 8.1.5 "Affiliates" means any corporation, association or other entity which, directly or indirectly, controls a party hereto or is controlled by a party hereto or is under common control with a party hereto or any shareholder, member, director, officer, employee or agent of any of the foregoing or of any party hereto where "control" means power and ability to direct the management and policies of the controlled enterprise through the shares of the controlled enterprise of at least 45% of the voting rights or more.

8.2 Confidentiality and Non-Use Obligations

- 8.2.1 Unless otherwise agreed in writing, the Receiving Party shall not use, either direct or indirect, the Confidential Information other than for the Project as stipulated in Article 1 herein or use for its own purpose and shall keep the Confidential Information strictly confidential and safeguard the Confidential Information from unauthorized use and/or disclosure.
- 8.2.2 Receiving Party agrees that at all times and notwithstanding any termination or expiration of this MOU it will hold in strict confidence and not disclose to any third-party Confidential Information of the other, except as approved in writing by the Disclosing Party, and will use the Confidential Information for no purpose other than the specified purpose of the Project under this MOU. Receiving Party shall only permit access to Confidential Information to those of its employees or authorized representatives having a need to know and who have signed confidentiality agreements or are otherwise bound by confidentiality obligations at least as restrictive as those contained herein. Receiving Party shall not knowingly use Confidential Information and/or Proprietary Information for an illegal or non-legitimate purpose.
- 8.2.3 In protecting the confidentiality of the Disclosing Party's Confidential Information, the Receiving Party shall use the same degree of care it employs with respect to its own comparable confidential information, but in no event less than a reasonable standard duty of care.
- 8.2.4 Receiving Party shall not, without prior written approval of Disclosing Party, use for Receiving Party's own benefit, publish, copy, or otherwise disclose to others, or permit the use by others for their benefit or to the detriment of Disclosing Party, any Confidential Information.

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- 8.2.5 Receiving Party shall not use or disclose, directly or indirectly, the Confidential Information, or any information derived there from, to any third person without prior written approval from the Disclosing Party.
- 8.2.6 Upon the Disclosing Party's request, the Receiving Party shall (i) cease using the Confidential Information; (ii) return the Confidential Information and all copies, notes or extracts thereof to the Disclosing Party within seven (7) days of the letter of demand.
- 8.2.7 The Receiving Party warrants that all of its employees who will have access to the information disclosed hereunder are under obligation to the Receiving Party to hold such information in confidence and to use such information only in the performance of their employment and to observe the obligations of confidentiality of this MOU.

8.3 Identification

- 8.3.1 The Parties shall endeavor to mark Confidential Information provided in tangible form as "Confidential", "Proprietary" (or the substantial equivalent thereof).
- 8.3.2 Confidential Information provided hereunder shall not be denied the protections afforded this MOU solely on the basis that the Confidential Information was not marked and/or identified in writing in accordance herein.

8.4 Duration of confidentiality obligations

The confidentiality and Non-Use obligations shall survive expiration or termination of this MOU for a period of three (3) years from the Expiration Date of this MOU. With regard to trade secrets, the confidentiality obligation shall apply for a perpetual term.

9. Miscellaneous

- 9.1. Nothing contained in this MOU shall be deemed to constitute either Party a partner, joint venture or employee of the other Party for any purpose.
- 9.2. Both Parties shall, in good faith and for the purpose of the MOU, be accessible and communicate openly and honestly with each other, work in a constructive and cooperative manner, adhere to the cooperation provided for under this MOU, and actively maintain a cooperative relationship in order to enhance the efficient and effective operation and administration for the Project of this MOU.
- 9.3. None of the Party shall solicit for employment any of the current employees of the other Party as well as its affiliates to whom has been directly or indirectly introduced or otherwise had contact with as a result of its consideration of the Project so long as they are employed by Party as well as its affiliates, except through bona fide employment advertisement, or solicit any customers, clients, or accounts of the Party other than in the ordinary course of business and not for a purpose in connection with the Project, during the period in which there are discussions conducted pursuant hereto and for a period of three (3) year thereafter, without the prior written consent of the Party.
- 9.4. Unless otherwise specified in this MOU, all notices that may be given hereunder shall be in writing and shall be deemed to be duly given when received by hand delivery, by facsimile (when confirmed by return facsimile) or by registered mail, return receipt requested to the address specified above. If any Party changes the address as set forth herein, the other Party shall be notified within ten (10) days after the date of change; otherwise, it shall be deemed that all notices delivered at the address specified above is effective, and that such notices have been duly given by the notifying Party.

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- 9.5. All Confidential Information is provided by Disclosing Party and accepted by the Receiving Party "AS IS", and nothing contained herein, nor any information or material furnished relating to such Confidential Information, shall constitute any representation, warranty, assurance, guarantee or inducement by either party to the other with respect to the infringement of trademark, patents, copyrights, any right of privacy, or any right of third party.
- 9.6. If any provision of this MOU shall be held invalid, illegal, or unenforceable, the validity, legality or enforceability of the other provisions of this MOU shall not be affected thereby, and there shall be deemed substituted for the provision at issue a valid, legal and enforceable provision as similar as possible to the provision at issue.
- 9.7. This MOU shall constitute the entire agreement between the Parties relating to the subject matter hereof and supersedes, cancels and annuls all prior or contemporaneous negotiations and communications.
- 9.8. No failure or delay in exercising any right, power or privilege under this MOU shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other, later or further exercise thereof or the exercise of any other right, power, or privilege under this MOU.
- 9.9. This MOU shall be governed, construed, and interpreted in accordance with the law of the Kingdom of Thailand, without regard to the conflict of laws. Moreover, the Parties unconditionally and irrevocably agree and consent that any dispute arising out of or related to this MOU or the performance, enforcement, breach or termination of this MOU and any remedies relating thereto, shall be subject to the jurisdiction of the courts located in the Kingdom of Thailand and waive any objection with respect thereto.
- 9.10. This MOU does not obligate either Party to enter into a possible agreement with respect to the Project, and neither Party shall incur any legal obligation of any kind whatsoever other than as set forth in this MOU.
- 9.11. The persons signing this MOU represent that they have been authorized to sign this MOU to legally bind their respective employers.
- 9.12. This MOU may be executed in any number of counterparts and will be effective when each of the Party have executed and exchanged counterparts.

IN WITNESS WHEREOF, this MOU is made in duplicate having corresponding terms and conditions and the Parties hereto have read and understood the contents hereof and thereby affixed their respective signatures and corporate seals (if any) in the presence of the witnesses on the date, and in the month and year first above written.

INDORAMA POLYESTER INDUSTRY (RAYONG) COMPANY LIMITED

By: _____

(Mr. Ashok Mathur)

Title: Site Head

Witness: _____

(Mr. Anand Sharma)

Title: Head of Engineering

BANGKOK INDUSTRIAL GAS CO., LTD.

By: _____

(Mr. Piyabut Charuphen)

Title: Managing Director

Witness: _____

(Mr. Anupong Kruesuwanvas)

Title: Senior Business Director



Attachment A
Equipment Installation Layout



Bohama

Attachment B
Equipment List

No	Equipment	Amount
1	ZLD Trial Unit (Mobile)	1 unit
2	IBC tank	2 unit

Bhama

Attachment C

Scope of work

Topic: ZLD trial unit at IPI

Item	Description	BIG S	IPI S	Remark
A	General			
A.1	Work permit (IEAT or 3rd party)		X	
A.2	Right of location (non classified area)		X	
A.3	Access way to ZLD (O&M activity)		X	
A.4	Roof Shelter (Metal Sheet) (if any)		X	
A.5	Crane (including driver) for installation&dismantal work	X		BIG supply crane supervisor as law
A.6	Process waste water treatment		X	
A.7	Tie-in points		X	At trial container
A.8	Installation work	X		
A.9	Utility during construction (Power, Instrument air, Water, Grounding)		X	
A.10	Cable to product pump	X		
B	Safety			
B.1	Firefighting & Fire alarm system		X	
B.2	CCTV system (if any)		X	
B.3	Security system		X	
B.4	Eye shower/washer	X		Including in ZLD trial unit
B.5	Safety sign and warning sign	X		
B.6	Site Safety	X		
B.7	Baricade trial area		X	
C	Civil - Concrete Foundation			
C.1	Engineering design			
C.2	Material & Contractor (Procurement)			
C.3	Construction			
C.4	Drainage system & Cover grating			
C.5	Chemical storage area		X	
C.6	Grouting work			
D	Mechanical & Piping			
D.1	Engineering design			
D.2	PVC piping (13.5) and valve (Inside container)	X		
D.3	PVC piping (13.5) and valve (Outside container)		X	
D.4	Scaffolding		X	
E	Electrical & Instrument (E&I)			
E.1	Engineering design (SLD/ Wiring Diagram/ Grounding)	X		Inside container
E.2	Power supply - Equipment (380VAC, 3 phase + N + PE)		X	At power terminal in container
E.3	Power supply - Controller (220VAC, 1 phase 10A, UPS)		X	At power terminal in container
E.4	Power supply - Lighting (220VAC, 1 phase 15A)			
E.5	Grounding system - Safety ground (R < 5 ohm)		X	At ground bar in container
E.6	Grounding system - Instrument ground (R < 1 ohm)		X	At ground bar in container
E.7	Signal interface (Analog, 4-20mA at Junction Box)			
E.8	Instrument air supply (Dried air source or N2)			
E.9	Lighting and installation			
F	Commissioning			
F.1	Function test	X		
F.2	Commissioning	X		
F.3	Water sampling testing	X	X	COD testing parameter test by IPI Lab
F.4	Chemical supply during testing	X		
F.5	Operation & Maintenance	X		
G	Ongoing			
G.1	Operating and adjust condition	X		
G.2	Sampling water test		X	

Note: S = Supply

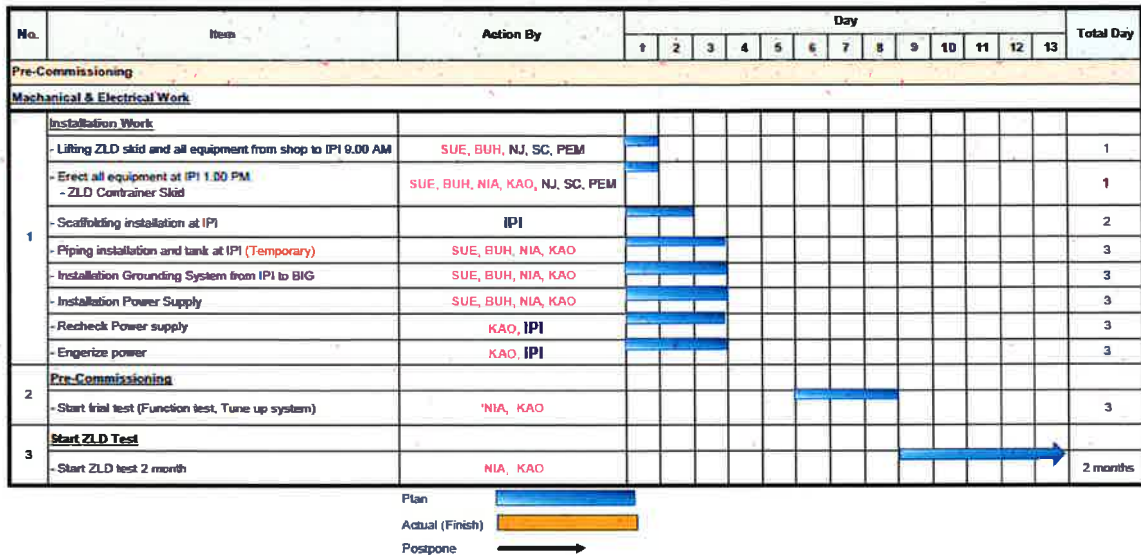
Mama

Attachment D
Measurement Method

IPI agrees to collect, measure, analyze and provide data of parameters in conformance with the below table.

Nº	Parameters	Unit	Method of Measurement
1	Wastewater flow rate average	m ³ /day	Online Flowmeter
2	Influent quality (aeration inlet)		
3	pH	N/A	pH meter (Conductivity)
4	EC	µs/cm	
5	TDS	mg/l	Lab check by 3 rd party
6	Turbidity	NTU	Lab check by 3 rd party
7	COD	mg/l	Lab check by internal IPI
8	Fe	mg/l	Lab check by 3 rd party
9	SiO ₂	mg/l	Lab check by 3 rd party
10	T-Hardness	mg/l as CaCO ₃	Lab check by 3 rd party
11	M-Alkalinity	mg/l as CaCO ₃	Lab check by 3 rd party
12	Oil&Grease	mg/l	Lab check by 3 rd party
13	SS	mg/l	Lab check by 3 rd party

Attachment E **Master Plan for Trial Test ZLD**



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