

Please fill up this form and fax back to

AQUATREAT ENVIRONMENTAL SYSTEMS, INC. (aes)

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Documentation of Legal Identity:

SEC Reg. CS200341575, BIR Reg. No OCN3RC0000232116, TIN 229-066-154-000 VAT
(aes was previously known 1986 to 2004 as Eximport Aquatreat Systems, Inc. Principals are
Engr. Manuel I. Gloria, Jr. and Ms. Fe K. Gloria.)

REGISTRATION FORM

(LIVE-OUT) WTP OPERATIONS & MAINTENANCE TRAINING COURSE (WTP-OTC)

8AM-5PM, Mon-Thurs, August 25-28, 2008

New Horizon Hotel, Mandaluyong City

<http://www.newhorizonhotel-manila.com/location.php>

Company Name _____

Complete Address _____

Tel#s _____

Fax # _____ e-Mail _____

Prospective Participants (Please indicate Names, Tel/Cell Nos. and e-Mail Addresses)

We understand that to confirm attendance and assure seats at the training course the above-listed prospective participants must each fill up and send by email or by fax to +63 2 532-1474 the completed Pre-Assessment Form within two days after receipt at the latest (the Pre-Assessment Form will be sent by aes upon receipt of registration). Our company undertakes to remit the indicated Training Course Fee (PHP8,000.00 + 12% VAT = PHP8,960.00 per participant; PHP8,000.00 NO VAT for government staff/personnel paid for by any Philippines government agency), with the payment made to **AQUATREAT ENVIRONMENTAL SYSTEMS INC.** through a bank deposit (bank and account number to be advised upon registration), according to the following deadline schedule: 12:00 Noontime of Thursday August 21, 2008.

Name: _____

Position _____ Tel#/Local _____

Signed: _____

(Printed Name & Position of Authorized Signatory)

Date Signed: _____



AQUATREAT ENVIRONMENTAL SYSTEMS, INC.

Water & Wastewater Engineers and Consultants Environmental Management Consultants
Environment-Related Training Course Developers, Organizers and Resource Persons
12-D Bellamaja G/F, 411 Rev. Aglipay St., Bgy. Old Zaniga, Mandaluyong City 1550 PHILIPPINES
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is pleased to invite

**Facilities Engineers/Managers, Environmental Engineers/Managers,
Pollution Control Officers, WTP Team Leaders & Operators, and,
Others involved in water/wastewater treatment and management**

**WASTEWATER TREATMENT PLANT
OPERATIONS & MAINTENANCE (WTP O&M)
TRAINING COURSE (LIVE OUT)**

8AM-5PM, Mon-Thurs, August 25-28, 2008

New Horizon Hotel, Mandaluyong City

<http://www.newhorizonhotel-manila.com/location.php>

The Training Course is a **basic training course** for the operation of a wastewater treatment plant or sewage treatment plant (WTP/STP). It is intended to develop and enhance the participants' troubleshooting skills in WTP/STP operations. Target participants include not only WTP/STP operators but also pollution control officers (PCO), supervisors, and other department managers who may be involved in the operation, supervision and/or management of the WTP/STP.

The objective of the course is to develop and enhance knowledge in:

- Environmental Regulations
- Process Control Parameters
- Process Troubleshooting
- Maintenance
- Treatment Processes
- Routine Tests and Measurements
- Health and Safety
- Recording and Reporting

to the extent that these topics relate to WTP/STP operations. Enhanced knowledge in more efficient and effective operational control and maintenance of the wastewater treatment plant can improve a company's ability to generate better quality treated effluents, and to comply with effluent regulations defined under the new Clean Water Act, that include more stringent penalties (P10,000/day vs. the previous P1,000/day) for non-compliance. In addition, better quality treated effluents mean a lower pollutant load that translates to lower Wastewater Discharge Fees the company must pay under the Wastewater Charge System. The training course will also be of value for those who are still considering to implement a wastewater treatment plant project as they get to appreciate the various approaches to wastewater treatment, and the related practical operations and maintenance requirements.

The methodology emphasizes cause and effect relationships. The training consists of:

- Classroom type lectures to enhance knowledge of basic principles,
- Case studies to demonstrate why and how things are done,
- Hands on exercises, test and measurements procedures for practical experience, and,
- Plant visit (though not yet included in Cebu-venue) to provide practical, hand-on experience.

The language of instruction will be at a level that will fit the participants' level of educational attainment and experience, determined through the Pre-Assessment Form that the participants are asked to complete and send to the training organizer beforehand.

This training course was originally developed in the early 1990's by Engr. Manuel I. Gloria, Jr., Local Expert, and John Charlton, Expatriate Expert of the Carl Bro International a/s of Denmark, consultants to the Pasig River Rehabilitation Program (PRRP) of the DENR (later the Pasig River Rehabilitation Commission) through a fund grant from the Danish International Development Assistance (DANIDA), as part of the Assistance Program to participating industries.

During the first ten years of the Pasig River Rehabilitation Program (PRRP 1994-2003) whereby assistance was provided to industry to enable them to get into compliance with environmental regulations on water pollution management, the following findings were established:

- a) *The prevalent Philippine industry practice relies on the equipment supplier or contractor to provide the necessary training. This training often focuses on how each piece of equipment is used or operated and fails to provide adequate process knowledge. Consequently, process failure occurs despite adequacy of physical facilities.*
- b) *Even as the design and construction of wastewater treatment plants (WTP) of the participant industries were assessed to be sufficient and relevant to the wastewater treatment requirements, the participant industries were unable to comply with regulatory standards, mainly due to ineffective operational control of the WTP. The WTP must be also effectively operated by well-trained and capable WTP operators.*
- c) *Among the participants of the WTP Operators Training Course (WTP-OTC) of the PRRP River Rehabilitation Secretariat (RRS), less than 15% were in compliance before attending the training course while almost 60% attained compliance after their treatment plant operators (and Pollution Control Officers) attended the training course.*
- d) *The participant industries identified many benefits they gained from having properly trained WTP operators. These include less labor and supervision, less power consumption, less chemicals and consumables, less downtime and maintenance, lower environmental user's fee payments (for industries located in areas under Laguna Lake Development Authority (LLDA) jurisdiction, less or avoided penalties due to non-compliance, and more (or higher) treatment capacity delivered by the same physical WTP facilities.*
- e) *It is clear that proper training of WTP operators is necessary to enable companies to attain and maintain compliance and reduce operating costs.*

This latest (January 2008) version of the WTP operator training course is an update and revision done by Engr. Manuel I. Gloria, Jr. and Ms. Fe K. Gloria, in response to the need for a training course that considers new developments in the environment field as well as in environmental regulations, and that could serve as a basis for a certification process of WTP operators to establish them as qualified professionals in their area of expertise.

The updated version includes in the Recording and Reporting Topic some additional subject matters that pertain to concerns in the development of Environmental Performance and Eco-Efficiency Indicators to the extent that these involve data pertaining to wastewater management and treatment. In addition, updated information on environmental regulations relevant to wastewater management are discussed.

Certificates of Attendance are issued to all participants who attend the complete course without any absences. Certificates of Completion are issued to participants who attain at least the hurdle rate during the Written Post-Survey of Participants. The certificate of completion specifies the relevant treatment system/s (activated sludge treatment, physico-chemical treatment, etc.).

TENTATIVE PROGRAM: WTP O&M TRAINING COURSE

Day 1

- 08:00 Registration of Participants & Opening Ceremonies
- 08:30 Introduction of Training Course: Program Objectives & Expectations Leveling
- 09:00 (Written) Pre-Survey of Participants' Current Knowledge
- 10:00 Lecture: Water Pollution – Sources, Effects and Management
- 10:45 Lecture: Environmental Regulations, Standards and Requirements
- 11:15 Lecture & Drills: Basic Mathematics and Algebra Applications in WTP O&M
- 12:00 Lunch Break
- 13:00 Lecture & Drills: Basic Environmental and Water Chemistry
- 14:00 Lecture: Overview of Wastewater Treatment Processes
- 17:00 Open Forum
- 17:30 Dismissal

Day 2

- 08:00 Lecture & Drills: Wastewater Characterization
- 10:00 Lecture: Wastewater Microbiology
- 11:00 Lecture & Drills: Aerobic, Suspended Growth Treatment Processes
- 12:00 Lunch Break
- 13:00 Lecture & Drills: Aerobic, Suspended Growth Treatment Processes (Continued)
- 16:00 Hands-On Drills: Site Visit to a Wastewater Treatment Plant (Activated Sludge)
- 17:00 Open Forum
- 17:30 Dismissal

Day 3

- 08:00 Workshop: Observations from Site Visit of Wastewater Treatment Plant
- 09:00 Lecture: Anaerobic Treatment Processes
- 11:00 Lecture & Drills: Physico-Chemical Treatment Processes
- 12:00 Lunch Break
- 13:00 Lecture & Drills: Physico-Chemical Treatment Processes (Continued)
- 15:00 Hands-On Drills: Jar Testing to Optimize Chemical Dosages, and, Calculation of Consumption
- 17:00 Open Forum
- 17:30 Dismissal

Day 4

- 08:00 Lecture: Sludge Handling and Processing
- 09:00 Lecture: Safety & Health Concerns in Wastewater Treatment Operations
- 10:00 Lecture: Maintenance of WTP Equipment
- 11:00 Lecture: Recording & Reporting Systems
- 12:00 Lunch Break
- 13:00 Problem Exercises: WTP Operations Control and Trouble-Shooting
- 15:00 (Written) Post-Survey of Participants
- 16:30 Closing Ceremonies
- 17:00 Dismissal

Note 1: Participants are encouraged to ask questions and seek clarifications while lectures are being conducted.

Note 2: Drills consist of a combination of practice calculations, actual performance of test procedures, and/or group discussions on case studies relevant to the topic being lectured on.

Note 3: Site Visit is currently available only for the Manila-venue training course. We continue to identify a training venue (hotel) in Cebu that will allow us to use their (the hotel's) WTP for the Site Visit. Pictures of actually operating WTP's will instead be presented for participants of the Cebu-venue training course.