

PETRONAS TECHNICAL STANDARDS

DESIGN AND ENGINEERING PRACTICE

INDUSTRIAL EFFLUENT CHARACTERISATION STUDY

PTS 20.05.10.10

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This new PTS **20.05.10.10 – Industrial Effluent Characterisation Study (January, 2011)** has been developed to assist OPUs in developing and executing a comprehensive wastewater characterization study, customized to their OPUs needs. This PTS is a supplementary document to the Malaysian Department of Environment Technical Guidance Document on Industrial Effluent Characterisation Study (Document No. DOE-IETS-5).

This PTS also includes PETRONAS Lessons Learnt and PETRONAS Best Practice for the subject matter.

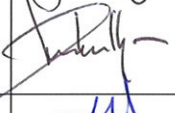
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1.0 SCOPE

This document is prepared with the following objectives:

- to provide technologists, operators and chemists with basic understanding on the requirements for conducting industrial effluent¹ characterization study (IECS); and
- to provide relevant approach and methodologies and critical aspects of the study.

This PTS provides step by step details on how the study is to be conducted, focusing on the crucial factors to ensure reliable and representative results. This PTS is a supplementary document to the Malaysian Department of Environment Technical Guidance Document on Industrial Effluent Characterisation Study (Document No. DOE-IETS-5).

2.0 OBJECTIVE AND PURPOSES

2.1 Characterisation Objective

The design and operations of the Industrial Effluent Treatment System² (IETS) is to be considered like any other process units. Representative and reliable data are needed to establish the design basis for a new or upgraded system. Such data is also needed during operation either for troubleshooting, improving performance or process optimization. Referring to the DOE IETS guide, the objective of wastewater characterization is “to determine the physical, biological, and chemical characteristics and the concentrations of constituents”. It is based on the information obtained from the characterization works that the purpose of the study can be achieved. Thus the methods and analysis used must be repeatable and reliable to ensure confidence in the results and recommendations.

¹ 'Industrial Effluent' is the formal term used by Department of Environment (DOE). More common term use is 'wastewater'.

² Industrial Effluent Treatment System (IETS) is the formal term used by DOE Other common terms include wastewater treatment plant and effluent treatment plant.