

**PERFORMANCE INDICATORS FOR MANAGEMENT AND BENCHMARKING
OF SEWERAGE SERVICES - A CASE STUDY IN KLANG VALLEY**



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SEPTEMBER 2006

Tarikh : 18hb September 2006
No. Fail Projek : Kod Projek 10472

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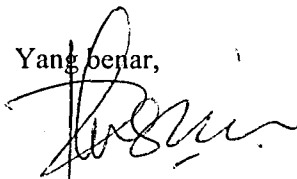
Puan,

**LAPORAN AKHIR PENYELIDIKAN 'PERFORMANCE INDICATORS
FOR MANAGEMENT AND BENCHMARKING OF SEWERAGE
SERVICES - A CASE STUDY IN KLANG VALLEY'**

Merujuk kepada perkara di atas, bersama-sama ini disertakan 3 (tiga) naskah Laporan Akhir Penyelidikan bertajuk 'Performance Indicators for Management and Benchmarking of Sewerage Services - A Case Study in Klang Valley' oleh kumpulan Penyelidik dari Fakulti Kejuruteraan Awam untuk makluman pihak puan.

Sekian, Terima kasih.

Yang benar,



SITI RASHIDAH MOHD NASIR
Ketua
Projek Penyelidikan

Abstract

Performance Indicator (PI) and Benchmarking have been widely used in measuring performance of management areas. In light of this, the use of PI and Benchmarking has now being extends to sewerage services. PI system is introduced to sewerage services area in order to provide objective and comprehensive management tools for utilities and stakeholder who involved in any aspect of sewerage services. By having the PI and Benchmarking system, the operators may assess their company's performance by comparing its own characteristics with industry-wide standards and targets, hence corrective measures could then be taken to improve performance where appropriate.

Performance Indicator (PI) established for sewerage services industry in Malaysia which may assist the Operators to manage their facilities and resources towards providing a more efficient and effective service to all users. The PI will also be useful to Regulators for benchmarking purposes.

The sewerage services in Malaysia are currently being managed by Indah Water Konsortium (IWK) and their activities are being regulated by Department of sewerage Services (DSS).

This research presents the indicators recommended in evaluating the performance of sewerage system in Malaysia that is operated by IWK. The use of the recommended PI will be illustrated in a case study on an activated sludge type wastewater treatment plant, highlighting how the operators can focus their limited resources into areas that will result in higher efficiency and effectiveness.

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Introduction

Prior to the development of ISO TC 224, countries around the world have operated wastewater treatment plant according to their own standards. Nowadays wastewater service providers are feeling the pressure to improve the performance of services, increase efficiency, and enhance customer service while simultaneously reducing environmental impacts and lowering rates. They have to strive for high degrees of effectiveness and efficiency in order to achieve the performance goals. A set of performance measures called the Performance Indicators (PI) are required to quantify particular aspects of performance or standard of services achieved by the providers. This set of PIs assists the monitoring and evaluation of the effectiveness and efficiency of the undertaking.

Although nowadays there are already several PI sets covering wastewater activities, only a few of them present the guidelines to establish a formal PI system. Due to this concern, International Water Association (IWA), the largest international association in the water and wastewater field, representing about 130 countries has recently established a system of standard PI for wastewater services. This system acts as a comprehensive management tool for the wastewater services undertaking which taken into account issues regarding level of development and climatic, demographic and cultural characteristics of