

The law of industrial waste management in Malaysia

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Abstract

Waste management is part of the components of environmental law and waste may be categorized into four categories *inter alia*: industrial, commercial, household and any such waste. However, in the context of this study it is very important to note that Malaysia is one of the developing countries, which has been practiced end-of-pipe treatment or regulation for quite a long time. However, they are a lot of ineffectiveness and inefficiency of the end-of-pipe treatment or regulation. Therefore, Malaysia should now seek several alternatives or approaches to waste/ industrial waste management such as waste minimization or source reduction. The present laws should be strengthened in order to avoid pollution. Indeed, we should bear in mind that improper waste / industrial waste management may cause harm to human health.

1 Introduction

Generally, since 1970s Malaysia has experience a lot of changes in its industrial development. Part of it Malaysia went through drastic development in small and medium scale industries (SMIs) during the 1990s (Harun H., et al., 1992).

However, it is interesting to note that whenever the industries or factories generate products they invariably generate waste/ industrial waste. In fact, in this country the total amount of waste has always increased due to industrial development, population growth and urbanization (Hassan M.N., 1996). Indeed, as stated by Japan International Cooperation Agency (JICA) Malaysia office the quantity of scheduled waste generated in Malaysia in 1994 was 417,413 metric tones (MT) compared to 632, 521 MT in 1996 and 279,511 MT in 1997. In contrast, the United Kingdom in 1989 produced 2,500 million tones of waste, which includes 1.5 million tones of trade and domestic waste (Stuart Bell, 1997).

Pocklington (1998) explained that waste management has become a most complex area of law. According to him the character of waste has become even more diverse where some is simple inert material and some of this material has economic worth in that it can be reuse or even recycled. In fact, despite any future potential it may have toxics elements, which need careful handling.

2 Waste or industrial waste definition

The general meaning of waste or industrial waste in this study is absolutely as stated in section (s) 2 of the Environmental Quality Act 1974 (Act 127) and Regulations (EQA1974) stated below;

“Waste includes any matter prescribed to be scheduled wastes, or any matter whether in a solid, semi-solid or liquid form, or in the form of gas or vapor which is emitted, discharged or deposited in the environment in such volume, composition or manner as to cause pollution.”

A study by Franklin et al., (1995) showed that industrial waste may be defined as waste from any factory or from premises used for the provision of public transport services, the supply of public utilities or provision of postal and telecommunication services. This includes waste from contaminated land.

According to David Hughes (1996), in the UK by virtue of s 75 (2), (10) to (12) and schedule 2B of the Environment Act 1995 (EACT95) waste was defined as;

“Any substances or object in the categories set out in schedule 2B which the producer or person in possession of it discards or intends or is required to discard.”

It is interesting to note that Stuart Bell (1997) highlights, one person’s waste may be another person’s raw material. Whereas Purdue (1990) in the Journal of Environmental Law (JEL) defining waste as;

“The old news papers blowing down the street maybe gathered by boy scouts to be recycled or even used by vagrant to keep warm. Even at the same moment one person may regard an object as waste, while another has a use for it. This makes legal definition difficult.”

Nancy K. Kubasek et al., (1994) stressed that solid waste may includes liquids, gases and solids or, as defined in the Resource Conservation and Recovery Act 1976 (RCRA76);

“Any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining and agricultural operations, and from community activities.”

In addition, the specific meaning of industrial waste is that it is the products or by-products of industrial processes. The Department of Environment (DOE) (Malaysia) has defined industrial waste as water from industrial plants, industrial process effluents, sludge and sawdust (Information Service Unit, DOE, 1991-1995). Indeed, the Refuse Collection, Removal and Disposal By-Laws have also described it as any waste matter generated from any industrial activity (Ipoh City Council, 1989). As compared to Japan, the Clean Japan Center (1999) has defined industrial waste as waste that is generated by industrial activity such as from factories etc., and that falls into one of the nineteen categories laid down in law.

More over, David Wooley QC et al., (2000) highlights that industrial waste is defined by schedule three of the Control Waste Regulations. Perhaps it includes waste generated by a variety of commercial premises, such as garages, aircraft hangars, boatyards etc laboratories and workshops, where the work is not carried on by employees or undertaken for commercial gain. Furthermore, waste from scientific research such as the Medical Research Council and Animal Health Trust and from dredging operations also constitute industrial waste as stated in schedule three of the above regulation. It is interesting to note that he has also described industrial waste as waste from factories as was defined in the UK Factories Act 1961 (FA61). Beside that this definition is also stated in s 75 (6) of the EPA1990.

In the case of *Long v. Brook (1980) Criminal LR 109*, the Crown Court decided that upon its construction, the Control of Pollution Act 1974 (COPA74) had defined waste from the point of view of the individual discarding the material. Perhaps s 30 of the COPA74 expressed that waste includes any substance, which constitutes scrap material or any effluent or unwanted surplus substance arising from the application of any process. The Crown Court decided that although one man's waste can be another man's valuable material, on its true construction the Act defines waste from the point of view of the individual discarding the material.

Based on the above inputs and for the purpose of this study, industrial waste should be understood to mean any substance, solid or non-solid, organic or non-organic or any substances in whatever state produced either directly or indirectly from any industrial activity as its direct or indirect by-products.

3 Current waste disposal regime

Basically, waste management commonly has five guidelines such as prevention, recycling and reuse, optimization and final disposal, regulation and transport and lastly remedial action (John D. Leeson, 1995). However, it is important to note that generally in most countries including UK and US, have been commonly practicing end-of-pipe treatment or regulation, although some of them have already moved to the new technology, which known as source reduction or waste minimization.

4 The situation in Malaysia

Malaysia is one of the countries, which has practiced end-of-pipe treatment or regulation for quite a long time. Fundamentally, end-of-pipe technology is the traditional approach to waste management, where such “burn it”, “sink it” or “bury it” solutions have come under increasing scrutiny.

Recently, many organizations and individuals have been promoting the concept of waste management, where they choose options such as waste prevention either through product substitution or process replacement and source reduction through product formulate or process modification and improvement and equipment design (R.J. Camm 1995).

In Malaysia the DOE is responsible for the regulation of industrial waste, whereas the department of Local Government (DLG) in the Ministry of Housing and

Local Government (MHLG) and the local authorities are responsible for the management of solid waste and or household waste. In fact, according to Professor Dr. Shaik Mohd.Noor Alam (1984), the passing of EQA1974 was aimed at preserving the quality of the human environment and the prevention, abatement and control of pollution, enhancement of the environment and the purpose connected therewith. Therefore, due to that the DOE has already introduced more than twenty laws and subsidiary legislations to protect the environment while various incentives have also been introduced to encourage industries to invest in cleaner technologies rather than practicing end-of-pipe pollution treatment (Law Hieng Ding, 1999).

Part of the statutes and subsidiary legislations, which has been introduced by the DOE in the aspect of industrial waste management control in Malaysia are *inter alia*: the Environmental Quality Act 1974 (Act 127) and Regulations (EQA1974), Environmental Quality (Sewage and Industrial Effluents) Regulations 1979, Environmental Quality (Prescribed Premises) (Schedule waste treatment and disposal facilities) Order 1989, Environmental Quality (Scheduled Wastes) Regulations 1989, Environmental Quality (Prescribed Premises) (Crude Palm Oil) Regulations 1977 and Environmental Quality (Raw Natural Rubber) Regulations 1978 (Jaafar A.B., 1990).

It is significant to note that most of the end-of-pipe treatment or disposal options transfer the problem elsewhere, such as the increased cost of waste treatment, handling and disposal, on-site waste control and monitoring, which can represent a significant financial commitment by the company. Furthermore, on-site storage space is requested for waste storage, which is very costly and which instead be used for productive operation.

It must be noted that end-of-pipe control usually has proved costly to developed and enforce, therefore it has not always achieved the expected outcome. Hence end-of-pipe control commonly requires high non-production capital costs and on going operational costs.

5 The situation in the UK and US

Bearing in mind that the UK has seriously established a policy pertaining to the reduction of waste and its recycling and reuse. In fact, the *Conservative Government's White Paper, This Common Inheritance* expressed that the government's first priority is to reduce waste at its source to a minimum. The UK government is committed to the promotion of recycling as much waste as possible and to strengthening of controls toward waste disposal standards. Indeed, it means that waste minimization is to be preferred to recycling and recycling preferred to disposal (Stuart Bell, 1997).

In the US, since the establishment of the US Environmental Protection Agency (EPAUS) in 1970, the quantity of industrial waste produced into the environment has been reduced significantly (Sarah A.C., 1998). Additionally, in the US, the EPAUS believes that an effective waste minimization program should include, as suitable, each of the elements such as: specified targets for waste minimization, top management support, waste minimization as a company policy, employee training, a technology transfer program, program evaluation etc (Travis P. Wagner, 1991).

More over, it must be noted that waste minimization approach focuses on source reduction or recycling activities that either reduce the volume or the toxicity of the hazardous waste produced. Perhaps, waste minimization requires creative problem solving, capital investment, careful planning, strong commitment and changes of attitude. (Harry M. Freeman et al., 1990).

6 Waste minimization or source reduction

Specifically, waste minimization is the latest technology for waste disposal or treatment. In the US this approach has proved that it is much better compared to the end-of-pipe treatment or regulation (Lawrence K. Wang, 1992).

It is very important to note that waste minimization or source reduction is very useful for industries to practice because: 1) waste minimization is a cost effective business and compliance strategy that can reduce short and long term costs, 2) safety and/or productivity is increase and the companies image improved and 3) it may minimize regulatory burden (Travis P. Wagner, 1991).

It should be noted that waste minimization or source reduction has three major elements such as: source reduction prior to the production process; reduction the volume, weight or hazardous nature of waste before it is produced and on-site recycling and reuse (Ghassemi M., 1989).

7 Critical issues

The problem now is, there are element of inefficiency and ineffectiveness of the end-of-pipe waste/ industrial waste management approaches; therefore Malaysia should now seek some alternatives approaches to waste/ industrial waste management and the proper legal regime to give effect to this approach. As a

result, due to that it should involves a complicated analysis and subsequent adaptation (foreign regime) so as to parallel or suit with local situations.

8 The aims of the research

- 1.To review the present regime of regulatory mechanisms dealing with industrial waste management or waste minimization programs as these of the relevant government agencies, local authorities, as well as private agencies such as relevant contractors etc pertaining to their functions in industrial waste management in Malaysia.
- 2.To assess the shortcomings of existing regulations regarding industrial waste management, including waste minimization in Malaysia by comparing this system with UK and US.
- 3.To suggest any amendments or alterations to the law and the regulatory mechanism to promote a workable system of industrial waste management and waste minimization.

9 Research Method

- 1.Foreign judicial decisions from countries with similar legislations and sharing common law decisions would be compared to highlight certain settled parts of legislation.
2. The comparative jurisprudential approach provides that the laws of countries sharing the same common law tradition will be analyzed and the relevant components of these laws will be recommended for adoption and adaptation in Malaysia.
3. Data collection from secondary sources such as legal materials, journals, reports, tables represented in conferences both at the international and national level, statistics, the internet, etc.
4. In term on primary data, it will be based on interviews etc with respondents from government agencies as well as private agencies to gain official opinion as well as the current practice of waste disposal regime.

10 Outcome of Research and some recommendations

As part of the outcome, it is very fascinating to note that in Malaysia the DOE is fully responsible in managing industrial waste and due to that their strategies for hazardous waste management can be considered legislative control, treatment and disposal facilities and supporting services.

Whilst in the U.K, the SOSE is having larger powers in giving orders to the EA i.e., where an application is submitted then the SOSE may give a binding order to the EA pertaining to the terms and conditions that are either should or should not appear in such a license. Whereas in the U.S, the EPA particularly the EPA Administrator is having a duty in managing waste and therefore in 1989 the EPA was published a national strategy for municipal solid waste management in the U.S.

Moreover in the aspect of emission and effluent standard, licensing and incentives etc., the situation in Malaysia, U.K and U.S., are considered slightly difference. For example, in Malaysia industries are required to comply with both effluent discharge standards and air emission. While in the U.K., trade effluents from trade premises is subject to a consent system as it is provided by s 141 of the Water Industry Act 1991. However, in the U.S., they are actually applying emission charges although it was quite difficult to monitor it.

Furthermore in Malaysia, in 1993 the Government initiated the privatization of urban solid waste disposal. Clearly, the concept is focus for a feasible privatization plan for solid waste management, which include transportation, storage, collection, processing and disposal. The main target of such system is to achieve or practice waste reduction and the use of technology to recover from waste i.e., incineration, recycling, composting etc., whereby minimizing the need for final disposal, which is presumed to become major problem for the near future.

In Malaysia, the management of toxic and hazardous waste (industrial waste) has been privatized to a consortium known as Kualiti Alam (KA) or formerly known as Malaysia-Danish Consortium. Indeed, the exclusive rights given to the KA are restricted only to two areas *inter alia*: secure landfill and incineration.

Furthermore it is very valuable to note that the DOE in Malaysia is responsible to ensure that the diversity, uniqueness and quality of the environment in this nation are preserved towards maintaining health, prosperity, security and well being for the present and future environment. In fact, beside providing guidelines, the DOE (Malaysia) is enforcing the EQA1974 and Regulations, which concern with pollution that effects the beneficial use of the environment or is hazardous to the general use of the environment.

As part of the recommendations, it is very important to highlights that in order to maintain and improve the quality of waste/ industrial waste management in Malaysia, therefore several recommendations are needed to take into account *inter alia*:

1. Relevant statute and Regulations should be strengthened especially to insert the element of waste minimization or source reduction. For example, most of the regulations in the EQA1974 should be scrutinized i.e., the elements of the duty of care, fit and proper person to collect, and disposed solid waste (industrial waste) etc., should be added nicely.
2. The definition of industrial waste should be clearly defined and therefore the DOE should come out with a special list that itemized industrial waste in

Malaysia. Thus this would not contradict or overlapped with the present list of scheduled waste from specific sources or non specific sources. As a result this would obviously clarify types of industrial waste and at the same time simplifies industrial waste management.

3. The duty or responsibility of local government should be restructured to ensure that they would be committed in managing solid waste and perhaps they would also capable to manage industrial waste especially within their individual jurisdiction. Cooperation between DOE and local government is a must.

4. To set up special agency in managing industrial waste, just like the function of the Environment Agency (EA) in the U.K. or the Environmental Protection Agency (EPA) in the U.S. in order to achieved sustainable waste management in Malaysia.

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