Singapore: Regulation Of Investment In The Petrochemical Industry

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Petrochemicals, as hazardous substances, are regulated in Singapore. The article looks at the regulatory framework in respect of petrochemicals, and provides an overview of the environmental and site issues governed by these regulations. Also reviewed are price controls (none) and customs duties imposed on petrochemicals. The article also provides an overview of doing business in Singapore.

Introduction

The petrochemicals industry in Singapore is an integrated and sophisticated one, due primarily to a deliberately proactive policy adopted by the government. The task of ensuring the industry develops further has been delegated to the Economic Development Board (EDB), despite concerns about regional over-capacity in base petrochemicals. The industry is primarily dominated by foreign companies such as Shell, Mobile, Exxon and Amoco. The government has been an active participant in the industry.

Mobil, one of the industry’s major players, entered into negotiations with the EDB in January 1996 to study setting up Singapore’s third ethylene plant. A memorandum of understanding has been signed with EDB and Jurong Town Corporation for a feasibility study into a US$1bn plant with ethylene capacity estimated at 800,000 tonnes/year. The feasibility study is expected to take 12 to 15 months to complete and, if successful, the plant will commence operations in early-2001. The project is intended as a joint venture between Mobil, the EDB and a number of downstream partners.

Earlier, Exxon Chemicals received approval for a large ethylene facility and is already moving forward with its plans. Shell’s investments in Asia’s petrochemical sector are mainly focused on its Singapore activities to date. It has interests in three of the Singapore Petrochemical Complex companies, all of which are large, fully vertically-integrated petrochemical facilities.

The Petrochemical Corporation of Singapore (PCS) is Singapore’s primary supplier of base petrochemicals to the downstream industry.

Importance Of Petrochemicals In Asia

The importance of petrochemicals in the Asian region can be seen by the rapid growth of the

∗ This paper was prepared with the research assistance of Tan Loo Ying, Paralegal Assistant.
industry. The demand for ethylene is expected to rise to 21.8 million tonnes/year by the year 2000, surpassing the European Union and making Asia the second largest ethylene market behind the US. More strikingly, 37% of the world’s new demand will be in Asia. Demand trends for other petrochemical-based products are expected to be similar.

Regional economic growth in the Asian region has invariably led to the increase in petrochemical demand. Much of the growth in the region comes from manufacturing, which requires substantial quantities of petrochemical-based products. These include electronic components, packaging, rubber compounds for car tyres and construction activities that require plastic products such as PVC.

The petrochemicals industry, including the petroleum, petrochemical and speciality sectors, has attracted investments of nearly US$17bn for Singapore. This is about 30% of the total investments in the manufacturing base since the 1960s. In 1994, Singapore’s chemical industry had revenue of US$18.7bn, contributing 19% to the nation’s manufacturing output and making it the fastest growing sector, registering an annual growth rate of 20%.

**Regulatory Framework**

**Relevant Legislation**

Provisions relating to the import, export, transport and storage of petroleum in Singapore are contained in the *Fire Safety Act*,¹ and the regulations promulgated under it, particularly the *Fire Safety (Petroleum) Regulations*.² From an environmental perspective, the provisions of the *Clean Air Act*,³ and the *Clean Air Regulations*⁴ are relevant, since premises that are used for petroleum works are treated as scheduled premises under the *Clean Air Act*. Accordingly, the types of activities that may be carried out on these premises are subject to the prior approval of the Director of Air Pollution Control.

In Singapore, petrochemicals fall within the definition of poisons, hazardous substances, toxic industrial waste, radioactive materials or dangerous goods. Hence, legislation regulating these substances is relevant when studying the extent to which petrochemicals are regulated.

In addition, the *Code of Practice On Pollution Control* (the Code) also provides guidance on the regulation of chemicals. Likewise, the *Singapore Standard 286, Caution Labelling for Hazardous Substances*⁵ (Standards) also provide guidance on the regulation of chemicals, with specific focus on labelling. However, neither the Code nor the Standards have the force of law.

**Authorities**

The myriad of legislation governing petrochemicals in Singapore is enforced by several ministries,

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¹ Chapter 109A.
² Chapter 109A, Rg 7.
³ Chapter 45.
⁴ Chapter 45, Rg 1.
including the Ministry of Health, the Ministry of the Environment and the Ministry of Labour. For practical purposes, however, they empower certain authorities to implement and administer matters relating to industrial hygiene, registration and facilitation of businesses and import and exporting.

These authorities include the Commissioner of Public Health, the Director of Radiation Protection, the Director of Air Pollution Control, the Director of Medical Services, the Fire Safety Bureau, the Jurong Town Corporation, the Economic Development Board, the Trade Development Board, the Port of Singapore Authority, the Registry of Companies and Businesses, the Inland Revenue Authority of Singapore and the Customs and Excise Department.

Environmental Issues

The Singapore Government has advocated pollution prevention. Regulations have been imposed dealing with a wide variety of petrochemical-related safety issues, such as the transport of hazardous materials.

Apart from regulatory controls, self-help programmes targeted at protecting the environment are encouraged in Singapore. One example in the region is 'responsible care'. The long-term goal of the programme is to form a partnership between government and industry to work towards health, environment and safety. Singapore has gone beyond establishing responsible care codes by persuading members to commit to the concept. The Singapore Chemical Industries Council (CIC) is sponsoring a responsible care programme for members of ASEAN-CIC and it has promoted responsible care in Singapore since 1990.

So far, several projects have been undertaken, including:

(i) the toluene diisocyanate (TDI) manufacturer’s transport project, intended to increase TDI tanker driver awareness and skill;
(ii) the marine emergency response project, designed to develop response plans for marine-related bulk chemical emergencies in Singapore;
(iii) employee education in responsible care;
(iv) chemical crisis management;
(v) the safe handling and use of biocides; and
(vi) establishing databases on chemical accidents and chemicals imported through Singapore.

Site Issues

Site issues are closely related to environmental concerns and the key regulatory provisions are contained in the Clean Air Act. This Act\(^7\) provides that a person seek the written permission of the Director of Air Pollution Control before occupying or using any premises as scheduled

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\(^5\) Parts 1 to 5.


\(^7\) Section 4(1).
Scheduled premises comprise of, *inter alia*, any premises used for:

(i) chemical works in which acids, alkali, chemical fertiliser, soap, detergent, sodium silicates, lime or other calcium compounds, chlorine, chemical or chemical products are manufactured;

(ii) gas works in which coal, coke, oil or other mixtures or derivatives are handled or prepared for carbonisation or gasification and materials to be carbonised or gasified; and

(iii) petroleum works in which crude oil, shale oil, crude petroleum or other mineral oil is refined or reconditioned.

Besides the provisions of the *Clean Air Act*, the *Fire Safety (Petroleum) Regulations* contain provisions on the protection of the environment. These Regulations\(^8\) provide that the licensee of any licensed premises must ensure that they are well maintained, sufficiently protected against tampering or trespassing and kept clear of rank vegetarian, debris and other combustible material. There is also a prohibition against causing or permitting petroleum to flow into any public drain or sewer, to ensure that there is no ground water contamination.

Finally, there are strict requirements for the types of containers in which petroleum maybe stored or used for transportation. This is to prevent, *inter alia*, any leakage or other seepage that may occur. Special requirements have been set out for tanks used for the storage of petroleum and other chemicals, for instance, with separate requirements for aboveground tanks and underground tanks.

**Foreign Investment**

In Singapore, foreign investors may carry on business activities through a company, a branch of a foreign corporation, a sole proprietorship or a joint venture or partnership with a local corporate or non-corporate partner.

The most common way to establish a new petrochemical plant is through a joint venture, typically between large petrochemical and large companies. The partners will each take an equity stake, as well as seek funds from other sources, usually a consortium of banks.

**Assessing Country Risk**

Singapore has been rated by the Hong Kong-based Political and Economic Risk Consultancy as having the lowest political and economic risk in Asia. It has also been noted to be relatively crime free and enjoys geopolitical stability with neighbouring countries. Further, its workers have been consistently ranked as the best and most productive in the world by *Business Environment Risk Intelligence* and there has been industrial harmony and political peace in Singapore for many years now.

\(^{8}\) Rg 11.
Strategically located in the heart of ASEAN, Singapore’s economy is based on free enterprise and has a growing market. Singapore has also traditionally focused on maintaining an international business outlook to ensure a constant two-way flow of investment. There are no restrictions on foreign ownership of businesses or employment of foreign expertise and the repatriation of profits and import of capital are also freely allowed.

**Tax And Finance Issues**

There are no price control provisions relating to petrochemicals in Singapore. The legislation controlling imports and exports of goods generally, which would include petrochemicals, are the *Regulation of Imports and Exports*\(^9\) and the *Customs Act*.\(^{10}\) Singapore generally pursues a free trade policy regarding imports and exports, with few goods dutiable or under control. However, a permit must be obtained from the Trade Development Board for all imports and exports. Local importers or exporters must obtain either an endorsement or a licence before the import or export of a controlled item. Petroleum products are generally not subject to any restrictions, but restrictions are placed on exporting petroleum products to certain countries.

Singapore has been a free port on the whole, with low tariffs. Petroleum products are some of the few dutiable items. *The Customs Act*\(^{11}\) defines petroleum to include:

> the liquids commonly known by the names of rock oil, Rangoon oil, Burma oil, kerosene and kerosene substitutes, paraffin oil, petrol, gasoline, benzol, benzoline, benzene, naphtha and any other like inflammable liquid, whether a natural product or one that is made from petroleum, coal, shieist, shale or any other bituminous substances, or from any products thereof.

The rates of the import duties are set out in the *Customs Duties Order 1989*. The rates are either a percentage of the assessed value of the imported goods or a specified amount per unit of weight or other quantity. An *ad valorem* rate ranges from 5% to 45% of the value of goods.

These are exemptions from customs duties. The *Customs Act*\(^{12}\) states that this Act will not apply to offshore islands as the Minister for Finance specifies by notification in the Gazette in respect of the importation, exportation, manufacture or use of petroleum, for example, the island of Pulau Ayer Merbau.

Under the *Customs Duties (Exemption) Order 1995*,\(^{13}\) certain organisations or persons are exempt from customs duty on goods specified in the third column of the Schedule thereof. These exemptions are subject only to the following conditions:

(i) the conditions specified in the fourth column of the Schedule;

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\(^9\) Chapter 272A.
\(^{10}\) Chapter 70.
\(^{11}\) Section 3.
\(^{12}\) Section 2(a).
(ii) the submission of the document, certificate or permit in the form and manner determined by the Director-General of Customs and Excise;
(iii) the furnishing of security in the manner required by the director-general in any particular case; and
(iv) any further condition that the Director-General of Customs and Excise may, with the approval of the Minister of Finance, impose.

For ease of reference, the conditions applicable to petroleum are set out in Figure 16.1 (see page 8).

**Incentives And Allowances**

The government places great emphasis on creating an environment congenial to doing business in Singapore and consequently has enacted laws with attractive investment opportunities with tax incentives.

An important incentive is contained in *Economic Expansion Incentives (Relief from Income Tax)* Act.  

This Act provides that where a company proposes to carry out a project for research and development, it may apply in the prescribed form to the Minister for Finance for the approval of an investment allowance in respect of the fixed capital expenditure for the project. This incentive has helped boost research and development in petrochemicals and related products.

In particular, with the region’s increasing demand for oil, petrochemicals and chemicals, researching and developing products to meet the specific needs of Asian markets or individual countries has become important. This is especially so for Singapore, because other countries in the region are expanding their own oil and petrochemical production capacities.

Given the Singapore’s resources are limited, it has to target its research efforts carefully at products for which it can quickly find a market. Singapore’s research and development laboratories not only serve as centres for training, technology transfer, customer support and information gathering on the region’s markets, but also help to develop new and better products for export.

In addition, there are other non-fiscal incentives and financial schemes offered by the EDB and the Trade Development Board to companies.

**Restrictions And Prohibitions**

Generally there is no legislation imposing disincentives or restrictions on particular types of
business activities. There is also no legislation or restrictions regulating foreign investment in or
ownership of business, except for national security reasons and in certain areas such as air
transport and public utilities.

Further, there are no exchange control restrictions of any sort. The Exchange Control Act\(^\text{17}\) has
been held in abeyance since 1 June 1978. Thus foreign currency may be brought into Singapore
or transferred out to any country freely. Currency is freely convertible and any profits made can
be repatriated without any problem, subject to tax payable. Likewise, the repatriation of capital
faces no restrictions.

**Typical Structuring Issues**

*Security interest and registration requirements*

Security interest can be created over land, chattels and choses in action. There are prescribed
formalities and registration requirements where a security interest is created over land, which
must be registered either under the Registry of Deeds or the Land Titles Registry, depending on
the system of land registration. Where the borrower is a company, which is usually the case, the
security must also be registered in the Registry of Companies. Where a security interest is
created over the chattels and the borrower is a company, the only registration required is under
the Companies Act.

*Stamp And Documentary Taxes*

Certain documents executed in Singapore and instruments executed outside Singapore relating
to property in Singapore and brought into Singapore are subject to stamp duty. The rate payable
may be a fixed sum or it may be calculated at an *ad valorem* rate. The rates vary according to
the types of instruments and the value of the property. A failure to pay stamp duty is an offence
and a document upon which no stamp duty has been paid is not admissible in court as evidence.

**Conclusion**

The Jurong Town Corporation is amalgamating, through land reclamation and landfills, the seven
southern islands that are the sites of the refining and petrochemical industry. The area, to be
known as Jurong Island, will be connected to Jurong district industrial estates on the Singapore
main island by a major causeway link, due to be completed in 1999. The site will have excellent,
fully-serviced infrastructure, such as jetties, berths, storage and terminals, as well as the plant
utilities and industrial gas plants already in place.

The Singapore petrochemical industry is likely to continue to grow, due to a number of factors.
The industry is already highly developed and there is continuing growth in demand in the leading
markets, while the advantages of good port and terminal facilities are reinforced by Singapore’s
central geographical location in Asia. Singapore has a skilled workforce, well-developed

\(^\text{17}\) Chapter 99.
infrastructure and a stable business environment. The government has been encouraging participation by foreign companies by ensuring that the long-term development of the industry is within a free business environment.

Figure 16.1: Exceptions from Customs Duty on Goods

<table>
<thead>
<tr>
<th>Organisation or Persons Exempt</th>
<th>Goods Exempt</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrol removed from retail service stations in Singapore</td>
<td>• subject to the production of a certificate in such form as the director-general directs, signed by the secretary or other official responsible in Singapore for the management of the organisation and endorsed by the owner of the retail service station licensed under the Petroleum Act (Chapter 229) or by the petroleum company</td>
<td></td>
</tr>
<tr>
<td>Education and research establishments, government departments and statutory bodies</td>
<td>Petroleum spirit and products</td>
<td>• that the goods exempt in reasonable quantities shall be used solely for instructional, research or official purposes • subject to the production of a certificate as the director-general directs, given under the hand of the head of the establishment, department or the chairman or secretary of the statutory body concerned in that behalf</td>
</tr>
<tr>
<td>Off-shore refineries at Pulau Ayer Chawan; Pulau Bukon; Pulau Bukon Kechil; Pulau Merlimau; and Pulau Ular</td>
<td>Petroleum</td>
<td>• that the petroleum is only consumed on the off-shore islands</td>
</tr>
<tr>
<td>Petroleum company licensed under Sections 51(1) or 63(1) of the Customs Act</td>
<td>Petroleum</td>
<td>• that a sample of the petroleum be removed to a laboratory approved by the director-general for testing purposes • that the quantity of petroleum used in any one month not exceed the quantity allowed by the director-general • that the company keeps records, which can be open for inspection by a senior officer</td>
</tr>
<tr>
<td><strong>Petroleum company licensed under Section 63(1) of the Customs Act</strong></td>
<td><strong>Petroleum</strong></td>
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<td></td>
<td>• that the petroleum is used for blending, mixing, upgrading, downgrading, varying and similar operations at the licensed premises</td>
<td></td>
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<tr>
<td></td>
<td>• that duty is collected on the final product removed for local use if it is dutiable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• that the company keeps records, which can be open for inspection by a senior officer of customs, showing details of all petroleum products used and the final product resulting from these operations</td>
<td></td>
</tr>
</tbody>
</table>

◆ This article was first published in Bank of America’s Guide to Petrochemicals in Asia, 1997.