

# ***Permitting – a comparison between south Durban and Denmark***

SDCEA-DN Local Action Project 2004-2005: Output 1

By

Danmarks Naturfredningsforening (DN)

and

South Durban Community Environmental Alliance (SDCEA)

Danmarks Naturfredningsforening

Masnedøgade 20

2100 København Ø

Denmark

Website: [www.dn.dk](http://www.dn.dk)

South Durban Community Environmental Alliance

PO Box 211150

BLUFF 4036

South Africa

Website: <http://www.h-net.org/~esati/sdcea/images.html>

## **Disclaimer**

The South Durban Community Environmental Alliance (SDCEA) and Danmarks Naturfredningsforening (DN) have made every effort to publish the correct information. SDCEA and DN disclaim any liability for errors and/or omissions, or for any potential conviction arising from the information contained in this publication.

## **Copyright**

©All rights reserved. This book may be quoted with due credit to the publishing partners, but may not be reproduced, all or in part, in any form or by any means, electronic or mechanical, without permission in writing from the South Durban Community Environmental Alliance (SDCEA).

ISBN 0-620-34210-2

## ***Acknowledgements***

This book is the result of a collective effort, as many people assisted in putting this together.

This process has been guided by the Project Steering Committee. They include Lone Alstrup (DN), Avena Bhikha (SDCEA volunteer), Desmond D'Sa (SDCEA Chairperson), Mike van de Merwe (DIT lecturer in Environmental Health), Benton Pillay (eThekweni Municipality) Deepchund Ramchurren (SDCEA Steering Committee member), Suresh Ramsuroop (DIT lecturer in Chemical Engineering), and Karen Read (SDCEA Project Officer).

In every publication of a DN/SDCEA book, there are many people to acknowledge, including all staff members, volunteers and members of the steering committee. Thanks to Birgit Tejg Jensen for her comments and support, and to Steen Fogde for his.

We appreciate the assistance we received from Mervyn Chetty of the eThekweni Municipality.

Thanks to Jeannette Steyn of Candy Ads for the layout and design.

This book was funded by Danida (Danish Ministry of Foreign Affairs)

We trust that this booklet will be useful to NGO's and community members in their struggle for clean air.

# Contents

## Page Number

Acronyms .....	1
1. Introduction .....	2
2. Environmental Permits in Denmark and south Durban .....	3
• Denmark .....	3
• South Durban .....	3
• South African Legislation that affects permitting .....	4
• Nema .....	4
• Air Quality Act 2004 .....	5
• Licensing .....	5
• Participation in the Air Quality Act, 2004 .....	6
3. What is an environmental permit? .....	7
4. How can community and NGO's influence this process? .....	7
• Promotion of Administrative Justice Act 2000 .....	7
• What do communities need in order to effectively participate in permitting issues? .....	8
5. How does industry obtain an environmental permit? .....	10
• Denmark .....	10
• Durban .....	12
6. What happens after the permit is issued? .....	14
• Denmark .....	14
• Durban .....	14
7. How to read the permit and make a complaint? .....	15
• Denmark .....	15
• Durban .....	16
8. Comparison between a Danish and a Durban refinery permit .....	17
9. Recommendations and Conclusion .....	19
References .....	20
Appendix One – a more detailed comparison of the two permits .....	21
<b>List of figures</b>	
Process of obtaining a permit in Denmark .....	11
Process of obtaining a permit in Durban .....	12

## *Acronyms*

BAT	Best Available Technology
DEAT	Department of Environment Affairs and Tourism
DN	The Danish Society for Nature Conservation
DN	The Danish Society for Nature Conservation
DWAF	Department of Water and Forestry
EEC	European Economic commission
EHD	eThekwini Health Department
EWS	eThekwini Water and Sanitation Departments
EIA	Environmental Impact Assessment
GIS	Geographic Information System
IPPC	Integrated Pollution and Prevention Control
IT	Information Technology
NEMA	National Environmental Management Act
NGO's	Non-Governmental Organisations
NO <sub>x</sub>	Nitrogen Oxide Gases
PM <sub>10</sub>	Particulate Matter (10 micrometre)
SDCEA	South Durban Community Environmental Alliance
SO <sub>2</sub>	Sulphur Dioxide Gas
VOC	Volatile Organic Compound

## 1. Introduction

This study is a product of an international co-operation undertaken by the South Durban Community Environmental Alliance (SDCEA) and The Danish Society for Nature Conservation (DN). It has the overall purpose of getting information on environmental permits out to any interested party or person who wishes to know more about this process, and how to influence the permitting process in order to strive for sustainable development in his or her local community.

Denmark is a country with a population of 5.38 million people and the country covers 43, 094 square kilometres. It is situated in the north of Europe surrounded by the Baltic Sea and the North Sea. There are two refineries in Denmark and the crude oil refined in Denmark comes from the North Sea.

Durban, or eThekweni Municipality has an estimated population of 3 million people and covers an area of 2 297 square kilometres . It has two oil refineries with a total processing capacity of approximately 14, 5 million tonnes per annum within a distance of approximately 1, 5 km. For refineries situated close to residential areas, many nuisances can become issues in the discussions between the refinery and its neighbours. There are at least another 150 smoke stack industries in the area that contribute to emissions. SDCEA records the community complaints on its Geographic Information System (GIS). Residents frequently complain about the refineries as well as other large industries for a variety of reasons. Community's complaints in the past have not been dealt with to their satisfaction, in regard to enforcement and compliance with the polluting industries. This permitting booklet attempts to deal with this concern and how government and communities can address these resultant problems.

As residents live so close to these refineries, SDCEA has become interested in permitting issues. The SDCEA is aware of the importance of such permits, and would like to see strong public participation in this process. The SDCEA also wants to see the permits being issued in the area as setting a bench mark for the rest of South Africa.

The study describes the permitting legislation in Denmark and south Durban (Durban) and gives advice on how to get involved in the permitting process and how to influence the process in a positive way. The comparison between the Danish and a Durban permit is a direct result a follow up on a DN/SDCEA publication: *A 2002 Snapshot: Comparison of Refineries in Denmark and south Durban*.

The intention of the study is not for one country to copy the other's administration, but to discuss similarities and differences in order to achieve better environmental administration of industries. It is hoped that studies of this kind can help campaign for a better national and international legislation.

The study examines permits for the Engen Refinery in south Durban and Statoil Refinery in Denmark. This leads to general discussions on permits and how citizens and NGO's can influence the process.

---

<sup>1</sup> <http://www.lonelyplanet.com/destinations/europe/denmark>

<sup>2</sup> eThekweni Municipality Revised Integrated Development Plan 2003-2007 (Review Period 2004-2005)

<sup>3</sup> For further information on the GIS see SDCEA GIS pamphlet, available at the SDCEA offices

This booklet is published for the benefit of communities and Non-Governmental Organisations (NGO's) in mind. We wish to inspire other organisations to take up the challenge of pushing for better permits/legislation, as a part of the broader environmental justice struggle. We are aware that permits are difficult to read and comment on, and we will give details of groups that could assist with this. The more informed groups we have in South Africa, the better the entire environmental sector will become. This will increase our overall bargaining power with government.

## ***2. Environmental Permits in Denmark and south Durban***

### ***Denmark***

The permitting of polluting companies in Denmark dates back to 1974 when Denmark had its first Environmental Law. The purpose of the law is "to contribute to the protection of nature and environment, so that development of society is sustainable in respect of conditions of life for people, plants and animals". A core issue in the law is to reduce environmental impact from industry by promoting development and marketing of cleaner products and the implementation of Best Available Technology (BAT).

The permitting of industries is legislated in a Statutory Order and about 5,000 companies in Denmark have to get an environmental permit in order to produce. This also means that the company cannot change or expand facilities or production without permission from the environmental authority until it has been made clear that the change will not cause more pollution.

In 1996 the European Economic Commission (EEC) passed a directive – The Integrated Pollution and Prevention Control (IPPC) and through that, large industries are internally audited under the same kind of administration to get a permit. Refineries fall under this directive.

It is written into the Environmental Law that The Danish Society for Nature Conservation, as well as anyone else with a legal individual interest, has a right to complain in certain regards to permits concerning the protection of soil and groundwater, air quality, emission of waste water and finally permitting of polluting industry.

### ***Durban***

The issuing of permits in Durban takes place largely through the local eThekweni Municipality. In the recent past, some functions, e.g. air quality, was governed or legislated by National Government. Permitting is now a local government function. This has been enacted by the Air Quality Act, 2004

Permitting has been carried out in Durban (eThekweni Municipality) since 1979, when the Municipality passed the Scheduled Trades and Occupational By-Laws. These are a broad set of regulations, which attempted to permit and regulate industry. The municipality is currently updating or "codifying" its by-laws, and this will make the by-laws consistent in different parts of the municipality. Most municipalities in South Africa have local by-laws which dictate certain conditions, and they have to be in line with National and Provincial Regulations. Only Durban or eThekweni Municipality issues its own permits, and the municipality considers itself as a trendsetter in this regard.

In Durban, (south Durban) permits are issued by two departments – the eThekweni Health Department and the eThekweni Water and Sanitation Department. **It must be noted that for each industry, two separate permits are issued – one from each department.** This does not occur concurrently. There is a single application, and from this, the two permits are issued by the departments in line with their current demands and priorities. There will be an integrated IT system between the departments, for easy access of information. There are two reasons for this (i.e. the separate issuing of permits). There are differences in the legal framework and legislation governed by two different government departments – Department of Environment Affairs and Tourism (DEAT) and the Department of Water and Forestry (DWAF). These influences are beyond municipal control. The other reason is elaborated on later on in the booklet, that the two departments have different priorities.

The South African Constitution is considered a progressive document. The Bill of Rights, contained within this constitution, stipulates our right to an environment which is not harmful to our health or well being (Section 24 (a)). All legislation needs to conform to this principle.

## ***South African Legislation that affects permitting***

### ***NEMA***

Environmental legislation is influenced by The National Environmental Management Act (NEMA), which is about to be amended and all provincial and local guidelines need to be in line with this act. The preamble to this Act states: "To provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state; and to provide for matters connected therewith." The Air Quality Act, 2004, Act 39, signed on the 19 February 2005, also needs to be consistent with the environmental principles contained within this act.

The object of NEMA is:

- a) "To protect the environment by providing reasonable measures for:
  - i) the protection and enhancement of the quality of air of the Republic of South Africa;
  - ii) the prevention of air pollution and ecological degradation;
  - iii) securing ecologically sustainable development, while promoting justifiable economic and social development; and
- b) generally to give effect to section 24 (b) of the constitution in order to enhance the quality of ambient air for the sake of securing an environment that is not harmful to the health or well being of people.

This act binds all organs of state:

- a) in the national and local spheres of government;
- b) in the provincial sphere of government, subject to section 146".

## ***Air Quality Act, 2004***

The Air Quality Act, 2004 was promulgated and the purpose is: "To reform the law regulating air quality in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social development; to provide for national norms and standards of regulating air quality monitoring, management and control by all spheres of government; for specific air quality measures; and for matters incidental thereto."

Communities played an important role in the formation of the Act, and made an impact on the final wording of the Act. This was achieved through vigilant monitoring of the Bill (which now has become the Act), as well as a nationally unified front of community/NGO action. Lessons learnt from working with the Bill could also apply to permitting. For example, community groups highlighted issues regarding the Bill in their local area. Effective linkages with NGOs, such as Contact Trust and groundWork ensured that there were public hearings for the bill and that community groups from the whole of South Africa were able to attend. In this context, community knowledge was seen as being vitally important.

This experience was extremely empowering for communities for a number of reasons. Firstly, they had access to government, and were able to make valuable inputs. Secondly, government heeded communities concerns, as a number of changes were made as a result of the inputs. Also, communities were assisted both nationally and internationally.

Regarding permitting, there is potential for the same kind of networking, both nationally and internationally. It is an opportunity for communities to learn more and to be empowered in making significant inputs into legislative issues.

The National Air Quality Act needs other pieces of legislation such as setting standards, declaring priority areas, and identifying a list of scheduled activities in order to be effective. These processes will give the permit system more power. National, provincial and local standards will be set.

***Other issues include:***

### ***Licensing***

In reference to section Chapter 5 of the Air Quality Act regarding The Licensing of Listed Activities, bigger metropolitans (municipalities) are charged with administrating their own system, whilst smaller or district municipalities can hand over this function to a provincial organ of state.

This would be appropriate under section 238 of the constitution. "An executive organ of state in any sphere of government may:-

- a. delegate any power or function that is to be exercised or performed in terms of legislation to any other executive organ of state, provided the delegation is consistent with the legislation in terms of which the power is exercised or the function is performed; or



- b. exercise any power or perform any function for any other executive organ of state on an agency or delegation basis.”

National and Provincial government will get involved in local air quality issues when the local municipality is not fulfilling its function.

Section 139 of the Constitution states: “(1) when a municipality cannot or does not fulfil an executive obligation in terms of legislation, the relevant provincial executive may intervene by taking any appropriate steps to ensure fulfilment of that obligation, including: -

- (1) a. issuing a directive to the Municipal Council, describing the extent of the failure to fulfil its obligations and stating any steps required to meet its obligations; and
- b. assuming responsibility for the relevant obligation in that municipality to the extent necessary -
- c. i. to maintain essential national standards or meet established minimum standards for the rendering of a service;
- ii. to prevent that Municipal Council from taking unreasonable action that is prejudicial to the interests of another municipality or to the province as a whole; or
- iii. to maintain economic unity.”
- (2) If a provincial executive intervenes in a municipality in terms of subsection (1) (b) -
- a. the intervention must end unless it is approved by the Cabinet member responsible for local government affairs within 14 days of the intervention;
- b. notice of the intervention must be tabled in the provincial legislature and in the National Council of Provinces within 14 days of their respective first sittings after the intervention began;
- c. the intervention must end unless it is approved by the Council within 30 days of its first sitting after the intervention began; and
- d. the Council must review the intervention regularly and make any appropriate recommendations to the provincial executive.

(3) National legislation may regulate the process established by this section.

### ***Participation in the Air Quality Act, 2004***

Before a Minister is able to exercise power of this Act, the Minister or the MEC must advertise this change in the Government Gazette and a local newspaper. In some cases, the Minister may allow an oral presentation.

### **3. What is an environmental permit?**

The permit is a tool in that it can be used to drive environmental improvements in a systematic and enforceable manner. They stipulate conditions and targets for industry to attain environmental goals that must be measurable, achievable and enforceable. **They should also provide avenues for public complaint and public participation.**

All industries or industries with potential to pollute must have an environmental permit in order to operate. The permit has a description and evaluation of the company's environmental impact followed by environmental requirements of the company in regard to reducing and handling of impacts. Requirements will cover issues like noise, emissions to air, soil and water pollution, and the disposal of waste.

It is issued by a governmental department and differs from voluntary agreements that industry may agree to at some point. The permit is advantageous because the conditions are enforceable by law, and contain penalties for the offending party.

Industries need to comply with the permit conditions, and the appropriate authorities need to enforce this.

### **4. How can community and NGO's influence this process?**

Environmental permits are issued to companies that have the potential to pollute air, water or soil. These permits should minimise the risk of pollution, and hold companies accountable. The permit is an essential tool for environmental improvement. There needs to be public interest and participation in these issues. If authorities are not taking appropriate action, environmental groups can bring transgressions or violations into the public domain.

The SDCEA believes that it is vital for civil society to be included in the permitting process. In a recent review of the Engen permit, the SDCEA suggested that civil society participation should be written into the actual permit, but these suggestions were not incorporated. However, there are a number of South African Laws that dictate community participation. For example, if people in Durban were not happy with the current Engen Permit, SDCEA could appeal via the Municipal Systems Act. Another piece of legislation that would influence the community's right to comment is the Promotion of Administrative Justice Act.

#### ***Promotion of Administrative Justice Act, 2000***

Part of the reason that this act was created was to:

- \* "promote an efficient administration and good governance; and
- \* create a culture of accountability, openness and transparency in the public administration or in the exercise of a public power or the performance of a public function, by giving effect to the right to just administrative action"

The key to the application of this act is that something must “adversely affect the rights of any person” or “the public”. If this is the case, the person, or community has a number of rights. In some cases, this would mean that the person could obtain assistance or legal representation. (See section 3 of this Act). This could result in a public enquiry, a notice and comment procedure could be issued, or both. A judicial review of the administrative action could also be held.

The eThekweni Municipality is planning to have a tribunal, where such matters will be attended to.

SDCEA has influenced the permitting process through participation. SDCEA’s tenacity has set a precedent for participation in eThekweni Municipality. Lobbying, writing letters and emails to Government and liaising with media have enhanced an understanding within SDCEA and the broader community. SDCEA is receiving selected permits from the eThekweni Health Department, as it is an interested and affected party. This department has also assured SDCEA that they will be included in the annual review of the refinery’s permits and other industries that SDCEA has expressed an interest in.

## ***What do communities need in order to effectively participate in permitting issues?***

### ***1. Access to resources***

This would include capacity enhancement of local organisations. When a community group becomes aware of permitting issues in an area, a really good starting point is to make contact with the relevant local government departments. Often one can find a friendly, helpful official who can give you the relevant information or at least will let you know where the relevant information can be found. Other resources include financial, (it can be costly to attend workshops or meetings) and access to experts (see point 4 below). Communities need to be empowered to deal with these issues, without having to rely on experts.

### ***2. Platform/system/structure for participation***

It is important for community groups to know the best place to air their views and opinions, which is often in the media and at relevant meetings hosted on these issues. In Durban, it is best to contact the eThekweni Health Department for information regarding permits and forthcoming meetings.

### ***3. Adequate information (access to permits etc.)***

Some information can be gained from a local municipality. In future, eThekweni Municipality will have all permitting information on a website to ensure wide access to the information.

#### **4. Independent experts**

SDCEA has found it extremely useful to network with other organisations. It has been especially useful to maintain relationships with lecturers from local universities and Technikons. Often, we receive excellent information at no cost from these committed individuals. Student projects have also assisted us. See below for a list of contacts.

#### **5. Stakeholder commitment**

Stakeholders need to be committed to a long term process. Permitting issues take a long time to be addressed – sometimes this takes a number of years. For example, the new permitting system has taken many years to develop in Durban, and this will probably take time in other parts of the country as well. Making an input in the permit is not sufficient i.e. to merely give suggestions is not enough. Once the permit has been issued, groups need to check which suggestions were incorporated and which ones still need to be lobbied for. Communities need to monitor the outcomes as well. In other words, they need to see whether the conditions contained in the permit is actually followed through or not by the industry, and whether the local municipality or authority also follow up on the conditions and compliance of the permit.

#### **6. NGO's /CBOs need to be organised**

In order to make a national impact, communities need to keep in touch with one another regarding these issues. What happens in one place could occur in another. Knowledge shared is empowering for all concerned. For example, Durban is in the forefront of permitting issues, and the problems and lessons learnt from the roll out can inform other groups around the country.

If advice is needed, there are a number of groups that give advice such as:

##### ***groundWork***

groundWork is a national organisation that works on a number of environmental justice issues.

Contact number: 033 - 342 5662

Fax number: 033 - 342 - 5665

Web site: [www.groundwork.org.za](http://www.groundwork.org.za)

Email: [team@groundwork.org.za](mailto:team@groundwork.org.za)

##### ***SDCEA***

SDCEA is a community organisation that works in the south Durban on a range of issues that relate to environmental justice and sustainable development.

Contact number: 031 - 461 1991, 031 - 468 9069

Fax number: 031 - 468 1257

Web site: <http://www.h-net.org/~esati/sdcea/images.html>.

Email: [sdcea@mail.ngo.za](mailto:sdcea@mail.ngo.za)

### ***Legal Resource Centre (LRC)***

The LRC assists individuals or community groups in certain legal issues.

Contact number: 031 – 301 7572

Fax number: 031 – 304 2823

Website: [www.lrc.org.za](http://www.lrc.org.za)

### ***The Campus Law Clinic***

This organisation is situated at the University of KwaZulu-Natal (Durban).

If they cannot assist you, they can refer you to the right person.

Contact Number: 031 – 260 2446

Fax number: 031 – 260 2741

Email: [lawclinic@ukzn.ac.za](mailto:lawclinic@ukzn.ac.za)

Contact your local Universities and Technikons to find out who can also assist you.

## ***5. How does Industry obtain an environmental permit?***

### ***Denmark***

In Denmark the local municipalities and Regional Authorities are regulating industries. Until 2007 the County (or regional authority) is the regulating authority in regard to refineries. From 2007 a new structure is being implemented in Denmark and 100 major and complex industries will be regulated on national level, and this includes the refineries. The Municipalities will regulate any other industry and the regional authority will not be involved. From an NGO point of view there are two reasons why this change is a disadvantage.

Firstly, when moving the regulation of industry closer to the local administration there is always a risk that local economic development will be prioritised over more long-term nature and environmental interests. Secondly, a small administration will often lack the financial and human resources in regard to building technical and academic capacity towards regulating of industries. The administration and regulation of these industries should always be done with knowledge of the regional/local situation but still with an arm-length principle.

Denmark is in the process of developing a set of standard requirements for different types of sectors in industry. The requirements are representative and based on the Best Available Technology (BAT) for that specific sector, depending on the local conditions e.g. noise and emission of wastewater. Specific requirements will be made individually in each permit. The developing of standard requirements is being done in connection with the renewal of permits by the structure of authority. The liberal government in Denmark is doing this to simplify and modernise the process of issuing environmental permits and to make it easier and faster for the industry to get through the permit process.

The requirements will also state the kind of information the authorities must have in order to issue a permit. The intent is to make it easier for the industry to send the appropriate information when applying for the permit and thereby reducing the time the authorities need to issue the permit.

The issuing regulator is forced to use the above mentioned standard requirements when issuing a permit and they can only be deviated from when justifiable reasons can be given.

In addition to the standard requirements, a series of statutory orders on various apply e.g. air emissions, noise emissions, odour emissions. These orders are normative for the local authorities and shall be referenced in the permit or in the environmental assessment of the permit.

Before the issuing of the actual permit a **public participation** process has been undertaken. At first the planning process must have clarified whether or not any industry can be located at the location in question. Local people and local NGO's have a legal right to comment or complain if the planning could violate their individual interest.

Secondly local people and local (or national NGO's) have a right to complain when the permit to produce (pollute) is ready to be issued. If the permit is written under the IPPC directive, the permitting authority has to publish information about the application right after receiving this. Anyone with a legal interest has a legal right to see / read the application and to make comments even before the permitting authority starts writing the permit.

Any permit – IPPC or standard – must be published at the same time as the company receives the permit, and anyone with a legal interest (including local NGO's) has a period of four weeks to complain if they feel that the permit in any way violates the environment. Danish Environmental Protection Agency (DEPA) will handle the complaint, and permits will be changed if the local authority didn't make the permit properly. The diagram below shows the process of getting a permit:

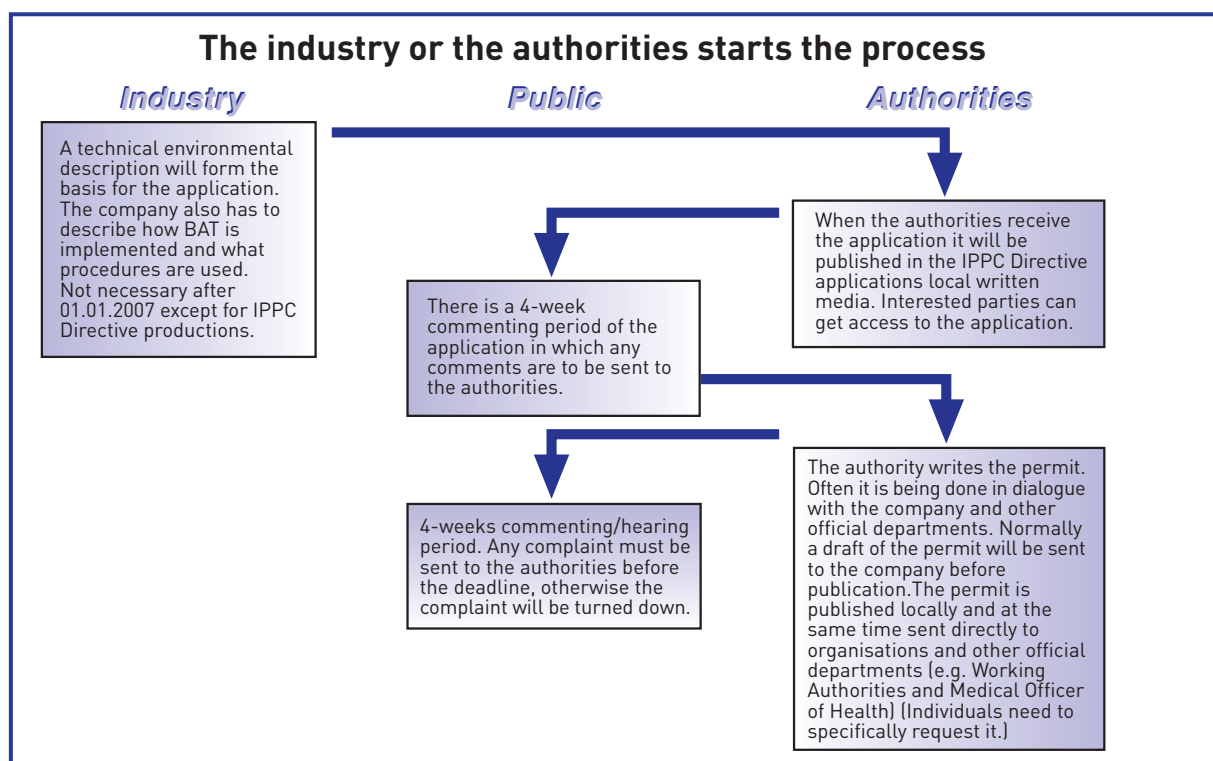


Figure 1: How a permit is obtained in Denmark

In Denmark permits are issued for a period of 8 years – IPPC directive permits 10 years. During that period the authorities can only change the requirements if new information in regard to BAT makes it economically possible for the company to considerably reduce the environmental impacts from the production. After the 8-year period the permit has to be renewed. If there have been no changes within the sector and the company still produce using the best available technology the permit will not always be changed. If, however, the company has not done any environmental investments and/or reduced the emissions the emissions, the permit may not be renewed. If national or international guidelines have changed the permit will be renewed.

Due to the fact that the legislation around permits has been enforced since 1974 most permits in Denmark have been renewed.

## Durban

See diagram below

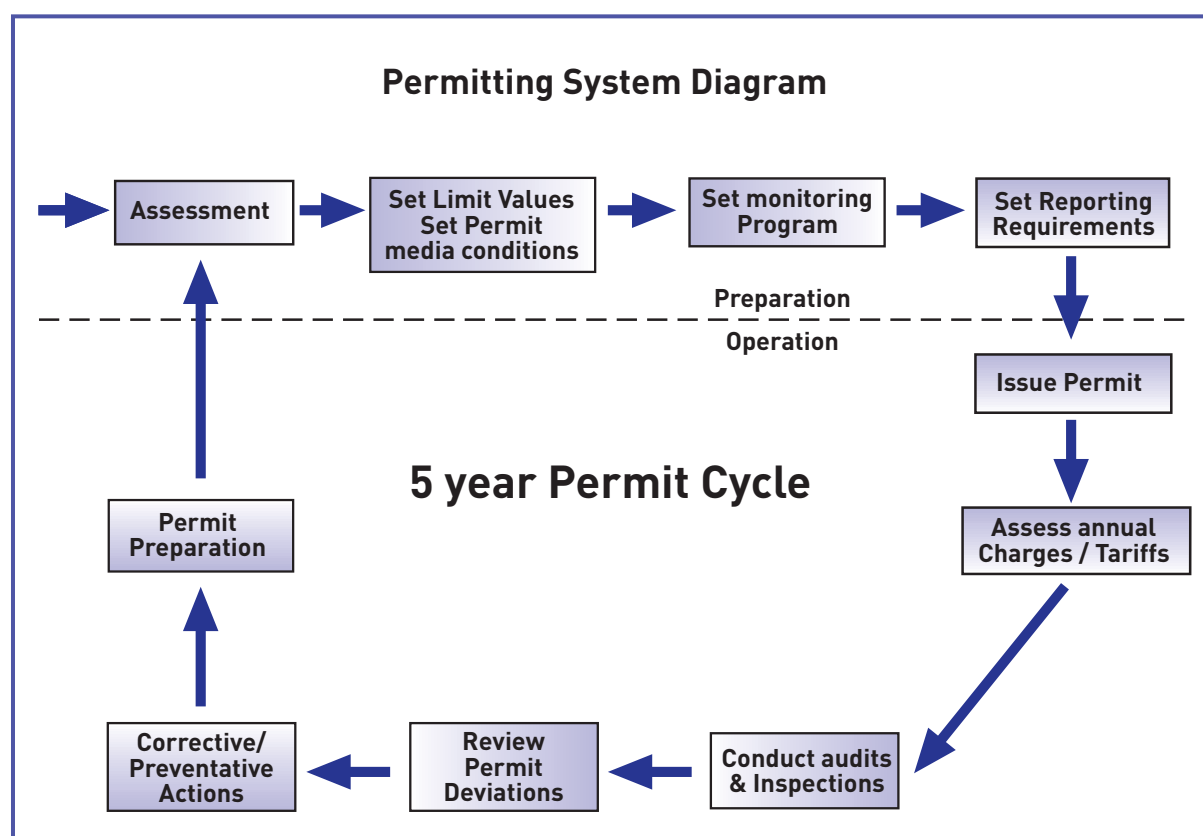


Figure 2. Source: Proposed New Permit and Audit System (For both the Health and Water and Sanitation Departments)<sup>4</sup>

If an industry wants to locate and operate in Durban, it would have to apply to the eThekweni Municipality. The industry would need to fill in a form, and then one of two things would happen. Depending on the type of industry, it would either be permitted to go ahead, or it would have to perform an Environmental Impact Assessment (EIA). The EIA guidelines are dictated by The Environmental Conservation Act. If a permit is granted, it would have to meet the permit conditions of all local municipal players, in particular the eThekweni Health Department (EHD) and the eThekweni Water and Sanitation Departments (EWS). Depending on the industry, other departments

<sup>4</sup> Presented by Sandra Redelinghuys RCMASA Workshop 5 August 2004.

<sup>5</sup> These regulations are currently under review.

could be consulted, e.g. the Fire Department. The possibility also exists that the application could be turned down. However, if the activity the industry wants to perform is a listed activity (as stated in the paragraph above), DAEA (Provincial Dept.) would get involved, and an EIA would be required.

It must be noted that even if an industry has done an EIA, it must still apply for a permit. These two processes often run parallel to each other.

In the current Durban/eThekweni context, there are a number of steps that occur in regards to issuing a permit. Firstly, there is the pre-consultation at feasibility stage. It is believed that by consulting with industries before hand, this assists with both the potential buy-in, as well as their understanding of the permitting process. Secondly, the application form would need to be filled in and then the municipality will consider the application. If the permit is granted, then the following step would be an annual review.

The main elements that would need to be considered are:

### **Assessment**

The permit holder's business activities are assessed to identify possible impacts and the significance of these impacts. Preventative measures that are already in place are evaluated, in order to manage the impact.

Types of Assessment will include a combined Health/EWS Application, a water balance, a Process Block Assessment and a Toxicity Assessment. In term of the Process Block Assessment, information will be gathered in terms of lists e.g.

- List 1 Plant and Equipment
- List 2 Raw Materials
- List 3 Chemicals used
- List 4 Products
- List 5 Emissions to Air
- List 6 Emissions to storm water or groundwater
- List 7 Emissions to sewer
- List 8 Waste storage and waste emissions
- List 9 Noise
- List 10 Occupational Health Risks

### **Permit**

At present, there are two separate permits for an industry in Durban. There is a Health Permit and a Water and Sanitation Permit. The Health Permit covers Air Quality, Occupational Health and Safety, Environmental Noise as well as Major Hazardous Installation. The eThekweni Water and Sanitation Permit covers Discharges to the Sewer, Objectionable Discharges to Stormwater or Groundwater, Trade Effluent/Conservancy Haulier. Common sections for both permits are Emergency Response and Contingency Plans, and Waste.

### **Auditing**

A company is required to have an Environmental Management System in terms of the new eThekweni Municipality permits. An "audit" is conducted to determine the extent of the companies with



environmental legislation. The audit will not necessarily consider at all aspects of the permit, but focus on specific element of the company's environmental management system. For example, it would take an aspect of the company and follow it "Like a golden thread" and would examine aspects of the implementation through to the records kept pertaining to that aspect on the ground. An "Audit Team" would take the company through this process. Audit reports will be made available to the public.

One of the problems with this system, is that the eThekweni Health Department (EHD) and the eThekweni Waste and Sanitation (EWS) have different priorities, and are therefore issuing permits for the same company at different times. For example, the EHD has chosen Engen, a local oil refinery as its first target. The EWS has prioritised the textile industries, so it will only issue its permit to Engen in the future. It seems that it will take time to permit all local industries, and no one will give an estimate of how long it will actually take.

It must be noted that this is a new approach. eThekweni Municipality is not targeting all industry, but are trying to target the most polluting industries. The approach they are taking is that of 80/20, and to target the most offensive/polluting industries. In other words, instead of targeting all sectors, they are trying to target the ones with the most impact. Is this approach good enough?

## **6. What happens after the permit is issued?**

### **Denmark**

The permit has set requirements that the industry has to fulfill in order to produce. After receiving the permit, the company may have to implement new procedures or revise existing procedures to deliver the required data and monitor environmental impact.

The environmental authorities will during the current period of the permit inspect the plant to ensure compliance with the standards.

If a Danish company does not comply with the conditions in the permit, the authority has to enforce, and in principal has at least three different ways/tools to do it.

- 1. Request:** the company is asked to bring the problem under control within a set timeframe
- 2. Order:** the company will get revised requirements e.g. new emissions levels
- 3. Prohibition:** the company will be ordered to stop production until the problem has been solved

All three enforcements will be done in writing and sent to the company after the inspection.

Normally the local environmental authorities will administer any of the above enforcements. In very serious cases the authorities can decide that it is a matter for police investigation and a court case in order to penalize the company for breaking the Environmental Law. In Denmark Environmental crimes are looked at as economic crimes, the thought is that any non-compliance of the legislation has been done in order to gain economically. As a consequence of that Denmark does not have specialised environmental police departments or prosecutors.

For the NGO and ordinary citizen it is important to remember that the daily running of the company together with the environmental requirements can help push for better environmental performance of a plant. When making a complaint, to the local authorities, regarding noise or air emissions, the requirements of the permit are used to substantiate the complaint. It will be harder for the authorities or the industry not to give a detailed answer.

## ***Durban***

The conditions of the permit are clearly stated in the permit itself, the covering letter that accompanies it, the Scheduled Trades and Occupational Bylaws (and soon it will be in the codified bylaws). In the Engen permit it is clearly stated that:

1.2 "Non-compliance with the requirements of this permit constitutes an offence. This permit may be suspended or withdrawn or legal action may be instituted against the permit holder if the conditions specified herein are not complied with, or if significant nuisance or impacts to the environment, infrastructure, council employees or public health occurs, or if there is any other contravention of the bylaws."

At the time of writing, SDCEA has notified the municipality about Engen's exceedences of national guidelines for ambient sulphur dioxide concentration - section 4.2 of the permit. Engen is allowed 35 exceedences of the ten minute sulphur dioxide guideline value and none exceedences of the daily value. Three months after the issue of Engen's permit the 10 min. value was exceeded 64 times and the daily 4 times. The municipality has written a letter to Engen, bringing this to their attention, and the SDCEA is monitoring the municipality's response carefully. The SDCEA needs to know whether this new permitting system is going to benefit local residents, or whether this is merely another example of government making the right noises but not following through with action. Theoretically the next step should be a notice or a prosecution of the refinery.

## ***7. How to access and read the permit and make a complaint***

### ***Denmark***

#### ***How can you access a permit?***

When a permit is ready to be issued it is announced in a newspaper and sent (free of charge) to all households. Timeframes for comments and where you can get access to the permit are published in the announcement. Normally, the permit is available at the municipality/county website or you can phone and ask for a copy.

#### ***How do you read a permit?***

When receiving a permit the best way of "getting into it" is to read the environmental description and assessment. In that way you can see how the authorities view the environmental impact of the company in the light of rules and regulations. It will also give a view on how the company has handled environmental issues in the past. These observations must be reflected in the requirements set in the permit.

If by reading the assessment and requirement doubt arises around certain issues, it is important to contact the authorities for an explanation.

#### ***How do you make a complaint?***

When complaining about a permit it is important to remember that the complaint must be about the content (environmental impact or risk) of the permit and not, for example, about the physical planning issues which are not a part of the permit. You just need to write in your own words why and how you feel the permit is wrong. You do not need any specialist to assist you.

## ***To whom do you complain?***

In Denmark you must send your complaint to the same authority that released the permit. They have to send your complaint, the permit and all the information that has been in use to write the permit to DEPA. They will then decide whether or not the permit will stand or has to be changed. When DEPA's decision is taken, you still have a chance if you are not satisfied. If the permit is somehow concerning questions of principle, you can make a new complaint that will then be handled by The Environmental Complaint Board.

If you are not satisfied with the decision taken by DEPA you have six months to start a normal court case after receiving the decision from DEPA (that is if the permit does not concern questions of principle, and cannot be handled by The Environmental Complaint Board).

## ***Durban***

### ***How can you access a permit?***

At present, permits can be accessed by requesting a copy from the eThekweni Health Department. In time, (by the end of 2005), these permits will be available on a website. In some circumstances, industries will advertise that they are about to be permitted.

### ***How do you read a permit?***

Permits are complex documents. It helps to scan it a number of times, high-lighting key words or key issues. Work on it in a group, to see if you can understand it. Once you have some idea about what it contains, invite someone (government official or legal expert) to run a workshop with you to go through the relevant issues.

### ***How do you make a complaint?***

If a community or individual is not happy with a permit, they need to contact the relevant local authority. Complaints could take the form of a letter, or some form of legal action. The action that needs to be taken will differ from place to place. In the future there will be a tribunal in place, and complaints will also be dealt with in this forum.

There are many laws that could assist you in this respect, including the Promotion of Administrative Justice Act, 2000. If legal assistance is needed, there are a number of organisations that you could contact.

## ***To whom do you complain?***

When complaining about a permit in Durban, there are a number of different avenues to take.

1. The first place to take your complaint would be the eThekweni Health Department or the eThekweni Water and Sanitation Department, as these are the two departments that issue permits.
2. If one did not get a good response with these two departments, then a complaint to the eThekweni City Manager would be in order.
3. If one still did not get an adequate response, then this would have to go to the tribunal set up by the municipality.
4. If this does not work, there are provisions in law that would allow you to take it to this matter to court. Possibilities include the Municipal Services Act or the Promotion of Administrative Justice Act.

## 8. Comparison of a Danish and a south Durban refinery permit

The following chapter compares permits from a Danish refinery (Statoil in Kalundborg) and one from south Durban (Engen)<sup>6</sup>. A summary of this in table form can be found in appendix one.

### Complaints

#### Denmark

A Danish permit has to give advice on how to complain about the permit and normally there will also be a summary of the correspondence and meetings that has taken place in order to evaluate the company and give the permit. The latter is very useful information for any interested party in the light of access to information and what to ask for.

#### Durban

The Durban permit has no advice on how the public can complain – indeed, public participation is not explicitly spelled out in the permit at all, but is supported in South African legislation.

### Duration

The Engen (Durban) permit is valid for five years, and the Statoil (Danish) permit is valid for 8 years. The Durban permit has to have an annual performance review each year. Community organisations are welcome to be part of this review.

### Content

The Danish permit is longer (75 pages) and far more detailed than the Durban permit (16 pages). Part of the problem is that Durban issues two permits for each industry – one regarding health related issues, the other on water and sanitation issues. At present we cannot assess what impact both permits will make, as we have not yet seen a water and sanitation permit.

The Danish/Statoil permit is broken into three sections:

- A. The terms of the environmental approval
- B. The regional authority's assessment of the environmental impacts
- C. The environmental description

*The south Durban/Engen permit is divided into 11 sections:*

<b>Denmark/Statoil Permit</b>	<b>Durban/Engen Permit</b>
<b>A. Environmental Approval</b>	1. General conditions
1. Layout and Operation	2. Details relating to production, chemicals and raw materials
2. Air Pollution	3. Occupational Health and Safety
3. Noise	4. Environmental Control/Performance
4. Wastewater/Sludge	5. Major Hazard Installation
5. Waste	6. Emergency Preparedness and Abnormal Operating Conditions
6. Resource use	7. Integrity Management
7. Risk and Safety	8. Environmental Noise
8. Accidents	9. Waste
9. Abnormal operation	10. Monitoring Programme
10. Supervision	11. Annual Reporting
11. Reporting	
12. Marketing	
13. Sludge Farming	
14. Soil Contamination	
<b>B. Regional Authorities Assessment</b>	
<b>C. Environmental Description</b>	

<sup>6</sup> For details on the two refineries see the DN-SDCEA study: "A 2002 snapshot, Comparison of Refineries in Denmark and south Durban in an Environmental & Societal Context".

The major difference in the two permits is that the Durban permit does not include a Regional Authorities Assessment (Section B) or and Environmental Description (Section C).

### ***Public participation***

In the Statoil permit (Denmark), the approval has to be published by notification in the local newspaper by a specified date.

It also contains guidelines to complaints. (This is described in the previous section.)

In the Engen permit (Durban), the public participation is more implicit as this is supported by South African Legislation, such as the Public Administration Justice Act, 2000, the Municipal Services Act and so on. The eThekweni municipality has assured SDCEA that they will be involved in the annual review, but this is not explained explicitly in the permit.

However, once there is a website for permits, there will be more transparency. Not many community members have access to the internet, but at least this is a start.

### ***Air Pollution***

As can be seen in appendix one, the Danish standards are more precise than the ones in the south Durban Permit. In south Durban, all emissions are measured in tonnes either annually or daily. In regards to PM<sub>10</sub>, in the Statoil permit it is detailed for each stack. In the Engen permit, it is calculated in tonnes.

In Durban, authorities have adopted the “bubble approach” where all emissions are calculated either by day or by year.

Regarding odour, complaints may cause measurements to be carried out. See appendix one for more detail on this point.

### ***Who monitors respective permits?***

In both cases it is the local authorities that monitor the permits.

## **9. Recommendations and conclusion**

The point noted in an earlier chapter that talks about the limitations of local authorities handling permits (i.e. that this makes local authorities more vulnerable to local business interests) is applicable to both Denmark and south Durban.

Regarding south Durban, SDCEA needs to be alert to such possible influences, and will be monitoring local permits. We would like to encourage other NGO's to take up this challenge.

It seems that in south Durban, there are specific challenges relating to separate permits being issued for the same company, especially as this does not occur concurrently. SDCEA is realising the implications of this as the permit process is being rolled out. It is problematic that the permit is split in this way.

What also concerns us is the political interference in local authority. For example, what is preventing the prosecution of Engen of the violation of exceedences related to air quality in its new permit?

What is also a concern to the SDCEA is whether local communities will have all the correct requirements to play a constructive role in the permitting process. Do communities have sufficient resources to respond to these new challenges presented by new legislation? Will they have the resources to attend necessary workshops? Once people have attended these workshops, will they remain within the organisation to follow through?

Can communities ensure that the correct structures are in place for them to participate, when in fact this is the government's responsibility to set up?

Regarding independent experts, communities need to ensure that so-called "experts" do not do work on behalf of the community, but share skills in a real and empowering way. Communities do not wish to be beholden to or dependent on experts.

We question whether the authority officials are qualified to match the employees in a complicated industry. Are the local government resources adequate?

We would encourage industries and local authorities to advertise the permits are being issued, for greater public participation, and greater transparency.

Regarding Major Hazardous Installations, Risk Assessments should form part of all permitting processes. All relevant documents should be available to all stakeholders

***As more legislation is promulgated, the SDCEA would need to consider a follow up and revise this study, to determine whether the appropriate legislation has been enforced and whether it is adequate or not.***

## References

- Power Point Presentation by Sandra Redelinghuys – eThekweni Water & Sanitation, August 2004
- Other presentations from the eThekweni health Department
- Interviews with Mervyn Chetty of eThekweni City Health (from August 2004 to date)
- Emails from Mervyn Chetty and other city officials
- Telephonic Interview with John Paley – eThekweni Legal Department (December 2004)
- [www.gov.za](http://www.gov.za) and related websites
- DN-SDCEA study: "A 2002 snapshot, Comparison of Refineries in Denmark and south Durban in an Environmental & Societal Context."
- Constitution of South Africa
- The National Environmental Management Act (NEMA)
- Air Quality Act 2004
- Notes taken in a workshop to discuss the roll out of the Air Quality Act 2004
- Statoil Permit issued August 2003
- Engen Permit issued 24 December 2004
- eThekweni Municipality Revised Integrated Development Plan 2003-2007 (Review Period 2004 – 2005)
- Promotion of Administrative Justice Act, 2000

## Appendix One

### Comparison of Statoil permit (Denmark) with Engen Permit (south Durban)

Denmark		South Durban																																												
<b>Air emissions</b>																																														
<p>SO<sub>2</sub> Emissions from use of own fuel must not exceed an SO<sub>2</sub> emission level corresponding to the use of fuel oil with a content of sulphur corresponding to the limit value for sulphur contents in fuel oil in force at any time, presently Statutory Order No. 532 of 25 May 2001. The limit value for SO<sub>2</sub> emissions is calculated as the weighted arithmetic mean during a quarter of a year.</p> <p>No<sub>x</sub> The maximum allowed emission concentration for NO<sub>x</sub> calculated as NO<sub>2</sub> from the entire enterprise is 0.125 mg/Nm<sup>3</sup> calculated as maximum 99 % fractile of 1 hour's mean values according to the OML model. 2.4 NO<sub>x</sub> emissions calculated as NO<sub>2</sub> from burning in furnaces and boilers must not exceed the following limit values: Exhaust 3: A weighted value of maximum 350 mg/Nm<sup>3</sup> dry flue gas for fuel gas and maximum 450 mg/Nm<sup>3</sup> for liquid fuel by the reference state 3.0 % O<sub>2</sub>. The limit value is a monthly mean. Other exhausts: A value of maximum 225 mg/Nm<sup>3</sup> dry flue gas for the reference state 3.0 % O<sub>2</sub>. The limit value is a monthly mean.</p> <p>PM<sub>10</sub> (detailed for type of stack) All emissions in mg/Nm<sup>3</sup></p> <p>VOC (no limit, 8 requirements for how to handle/reduce emission) (page 9) Measurements must be made of the total diffuse release of VOC from the refinery.</p>		<p>All emissions in tons/day SO<sub>2</sub> – 20 tonnes per day, 7300 tonnes per annum. The reduction target is still to be formulated.</p> <p>No<sub>x</sub> 8 tonnes per day, 2920 per year with a reduction to 6 tonnes per day, 1825 per annum from December 2006.</p> <p>PM<sub>10</sub> 1 ton per day, 146 tonnes per year, with a reduction to 0,4 tonnes per day from December 2005.</p> <p>VOC (no limit, but requirements for installing of system to detect leaks and BAT)</p>																																												
<b>Noise</b>																																														
<p>Odour, quantitative, which means that future complaints may cause measurements to be carried out. Limits for different types of neighbourhood (city, country) and for times of the day. Directions for how to limit flaring noise -when replacing or modifying equipment the <b>must noiseless solution</b> must be chosen based on a technical/economic analysis.</p>		<p>No mention of odour in the permit. Under general conditions it states: No gases, vapours, dust, smoke, particulates, soot, glare, noise, vibration or waste shall be emitted which in the opinion of the permitting authority could cause significant nuisance or impacts on the environment, infrastructure, council employees or public health. Under Section 10.2 it states: The permit holder is required to undertake environmental noise measurements in accordance with the SABS Code of Practice and forward the results thereof to the eThekweni Health Department. The permit holder's local contribution in terms of environmental noise shall not exceed the following as an equivalent continuous noise level measured at the nearest residential dwelling:</p> <table border="1"> <thead> <tr> <th></th> <th style="text-align: right;">dBa</th> </tr> </thead> <tbody> <tr> <td>Daytime – (06:00 to 18:00)</td> <td style="text-align: right;">60</td> </tr> <tr> <td>Evenings – Weekends (18:00 to 24:00)</td> <td style="text-align: right;">55</td> </tr> <tr> <td>Night-time – (00:00 to 06:00)</td> <td style="text-align: right;">50</td> </tr> </tbody> </table> <p>The permit holder is required to undertake environmental noise measurements in terms of the relevant legislation and codes of practices and report thereon to the permitting authority by January 2006.</p>			dBa	Daytime – (06:00 to 18:00)	60	Evenings – Weekends (18:00 to 24:00)	55	Night-time – (00:00 to 06:00)	50																																			
	dBa																																													
Daytime – (06:00 to 18:00)	60																																													
Evenings – Weekends (18:00 to 24:00)	55																																													
Night-time – (00:00 to 06:00)	50																																													
<b>Waste water/sludge</b>																																														
<table border="1"> <thead> <tr> <th rowspan="2">Parameter</th> <th colspan="3">Remediation values</th> </tr> <tr> <th>Max. 24 hr values</th> <th>Annual total tonnes</th> <th>Analysis</th> </tr> </thead> <tbody> <tr> <td>Wastewater amounts*</td> <td>5400 m<sup>3</sup></td> <td>–</td> <td></td> </tr> <tr> <td>Total oil</td> <td>27 kg</td> <td>5</td> <td>DS 209/R (freon)</td> </tr> <tr> <td>pH</td> <td>6 – 9</td> <td>–</td> <td>DS 287</td> </tr> <tr> <td>Phenols</td> <td>0.5 kg</td> <td>0.180</td> <td>DS 281</td> </tr> <tr> <td>Sulphide</td> <td>2.0 kg</td> <td>–</td> <td>DS 280</td> </tr> <tr> <td>Suspended matter</td> <td>162 kg</td> <td>59</td> <td>DS 207</td> </tr> <tr> <td>Total nitrogen</td> <td>81 kg</td> <td>19.7</td> <td>DS 207</td> </tr> <tr> <td>Total phosphorous</td> <td>8 kg</td> <td>1.5 kg</td> <td>DS 292</td> </tr> <tr> <td>COD</td> <td>1000 kg</td> <td>200</td> <td>DS 217</td> </tr> </tbody> </table>		Parameter	Remediation values			Max. 24 hr values	Annual total tonnes	Analysis	Wastewater amounts*	5400 m <sup>3</sup>	–		Total oil	27 kg	5	DS 209/R (freon)	pH	6 – 9	–	DS 287	Phenols	0.5 kg	0.180	DS 281	Sulphide	2.0 kg	–	DS 280	Suspended matter	162 kg	59	DS 207	Total nitrogen	81 kg	19.7	DS 207	Total phosphorous	8 kg	1.5 kg	DS 292	COD	1000 kg	200	DS 217	<p>In eThekweni Municipality there is a separate (but not concurrent) water and sanitation permit issued. Hence these issues are not in this permit.</p>	
Parameter	Remediation values																																													
	Max. 24 hr values	Annual total tonnes	Analysis																																											
Wastewater amounts*	5400 m <sup>3</sup>	–																																												
Total oil	27 kg	5	DS 209/R (freon)																																											
pH	6 – 9	–	DS 287																																											
Phenols	0.5 kg	0.180	DS 281																																											
Sulphide	2.0 kg	–	DS 280																																											
Suspended matter	162 kg	59	DS 207																																											
Total nitrogen	81 kg	19.7	DS 207																																											
Total phosphorous	8 kg	1.5 kg	DS 292																																											
COD	1000 kg	200	DS 217																																											

<sup>1</sup> The emission limit value (applicable for each individual exhaust) is stated in mg/normal m<sup>3</sup> i.e. mg of the pollutant per cubic meter of emitted gas converted to the reference state (0°C, 101.3 kPa, dry gas).



## Flares

Release to large flare must be limited as much as possible.  
Recording of steam and gas supply to flares must take place continuously.

Requirements on flow rate for the flares.  
A reportable flaring incident is defined as an event where gas is released at the following flow rate and durations.

**North:**

Flow Rate	Duration
>500 kg/h	Continuous period of at least 30 min
>700 kg/h	Continuous period of at least 15 min
>1000 kg/h	Continuous period of at least 10 min

**South:**

Flow Rate	Duration
>1000 kg/h	Continuous period of at least 30 min
>1300 kg/h	Continuous period of at least 15 min
>1500 kg/h	Continuous period of at least 10 min

Targets have been set for reduction for the next 5 years.

## BAT

BAT plan in regard to VOC and fugitive emissions (December 2005)  
1.12 The permit holder is required to apply best available techniques (BAT) so that its total pollution is minimised. Best available technique (BAT) shall mean the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.

## RESOURCE USE

Statements must be made every 3 years on the consumption of energy and water incl. Possible savings.

The permit holder shall evaluate its activities to improve energy utilisation and efficiency.

## RISK AND SAFETY, ACCIDENTS, ABNORMAL SITUATIONS

Requirements for the inspection of tanks, pipes tank farm and monitoring of wells.  
Accidents that causes any kind of pollution must be reported to the authorities and a written report submitted (cause, effect, consequences).  
Requirements on how to handle environmental problems during planned shutdowns, cleaning of tanks,

## PUBLIC PARTICIPATION

Permit contains section on guidelines for complaints (Page 4)

Nothing explicit in the permit. Implicit due to supporting legislation.

## FEEDSTOCK

If Statoil uses crude oil from fields that are neither Danish nor Norwegian, then the regional authority must be in-formed.

There is no mention of feedstock in the Engen permit.

## LEGISLATION THAT INFORMS IT

The environmental approval is granted in pursuance of section 39 of the Environmental Protection Act (currently Consolidated Environmental Protection Act from the Ministry of Environment and Energy No. 753 of 25 August 2001).  
The enterprise is covered by item C1 on the list of enterprises subject to approval, cf. annex 1 to Statutory Order No. 646 of 29 June 2001 from the Ministry of Environment and Energy on Approval of Listed Activities, and it is thus covered by Part 5 of the Environmental Protection Act.  
Item C1 of the Order covers refineries processing mineral oil and installations for extraction of mineral oil, including in the parts of Denmark's territorial waters near the coast. (i) (a) .  
Under section 33 of the Environmental Protection Act the enterprise shall not without prior approval be extended or modified as regards buildings or operation in such a way as to result in increased pollution.

Nema  
Air Quality Act, 2004  
Promotion of Administrative Justice, 2000  
  
Municipal Services Act  
Scheduled Trades and Occupational By-Laws

No, on low Nox burners (Jan 05)  
VOC emissions (incl timeframes)  
Measurements for total fugitive emissions of the plant must be

*Reduction plans follow:*

<b>Measure</b>	<b>Timeframe/ Deadline</b>	<b>Permit Condition</b>
<b>1. Establishment of an Environmental Management System (EMS)</b> 1.1 Identify and quantify potential for environmental impacts. 1.2 Prioritise the identified impacts. 1.3 Identify appropriate preventative and corrective actions. 1.4 Develop responsive management controls, systems and procedures. 1.5 Identify improvement projects to be added to the 5 year Environmental Improvement programme.	2005-06-01 2005-06-01 2005-09-01 2005-09-01 Ongoing	1.7 1.7.1; 1.7.2 1.7.2; 1.7.3 1.7.4 1.7.5
<b>2. Environmental Control</b> 2.1 Report on SO2 reduction options. 2.2 Reduction of PM10 emissions from 1 tpd to 0.4 tpd. 2.3 Reduction of NOx emissions from 8 tpd to 6 tpd. 2.4 VOC survey – comparison to BAT. 2.5 Design of LDAR programme. 2.6 VOC Reduction Programme: <ul style="list-style-type: none"> <li>• Installation on vapour balancing lines at benzene and toluene tanks.</li> <li>• Installation of closed loop sampling on Benzene sample point.</li> <li>• Fitting tanks with secondary seals and vapour seals.</li> <li>• Identify areas that require close loop sampling and pumps requiring double seals.</li> <li>• Vapour recovery system on benzene loading and rail loading.</li> <li>• Closed loop sampling.</li> <li>• Commence double seal programme on pumps.</li> <li>• Continue double seal programme on pumps.</li> <li>• A complete installation of closed loop sampling system.</li> <li>• Implementation of the LDAR programme.</li> <li>• Achievement of a 2% leak frequency for the LDAR.</li> </ul>	2005-06-01 2005-12-31; 2006-12-31 2005-12-31 2005-12-31 2005-12-31 2005-12-31 2006-12-31 2006-12-31; 2006-01-01 2007-01-01 2007-12-31; 2007-01-01 2009-12-13 2009-12-31	4.1.2(a) 4.1.2(b) 4.1.2(c); 4.3.1 4.3.2.2 4.3.2.9 4.3.2.9 4.3.2.9 4.3.2.9 4.3.2.9 4.3.2.9 4.3.2.9 4.3.2.9 4.3.2.1
<b>3. Flaring:</b> <ul style="list-style-type: none"> <li>• North Flare – Continuous period – 30 minutes                20% reduction to 800 kg                15% reduction to 680 kg                10% reduction to 612 kg                10% reduction to 550 kg                10% reduction to 500 kg</li> <li>• South Flare – Continuous period – 30 minutes                20% reduction to 1600 kg                15% reduction to 1360 kg                10% reduction to 1225 kg                10% reduction to 1100 kg                10% reduction to 1000 kg</li> <li>• North Flare – Continuous flare for 15 minutes                20% reduction to 1120 kg                15% reduction to 950 kg                10% reduction to 855 kg</li> </ul>	2005 2006 2007 2008 2009 2005; 2006 2007 2008 2009 2005 2006 2007 2008 2009 2005 2006	4.4.1.3 4.4.1.3 4.4.1.3

<b>Measure (continued)</b>	<b>Timeframe/ Deadline</b>	<b>Permit Condition</b>
<ul style="list-style-type: none"> <li>South Flare – Continuous flare for 15 minutes 20% reduction to 2000 kg 15% reduction to 1700 kg 10% reduction to 1530 kg 10% reduction to 1370 kg 10% reduction to 1300 kg</li> <li>North Flare – Continuous flare for 10 minutes 20% reduction to 1600 kg 15% reduction to 1360 kg 10% reduction to 1225 kg 10% reduction to 1100 kg 10% reduction to 1000 kg</li> <li>South Flare – Continuous flare for 10 minutes 20% reduction to 2400 kg 15% reduction to 2040 kg 10% reduction to 1835 kg 10% reduction to 1650 kg 10% reduction to 1500 kg</li> </ul> <p>3.2 CEM of H2S on all gas streams routinely sent to flares. 3.3 Submit details of the flaring systems. 3.4 Comparison of the flare system to BAT.</p>	<p>2007; 2008 2009</p> <p>2005 2006 2007 2008 2009</p> <p>2005 2006 2007 2008 2009</p> <p>2005-12-31; 2005-06-01 2005-12-31</p>	<p>4.4.1.3</p> <p>4.4.1.3</p> <p>4.4.1.4; 4.4.1.7 4.4.1.8</p>
<p><b>4. MHI:</b></p> <p>4.1 Undertake comprehensive qualitative risk assessment. 4.2 Submit a risk ranked and time bound intervention strategy for aspects identified in the risk assessment. 4.3 Develop and submit a formalized risk management strategy.</p>	<p>2006-12-31 2006-12-31;</p>	<p>5.1; 5.2 5.3</p>
<p><b>5. Pipelines:</b></p> <p>5.1 Re-design of CP system. 5.2 Installation and commissioning of new CP systems. 5.3 Set-up remote monitoring of CP stations to facilitate 100% uptime for TRU's. 5.4 Review of CP maintenance data by professional CP Engineer/Company (6 month review). 5.5 Review of CP maintenance data by competent Engineer/company. (Annually). 5.5 Facilitate MFL ILI by removing mitred bends. 5.6 Re-pig pipelines using suitable ILI technology.</p>	<p>2005-06-31 2005-12-31 2007-12-31</p> <p>From 2008-12-31 2006-12-31 2008-12-31</p>	<p>7.2.1.2 7.2.1.3; 7.2.1.4 7.2.1.6 7.2.1.7</p>
<p><b>6. Environmental Noise:</b></p> <ul style="list-style-type: none"> <li>Undertake environmental noise measurements.</li> </ul>	<p>2006-01-01</p>	<p>8</p>
<p><b>7. Waste:</b></p> <ul style="list-style-type: none"> <li>Conduct an annual waste study.</li> </ul>	<p>2006-01-01</p>	<p>9.1</p>
<p><b>8. Monitoring Programme – Develop and submit an appropriate monitoring programme</b></p> <p>8.1 Report on CEM options for FCCU and SRU's. 8.2 Verification measurements:</p> <ul style="list-style-type: none"> <li>Independent consultant to verify calculated emissions of SO<sub>2</sub>, NO<sub>x</sub>, and PM<sub>10</sub>.</li> <li>Independent consultant to undertake representative measures of NO<sub>x</sub> and PM<sub>10</sub>.</li> </ul> <p>8.3 VOC:</p> <ul style="list-style-type: none"> <li>Emission estimations, methodologies used, applied emission factors, monitoring methods and frequencies.</li> <li>Engage the service of independent consultant to verify all VOC estimation and calculations.</li> </ul>	<p>2005-06-01 2005-01-01 2005-12-31</p> <p>2005-12-31</p> <p>2005-12-31 2006-06-01</p>	<p>10 10.1.1 10.1.2(1) 10.1.2(b) 10.1.3(a) 10.1.3(b)</p>

