



USAID

FROM THE AMERICAN PEOPLE

ECONOMIC IMPACT AND PORT ASSET PACKAGING STUDY

PHASE 1 — DCT CONCESSION PLAN (MILESTONE 3)

Originally Produced on 30 April 2003

This publication was produced for review by the United States Agency for International Development.



ECONOMIC IMPACT AND PORT ASSET PACKAGING STUDY

PHASE 1 — DCT CONCESSION PLAN (MILESTONE 3)

Prepared by:
CPCS Transcom

In association with:
The Cornell Group
Shipping and Transport College/Dynamar Consultancy
Expeditor Management Services
Phathani Consulting (Pty) Ltd

Under contract to:
Emerging Markets Group, Ltd.
(f/k/a Deloitte Touche Tohmatsu Emerging Markets, Ltd.)

Submitted to:
USAID

Contract No.:
PCE-I-00-97-00016-00
SEGIR Privatization IQC
Delivery Order #809

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Table of Contents

Concession Plan Summary.....	i
Objectives and Policy	i
Rationale for Selecting Durban as the First Concession	ii
Framework and Key Elements of the Concession Plan	iii
1 Current Situation	1
1.1 Physical Facilities	1
1.1.1 Storage and Yards	1
1.1.2 Equipment	1
1.1.3 Linkages	2
1.2 Tenant Issues.....	2
1.3 Traffic.....	3
1.4 Current Labour Situation.....	6
1.5 Current Financial Situation of DCT	8
2 Strategic Options	9
2.1 Single Operator.....	9
2.1.1 Operations and Capacity	10
2.1.2 Terminal and Yard Layout.....	11
2.1.3 Cargo Forecast.....	12
2.1.4 Current and Future Development Plans & Investments (Public & Private)	13
2.1.5 Labour Plan	15
2.1.6 Tariff/Regulatory Regime	16
2.1.7 Preliminary Financial Analysis of the Concession for DCT-1.....	17
2.2 Two or More Operators.....	19
2.2.1 Operations.....	19
2.2.2 Terminal and Yard Layout.....	20
2.2.3 Business and Strategic Rationale for Single Operator at DCT-1	20
2.3 Proposed Layout of DCT 1 & DCT 2	21
2.4 Conclusion.....	23
3 The Concession Plan	25
3.1 Policy Options.....	25
3.2 Institutional & Regulatory Structure	27
3.3 Concession Options.....	28
3.4 Business Model	29
3.4.1 Single Operator & Option for Expansion.....	29
3.4.2 Berthing of Vessels	30
3.4.3 Responsibility for Berths and Wharf.....	30
3.4.4 Responsibility for Berths and Wharf.....	31
3.4.5 Mooring & Unmooring of Vessels	31
3.4.6 Delivery of Containers to/from Truckers	31
3.4.7 Delivery of Containers to Rail.....	31
3.4.8 Stevedoring	31
3.4.9 Labour	31
3.4.10 Empty Container Storage	32
3.4.11 Terminal Security	32
3.4.12 Tariff Setting.....	32
3.4.13 Billing and Collection.....	32
3.4.14 Payment to NPA	32
3.4.15 Productivity.....	33
3.5 Performance Compliance and Monitoring.....	33
3.6 Execution Strategy	34

Concession Plan Summary

The purpose of this document is to develop a detailed Concession Plan for the Durban Container Terminal, which may subsequently be used as a road map to assist the Government of South Africa in concessioning out the container terminal at the port of Durban. This document and the strategies, policies and principles outlined herein will form the "reference manual" for implementing the various activities required for concessioning Durban, including but not limited to preparation of tender documents and the bidding process, evaluation and selection of bidders, performance monitoring, regulation and more. This document is organized in the following sections:

- This Concession Plan Summary provides a quick overview of the objectives, policy and rationale for concessioning DCT, and the key elements of the concession plan, which are addressed in detail below.
- The first section describes the current DCT terminal facilities and equipment, and the business and market environment in which the terminal operates.
- The second section compares strategic alternatives for concessioning DCT.
- The third section presents the soup-to-nuts details of the entire concession plan, and includes discussions on the concession business model, policy issues and execution strategies.
- The fourth and final section discusses the concession transaction process and schedule.

Objectives and Policy

The Government of South Africa is implementing port reform through Private Sector Participation in State-owned ports, and the preferred vehicle is the port concessioning model. There is a broad consensus and approval among the principal stakeholders (NPA, SAPO, and DPE) in the port sector concerning the government's overall strategic, economic and social objectives in concessioning the ports, and these objectives are as follows:

1. Improving productivity and efficiency at the country's public ports and terminals to world class standards;
2. Maximizing returns to Government;
3. Attracting private sector funds for port infrastructure development;
4. Improving the economic status of existing port labor;
5. Ensuring meaningful B.E.E. participation in the port reform and investment process;
6. Ensuring that existing employees and management are stakeholders in the public-private partnership transactions.

The policy framework underpinning these objectives is articulated in the "White Paper on National Commercial Ports Policy". The legal structure for sector reform and regulation is provided in the draft "National Ports Authority Bill", which has undergone initial public hearings and been referred back to NDOT and DPE for clarification of a number of issues. Guidance for the legal structure of this concession plan and procurement process has also been taken from the "Public Private Partnerships" manual of the National Treasury.

This concession plan is developed within the parameters of this policy and legal framework to achieve the government's port reform objectives, and to obtain the most responsive and economically attractive bids from qualified International Terminal Operators.

Rationale for Selecting Durban as the First Concession

Durban Container Terminal has been identified as the first 'wave' of the port system to be concessioned, primarily because it is the most "saleable" transaction of all ports. Its success will set the precedent for the concessioning of the other terminals operated by SAPO.

DCT scores very high on the principal criteria that International Terminal Operators find attractive in a port concession, some of which are as follows:

- **SIZE** – DCT is the largest of all container ports in South Africa (indeed in sub-Saharan Africa) and handles 65% of the national container volume, or 1.2 million TEU per year. Since DCT not only serves Durban but is also the primary link between Gauteng and overseas markets for manufactured imports and exports, accounting for 70% of the GDP of South Africa, it will continue to remain the dominant container port in South Africa in the near future.
- **GROWTH POTENTIAL** – Over the next 20 years, DCT cargo is projected to grow at 6% per year, compared to 4.3% for Cape Town containers.
- **REVENUE & PROFIT** – DCT generated 460 million Rand in revenue and profitability of 22% of revenue in 2001. Cape Town and Port Elizabeth container terminals combined generated 320 million Rand and were less profitable.
- **PRODUCTIVITY** – DCT's productivity is low by world standards. With appropriate operational changes it can increase significantly. International operators will see this as a significant opportunity to improve productivity, increasing operating profits above those currently generated by SAPO.
- **READY TO CONCESSION** - DCT can be up and running as a private concession in nine months after soliciting bids, if
 - (a) a single operator is selected for the existing terminal;
 - (b) labor strategy is clearly communicated – and preferably (but not necessarily) resolved;
 - (c) government infrastructure investment policies and commitments are in place, and
 - (d) tariff and regulatory decisions are clearly communicated.

- **FIRST MOVER ADVANTAGE** – With the appropriate investments and productivity improvements implemented by the concessionaire, the initial concession will have the advantage of being “first mover”, and will be the “only game in town” with for at least 2 years before a second Durban concession, Cape Town and other ports can become fully operational and productive competitors to the first concession. This will be very attractive to potential investors.

The Government’s objectives are to quickly and successfully concession out DCT, while maximizing the economic and financial benefits to the Government and to South Africa at large. At the same time, the government will send clear signals to the international investment community:

- (a) assuring them of the attractiveness and desirability of investing in South Africa’s ports;
- (b) proving to them that transactions in South Africa will be transparent and fair; and
- (c) showing them how far the government is willing to go to facilitate investment in South Africa.

This speed of implementation and success of this transaction is desirable to the government for the following reasons:

- It is operationally implementable immediately, if the single initial operator option is selected;
- DCT is the one most likely to be successful, and sends a powerful message to investor community – opening the “flood gates” for increased foreign investment;
- Critical issues such as labour and the regulatory environment will be resolved immediately, setting precedence for PSP in all sectors;
- Current investor interest is high – the government can capitalize on this to make it a “success story”.

While the best overall return from the concession can be achieved if labor, SAPO, investment and tariff/NPA regulatory issues are resolved prior to soliciting bids, the transaction can be executed without immediately resolving all of these issues. Investors will simply discount the value of the real and perceived obstacles to the transaction.

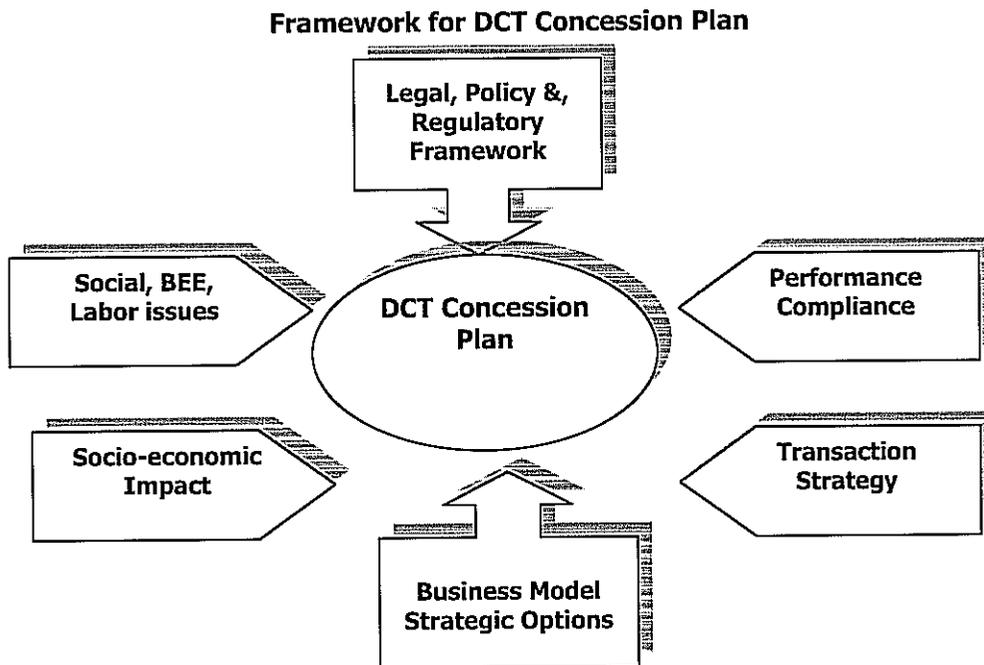
Framework and Key Elements of the Concession Plan

The DCT Concession plan must be developed within the existing legal and regulatory framework, must take into consideration the social, BEE, labor employment and mitigation strategies, and to be commercially sustainable must have a viable business model and transaction strategy. The framework of the DCT Concession plan developed in this document is shown in the Figure below. The key elements of the DCT concession plan are developed in detail in sections 3 and 4 of this document, and are listed below:

- Policy Options

- Institutional & Regulatory Infrastructure
- Labor Constraints & Mitigation Strategies
- BEE Requirements
- Investment Requirement
- Business Model
- Strategic Options
- Performance and Compliance
- Execution Strategy
- Socio-economic Impact
- Transaction Strategy

The balance of this document develops the DCT Concession Plan.



1 Current Situation

This section provides a description of the facility to be concessioned, the constraints on concessioning imposed by current NPA property leases, the traffic potential, and the existing labour force.

1.1 Physical Facilities

The Durban Container Terminal (DCT) is the premier container port of Southern Africa, having capacity of at least 1,500,000 TEU per annum. This exceeds the combined capacity of all other ports in South Africa and indeed of the Indian Ocean coast from Cape Town as far north as Mombassa.

The port of Durban is long established and is conveniently located to service the industrial heartland of South Africa and neighbouring states. The port has historically been dominated by rail connections and has a total of 302 km of internal rail tracks serving the quays and storage areas. This is supplemented by the network of roads, linking to the primary routes along the coast and inland.

1.1.1 Storage and Yards

The current terminal has a total land area of 102 hectares laid out with roads, parking and container stacking areas for 11,650 ground slots, normally stowed two high giving an approximate capacity of 21,000 TEU, (stowed at 90% for top row) plus reefer positions for 602 boxes. With an average dwell time or turnover rate of 5 days, this gives a maximum operational potential of about 1.5 million TEU per annum.

1.1.2 Equipment

Waterside

The terminal has a total of thirteen (13) gantry container cranes and operates 7 ship to shore gantries on berths 203 to 205, of which 4 are super Panamax size. Nominal capacity under the spreader is 35 tonnes. On berths 201 and 202 there are 4 ship to shore gantries with lifting capacities of 35 tonnes. On berth 109 the terminal has 2 gantry cranes plus 2 Fantuzzi MHC units, which can service vessels on berths 108 and 109 and anywhere else as required.

Landside

Container operations in the terminal are primarily performed by **straddle carriers**, capable of stacking one-over-two. The terminal currently has a total of 83 operational units with a further 27 Kalmar 1 over 2, 40 tonne units being assembled ready for operation within the near future. As the new Kalmar units are put into service 14 older units will be removed from the container terminal asset list. The effective complement of straddle carriers by April 2003 was expected to be 96. Out of Gauge containers are handled by a Fantuzzi CS 45 **Reach Stacker** of nominal capacity 45 tonnes.

Transfer of containers to rail wagons is by 3 **rail transfer cranes** with capacity of 35 tonnes and spanning three rail lines and two road lanes. The rail transfer terminal has sufficient length for 50 standard wagons, equivalent to 100 TEU.

For other movements of containers the terminal has a fleet of 39 hauler units plus 115 "bath-tub" and skeletal type trailers capable of carrying two twenty foot units at a time.

1.1.3 Linkages

Rail

The terminal has its own road to rail transfer terminal with three rail tracks, each with length for 50 wagons and two parallel road lanes. Transfer to and from rail wagons takes place under the control of Spoornet, who then remove loaded rail wagons from the container terminal. Spoornet have a marshalling yard immediately behind the terminal for the grouping and marshalling of rail wagons, as well as other yards in the Bayhead area.

Road

The majority of containers from the immediate hinterland (within a radius of about 110 kilometres from Durban) are transported by road trailer, with private operators competing for business. City Deep (Gauteng) currently handles about 30-40% of all cargo exported through Durban, while the railway handles an estimated 23% of container freight moving from DCT to all depots, including Gauteng. One estimate is that 3rd party logistics providers (3pl's) serve at least 75% of the container freight market in the Gauteng-Durban corridor. Road links in and out of the terminal, and in the roads approaching the port, can be heavily congested at peak times. The Durban City Council has long-term plans for the improvement of the road linkage between Bayhead road and the main city and motorway networks.

Sea

Some coastal transshipment of containers takes place between local ports and Durban, but this is relatively minor. In times of terminal congestion, vessels have been diverted to Port Elizabeth and East London with onward transfer of containers as conditions permit.

1.2 Tenant Issues

Across the South African ports system, the NPA currently manages more than 1,700 leases, 86% of which are held by private enterprises and the balance by the public sector. In terms of private sector terminal operations Maydon Wharf dominates the South African port system, with 11 of a total of 23 major privately operated terminals located there.

Many of the leases in Maydon Wharf date back to the early 20th century and are long term. Some do not provide for rent escalation. The leaseholders are entitled to sub-lease, cede, assign, hypothecate or dispose of the lease without the NPA's consent. Many of the leases have wide usage conditions, enabling their holders to undertake non-port related operations. One restriction is that landing and shipping rights can only be exercised if the leaseholder is also the cargo owner. This restriction accounts for the secondary market in leases and has become a major impediment to the efficiency of terminal operations.

The total area under leasehold in the Port of Durban in 2002 is 6.1 million square metres. Of this the NPA is owner of 5.9 million square metres and the balance, including Salisbury Island, is ceded by the South African Navy and managed by the Department of Public Works. Of the total port area, 54% is under private sector lease, and the balance under public sector lease or use. Based on estimates of market rentals, there is significant underpayment by private sector on Maydon Wharf, and also significant book entry overpayment by SAPO on New Pier 2, the Point and New Pier 1. A strategy of lease re-negotiation based on the natural attrition of leases would entail considerable losses of rent and perpetuation of land use inefficiencies, over many years.

The existence of private sector leases has built up substantial experience of terminal operation over many years within the South African Port sector, creating a degree of competition that has been a counter-weight to the more sheltered public sector operation. The scale of private sector activity has been growing over recent years, and in Durban has overtaken the public sector in terms of tonnage handled. The concessioning of SAPO terminals will take this process to its logical conclusion, and operators awarded contracts under the concessioning process will enter a context that will be responsive enhanced competition.

Nevertheless, the preferential leases held by a significant number of operators clearly gives them a cost advantage over their competitors, current and future, particularly those that involve the handling of similar cargo, as is the case with the new Point terminal. It also denies the NPA an important source of revenue that restricts its operational capacities and its ability to execute its obligations of provision of maritime services and infrastructure maintenance and upgrade. The block of land immediately west of the present DCT boundary presently occupied by SACD provides an example. This unpaved block, used both as a container freight station and for the storage of empty containers, is covered by a lease, currently up for renewal, that can be renewed at the sole discretion of the lessee. That is, NPA does not have the legal right, included in all new NPA leases, to either refuse to extend the lease or to terminate it if the land is required for other purposes. Integration of this block of land (and related empty container storage services) into the container terminal concession will require NPA to provide an alternate site to the present user and buy out the lease.

The implications of preferential leases for leaseholders involved in non-port related activities are of a different order. While there is no direct implication for the concessioning process, these present an obstacle in the way of efforts of rationalising operations at Maydon Wharf and also deny the NPA an important source of revenue.

1.3 Traffic

Figure 1.1 illustrates the growth in DCT traffic from a 2000-01 base, as projected by NPA. Coastwise traffic grows at 5% per year over the entire period, while all other traffic grows at 6%. Traffic at DCT is expected to exceed 3 million TEU by 2020. This would require development of a second terminal within five to 10 years.

Figure 1.1

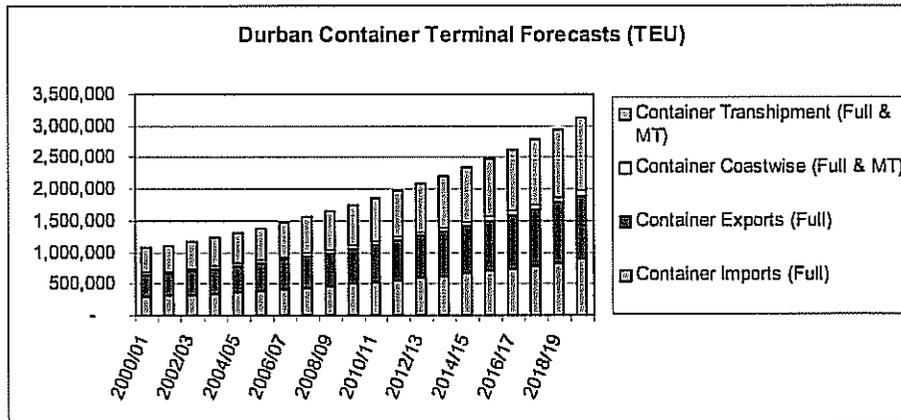


Figure 1.2 provides the same data in tabular form.

Figure 1.2: NPA Traffic Projections for DCT

	Container Imports (Full)	Container Exports (Full)	Container Coastwise (Full & MT)	Container Transhipment (Full & MT)	TOTAL
2000/01	304,088	346,040	30,119	397,871	1,078,118
2001/02	310,869	353,757	30,791	406,744	1,102,160
2002/03	329,521	374,982	32,330	431,148	1,167,982
2003/04	349,293	397,481	33,947	457,017	1,237,737
2004/05	370,250	421,330	35,644	484,438	1,311,662
2005/06	392,465	446,610	37,426	513,504	1,390,005
2006/07	416,013	473,406	39,298	544,315	1,473,031
2007/08	440,974	501,811	41,262	576,973	1,561,020
2008/09	467,432	531,919	43,326	611,592	1,654,269
2009/10	495,478	563,834	45,492	648,287	1,753,092
2010/11	525,207	597,664	47,766	687,185	1,857,822
2011/12	556,719	633,524	50,155	728,416	1,968,814
2012/13	590,122	671,536	52,662	772,121	2,086,441
2013/14	625,530	711,828	55,296	818,448	2,211,101
2014/15	663,062	754,538	58,060	867,555	2,343,214
2015/16	702,845	799,810	60,963	919,608	2,483,227
2016/17	745,016	847,798	64,012	974,785	2,631,611
2017/18	789,717	898,666	67,212	1,033,272	2,788,867
2018/19	837,100	952,586	70,573	1,095,268	2,955,527
2019/20	887,326	1,009,742	74,101	1,160,984	3,132,153

Source: NPA

Although container traffic grew at rates in excess of 6% over most of the 1990's, the projected growth rate for Durban for 2001-2006 is 4.5% *in KwaZulu-Natal to Gauteng*

Integrated Freight Rail Link: Market Study: (December 2002), reaching 1.3 million TEU in 2006. Figure 1.3 summarizes these forecasts, which are somewhat lower than those developed by NPA. The average growth rate of 4.48% through 2006 has been developed from a model linking TEU volume to GDP and manufacturing production. Container traffic growth is projected to be 2-3% higher than GDP growth, which ranges between 2.2 and 3.6% over the period. This takes into consideration the expected increased market penetration for containers. This is estimated to be 52% in 2001 and is expected to increase steadily, reaching a 'steady state' of 70% in 2020.

Figure 1.3: Alternative Container Forecasts for Durban

Year	2001	2002	2003	2004	2005	2006
Growth Rate (%)	1.48	5.30	4.51	4.91	3.98	3.71
TEU	1,082,844	1,140,235	1,191,859	1,250,170	1,298,927	1,348,154

Because Durban is the dominant container port serving Gauteng, the industrial and consumer heartland of South Africa, container traffic growth through Durban cannot exceed growth of that market on a permanent basis. There is little opportunity for Durban to attract container traffic from other markets not presently served, or for other ports in South Africa to compete for either Durban or Gauteng container traffic, given the geography of South Africa and the nature of the road and rail links to Durban and other ports. However there is always a risk of losing some Gauteng traffic to Maputo, to the East (using the Maputo corridor, which is shorter than the road and rail links to Durban) and to Walvis Bay, to the West (using the Trans Kalahari Corridor). Since 1995 the container terminal in Maputo has been operated by P&O Ports, under a 10-year concession.

We reviewed the NPA forecasts with a number of the shipping lines serving DCT. Mitsui, MSC, and Evergreen/Unilglory regard a range of 3.5-4.5% as reasonable, while Unicorn Lines felt that growth could continue at or above 6%. All confirmed that growth at other container terminals in South Africa was likely to continue 1-2% below Durban. APM Terminals, on the other hand (a division of the AP Moller group, which includes Maersk and Safmarine), project a growth of container traffic of 7.5% annually for the next several years. Figure 1.5 summarizes the current structure of the container market at Durban in terms of ocean carriage. MSC, the biggest single operator, handles nearly one-third of total containers, while the 5 largest operators (two of which are affiliated with terminal operators) are collectively responsible for two-thirds of DCT throughput.

Figure 1.5: DCT Traffic by Ocean Carrier

Line	Rank	Number	Barco	Terminal	Total	Percentage	Cumulative
MSC	1	113,203	128,688	36,703	278,594	31.4%	31.4%
SAFMARINE/MAERSK	2	58,060	66,535	31,460	156,055	17.6%	49.0%
EVERGREEN	3	22,885	19,125	10,382	52,392	5.9%	54.9%
KIEN HUNG	4	21,511	22,679	9,753	53,943	6.1%	61.0%
P&O NEDLLOYD	5	25,167	29,940	5,243	60,350	6.8%	67.8%
UNICORN LINE	6	19,594	27,982	8,809	56,385	6.4%	74.1%
PACIFIC INTERNATIONAL LINE	7	20,318	19,792		40,110	4.5%	78.7%
K-LINE	8	11,725	10,964		22,689	2.6%	81.2%

CPCS TRANSCOM

CORNELL

STC/DYNAMAR

PHATHANI

EMS

GOOD HOPE	9	9,992	8,987		18,979	2.1%	83.4%
IGNAZIO MESSINA LINE	10	9,346	9,123		18,469	2.1%	85.4%
DAL TRANSPORT GERMANY	11	9,173	8,032		17,205	1.9%	87.4%
MIS	12	8,396	8,857		17,253	1.9%	89.3%
COSCO	13	4,299	4,490	2,517	11,306	1.3%	90.6%
LAUREL NAVIGATION LINE	14	6,222	5,630		11,852	1.3%	91.9%
GOLD STAR	15	6,115	6,616		12,731	1.4%	93.4%
MITSUMI	16	5,688	6,998		12,686	1.4%	94.8%
ZIM ISRAEL	17	4,946	4,358		9,304	1.0%	95.8%
SUPERGEX	18	4,719	4,173		8,892	1.0%	96.8%
CHINA SHIPPING LINE	19	3,256	2,566		5,822	0.7%	97.5%
NILE DUTCH AFRICA	20	3,086	4,494		7,580	0.9%	98.4%
CSAV	21	2,788	1,994		4,782	0.5%	98.9%
AUSTRALIAN NATIONAL LINE	22	2,031	1,929		3,960	0.4%	99.3%
NYK	23	1,494	1,267		2,761	0.3%	99.6%
FU HAI LINE	24	715	874		1,589	0.2%	99.8%
ZAMOC	25	516	297		813	0.1%	99.9%
CSG	26	186	333		519	0.1%	100.0%
SAFERT KEELEY	27	66	130		196	0.0%	
		375,497	406,853	104,867	887,217		

Source: SAPO (time period not indicated)

1.4 Current Labour Situation

Figure 1.5 shows the distribution of SAPO's 1,020 employees at DCT, by cost center.

Figure 1.5: Distribution of Employees by Cost Centre

Division	Number of Employees
Administration and Finance	
Accounts Payable	7
Billing and Accounts Receivable	15
Administration	12
Subtotal	33
Operations	
Container Operations	16
Landside other	146
Out of gauge	30
Rail Operations	37
Reefer	12
Wharfside Support	38
Shipping Planning	30
Haulers Landside	22
Landside straddles	273
Planning Support	8
Rail Planning	6
Terminal Support	135
Yard planning	4
Subtotal	757

Engineering	
Cranes Mechanical	16
Technical Staff	11
Cranes Electrical	27
Maintenance Staff	73
Technical Support	47
Subtotal	174
Other services	
Safety, Health and Environmental	6
Human Resources	17
Marketing	2
Information Technology	2
Middle Management	17
Management	1
TOTAL EMPLOYEES	1,020

Approximately 200 casual workers are also employed at DCT by SAPO at any point in time. The casual workers are sourced from labour brokers, at least 6 of these are currently used as a supply source. Casuals are paid at an hourly rate, and these rates marginally differ for the same position; no fringe benefits are payable. They are strictly paid on the basis of service rendered. They are not unionised.

The rationale provided for the ongoing utilisation of casual labour services is that the nature of the business is highly variable, with huge peaks of work upsurge, e.g. for container handling and traffic flow increase. Utilisation of casuals provides the necessary flexibility, while enabling a predictable way of managing fixed costs. These 1,220 permanent and casual employees presently provide all terminal and administrative services within DCT.

Stevedoring services are not presently provided through SAPO, although SAPO proposed to extend its control of port labour to include stevedoring effective April 1 2003. The 2002 "White Paper" makes it clear that stevedoring will be included within the terminal operating concession, although it does not propose a mechanism for introducing this structural change to terminal operations. Stevedoring at DCT comprises of three broad activities:

- lashing and unlashng
- hatchman service
- preparation and execution of handling of over height containers

Presently there are also four stevedoring companies operating within DCT. Stevedoring work is allocated in line with contractual arrangements between a stevedoring company and the shipping companies. This, together with the number of cranes utilised on a particular day, determines the number of stevedores to be utilised in a given situation.

The use of stevedores utilised varies significantly, dependent on the size of the ship and the number of cranes used for loading or off-loading. On a typical day, 13 cranes are used, translating to 91 stevedores. Approximately two thirds of stevedoring workers are permanent staff, with the rest being casuals that are selected from a rotating pool, to deal with the 'peaks and troughs' of the situation.

For the permanent SAPO employees, attrition through death or retirement has in recent years averaged 4% annually. With the rapidly aging labour force, this is likely to increase.

There are 33 employees over 60 and 86 aged between 55 and 60. With early retirement of these employees without replacement, the current total employment excluding stevedoring and casual workers) would be reduced to 901. In our estimation, this starting base does not present a problem of major over-employment to bidding investors and they will likely accept the job security conditions laid down by DPE without there being a significant effect on investor appetite to bid nor on eventual concession fee. However, this would only hold true if Government were to commit to an acceptable early retirement program applicable to this inherited labour force.

For most DCT employees presently eligible for retirement and aged 55-65, the 'defined contribution' pension plan managed by Transnet would provide a pension that is less than 20% of current average wage. This anomaly arises from a combination of poor investment returns in recent years and an eligibility period that is substantially less than the period of employment. Thus a programme of voluntary retirement, often of considerable attraction to workers, will only be viable for current SAPO employees after provision of a 'top-up' of pension fund payments from other sources.

In May 2002 the Minister of the Department of Public Enterprises stated: "Labour will be given job security by the new concessionaire for a minimum period of 3 years that reflect current conditions, pension funds, and other social security arrangements". This statement does not make clear whether the guarantee applies to the total number of workers at a point in time, or to each individual in the position he or she occupies on the day of handover. The distinction is critical; in informal discussion potential terminal operators indicated that they are willing to deal with an imposed freeze on number of employees for an initial period, so long as they can retain flexibility in re-assignment of individuals. We recommend that the Minister's statement be interpreted to mean that employment be secure for the 3 years but that assignments into specific jobs would become the immediate prerogative of the concessionaire.

1.5 Current Financial Situation of DCT

As noted in *Milestone 2 (Concession Strategy Report)* DCT presently provides a significant share of SAPO revenue and is the major contributor to income, with profit of ZAR 104 million providing a 22% return on income of ZAR 465 million. SAPO financial statements do not fully reflect lease payments to NPA, or the cost of ongoing capital improvements provided by NPA.

2 Strategic Options

This section reviews and evaluates the strategic options available for concessioning DCT. Although various options are explored, including a configuration that adds Pier 1 as presently proposed by NPA, our concluding recommendations are that:

- 1) A single concessionaire be awarded operating rights to Durban Container Terminal in its present boundaries, except that the land immediately to the south of the basin between Pier 1 and Pier 2 is excluded, while the area presently occupied by SACD is included;
- 2) The Government commits to arranging for the entry of a second competing operator at a terminal adjacent to the initial concession. This facility, which would include the land to the south of the basin, in-filling of the basin, and Pier 1, would come "on-line" when expansion is required to deal with expected traffic growth.

The terminal boundaries of the first DCT concession are identified as "DCT-1" and the second and future concession area as "DCT-2", and these are outlined and discussed in detail in Section 2.3 below.

2.1 Single Operator

The concessioned terminal will need to operate as efficiently as possible and as soon as possible after the concessionaire is named. We anticipate the operator will make changes to the terminal that affect his productivity on a schedule that gives him the greatest monetary effect, but all changes that are identified in the contract should not take more than 3 years, unless equipment delivery schedules become a problem.

Because of the layout of DCT, the position of structures, the location of the railhead, location of offices and current equipment utilized, we recommend that a single operator be granted the concession. Since South African law forbids the exclusion of any particular bidder from open tendering, it is not feasible to prohibit bids from cargo owners or shipping lines. Consequently, eventual bidding terms must be developed to elicit undertakings from any such bidders to safeguard common user principles. These must be built the initial evaluation criteria and ultimately into the concession agreement.

We realize that a single operator does not provide an immediate competitive element within South Africa's most important cargo market. However, later in this document we recommend that DCT-1 (Phase I container development in Durban) be subject to independent regulation, until such time as cargo levels require a second terminal and until government can be assured that market forces will be sufficient for self regulation. Section 2.3 of this report will discuss our recommendation for expansion of capacity by adding a second container terminal to be concessioned to a competing operator. In our view, the threat of medium term competition of a competing entrant within Durban's container terminal business will provide strong incentive for the initial operator to keep costs down and efficiency up, both in periods prior to and certainly subsequent to entry by a second operator.

We estimate that changes to the operational and physical structure of DCT will require up to \$100 million, however, if the terminal is separated into 2 equal elements to accommodate 2

operators, the NPA will have to spend approximately \$44 million of that up front, to prepare for concessioning. If a single operator is named it will be the operator's responsibility to make all changes to superstructure as part of the concession.

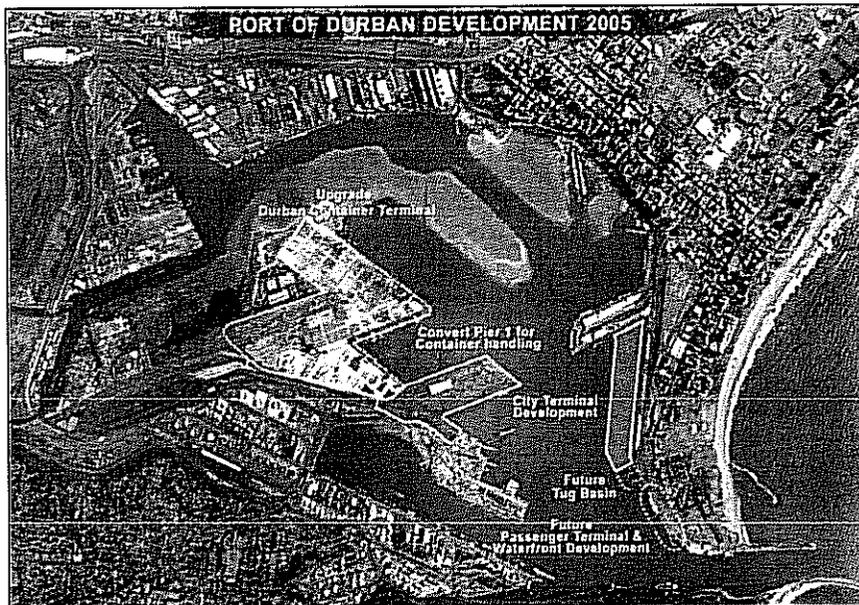
In the following paragraphs we discuss particulars of DCT that will provide our rationale for a single operator until the time that additional capacity is required.

2.1.1 Operations and Capacity

SAPO management have advised us that the container terminal at DCT is currently operating at or near capacity, with volumes at approximately 1.2 million TEU annually. This was confirmed by our operational review (*Working Paper 4A*), which states that the terminal is operating at 92% of capacity with the present equipment, terminal layout and operating system. It is reported that container handling productivity on vessels averages approximately 15 picks per hour. This productivity level combined with a 4.5-day dwell time for containers in the yard, results in high utilization of both berths and container storage area.

To discuss these productivity and other problems at the terminal, we refer to Figure 2.1, which shows DCT's position in the Harbour. These exhibits also show anticipated improvements planned by NPA, but as yet not undertaken.

Figure 2.1: Port of Durban – Layout of Cargo Facilities



- The terminal has maintenance facilities in the centre of the terminal. This takes valuable space that cannot be utilized for container storage.
- Truck loading facilities, required by straddle carrier operations, are located in space where containers should be stored for better ship productivity.
- At the west end of the wharves is a power generator that prohibits free movement of cargo at that location.
- With RoRo lips on the channel side of the wharves, ship must use the slip area, which is limited to a lesser draft, and must have crane rails and additional cranes on the side of the terminal. This creates a cross movement of containers in the terminal and slows productivity of ships. It also takes space that should be used for container storage.
- The current computer system requires additional truck assemblage in front of the office. When a proper computer system is implemented, information currently received in the office will be handled at the interchange gate. Trucks having to go to the office require space that could be better utilized in the terminal operation.

When the single initial operator changes the operational system and equipment used at DCT, he will realign the flow of cargo and gain space through utilization of stacks, allowing for greater terminal throughput.

2.1.3 Cargo Forecast

NPA projects TEU growth at Durban at an annual rate of 6%, using fiscal year 2001-02 as the base year. Table 1.2 above shows the projected traffic in each fiscal year (Greater detail is provided in *Working Paper 2: NPA Traffic forecasts*, an estimated 92% of current capacity. We stated above that the current terminal could progressively improve its throughput capacity by 35 to 40% with improvements in the management of the terminal. The current facility can be assumed to have the following potential capacity. If capacity can be increased to 1.6 million TEU, which we believe to be a reasonable upper bound, then the DCT-1 concession can meet demand through 2008.

Figure 2.2: Projected Capacities (000 TEU)

2002 Utilisation	Increase of 35% Capacity	Increase of 40% Capacity
1,102	1,488	1,543

Source: NPA Projections, CPCS Transcom Consortium Calculation

Subject to EIA approval, infilling of the basin and construction of the terminal (75.6% of the \$221.38 million expenditure would be undertaken by NPA. In addition to the above, other changes will have to be furnished by NPA and other government agencies. These projects or actions will have to be considered during the current transition from a public to a private DCT entity and assurance given that these projects will be completed when facilities are completed or by the time demand dictates their need. Some of these projects that should be considered are:

- Planning by NPA, in advance of requirements for terminal expansion, to meet the demands of ship activity in the future;
- Assist the Operator of the current facility to find the solution of a deeper berth draft than 14.5 meters prior to the arrival of larger ships;
- Widening of the harbour entrance to allow dual ship access day and night;
- Maintaining harbour and berth depths to meet ship demands;
- Road projects to provide for increased road traffic;
- Upgrading rail access to Johannesburg area for more direct unit trains;
- Additional coordination between Terminal Operators and Rail head Operators for the transfer and clearance of containers, and possibly development of a second railhead to serve DCT-2;
- Updating the Customs system to allow for faster movement of railed containers to the Johannesburg area;
- Cancellation of current empty container storage contracts, to allow Operators the right to handle their own empties.

2.1.5 Labour Plan

It is anticipated that a labour action plan will be finalized by government prior to the offering of a concession package. This plan should deal with excess employees, transfer of SAPO employees to the Private Operator, the disposition of incapable employees, retirement of older employees, transfer of retirement funds for soon-to-retire employees and the buying out of any employees of SAPO who cannot perform the functions required by the new Operator. The Operator and SAPO should deal with the following matters for transition to the new entity:

Transfer of Employees:

- Provide the new Operator with a list of SAPO employees by skill, wage, title, etc.;
- Identify specific skills and abilities of SAPO employees to meet the needs of the new operator;
- Transfer of past-employment records to the new entity by SAPO.

Contract Agreements regarding Labour:

- Labour will be transferred at the same pay rate they are currently earning.
- Operator will have the right to bring in foreign employees to train the SA employees in new methods and skills per their requirements.
- The Operator will hire all current employees of SAPO at DCT that are on the DCT payroll as date of handover, the number not to exceed the number on May 1, 2003;
- The Operator will not be required to hire additional employees to replace those who retire or leave their employment;
- The Operator will not be required to maintain the employment of any person who does not meet their skill requirements or employment regulations.
- Make it clear to labour and contractually with the new operators that Stevedoring will be handled as in the past, but that Terminal Operators will be granted a Stevedore's license to compete as they see fit.

2.1.6 Tariff/Regulatory Regime

Tariffs should continue to be published by the NPA with Harbour Operating rules, Wharfage rates, Pilotage rates, Tug rates and any other charge or rule stipulated by government. It is anticipated that the Operator will also publish a tariff with container handling rates and operating rules of DCT. In the contract, it is anticipated that rates will be established jointly between the NPA and the Operator as a ceiling not to be exceeded, but an Operator should have the right to negotiate lower rates or rates based on productivity, without altering the published tariff rate. Lower rates should be in the form of contracts with both tariff and contracts filed with the appropriate Regulatory Body.

For at least the first few years, the current government monopoly will become a private monopoly for handling of cellular container vessels. It is essential that a Regulatory Body be established to deal with matters of overseeing any possible monopolistic rate or practice.

There is presently no regulatory body established. When one is established, there are a few organizational matters we recommend, which are a result of studying other maritime regulatory bodies around the world. These are:

- The Regulatory Body must be independent and report direct to the Government's Administrative organization or the Parliament. It should never report to another agency of government, particularly one involved in transportation by any mode;
- It should not exist beyond the time when market forces produce sufficient regulation within themselves;
- It should have judicial authority to hear and rule on complaints, but not to prohibit any complainant from redress in the court system;
- It should regulate tariffs, contracts, operating procedures and all maritime service units, including the NPA, Private Operators and government agencies involved in maritime activity.

As discussed in *Milestone 4: Economic Impact Assessment (March 2003)*, the impact on the economy other than port users is a multiple of the direct impact on users. For container terminals, the multiplier is estimated to be approximately 15. Thus it is essential that tariffs be set so that the concession leads to not only a financial return to Government (represented by Transnet/NPA as the grantor of the concession) but also an immediate return to direct port users. We illustrate the impact here by considering the table above with a reduction in the terminal tariff of ZAR 50 per import or export TEU. Variable payment (per TEU) from the concessionaire to NPA is reduced by ZAR 50, but the fixed annual payment for the concession is somewhat higher than before. Under this scenario, in addition to the improvement in ship cycle time (which eventually leads to a reduction in ocean freight rates in that highly competitive market) there is a reduction of ZAR 50 per TEU in the payment by the concessionaire to the NPA, offset by a reduction of ZAR 50 per TEU in the payment from the port user to the concessionaire. However the latter (direct reduction in cost to port users) has an impact of 50 x 15 or ZAR 750 per TEU throughout the South African economy. This illustrates that policy tradeoffs may be required in concession design, in choosing between the immediate financial benefits to NPA and the overall benefit to the economy of South Africa.

If concessioning in fact leads to higher overall charges assessed against cargo (for example through a liner surcharge or imposition of a high fixed annual concession fee by Government) the multipliers will be identical in absolute value but in the opposite direction. A liner surcharge of \$75 per TEU, as threatened for 15 November 2002, would have had a direct impact on importers and exporters of more than ZAR 750 per TEU at the exchange rate then in effect. This exceeds current average cost per Teu of using the container terminal, excluding charges for cargo dues and other charges assessed directly by NPA. Through the multiplier, the negative impact on the South Africa economy would have been at least 750 x 15 or ZAR 11,250 per TEU. For an annual throughput of 1.1 million TEU, the negative impact on the economy would have exceeded ZAR 3 million per day, or 12 billion if sustained for a year.

It must be kept in mind that the surcharge was threatened in 2002 precisely because of declining quay productivity – that is, handling rates of less than 16 per hour. It is our view that a policy of proceeding with an initial concession as soon as possible, to be followed by a second concession within an announced schedule, will significantly reduce both direct charges within the port and the risk of future liner surcharges related to unacceptable port productivity.

Appendix 1 provides the 'Data sheet' and 'Control Panel'; for the base case, summarizing key inputs and output, as well as the income statement and balance sheet for the first 5 years.

Figure 2.7: Variation in payments to Government with Expected Traffic Growth and Tariffs reduced by R50

Traffic Growth rate	Maximum fixed annual payment (ZAR million)	Maximum royalty per TEU (ZAR)
4%	30	50
6%	70	50
7.5%	75	50

The same would apply to the utilization of cranes. With 6 cranes, each operator would be assigned 3. Most ships require 2 cranes so if an operator had 2 ships he would only have the use of his 3 dedicated cranes while those assigned to the second operator may be underutilized.

While the 2 circumstances above could be mitigated by mutual agreement, the issues of operating cost, maintenance cost, employees of one operator functioning at another's terminal, etc. may be insurmountable. These could even become a greater problem when equipment or berths were down for maintenance.

2.2.2 Terminal and Yard Layout

The first problem that would occur is that of terminal security. If cargo is missing from containers, the only answer would be to secure each side of the terminal with a fence. This would create huge cargo flow problems, particularly if berths and cranes were shared.

The second problem would be interchange gates. The current gates would probably have to be expanded or a second set of gates with different access roads created. The available space between the single railhead and the slip is quite limited.

Currently the rail yard is on the east side of the terminal. For the operator on the west side of the facility to move containers to the railhead would require crossing traffic of the Westside operator. This would increase the possibility of accidents and cause friction between the 2 operators when accidents occurred. It would also cause problems if one operator felt he was receiving less than equal operational priority from the railhead operator, who would be continually faced with the conflicting priorities of the 2 terminal operators.

Currently the slip on the east side of the terminal is used for ships, though some of the berths have draft problems. This means that the Westside operator would have more initial berth capability than the Eastside operator, but it would also mean that since some of the Westside is utilized for dock space they would have less storage space.

The problems of yard space would grow even greater if the 2 operators utilized different operating strategies. This would make sharing of facilities a virtual impossibility.

2.2.3 Business and Strategic Rationale for Single Operator at DCT-1

As outlined above, there are a number of operations, business and strategic reasons for letting out the first DCT concession to a single operator. The major problems that will be faced by both operators and will increase the cost of their operations if DCT-1 is split up into two terminals are summarized below:

- Since it is likely that each operator will have a different utilization for his terminal at any given time, neither operator will be able to optimally utilize his facility and gain optimal productivity, or achieve best economies of scale.
- Attempts to mutually balance the utilization between competing terminal operators will have limited success, and will keep the costs of operation higher than with a single operator.

- It is unlikely that both operators will have the same operating systems and equipment, and this will increase the potential for logistics conflicts, and increased operating costs.
- In the unlikely event that both operators choose the same terminal operating systems and equipment, this will result in at least some duplication of investment in equipment, again resulting in higher operating costs for each.
- To split the existing terminal operationally "equally" between two competing operators is logistically impossible, and will require a "forced fit", that will increase operating costs for both.
- For business and strategic reasons, each operator will want to physically "screen" his operations from the other, resulting in additional structures to separate each operator and increased and duplicated security and access gates that will also increase the business expense for each operator.

The extra operating costs incurred by two competing terminals when compared to a single operator, will be passed on to the users of the port, which will increase the costs of imports and exports, and will eventually and adversely affect the economy of the country.

It is our opinion that awarding DCT-1 as a single concession will not create a private monopoly because:

- (1) DCT-1 will reach capacity within the next 4 to 6 years, when the second concession will have to be awarded to a competing operator,
- (2) It would be good business practice and strategy for the single operator to consolidate its position with the existing port users by offering them competitive rates and high quality service, so that when a competitive operator arrives, the users have no compelling reason to switch to a new operator. It would not make business sense for the single operator to engage in short-term price gouging or monopoly practices, with the threat of a competitor looming over them within the first 4-5 years of a 20-30 year concession.
- (3) (3) the single operator can be easily regulated by an interim port regulator. The entry of a second operator, at a time when demand exceeds capacity of DCT-1 by only a small margin, will immediately lead to aggressive price competition between the terminals.

For these strategic and business reasons, we therefore recommend that DCT-1 concession be awarded to a single operator, and that this operator be excluded from bidding for DCT-2 or other container terminals in South Africa.

2.3 Proposed Layout of DCT 1 & DCT 2

The proposed layout of two competing container terminals at Durban in the future is shown in Figure 2.8 and discussed below. This approach to terminal development is significantly different from that proposed by NPA, as discussed in the NPA document labeled *Development Plan – Port of Durban*, undated but initially prepared in September 2000 and

updated over time. In this document, prepared at a time when SAPO was envisaged to be the sole future operator, NPA developed a plan for progressively adding to the capacity of a single terminal. The phased plan involved 5 elements, illustrated in figure 2.1 above:

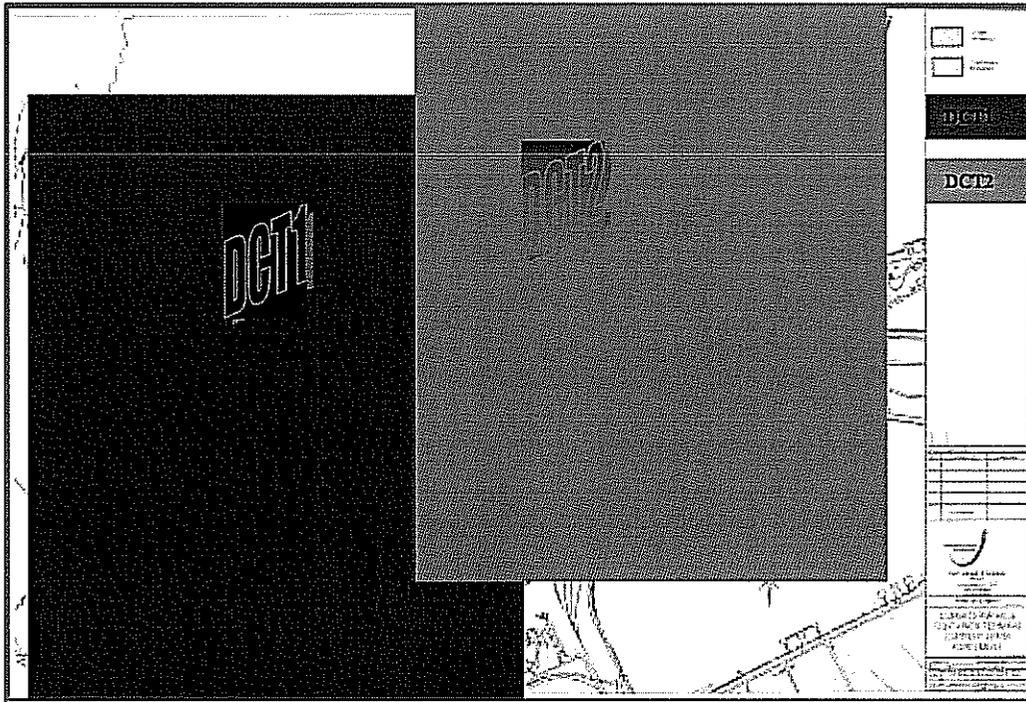
1. Upgrade pier 2 to optimum capacity (we do not believe that this has yet been fully implemented);
2. Convert Pier 1 to container handling (we understand that this work is now underway);
3. Expand Pier 2 container terminal to the North;
4. Relocated SACD and develop the site for container operations;
5. Eastward expansion of Pier 1;
6. Re-Develop Salisbury island for container handling

We note that NPA has for the moment rejected the option of in-filling of the basin between Pier 1 and Pier 2, proposed below, based on an environmental review. However that review appears to us to also preclude either element 5 (still included in the plan) above or the development of the city terminal, permitting relocation of the multipurpose terminal from Pier 1 (presently under construction).

The footprint of the two competing terminals is superimposed on the current layout of DCT Terminal and Pier 1. DCT-1 will be the terminal to be the first 'wave' of concession contracts. DCT 2 will be concessioned after cargo volume exceeds the effective capacity of a concessioned DCT-1. The following should be noted in viewing this exhibit:

- The terminal area layout is conceptual, and has been drawn without consideration for location of water lines, electrical services, storm drainage, current roads and environmentally protected areas. An engineering survey will have to be accomplished to determine the exact dimensions.
- To handle up to 1.6 million TEU at DCT-1, all changes recommended, including equipment, stacking arrangement, plus a first class International Operator with a high productivity reputation, will have to be accomplished
- The 1.6 million TEU capacity target of DCT-1 is based on the following:
 - Current volume is 1.2 million TEU. 35% increase from physical, operational & productivity changes recommended equals 1.6 million TEU.
 - By removing RoRo lips at the outer berths, the facility will be able to handle 4 vessels. A berth in most top productivity ports handle 700,000 TEU's per berth, and we have estimated a conservative throughput of 400,000 per berth. This means that the side berths #200, 201 & 202 will not be required.

Figure 2.8: Proposed Future Competing Container Terminals at DCT



Source: CPCS Transcom Consortium

- All changes to the dock area recommended will have to be accomplished by NPA, including the major maintenance of the facility.
- The area behind the slip should not be included in DCT-1, but held for inclusion in DCT-2 expansion.

During construction of DCT-1, this area, and the right to use the berths on the west and south sides of the basin, may be provided to the new operator under a short-term lease. Once upgrading of DCT-1 is completed the operator would be obliged to return space outside the boundaries of DCT-1 to NPA, for inclusion in the DCT-2 concession.

2.4 Conclusion

We have reviewed the options, the cost of each and the inherent operational problems involved with more than one initial operator. We feel that the option of a Single Operator for DCT-1 has much less risk of failure, increases the likelihood that there will be more bidding competition "for the market", presents a better opportunity for an economic return to the nation a higher productivity for DCT and a much better chance of providing a successful example of concessioning. Given the magnitude of the macro-economic multiplier, where trade-offs are necessary, the highest priority should be placed on maximizing returns to the economy rather than financial returns to individual Government entities within the port system. Moreover, limiting the initial concession to DCT-1 as defined in this Report permits the development of a second, competing container terminal within Durban, while including Pier 1 in the initial concession effectively permanently precludes this development. Because of the very limited potential for other container terminals inside

South Africa to compete with Durban in the major South African markets for container traffic (Durban and Guateng), this is the most effective way to constrain the short-term monopoly within Durban that will be granted to the initial concessionaire.

3 The Concession Plan

3.1 Policy Options

This concession plan is developed within the existing policy and legal framework articulated in the various documents developed by the government for economic reform in general and port reform in particular. These documents include but are not limited to the "White Paper on National Commercial Ports Policy", "National Ports Authority Bill" and the "Public Private Partnerships" manual of the National Treasury. In addition, a number of white papers have been produced by various government entities and stakeholders in the port reform process, and the opinions expounded within these documents need to be considered as well.

The critical elements of these policy, legal and process documents of the South African government that are most relevant to this concession plan may be summarized as follows:

- All existing and future commercial ports will be administered by the National Ports Authority (NPA). Port development will remain a national function, but development rights may be transferred to the private sector. NPA will eventually be positioned outside Transnet, be separately accountable to Department of Public Enterprises and be the landlord, owner and developer for all ports.
- In our view, NPA as the landlord and owner of ports cannot act as its own regulator on economic matters. A temporary Independent Regulator will therefore be established (NPA is not presently regulated by an independent regulator) and co-jurisdiction will exist between the regulator and the Competition Commission. Once the temporary regulator ceases to exist, the Competition Commission's enduring role will ensure continued safeguards of the economic interests of port users.
- Port authority and port operations functions will be separated, and regulation will be kept to a minimum.
- All participants (including port users) will be treated equally and fairly.
- SAPO's license to operate will terminate when a third party is granted a concession. SAPO will not be a shareholder or participant in DCT-1 or future port concessions. *It should be noted that while this is an explicit component of the Draft Concessioning Architecture, the proposed architecture has not yet been formally accepted as Government policy.*
- Promotion of Black Economic Empowerment and Small, Medium and Micro Enterprises, and Labour issues will receive a high priority in the restructuring process.
- The bidding process for concessions will be transparent and open to pre-qualified bidders only. The evaluation criteria will seek to select the bid that represents maximum "Value for Money". Value for money may be defined by many indicators, including but not limited to the Net Present Value of cash flow to the government;
- The Value for Money requirement will not be compromised by social objectives;

- Pre-qualification of bidders and selection of winner should be based on a weighted rating system to assign points to factors most important to the government in achieving its economic and social goals; and
- The evaluation methodology or criteria should not be discriminatory or set so high as to exclude qualified smaller and disadvantaged firms.

While the government's overall policy concerning port reform is sound and clear, it is less obvious that there is consensus among stakeholders concerning the interpretation and application of these policies. There are a number of critical policy issues that unless resolved, could emerge as "deal killers". While these contentious issues may not by themselves scuttle the concession process, they present real obstacles that have the potential to erode the "value" of the concession. Potential bidders will factor in the risks and cost of overcoming these obstacles when pricing the value of the concession, resulting in a less than best Value for Money for the government of South Africa.

To obtain the most responsive and economically attractive bids from qualified International Terminal Operators, it is recommended that the government address and resolve the following policy issues, before soliciting proposals for the concessions:

- Establish an independent, autonomous port regulator, structured and financed in a manner that precludes any political interference and influence. The regulator must have independent judiciary powers or at a minimum the power to arbitrate disputes between the Operator and the Landlord. If this is done, the separation of NPA from Transnet is irrelevant to this transaction.
- Without deviating from the principal of maintaining the existing employment, allow the Operator the flexibility to select and appoint his own operations staff at the terminal, and implement his own work rules according to best international practices.
- Confirm that the current operator will not be a shareholder or participant in port concessions.
- The Single Operator alternative will provide the best operational efficiencies, resulting in increase in productivity and reduction in port costs. It would be unwise to compromise this and induce forced competition by splitting the terminal and allocating concessions to two competing operators.
- If capital investment requirements appear to preclude meaningful participation of BEE and economically disadvantaged firms at this time, the government (not Transnet) should "buy into" the BEE shares, and bank them for transfer to qualified BEE firms at a later date. To obtain the best operator, do not compromise the Value for Money requirement by near-term social objectives.
- The setting and currency denomination of tariffs, tariff ceilings if any and their regulation must be clearly articulated in the solicitation.
- Define an evaluation methodology and criteria that is non-discriminatory, not set so high as to exclude qualified smaller and disadvantaged firms.

Finally, the government must commit to handing over the port facilities to the Operator “free and clear” of any pending labour and inter-departmental disputes. It is the responsibility of the government to ensure that port labour is “on board” and will honour the labour availability commitments that the government will make to the operator, and that the debates concerning the participation of SAPO, NPA and Transnet in the concessions and future port operations are resolved before transferring the port facilities to the ITO. The restructuring or termination of current tenant agreements, if required as part of the concession, must also be the responsibility of the government.

Even if time constraints and the legislative and political processes do not allow these policies to be implemented before going out to bid, it is essential that at the time of the solicitation the government formally communicate its intention to implement these critical policies.

3.2 Institutional & Regulatory Structure

The draft National Ports Authority Bill (“Bill”) defines the legal and regulatory structure of a concessioned ports system, while the White Paper on National Commercial Ports Policy specifies the policies for managing the relationships between the private sector and the public sector.

The draft National Ports Authority Bill severs the NPA from Transnet (it is presently a ‘ring-fenced’ division within Transnet), and provides the legal framework to achieve the objectives of the White Paper on Commercial Ports Policy. In addition, the Bill defines the roles of the various stakeholders and their hierarchy within the ports system:

- The State owns all the nations public ports, and Minister of Transport (Minister) proclaims the jurisdiction of all ports and declares new ports.
- The NPA is created as an incorporated company under the Companies Act, and is the landlord and manager of the ports on behalf of the State.
- The Minister of Public Enterprise is the primary Shareholding Minister in the incorporated shares of the NPA. The Shareholder appoints the Board of NPA.
- The NPA must operate commercially and independently as a successful business and provide and adequate rate of return.
- The Bill will create an independent Ports Regulator (Regulator), reporting to the Minister, and operate within the secretariat of the Department of Transport. The powers and responsibilities are specified in Article 32.
- The Regulator will conclude an agreement with the Competition Commission to exercise jurisdiction over competitive matters and act as an avenue of recourse in case of anti-competitive behaviour.
- The Regulator will be funded by monies appropriated by parliament.
- The NPA will have the right to enter into a concession or public private partnership with any person, and to monitor and review their performance.

- The NPA has the right to negotiate competitive port services tariffs with concessionaires and to publish tariffs, but must consult with a Port Consultative Committee prior to any substantial changes in published, not negotiated tariffs.

Therefore, as per this Bill, the concessionaire will need to enter into a contract with the NPA to provide services at the port, and the Regulator will regulate the relationship between and activities of the concessionaire and the NPA.

The rules of the game as specified by the draft Bill are generally sound, and consistent with world practices. However there are a number of potentially fatal flaws that should be corrected before it is returned for parliamentary review:

- The Regulator should be an autonomous and independent entity similar to the judiciary branch of the government, funded by the national budget and reporting directly to Parliament. This will remove it from the cyclical and political influence of changing administrations. If the regulator is to be 'interim' - that is to function only during the period before NPA is fully corporatized and separated from Transnet - provision will have to be made to deal with the regulatory function in another manner subsequent to separation.
- The Regulator does not appear to have judiciary powers to enforce regulation, settle disputes and penalize infringements of the Bill, and anti-competitive behavior. At a minimum the Regulator should have the authority to convene an adjudication tribunal and to impose and enforce penalties.
- The provision requiring NPA to consult with a Consultative Committee every time it wishes to change published tariffs is onerous and a step backwards from allowing market forces to determine tariffs. Independent corporations such as South African Airways are not required to publicly debate or require public approval of their pricing strategies, and neither should NPA.
- The Regulator should have a "Sunset Provision", wherein every five years the role of the Regulator is evaluated to determine whether market forces are firmly in place and the regulatory function can either be terminated or transformed into a more benevolent role.

With these caveats, the legal basis for a market-oriented institutional and regulatory structure for concessioning DCT is sound and in place.

3.3 Concession Options

The strategic options comparing the pros and cons of concessioning out DCT to a single or to multiple operators was discussed in detail in Section 2, where it was concluded that splitting the terminal up into more than a single integrated facility will result in significant operational problems, require additional capital investment, increase the risk of commercial viability for each operator, and may make the concessions less attractive to investors. It is recommended that DCT be concessioned out to a single operator.

The nature of the concession can vary, based on the level of risk that NPA/Government wants to assume or share with the operator:

- The expansion of a new facility will allow SA to have a competitive element inserted into its most important cargo base, within a defined time frame. This severely limits the real monopoly power of the initial operator, who will in fact have a limited monopoly. With the expansion option given to the first operator, Durban might never have competition and rates could become restrictive to trade, even with a regulatory body overseeing the contract.
- Investment in the first terminal will approach \$100 million by 2006 and the second terminal may be required as early as 2008, if NPA projections prove correct. The cost of the expansion will exceed \$200 million. This may be too much to expect out of even a large International Operator, perhaps making NPA investment in the second terminal preferable to a BOT type of concession.
- In the foreseeable future South Africa will take its place among the industrialized nations of the world as its economy goes through further expansion. To allow a single operator to control the expansion it requires in its most important port and the fastest growing cargo, would be short sighted and may deter the future growth required by the economy.

In our *Concession Strategy Report (Milestone 2, dated January 2003)*, we recommended that the operator of DCT not be allowed to bid on the Cape Town and Port Elizabeth concession. This too was done from a competitive standpoint. As discussed above, competition within Durban is even more important than potential competition between other South African container terminals and Durban, because of the constraints of south African geography and the land transport links between Gauteng and the ports.

3.4.2 Berthing of Vessels

Until DCT is expanded and the eastside slip is filled, the Operator will have use of the berths inside the slip. It is anticipated that when the RoRo lips are removed from the channel side berths, the Operator may wish to transfer some of the cranes in the slip to the new space channel side. This will be the choice of the Operator, but when construction begins on the slip all cranes will be removed from the slip.

Regarding the berthing of vessels, there is a Harbourmaster who works for the National Port Authority and tugs that are operated by the NPA. When a ship arrives for loading/unloading at DCT, the Operator will be advised of the vessel's ETA by the local agent representing the vessel while in the port of Durban. The Operator will assign a specific berth location and coordinate the mooring of the vessel with the Harbourmaster and tugs.

3.4.3 Responsibility for Berths and Wharf

The Operator should understand that the NPA receives the Wharfage and Dockage revenue and is thereby responsible for the repairs and or replacement of berths, maintenance of depths at the berth and removal of the RoRo lips and power station currently attached to the berths.

Contractually the NPA will be required to assure that such responsibilities will be performed in an expeditious and timely manner, through 'back to back' performance agreements with the concessionaire.

3.4.4 Responsibility for Berths and Wharf

The Operator should understand that the NPA receives the Wharfage and Dockage revenue and is thereby responsible for the repairs and or replacement of berths, maintenance of depths at the berth and removal of the RoRo lips and power station currently attached to the berths.

3.4.5 Mooring & Unmooring of Vessels

Mooring and Unmooring, or the physical function of tying ship line to dock bollards, is performed by the NPA as part of its responsibility on the dock. They use 6 to 8 employees to perform this function on each mooring or unmooring operation.

3.4.6 Delivery of Containers to/from Truckers

Freight Forwarders will arrange for trucking to inland destinations and coordinate with the Operator the arrival of the trucker. The Operator will schedule such delivery or receipt and produce the interchange document as the truck arrives at the interchange gate facility. The interchange document will be the official transfer of responsibility of the container between the operator and the trucker.

3.4.7 Delivery of Containers to Rail

The railhead is located on the west side of the terminal and is operated by Spoornet (like NPA, a division of Transnet). Containers destined for rail delivery locations will be delivered by the terminal operator to the railhead and Spoornet will accomplish the loading on a rail car. Coordination for such delivery will be ordered by the Freight Forwarder and accomplished through the Terminal Operator and Spoornet.

In Section 2.2.2 above we noted that 2 operators working within DCT-1 could not effectively utilize the same railhead. However, when a second terminal is constructed, either a by-pass road from the second terminal (DCT-2) to the existing railhead could be constructed or Spoornet could utilize the trackage currently located behind the proposed Terminal 2 to develop a second railhead.

3.4.8 Stevedoring

Stevedoring is provided on-board vessels, to accomplish the transfer to or from the Operator on the dock. The Stevedore is hired by the Ship's Agent for this service and the Stevedore in turn hires union labour to perform the function. As noted above, SAPO has indicated its intention to take on direct responsibility to hiring of the stevedore. We recommend that the existing arrangement continue when the concessionaire assumes operation of the terminal. The Terminal Operator will be granted a license to function as a Stevedore and will have to compete with other Stevedores for this business. It is thus important that any contracts signed by SAPO with existing stevedores not be binding on the future concessionaire.

3.4.9 Labour

Terminal labour is currently hired by South African Port Operations (SAPO) who performs all services at DCT. These include workers who physically move containers and operate

equipment, but also include administrative and management personnel who handle documentation, administrative duties, computer operation and other such duties required by a container terminal. It is anticipated that these employees will transfer to the Operator. Arrangements for rates of pay, fringe benefits, length of future service and other similar personnel matters will be the subject of negotiation for the contract.

3.4.10 Empty Container Storage

Currently DCT has leased space behind the rail yard to a private operator, to store empty containers. The area is also used as a 'container freight station', for the stuffing and de-stuffing of containers. The area is not paved, but provides storage capability within the terminal. It should be the intent of NPA to cancel this lease and turn the area over to the Operator, with empty container storage a function of the terminal and CFS services provided elsewhere. Timing of this cancellation will have to be coordinated by the NPA.

3.4.11 Terminal Security

Security of gates and entrances on DCT is currently handled by SAPO. It is anticipated that all security except waterside will be the responsibility of the Operator.

3.4.12 Tariff Setting

As explained in 3.1.6 above, the Operator will be expected to establish his own tariff in consultation with the NPA. This tariff will include rates for all services that the operator provides and the operating rules of the Terminal. This tariff will be filed with the new Maritime Regulatory Body and all changes or deviations from the tariff will be approved by that body. Rates established in the tariff are considered to be a ceiling and the Operator will be allowed to lower such rates through contracts filed with the regulatory body.

3.4.13 Billing and Collection

If allowed by the NPA, the operator may be allowed to bill and collect payments from the ports customers for services and charges of the NPA as well as those of the operator. The payments made against the port's charges are directly passed through to the NPA. This system reduces the administrative burden on the NPA, but increases the investment in monitoring and control mechanisms. Alternatively, for the low risk model selected here, invoices for services rendered by the operator will be billed by him and collection of those charges will be the Operator's responsibility. The NPA will bill and collect its own charges.

3.4.14 Payment to NPA

As discussed earlier in this section, the operator should be free to establish the tariff rates and collect his own tariffs, provided that he does not exceed the ceiling established by the existing tariff for the services performed by the operator. The payment to the NPA from the concessionaire can consist of any combination of the following major items:

- A fixed annual fee, which should be equal to or slightly less than the free cash flow that SAPO generates from operating DCT. This compensates the NPA for the provision of infrastructure and other assets provided for the use of the operator. The return on assets or capital investment should be determined by the Treasury, and is usually the

bond rate for government debt in South Africa, plus anywhere from 2% to 5% to compensate for the country political risk.

- A variable fee per TEU, on a declining scale per TEU as volume of cargo increases, as this will provide the operator a strong financial incentive to attract greater volumes of cargo to DCT.

The schedule of the payments transferred to NPA should normally not be more frequent than once in every quarter, to minimize administrative burden for the operator and monitoring burden on the NPA, although there are ports that collect monthly payments.

3.4.15 Productivity

The Operator will be expected to assure certain improvements in productivity of the terminal on a schedule to be established in the contract. Following are three measures of productivity that the Operator will be expected to meet or exceed.

Figure 3.1: Anticipated Productivity Targets

Anticipated Productivity Item	After 1 Yr.	After 2 yrs.	After 3 yrs.
Ship Loading/Unloading Productivity	25 PPH	28 PPH	32 PPH
Dwell Time of Containers	4 Days	3.75 Days	3.5 Days
Delivery Time to Trucks (In/Out of Term.)	45 min.	35 min.	30 min.

Source: CPCS Transcom Consortium Estimates

3.5 Performance Compliance and Monitoring

The productivity standards proposed for the operator are shown above. The challenge will be to (a) ensure that the bid evaluation and selection process weeds out marginal bidders who will be unable to perform and will default, and (b) put in place mechanisms to ensure compliance with agreed standards and monitor performance.

The first issue is addressed by reviewing the productivity and performance of the bidders at comparable or larger container terminals worldwide, in a similar operating environment, and weeding out those bidders that cannot demonstrate this performance. The financial strength of the operator is also important for this evaluation, because low productivity can be improved by additional capital investment, and NPA should ensure that bidders have the capability to invest.

In order to monitor compliance with performance standards, NPA will need to invest in computer systems that can directly access the concessionaires operating performance and cargo information, set up reporting and auditing systems for monitoring investment and maintenance schedules.

NPA can only evaluate if its existing computer systems can be modified to integrate with the operator's terminal operating systems after the concessionaire is selected. Other auditing

processes and mechanisms can be established and articulated when preparing the bid documents, so that bidders are aware of the additional costs they incur for compliance.

NPA will need to assemble an audit group for managing concession performance and compliance, and the skills required will include operations engineering, systems and accounting.

3.6 Execution Strategy

The DCT concession plan, to be successfully implemented, must have an execution strategy, which goes beyond preparing the process and schedule for the transaction. The execution strategy focuses on taking a “no stones unturned” approach in preparing the terminal for the transaction. The emphasis is on ensuring that:

- The market, as represented by potential operators, is well informed of the deal well before the bids are officially solicited. If it does not violate the laws concerning concessioning process, NPA and its transaction advisors should encourage dialogue with potential bidders.
- The deal is attractive. Ensure that potential bidders are informed of the steps the government will take to ensure that the terminal is presented to bidders unencumbered with any unacceptable social and business liabilities.
- A core transaction team is developed that is intimately familiar with all aspects of the terminal and will focus on getting the best deal for the government.

The preparatory activities and detailed actions for making DCT-1 a successful transaction in the first wave of concessions has been discussed in various parts of this document, and is summarized in the following table:

Figure 3.2: Key Activities to be undertaken with assignment of responsibility to appropriate government entity

Action	Responsibility
POLICY:	
Define regulatory regime, regulator and policies	DPE
Define deregulated tariff policy	DPE
Define Labor retention and layoff policies	GOSA
Define mandatory BEE inclusion policy	GOSA
Define policy for development of Coega terminal without affecting DCT & Others	GOSA
Define government infrastructure investment policies and commitments	GOSA
Confirm that the current operator will not be a shareholder or participant in port concessions.	GOSA
Delete provision requiring NPA to consult with a Consultative Committee to change published tariffs	GOSA
LABOR & BEE:	
Achieve consensus with labor unions on labor and concessioning strategy	DPE
Establish labor agreement - transfer of retirement fund, transition wage, continuous employment and benefits.	DPE
Define & communicate Labor participation and Mitigation strategy. Operator to	DPE

CPCS TRANSCOM

CORNELL

STC/DYNAMAR

PHATHANI

EMS

retain employees but can change work rules.	
Commence attrition and hiring freeze	SAPO
Design early retirement scheme	Transnet
Commence a selective recruitment process to be implemented by the operator to build a multi-skilled labor force	SAPO
Develop plan to "buy into" the BEE shares, and bank them for future transfer to qualified BEE firms.	DPE or Transaction Advisors
REGULATOR, TARIFFS, & COMPETITION:	
Establish an independent, autonomous port regulator free of any political interference and influence.	DOT/DPE
Define regulator responsibilities, adjudicatory and punitive authority and powers.	DOT
Define tariff setting & monitoring rules, currency denomination, tariff ceilings and their regulation.	DPE
Define what constitutes anti-competitive behavior & punitive actions.	DPE/Competition Commission
EXISTING CONTRACTS & OBLIGATIONS:	
Resolve existing tenant contract with SACD within DCT Terminal .	NPA
Resolve current supplier contracts with existing suppliers.	NPA
Prepare to hand over the port facilities to the Operator unencumbered with existing liabilities.	NPA
PREPARING FOR THE CONCESSION:	
Set up a "Concession Transaction Unit" within DPE staffed at minimum by a dedicated Team Leader a financial analyst and a part time lawyer.	DPE
Select members of Evaluation Committee.	DPE
Develop TORs for transaction advisors	DPE/NPA
Have Engineering survey of DCT 1 area for inclusion in the concession document.	NPA
Determine work to be performed by NPA on dock after concession agreement is signed.	NPA
Establish a construction schedule for NPA work on dock.	NPA
Decide on Harbor improvements and their schedule to advise potential bidders.	NPA
Do not execute stevedoring contracts that will endure beyond the commencement of the new concessionaire	SAPO

The detailed process and schedule are discussed in Section 4.

4 Transaction Process & Schedule

4.1 Process – Description of Actions

The final step in planning the DCT concession is defining the transaction process. The transaction or tendering process will consist of the following activities:

1. Set up Transaction Committee, assisted by professional advisors, responsible for due diligence, bid evaluation, selection and contract negotiation. This transaction committee should be selected to represent the assorted stakeholders in the port. The committee should also be familiar with or trained in negotiating strategies. One of the principal tasks of the advisors during the concessioning of DCT will be to train the committee in the most effective process for evaluating and selecting bids in a timely manner. This will permit some reduction in the level of outside support during subsequent waves of concessioning.
2. Set up "Data Room" and allocate resources for transaction. This will consist of a facility, preferably at the port premises although it could be NPA head office, that will contain all the operational and financial information that the government believes is required for the bidders to make an informed decision about whether to pre-qualify.
3. Prepare the Information Memorandum and Bid Package - Pre-qualification stage & Final. The information memorandum provides the operational data concerning the terminal, its current status, and market environment it competes in. The bid package will consist of the rules of tendering, evaluation and selection. The first document will be used to short-list qualified bidders from among those submitting expressions of interest; the second will evaluate the offers submitted by those who have been short-listed.
4. Prepare Evaluation Criteria for short-listing. The evaluation criteria for short-listing must focus on measuring the capability of bidders to invest and increase productivity.
5. Issue International open invitation for EOI & Qualifications. Additionally the international solicitation should also be mailed directly to known major international operators.
6. Short-list Potential Bidders. This is done after evaluating the qualifications received from interested bidders, using the criteria developed in #4.
7. Prepare Evaluation Criteria for Short-listed bidders. These criteria will focus on identifying the best operator that is most capable of achieving the government's reform objectives for the port. As such, the transaction advisors will need to brainstorm with the NPA to define these criteria, and assign weights to them based on their importance to NPA.
8. Send out Terms of Reference & deadlines (to short-listed bidders only).
9. Facilitate Bidder Due Diligence. Approximately 15 days after the invitation is sent to short-listed bidders, the NPA should set aside a week during which bidders will visit DCT and the data room to conduct their due diligence, and the NPA and its advisers will facilitate them in this process.

10. Evaluate Bids, Rank & Select the top ranked bidder for negotiation, using the criteria developed in #7. Invite the winner to commence negotiations within three weeks of the invitation.
11. Negotiate Terms. The negotiation must be conducted with the assistance of transaction advisors well experienced in similar transactions. An experienced negotiation team can make a significant difference to the value of the transaction that can be captured by the government. This step is also the most lengthy and uncertain. We have known this process to last anywhere from six months to three years.
12. Legal Transaction Closure. The NPA's transaction advisors will prepare the legal documents and oversee the process for legal closure.
13. Issue international public announcement on successful selection of concessionaire. This step serves a very important purpose of informing the international investment community that South Africa is a safe and attractive country to invest in.
14. Physically transfer stewardship of DCT to winner at formal ceremony.

4.2 Schedule

It is anticipated that the concession process would take approximately 10 months from beginning the Preparation of the Bid Package to the signing of an MOU. It would take about 13 months from preparation of the Bid package to completely transferring the facility to the new Operator. This schedule is the maximum anticipated, and may be shortened somewhat, depending on the volume of bidder activity.

Figure 4.1: Proposed Bid Schedule & Dates of Actions

No.	Action	Completion Day
1.	Prepare Bid Package and Bid Evaluation Criteria	60
2.	Create Selection Committee, Transparent Evaluation Process & Data Room	60
3.	Publish Notice and Invite Qualifications	105
4.	Send RFP and Invite SL bidders for due diligence	135
5.	Short-list bidders	140
6.	Commence due diligence with SL bidders in Durban	185
7.	Receive bids for evaluation	200
8.	Evaluate bids, select top 3	230
9.	Notice to 1 st 2 nd and 3 rd ranked bidders	240
10	Begin negotiation with bidder #1	255
11	MOU signing and public announcement	315
12	Close Transaction – receive funds, hand over facilities	395

APPENDIX 1 – FINANCIAL MODEL INPUTS AND OUTPUTS

CONTROL PANEL

PRINT

DCT CONCESSIONING MODEL
February 2003

SOUTH AFRICAN PORTS REFORM
Department of Public Enterprises (DPE)

POWERED BY AXELCIUM

1 - INPUTS SET-UP

DURBAN CONTAINER TERMINAL CONCESSIONING PACKAGE

2) List of Activities Concessioned (DCT 1 & DCT 2)

DCT 1	31/12/2003	Container landed
Start of Investment Period - DCT 1	30/06/2004	Container shipped
Start of Operation Period - DCT 1	20	Container transhipped
Contract Duration - DCT 1	30/06/2024	Terminal Handling Charges (THC)
End of Operation Period - DCT 1		Stevedoring
DCT 2	31/12/2003	Infrastructure
Start of Investment Period - DCT 2	30/06/2004	Building
Start of Operation Period - DCT 2	20.0	Handling Equipment
Contract Duration - DCT 2	30/06/2024	Little Equipment
End of Operation Period - DCT 2		

ECONOMIC MODEL ASSUMPTIONS

4) Demand Forecast & Tariffs Assumptions

DCT 1	Demand Forecast	Traffic Growth Rate	Unit Tariff
Unit :	TEU	%	ZAR 2002 / TEU
Container landed	394,374	6.0%	445.82
Container shipped	445,494	6.0%	443.96
Container transhipped	268,586	6.0%	566.21
Terminal Handling Charge	0	0.0%	0.00
Stevedoring	1,377,040	6.0%	28.00
Sensitivity factor =	100%	ns	100%
		% Growth Index Tariff =	6.30%

DCT 2	Demand Forecast (TEU)	Traffic Growth Rate	Unit Tariff
Unit :	TEU	%	ZAR 2002 / TEU
Container landed	0	0.0%	0.00
Container shipped	0	0.0%	0.00
Container transhipped	0	0.0%	0.00
Terminal Handling Charge	0	0.0%	0.00
Stevedoring	0	0.0%	0.00
Sensitivity factor =	100%	ns	100%
		% Growth Index Tariff =	6.30%

5) Payment to Government Assumptions

Typology :	Lease	Fixed Annual Fee	Variable Annual Fee
------------	-------	------------------	---------------------

1) Macro Economic Assumptions

Reference Year :	2002
% CPI	6.30%
% Construction Index	2.30%
% Salaries Index	4.00%
EURIBOR 6 months (2002 Value)	5.00%
Export Credit Interest Rate	6.00%
Local Interest Rate	16.00%
Foreign Currency	USD
Local Currency	ZAR
USD/ZAR (2003 basis)	8.09
EUR/ZAR (2003 basis)	8.71
Exchange Rate - Website	Exchange Rate Date = 2/25/2003

2) Fiscal Assumptions

Corporate Rate Tax	30.0%
--------------------	-------

Unit:	ZAR 2002 / m2	MZAR 2002	ZAR 2002 / TEU
DCT 1	52	50.0	100.0
DCT 2	0	0.0	0.0

Typology:	Entry Fee
Unit:	MZAR 2002
DCT 1	0.0
DCT 2	

Current Facility

New Facility (3 berths after construction)

FINANCIAL ENGINEERING ASSUMPTIONS

1/ Equity Structuring Assumptions		3/ Financing Options
E/(E+D)	40%	<input type="checkbox"/> Export Credit Structuring
Subordinated Debt	No	<input type="checkbox"/> Trustee Account for Debt Service
2/ Debt Structuring Assumption		<input type="checkbox"/> Dynamic Management of Cash Flow Account
Loan Currency	USD	<input type="checkbox"/> Revolving Credit
Number of Repayments	12	
First Repayment Date	31/12/2007	
Spread (Euribor +)	3.50%	
Arranging Fee	0.30%	
Commitment Fee	0.25%	
Maximum Debt Allowed (Banks)	523.3	
Maximum Debt Calculated	523.3	

WACC ASSUMPTIONS

1/ Market Risk Premium		3/ Equity Risk Premium (Sponsors)	
Risk Free Rate	2.00%	Equity Risk premium (ERP)	6.00%
Sovereign Risk Premium	10.00%	Equity Beta (Unlevered)	0.80
2/ Debt Risk Premium (Lenders)		Regulatory Risk Premium	4.00%
Default Risk Premium	3.00%		

II - OUTPUTS SET-UP

1/ General Outputs		2/ Global Financing Plan (in ZAR)			
Average Traffic DCT 1	933,100	Uses	16.2	Sources	16.2
Average Traffic DCT 2	0	Intangible Assets		Development Costs	348.9
Average Operating Cost DCT 1	496.3	Capital Expenditures	865.6	Equity	523.3
		Initial Working Capital	0.0	Debt	

Average Operating Cost DCT 2	0.0	MZAR	6.6	ECA	0.0
Average Payment to Government DCT 1	252.0	MZAR	0.0		
Average Payment to Government DCT 2	0.0	MZAR	0.0		
Average Cost/TEU DCT 1	531.9	ZAR	888.3		
Average Cost/TEU DCT 2	ns	ZAR			888.3
			Total		888.3

CORPORATE FINANCE MODULE

1/ Financial Equilibrium & Risk Analysis

CASH FLOW OK

ADSCR OK

Half-yearly DSCR (mini)

ADSCR mini

LLCR

PLCR

E/(D+E) (mini)

Break Even-Point (% Turnover)

1.2	on 12/31/2008		
1.2	on 12/31/2008		
4.3			
18.1			
36%	on 06/30/2007		
99.2%	on 12/31/2005		

2/ Financial Return Analysis

RETURN OK

NPV

IRR after Tax

Return on Equity (ROE)

Return on Debt

Pay back

ICR

Shareholders Return

441 MZAR			
23.0%			
27.7%			
9.4%			
1.4			
1.6			
24.2%			

WACC

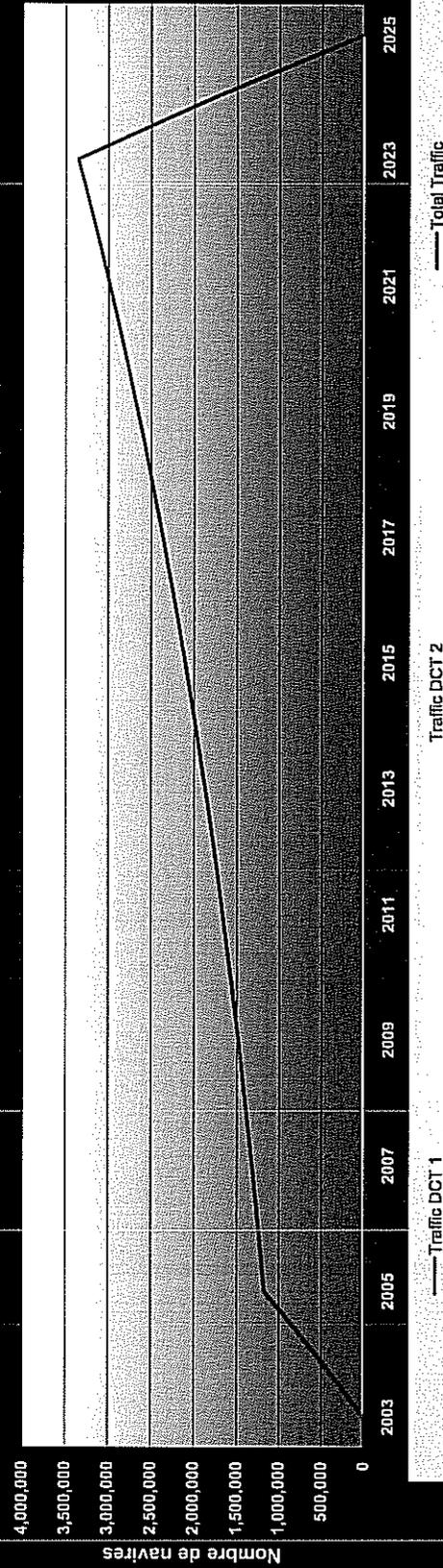
Equity Cost

Debt Cost

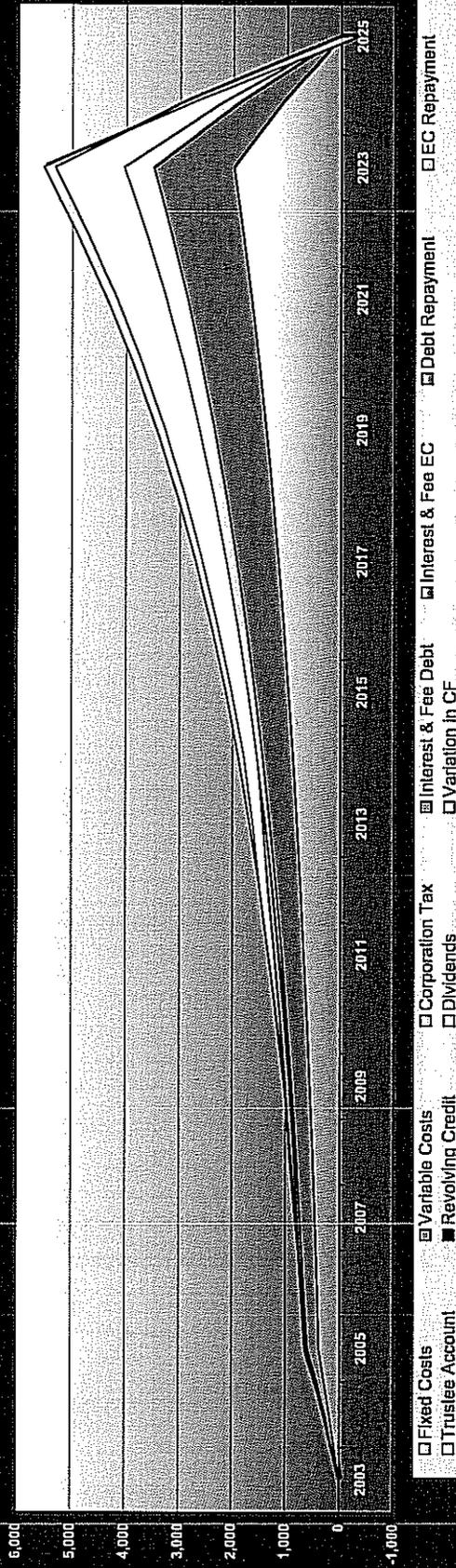
14.6%	
20.8%	
10.5%	

III - GRAPHS

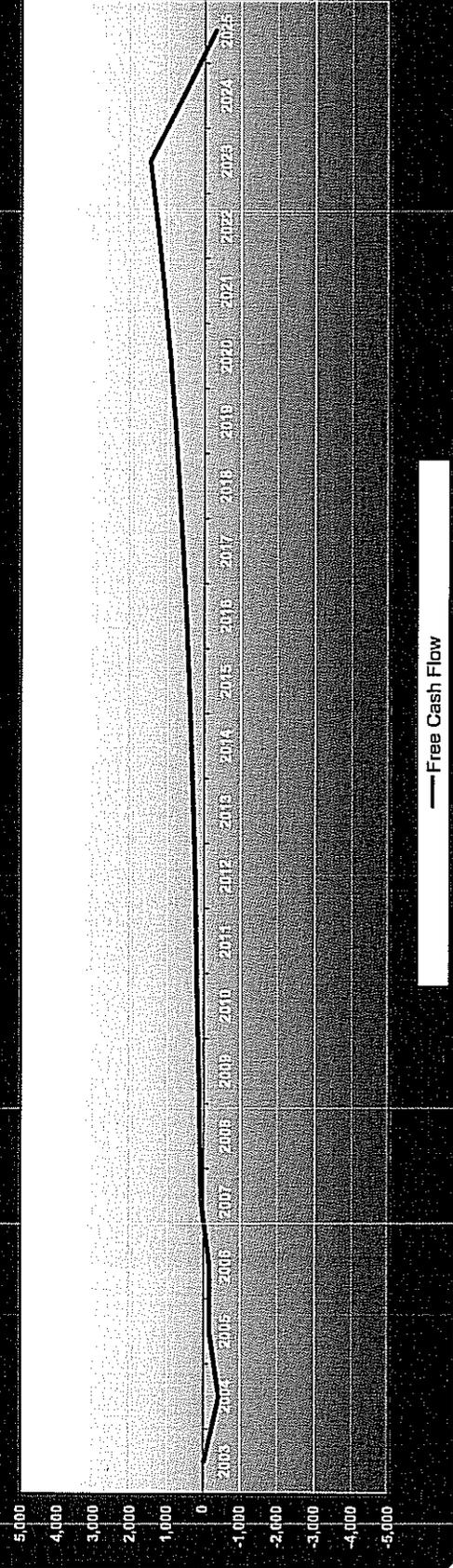
Traffic Forecast



Cash Flow Statement

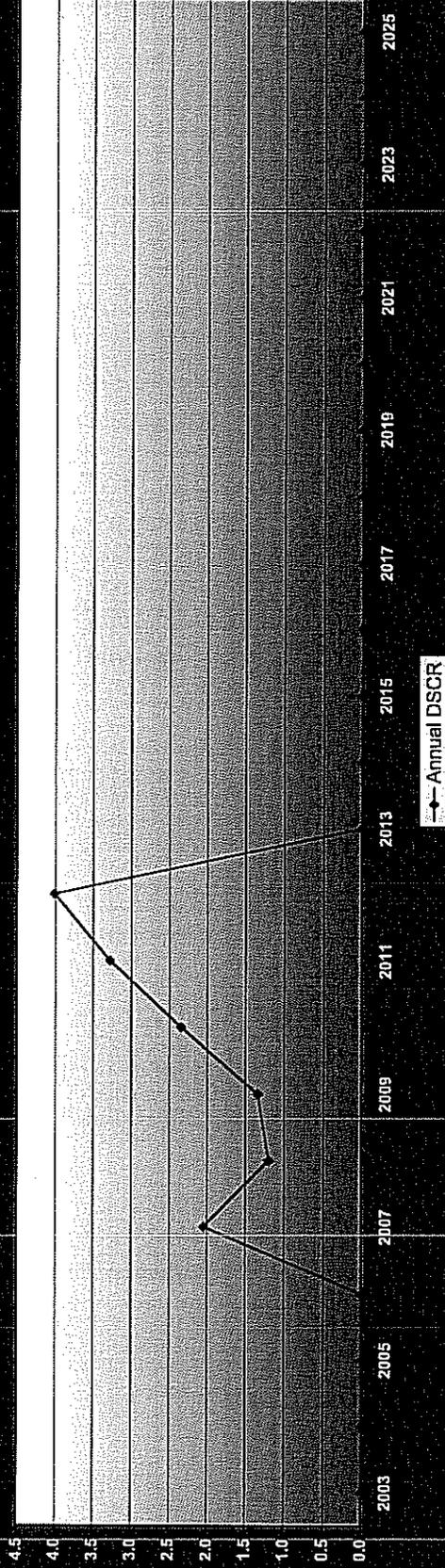


Free Cash Flow

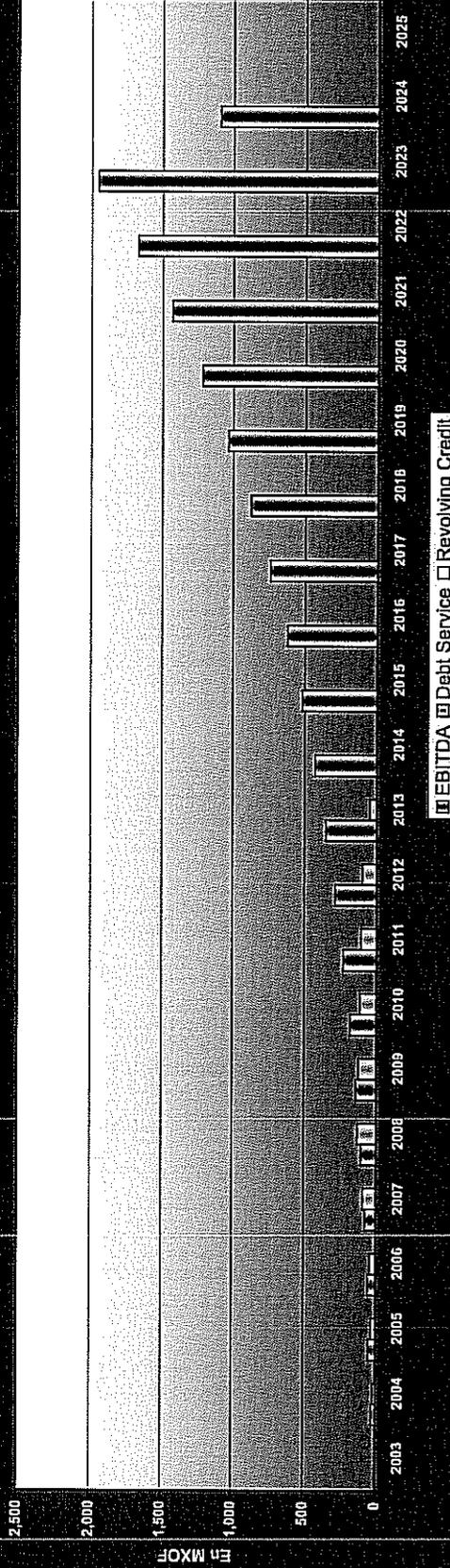


Annual Debt Service Cover Ratio (ADSCR)

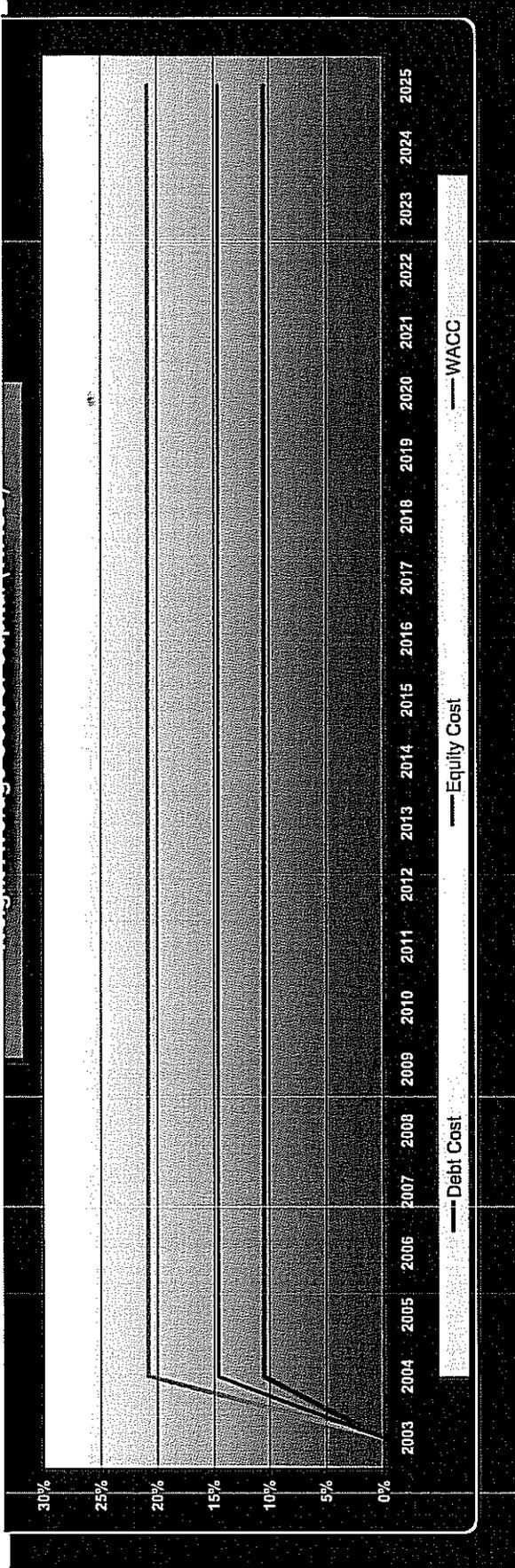
Annual Debt Service Cover Ratio (ADSCR)



Financial Risk Analysis : EBITDA versus Debt Service



Weight Average Cost of Capital (WACC)



BALANCE SHEET OK		CASH FLOW OK	
SOURCES & USES OK		ADSCROK	

1. GENERAL ASSUMPTIONS

1.1. General Assumptions - DCT 1

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Start of Investment Period - DCT 1											
Start of Operation Period - DCT 1	31/12/2003										
Contract Duration - DCT 1	20.0 years										
End of Operation Period - DCT 1	30/06/2024										
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Investment Mask - DCT 1 (Cons)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation Mask - DCT 1 (Op)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Operating Period - DCT 1 n* (Op_Mo)	0	1	2	3	4	5	6	7	8	9	

1.2. General Assumptions - DCT 2

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Start of Investment Period - DCT 2											
Start of Operation Period - DCT 2	31/12/2003										
Contract Duration - DCT 2	20.0 years										
End of Operation Period - DCT 2	30/06/2024										
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Investment Mask - DCT 2 (Cons)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operation Mask - DCT 2 (Op)	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Operating Period - DCT 2 n* (Op_Mo)	0	1	2	3	4	5	6	7	8	9	

General Parameters

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Year	2003	2004	2004	2005	2005	2006	2006	2007	2007	2008	2008
Discount Period n* (act):		1	2	3	4	5	6	7	8	9	10

2. MACRO-ECONOMIC ASSUMPTIONS

2.1. Macroeconomic Assumptions - Inflation Index

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
General Inflation Rate % p.a	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
General Inflation Index (end-period)	100.00	103.10	106.30	109.60	113.00	116.50	120.12	123.84	127.68	131.64	135.86
General Inflation Index (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.66	133.76
% General Inflation Index	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.26	1.30	1.35

2.2. Macroeconomic Assumptions - Construction Index

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Construction Index Rate % p.a	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%	2.30%
Construction Index (end-period)	100.00	101.14	102.30	103.47	104.65	105.85	107.06	108.28	109.52	110.77	112.05
Construction Index (mid-period)	100.00	100.57	101.72	102.88	104.06	105.25	106.45	107.67	108.90	110.15	111.43
% Construction Index	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.08	1.09	1.10	1.11

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Salaries Index Rate % p.a.	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
Salaries Index (mid-period)	100.00	101.98	104.00	106.06	108.16	110.30	112.49	114.71	116.99	119.30	121.64
Salaries Index (end-period)	100.00	100.99	102.89	105.03	107.11	109.23	111.39	113.60	115.85	118.14	120.44
% Salaries Index	1.00	1.01	1.03	1.05	1.07	1.09	1.11	1.14	1.16	1.18	1.20

Interest Rates

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
EURBOR 6 months (2002 Value)	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Export Credit Interest Rate	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Local Interest Rate	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%	16.00%

Exchange Rates

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
USD/ZAR (2002 basis)	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1
EUR/ZAR (2002 basis)	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7

3. FISCAL, ACCOUNTING & SOCIAL ASSUMPTIONS

Fiscal Assumptions

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Corporation Tax Rate	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%	30.0%
Payment of Corporation Tax	Year N + 1										
Loss to carry forward	Yes										
Allowance for Renewal of the Assets	Yes										

Accounting Assumptions

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Depreciation Mode :	Straight-line										

Depreciation of New Assets :

- Infrastructure 30 years
- Building 30 years
- Handling Equipment 20 years
- Little Equipment 8 years

Depreciation of Existing Assets :

- Infrastructure 20.0 years
- Building 20.0 years
- Handling Equipment 20.0 years
- Little Equipment 8 years
- Depreciation of Intangible Assets (Development Costs) : 5 years

Social Assumptions

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Welfare Costs	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%

4. DEMAND FORECAST ASSUMPTIONS

Container Liner Rates

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container Liner - DCT 1 (annual)	394,374 TEU										
Growth Rate Container Liner - DCT 1 (% p.a.)	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Growth Rate Container Liner - DCT 1 (end-period)	100.00	102.96	106.00	109.13	112.36	115.68	119.10	122.62	126.25	129.98	133.71
Growth Rate Container Liner - DCT 1 (mid-period)	100.00	101.48	104.46	107.57	110.75	114.02	117.39	120.86	124.44	128.11	131.78
% Growth Index Container Liner - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28	1.31

Container Liner Rates

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container Liner - DCT 2											

	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container landed - DCT 2 (annual)	0 TEU										
Growth Rate Container landed - DCT 2 (% p.a.)	0.00%										
Growth Rate Container landed - DCT 1 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Container landed - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Container landed - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Container shipped - DCT 1											
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container shipped - DCT 1 (annual)	445,494 TEU										
Growth Rate Container shipped - DCT 1 (% p.a.)	6.00%										
Growth Rate Container shipped - DCT 2 (end-period)	100.00	100.00	102.95	106.00	109.13	112.36	115.68	119.10	122.62	126.25	129.98
Growth Rate Container shipped - DCT 1 (mid-period)	100.00	100.00	101.46	104.48	107.57	110.75	114.02	117.39	120.86	124.44	128.11
% Growth Index Container shipped - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28	1.32
Container shipped - DCT 2											
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container shipped - DCT 2 (annual)	0 TEU										
Growth Rate Container shipped - DCT 2 (% p.a.)	0.00%										
Growth Rate Container shipped - DCT 1 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Container shipped - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Container shipped - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Container transhipped - DCT 1											
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container transhipped - DCT 1 (annual)	269,596 TEU										
Growth Rate Container transhipped - DCT 1 (% p.a.)	6.00%										
Growth Rate Container transhipped - DCT 2 (end-period)	100.00	100.00	102.95	106.00	109.13	112.36	115.68	119.10	122.62	126.25	129.98
Growth Rate Container transhipped - DCT 1 (mid-period)	100.00	100.00	101.48	104.48	107.57	110.75	114.02	117.39	120.86	124.44	128.11
% Growth Index Container transhipped - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28	1.32
Container transhipped - DCT 2											
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container transhipped - DCT 2 (annual)	0 TEU										
Growth Rate Container transhipped - DCT 2 (% p.a.)	0.00%										
Growth Rate Container transhipped - DCT 1 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Container transhipped - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Container transhipped - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Terminal Handling Charges (THC) - DCT 1											
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Terminal Handling Charges (THC) - DCT 1 (annual)	0 TEU										
Growth Rate Terminal Handling Charges (THC) - DCT 1 (% p.a.)	0.00%										
Growth Rate Terminal Handling Charges (THC) - DCT 2 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Terminal Handling Charges (THC) - DCT 1 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Terminal Handling Charges (THC) - DCT 1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Terminal Handling Charges (THC) - DCT 2											
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Terminal Handling Charges (THC) - DCT 2 (annual)	0 TEU										
Growth Rate Terminal Handling Charges (THC) - DCT 2 (% p.a.)	0.00%										
Growth Rate Terminal Handling Charges (THC) - DCT 1 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Terminal Handling Charges (THC) - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Terminal Handling Charges (THC) - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Stevedoring - DCT 1 (annual)	1,377,040 TEU										
Growth Rate Stevedoring - DCT 1 (% p.a.)	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Growth Rate Stevedoring - DCT 1 (end-period)	100.00	102.96	105.00	106.13	107.36	108.68	110.10	111.59	113.14	114.75	116.41
Growth Rate Stevedoring - DCT 1 (mid-period)	100.00	101.48	103.00	104.49	106.05	107.66	109.31	111.01	112.76	114.56	116.41
% Growth Index Stevedoring - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28	1.30

Stevedoring - DCT 2

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Stevedoring - DCT 2 (annual)	0 TEU										
Growth Rate Stevedoring - DCT 2 (% p.a.)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Growth Rate Stevedoring - DCT 2 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Stevedoring - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Stevedoring - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

5. TARIFFS LEVEL & STRUCTURE ASSUMPTIONS

Container landed Tariffs - DCT 1

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container landed Tariffs - DCT 1	445.82 ZAR 2002 / TEU										
Growth Rate Container landed Tariffs - DCT 1 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Container landed Tariffs - DCT 1 (end-period)	100.00	103.10	105.30	107.60	110.00	112.50	115.10	117.80	120.60	123.50	126.50
Growth Rate Container landed Tariffs - DCT 1 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.65	133.64
% Growth Index Container landed Tariffs - DCT 1	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.25	1.28	1.30

Container landed Tariffs - DCT 2

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container landed Tariffs - DCT 2	0.00 ZAR 2002 / TEU										
Growth Rate Container landed Tariffs - DCT 2 (% p.a.)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Growth Rate Container landed Tariffs - DCT 2 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Container landed Tariffs - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Container landed Tariffs - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Container shipped Tariffs - DCT 1

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container shipped Tariffs - DCT 1	443.95 ZAR 2002 / TEU										
Growth Rate Container shipped Tariffs - DCT 1 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Container shipped Tariffs - DCT 1 (end-period)	100.00	103.10	105.30	107.60	110.00	112.50	115.10	117.80	120.60	123.50	126.50
Growth Rate Container shipped Tariffs - DCT 1 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.65	133.64
% Growth Index Container shipped Tariffs - DCT 1	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.25	1.28	1.30

Container shipped Tariffs - DCT 2

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container shipped Tariffs - DCT 2	0.00 ZAR 2002 / TEU										
Growth Rate Container shipped Tariffs - DCT 2 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Container shipped Tariffs - DCT 2 (end-period)	100.00	103.10	105.30	107.60	110.00	112.50	115.10	117.80	120.60	123.50	126.50
Growth Rate Container shipped Tariffs - DCT 2 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.65	133.64
% Growth Index Container shipped Tariffs - DCT 2	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.25	1.28	1.30

Container Innshipped Tariffs - DCT 1

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container Innshipped Tariffs - DCT 1	568.21 ZAR 2002 / TEU										
Growth Rate Container Innshipped Tariffs - DCT 1 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Container Innshipped Tariffs - DCT 1 (end-period)	100.00	103.10	105.30	107.60	110.00	112.50	115.10	117.80	120.60	123.50	126.50

AXELCHUM / February 2003

DCT CONCESSIONING MODEL

SOUTH AFRICAN PORTS REFORM

Growth Rate Container transhipped Tariffs - DCT 1 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.66
% Growth Index Container transhipped Tariffs - DCT 1	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.26	1.30

Container transhipped Tariffs - DCT 2

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Container transhipped Tariffs - DCT 2	0.00 ZAR 2002 / TEU										
Growth Rate Container transhipped Tariffs - DCT 2 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Terminal Handling Charges (THC) Tariffs - DCT 1 (end-period)	100.00	103.10	106.30	109.60	113.00	116.50	120.12	123.84	127.68	131.64	135.64
Growth Rate Terminal Handling Charges (THC) Tariffs - DCT 1 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.66	133.66
% Growth Index Container transhipped Tariffs - DCT 2	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.26	1.30	1.34

Terminal Handling Charges (THC) Tariffs - DCT 1

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Terminal Handling Charges (THC) Tariffs - DCT 1	0.00 ZAR 2002 / TEU										
Growth Rate Terminal Handling Charges (THC) Tariffs - DCT 1 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Terminal Handling Charges (THC) Tariffs - DCT 2 (end-period)	100.00	103.10	106.30	109.60	113.00	116.50	120.12	123.84	127.68	131.64	135.64
Growth Rate Terminal Handling Charges (THC) Tariffs - DCT 2 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.66	133.66
% Growth Index Terminal Handling Charges (THC) Tariffs - DCT 1	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.26	1.30	1.34

Terminal Handling Charges (THC) Tariffs - DCT 2

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Terminal Handling Charges (THC) Tariffs - DCT 2	0.00 ZAR 2002 / TEU										
Growth Rate Terminal Handling Charges (THC) Tariffs - DCT 2 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Terminal Handling Charges (THC) Tariffs - DCT 1 (end-period)	100.00	103.10	106.30	109.60	113.00	116.50	120.12	123.84	127.68	131.64	135.64
Growth Rate Terminal Handling Charges (THC) Tariffs - DCT 1 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.66	133.66
% Growth Index Terminal Handling Charges (THC) Tariffs - DCT 2	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.26	1.30	1.34

Stevedoring Tariffs - DCT 1

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Stevedoring Tariffs - DCT 1	26.00 ZAR 2002 / TEU										
Growth Rate Stevedoring Tariffs - DCT 1 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Stevedoring Tariffs - DCT 2 (end-period)	100.00	103.10	106.30	109.60	113.00	116.50	120.12	123.84	127.68	131.64	135.64
Growth Rate Stevedoring Tariffs - DCT 2 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.66	133.66
% Growth Index Stevedoring Tariffs - DCT 1	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.26	1.30	1.34

Stevedoring Tariffs - DCT 2

Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Stevedoring Tariffs - DCT 2	0.00 ZAR 2002 / TEU										
Growth Rate Stevedoring Tariffs - DCT 2 (% p.a.)	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%	6.30%
Growth Rate Stevedoring Tariffs - DCT 1 (end-period)	100.00	103.10	106.30	109.60	113.00	116.50	120.12	123.84	127.68	131.64	135.64
Growth Rate Stevedoring Tariffs - DCT 1 (mid-period)	100.00	101.55	104.70	107.95	111.30	114.75	118.31	121.98	125.76	129.66	133.66
% Growth Index Stevedoring Tariffs - DCT 2	1.00	1.02	1.05	1.08	1.11	1.15	1.18	1.22	1.26	1.30	1.34

6. CAPITAL EXPENDITURES ASSUMPTIONS (CAPEX)

Capital Expenditures - Current Facility - DCT 1	0.00 ZAR 2002										
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Infrastructure Costs - DCT 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sale of Existing Assets in ZAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital expenditures in USD	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%
Capital expenditures in ZAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Costs - DCT 1	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Sale of Existing Assets in ZAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital expenditures in USD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital expenditures in ZAR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AXELCUM / February 2003

DCT CONCESSIONING MODEL

SOUTH AFRICAN PORTS REFORM

	100.00	101.48	104.48	107.57	110.75	114.02	117.39	120.86	124.44	128.11
Growth Rate Skilled Labour - DCT 1 (mid-period)										
% Growth Index Skilled Labour - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28
Semi-Skilled Labour - DCT 1										
Number of Employees	152									
Average Remuneration p.a.	126,526 ZAR 2002									
Growth Rate Semi-Skilled Labour - DCT 1 (% p.a.)	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Growth Rate Semi-Skilled Labour - DCT 1 (end-period)	100.00	102.95	106.00	109.13	112.36	115.68	119.10	122.62	126.25	129.98
Growth Rate Semi-Skilled Labour - DCT 1 (mid-period)	100.00	101.48	104.48	107.57	110.75	114.02	117.39	120.86	124.44	128.11
% Growth Index Semi-Skilled Labour - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28
Unskilled Labour - DCT 1										
Number of Employees	83									
Average Remuneration p.a.	70,446 ZAR 2002									
Growth Rate Unskilled Labour - DCT 1 (% p.a.)	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Growth Rate Unskilled Labour - DCT 1 (end-period)	100.00	102.96	106.00	109.13	112.36	115.68	119.10	122.62	126.25	129.98
Growth Rate Unskilled Labour - DCT 1 (mid-period)	100.00	101.48	104.48	107.57	110.75	114.02	117.39	120.86	124.44	128.11
% Growth Index Unskilled Labour - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28
Casual Labour - DCT 1										
Number of Employees	277									
Average Remuneration p.a.	59,969 ZAR 2002									
Growth Rate Casual Labour - DCT 1 (% p.a.)	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Growth Rate Casual Labour - DCT 1 (end-period)	100.00	102.96	106.00	109.13	112.36	115.68	119.10	122.62	126.25	129.98
Growth Rate Casual Labour - DCT 1 (mid-period)	100.00	101.48	104.48	107.57	110.75	114.02	117.39	120.86	124.44	128.11
% Growth Index Casual Labour - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28
Stevedores - DCT 1										
Number of Employees	339									
Average Remuneration p.a. (including social wages)	90,780 ZAR 2002									
Growth Rate Stevedores - DCT 1 (% p.a.)	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Growth Rate Stevedores - DCT 1 (end-period)	100.00	102.95	106.00	109.13	112.36	115.68	119.10	122.62	126.25	129.98
Growth Rate Stevedores - DCT 1 (mid-period)	100.00	101.48	104.48	107.57	110.75	114.02	117.39	120.86	124.44	128.11
% Growth Index Stevedores - DCT 1	1.00	1.01	1.04	1.08	1.11	1.14	1.17	1.21	1.24	1.28
Unskilled Labour - DCT 2										
Number of Employees	0									
Average Remuneration p.a.	0 ZAR 2002									
Growth Rate Skilled Labour - DCT 2 (% p.a.)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Growth Rate Skilled Labour - DCT 2 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Skilled Labour - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Skilled Labour - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Semi-Skilled Labour - DCT 2										
Number of Employees	0									
Average Remuneration p.a.	0 ZAR 2002									
Growth Rate Semi-Skilled Labour - DCT 2 (% p.a.)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Growth Rate Semi-Skilled Labour - DCT 2 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Semi-Skilled Labour - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Semi-Skilled Labour - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Unskilled Labour - DCT 2										
Number of Employees	0									
Average Remuneration p.a.	0 ZAR 2002									
Growth Rate Unskilled Labour - DCT 2 (% p.a.)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Growth Rate Unskilled Labour - DCT 2 (end-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Growth Rate Unskilled Labour - DCT 2 (mid-period)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
% Growth Index Unskilled Labour - DCT 2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Casual Labour - DCT 2										
Number of Employees	0									
Average Remuneration p.a.	0 ZAR 2002									

Semester (Date end-period) 31/12/2003 30/06/2004 31/12/2004 30/06/2005 31/12/2005 30/06/2006 31/12/2006 30/06/2007 31/12/2007 30/06/2008 31/12/2008

Fixed Annual Fee - DCT 1 50.0 MZAR 2002
 Fixed Annual Fee - DCT 1 (p.a.)
 Variable Annual Fee - DCT 1 100.0 ZAR 2002 / TEU
 Variable Annual Fee - DCT 1 (Traffic Indexed)

Payment to Government - DCT 2

Summator (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Entry Fee - DCT 2											
Entry Fee - DCT 2											
Lease - DCT 2											
Rental											
Fixed Annual Fee - DCT 2											
Fixed Annual Fee - DCT 2 (p.a.)											
Variable Annual Fee - DCT 2											
Variable Annual Fee - DCT 2 (Traffic Indexed)											

Working Capital Needs (DCT 1 & DCT 2)

Summator (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Receivable (shippers)											
Handling & Storage											
Payable											
Fixed Operating Costs											
Variable Operating Costs											

B. FINANCIAL ENGINEERING ASSUMPTIONS

Equity Structure
 Equity as % total Debt + Equity 40%

Debt Structure

Commercial Loan in EUR	Activation (1=Yes, 0=no)	Maximum Debt Equivalent in MUSD	Number half-yearly repayments	Spread (EURIBOR +)	Arranging Fee	Commitment Fee	Date of Debt Availability	Date of First Repayment	End of Drawing Period	Amortization Mode
Middle/Long Term Commercial Loan - Project Finance	1	64.7	12	3.50%	0.30%	0.25%	31/12/2003	31/12/2007	31/12/2008	P constant
Commercial Loan in USD	0	0.0	16	2.00%	0.50%	0.10%	31/12/2003	31/12/2008	31/12/2008	P + constant

Commercial Loan in USD	Activation (1=Yes, 0=no)	Maximum Debt Equivalent in MUSD	Number half-yearly repayments	SPREAD (TICR +)	% financing of Repatriate Part	ECA Fee	Date of Debt Availability	Date of First Repayment	End of Drawing Period	Amortization Mode
Export Credit US EXIM Bank	0	0.0	16	2.00%	0.50%	0.10%	31/12/2003	31/12/2008	31/12/2008	P + constant

Truflow Account for Debt Service

Truflow Account for Debt Service	Activation (1=Yes, 0=no)	Duration (half-year)	Short Term Credit Interest Rate % p.a.	Short Term Debtor Interest Rate % p.a.
Truflow Account for Debt Service	0	1	0.00%	12.00%

Dynamic Management of Cash Flow Account

Creditor/Debtor Interest	Activation (1=Yes, 0=no)	Short Term Credit Interest Rate % p.a.	Short Term Debtor Interest Rate % p.a.
Creditor/Debtor Interest	0	5.00%	12.00%

Revolving Credit

Revolving Credit	Activation (1=Yes, 0=no)	Short Term Interest Rate % p.a.
Revolving Credit	0	10.00%

9. WACC ASSUMPTIONS

Market Risk Premium											
	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Semester (Date end-period)											
Risk Free Rate	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Systemic Risk Premium	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Debt Risk Premium											
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Default Risk Premium	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Equity Risk Premium											
Semester (Date end-period)	31/12/2003	30/06/2004	31/12/2004	30/06/2005	31/12/2005	30/06/2006	31/12/2006	30/06/2007	31/12/2007	30/06/2008	31/12/2008
Equity Risk premium (ERP)	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
Equity Beta (Unlevered)	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Regulatory Risk Premium	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%

BALANCE SHEET OK	CASH FLOW OK
SOURCES & USES OK	ADSCR OK

38. BALANCE SHEET

Semester (Date end-period)	31/12/03	30/6/04	31/12/04	30/6/05	31/12/05	30/6/06	31/12/06	30/6/07	31/12/07
Gross Value Intangible Assets	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
Cumulative Depreciation Intangible Assets	0.0	0.0	1.6	3.2	4.9	6.5	8.1	9.7	11.3
Net Value Intangible Assets	16.2	16.2	14.6	12.9	11.3	9.7	8.1	6.5	4.9
Gross Value Operating Assets	352.1	449.9	449.9	550.7	654.6	761.7	872.2	872.2	872.2
Cumulative Depreciation Operating Assets	0.0	11.3	11.3	25.0	41.4	60.5	82.3	104.1	125.9
Net Value Operating Assets	352.1	438.6	438.6	525.6	613.2	701.2	789.9	768.1	746.2
Receivable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trustee Account - End Period	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash Flow - End Period	0.0	13.4	24.9	34.6	42.5	48.5	59.3	59.3	33.2
TOTAL ASSETS	16.2	366.3	466.6	563.5	659.1	753.5	846.4	833.8	784.3
Development Costs (financed by Sponsors)	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
Cumulative Equity	140.9	180.0	180.0	220.3	261.6	304.7	348.9	348.9	348.9
Profit to report	0.0	0.0	0.2	-4.2	-13.7	-28.7	-49.3	-65.9	-76.5
Cumulative Allowance for Renewal	0.0	0.0	0.2	0.8	2.1	4.2	7.4	11.3	16.1
Total Equity	16.2	157.0	196.6	233.1	266.4	296.4	323.1	310.5	304.6
Debt (End Period)	211.3	269.9	269.9	330.4	392.7	457.0	523.3	523.3	479.7
Export Credit (End Period)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Debt	0.0	211.3	269.9	330.4	392.7	457.0	523.3	523.3	479.7
Revolving Credit (End Period)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Payable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax Corporation Debt	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL LIABILITIES	16.2	366.3	466.6	563.5	659.1	753.5	846.4	833.8	784.3
Balance Assets - Liabilities	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000