Customer Conference
Improving Operational Efficiency in the Port System
- 30 September 2013
Driving efficiencies in the Port System

- 3 Tiers Strategy
- Operations framework
- Port Logistics chain
- Embedding oversight management

Ops Centre

- Terminal Operators Performance Standard
- Oversight structure (Senior Operations Managers)
- Precinct Strategy
- Safety, Security and Environment
In line with the MDS, TNPA has adopted a **3-tier strategy to deliver on its mandate**: Port efficiencies are focal to our strategy.

**Strategic intent**: To enable the Safe, Efficient, Effective and economic functioning of an integrated port system to promote economic growth.

### 3 Tiers of TNPA Strategy

<table>
<thead>
<tr>
<th><strong>6 Goals</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Create and Manage infrastructure ahead of demand</strong></td>
</tr>
<tr>
<td>▪ Provision of port infrastructure to facilitate trade growth</td>
</tr>
<tr>
<td>▪ Improve productive use of assets</td>
</tr>
<tr>
<td><strong>Improve Port Efficiency</strong></td>
</tr>
<tr>
<td>▪ Improve vessel and cargo turnaround</td>
</tr>
<tr>
<td>▪ Enterprise-wide Risk Management</td>
</tr>
<tr>
<td>▪ Develop human capital and skills to achieve objectives</td>
</tr>
<tr>
<td><strong>Enhance the ports position as integrated gateways to trade</strong></td>
</tr>
<tr>
<td>▪ Increase/influence the market</td>
</tr>
</tbody>
</table>
Our Operations framework seeks to provide the total port supply chain efficiencies

**OPS**
- Tactical Plan
- Execution Plan
- Performance & Continuous improvement

**Public access**
- Performance:
  - Planning
  - Execution
  - Asset mgt
  - Value extraction
  - CI

**Stakeholders**
- Port Regulator
- Communities
- Business Chamber
- Local Govt
- Provincial Govt
- Suppliers

**Port Services**
- Stevedoring
- Bunkering
- Diving
- Ship repairers
- Fire
- Surveying
- Pest control
- Waste removal
- Vessel maintenance

**Security / Port of Entry**
- ISPS
- Customs
- (SAPS)
- BCOCC
- DHA
- Health
- Agriculture

**Terminal Management**
- TNPA Admin
  - DOA, Port EXCO, OPCO, RISKCO, CAPIC, PAC, LAC, LBC, PCC, BCP, Shop floor

**Operational Engagement**
- Alignment and participation in Port activity

**Performance**
- Landside norms
- Good order
- Technical norms met
- Value extraction
- CI

**Oversight**
- Compliance
- Ops planning

**Security**
- TNPA Admin
- DOA, Port EXCO, OPCO, RISKCO, CAPIC, PAC, LAC, LBC, PCC, BCP, Shop floor

**Systemic Logistics**
- Lease maintenance

**Operational Engagement**
- Alignment and participation in Port activity

**Performance**
- Accommodation
- Joint planning
- Integrated operations
- CI

**Stakeholders**
- Port Regulator
- Communities
- Business Chamber
- Local Govt
- Provincial Govt
- Suppliers

**Port Services**
- Stevedoring
- Bunkering
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- Good order
- Technical norms met
- Value extraction
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There is a need to integrate Marine, Port Terminals, Road and Rail services, to ensure seamless and efficient supply chain system
Embedding Oversight management to enable efficiencies in the port system

1. Laying the foundation
   - Driving Business performance culture
   - Establishment of Ops Centres
   - Establishment of Terminal Operator Performance Standard (TOPS)
   - Introduction of precinct strategy
   - Establishment of oversight structures (SOMS)

2. Performance Monitoring
   - Business Monitoring Platform
   - Establishment of Operations Centre
     (Enabling supply chain visibility)

3. Embedding oversight management in TNPA
   - Key Focus Areas
     - Efficiency Improvement
     - Productivity improvement
     - Assets utilisation
     - Improved customer response time

Improvements brought about by oversight management initiatives

<table>
<thead>
<tr>
<th></th>
<th>Target (hrs)</th>
<th>Ave actual (hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 2012</td>
<td>88</td>
<td>135</td>
</tr>
<tr>
<td>Feb 2013</td>
<td>88</td>
<td>120</td>
</tr>
<tr>
<td>Apr 2013</td>
<td>88</td>
<td>106</td>
</tr>
<tr>
<td>Jul 2013</td>
<td>88</td>
<td>87</td>
</tr>
</tbody>
</table>

Durban has improved the container vessels port stay by 36% (from 6 days down to 4 days) between December 2012 and July 2013. A significant improvement has been seen on Anchorage waiting time.
Agenda

- Driving efficiencies in the port System
  - 3 Tiers Strategy
  - Operations framework
  - Port Logistics chain
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- Ops Centre
  - Terminal Operators Performance Standard
  - Oversight structure (Senior Operations Managers)
  - Precinct Strategy
  - Safety, Security and Environment
The TNPA Ops centre business case is that of Integrating the Logistics System of South Africa

1. **Concept**
   Real-time Integrated View of S.A. Transport Logistic Chain – thereby creating a holistic interchange of information between all Role Players

2. **Strategic Intent**
   Making South Africa More Competitive by Reducing Transport Cost Through Improving the Efficiency and Reliability of the Transport Logistics Chain

3. **Vision**
   To be a World Class Operations Centre which integrates Sea, Port, Rail and Road Operations

4. **Mission**
   To Lead the Efficient & Reliable Movement of Cargo Through South African Ports

5. **Value Proposition**
   A World Class Port Operations Centre that proactively provides Integrated Real Time Information to Drive Decisions which leads to a more Efficient & Reliable Transport Logistic Solution for South Africa
The Operations Centre will benefit the port users and customers:

- Become a single point of reference to all port users
- Infuse strategy into all operational decisions
- Promote system thinking & cross functional learning
- Drive overall efficiency and reliability of Transport Logistic Chain (focusing on Port Operations)
- Ensure that transport Logistics Know-how is saved and persevered
- Proactively monitor productivity of facilities & resources
- Timeously provide information to the relevant stakeholders to resolve deviations and solve operational problems
- Enhance emergency co-ordination & response
- Contribute in the enhancement of port capacity
Port Operations Centre Partners and Stakeholders: 
Ops Centre community for an envisaged end to end supply chain visibility

All in one integration of the Logistics Supply Chain

- Forwarding & Shipping Agents
- TNPA Port Controls (Marine Integration)
- TPT: Operations Centre (Terminals Integration)
- Cargo Owners
- Others
- External Members (Road Integration)
- Community
- Customs
- TFR: National Command Centre (Rail Integrations)

SUPPLY CHAIN MANAGEMENT SYSTEMS

- Role Player Coherence: Creates a Single point reference to all Role Players
- Strategy Focus: infuse strategy into all operational decisions
- Promotes System Thinking & Cross Functional Learning
- Increases overall Efficiency and Reliability of Transport Logistic Chain (focusing on Port Operations)
- Transport Logistics Know-how is saved and persevered
- Proactively monitor productivity of facilities & resources and timeously take corrective action (e.g. Slow steaming)
- Expeditious Cross Functional Problem Solving
- Enhance Emergency Coordination & Response
Port Operations Centre as a systems approach to activist port management

Strategic Focus: Infuse strategy in all operational decisions

Enables & Facilitates Effective Communication & Collaboration

Port Operations Centre
...A Systems Approach to Activist Port Management...

Increases Port (including entire transport logistic chain) Performance & Productivity

Provides Decision Makers with a holistic view or all relevant information to “Navigate the Business (Logistic Chain)”
The implementation plan of the Ops Centre, Where are we?

TNPA’s Operations Centre Implementation Journey

Planning for Execution

- 19 Apr-13 Jul ‘13
  - Scoping
  - WBS
  - Risk Assessment
  - Integrated Program Planning
  - Due Diligence
  - Appointment of MC
  - Operations Centre Process Definition
  - Change Readiness Assessment
  - Review Cash Flow Plan
  - Sanctions & Appropriation Requests (AR’s)

Designing of Solutions

- Jul – Aug’13
  - Ops Centre Processes
  - Facilities Design (Prototype Designs)
  - Operations Centre Organisational Design
  - Change & Communications Plan

Procurement & HR Processes

- Jul – Aug’13
  - Procurement of Hardware
  - Construction Services
  - Furniture
  - Applications
  - SAP CRM & telephony solutions

TNPA’s Operations Centre Implementation Journey

Construction & HR Processes

- Jul – Aug’13
  - Creation Of Operations Centres
  - Recruitment & Selection Process
  - Training of Ops Centre staff

Commissioning & Go Live

- Durban and Head Office Operations Centre’s go live_ 03 Feb 2014

Legend:
- ✓ Completed
- ❖ Work In Progress
- ✓ Not yet started

Pilot sites (HQ & DBN) prioritized

- DBN  03 Feb’14
- HQ – 03 Feb ’14
- RCB - Mar ’14
- ELS, PLZ & NGQ – Jun ’14
- CPT, SAL & MSB – Jun’14
- Stabilisation & Embedding Change July – Aug’14
- Closure – Sept’14
Driving efficiencies in the port System

- 3 Tiers Strategy
- Operations framework
- Port Logistics chain
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Ops Centre

Terminal Operators Performance Standard (TOPS)

- Oversight structure (Senior Operations Managers)
- Precinct Strategy
- Safety, Security and Environment
Background and Context of TOPS; with the influence of the National Ports Act

SA Ports model
  • Volume based

Commercial Ports Policy (Notice 1409 of 2002) and National Ports Act No 12 of 2005 consistent in prescription
  • Efficient and economic functioning, efficient port services, productive system, service levels based on user needs; capable of competing in international markets; international standards; reliable, orderly

TNPA issued 90 Terminal Operator Licences (TOL’s) in July 2012
  • Resolution of disputes
  • 1 year period for determination of performance standards

TOL’s provide for:
  • Compliance oversight
  • Terminal Operator Performance standards (TOPS) (Clause 14)
  • Remedial action (Clause 20)

What is a terminal performance standard (norm)?
  • An informed and expected level of performance for a specific terminal performance measure

How will TOPS work?
  • Addendum to the licence
  • Operationalised at port level
  • Level of achievement assessed quarterly, assessed + revised annually
  • Scaled ramp-up of visibility of information at POC’s
Key elements influencing Port System performance: These are Focal areas for port efficiency, productivity and performance improvement

**Key Performance Indicators**

- **Infrastructure**
  - Capacity utilisation, viz berth occupancy, berth utilisation, volume per m2, cargo capacity
  - Average port stay
  - Port delays

- **Marine Operations**
  - Marine Operational delays
  - Resource availability
  - Number of serviced movements

- **Terminal Operations**
  - Volume throughput
  - Volume of cargo per ship working hour
  - Turnaround times (cargo, ship, road and rail)

- **Landside Intermodal**
  - Turnaround times rail and road
  - On time scheduled departure (rail)

- **Port Services**
  - Adherence to administration requirements and clearance timeframes

**Legislative Requirements**

- National Ports Act
- Directives

**Collaboration/Consultation**

- Port Stakeholders
- NPCC
- PCC subcommittees
- Shareholders Compact

**WORKING TOWARDS EFFICIENT PORTS SYSTEM**
Our port users expectations forms the basis for TOPS development:
We seek to Improved port performance, increased volumes / revenues and decrease cost of doing business

<table>
<thead>
<tr>
<th><strong>Shipping lines</strong></th>
<th>Cargo volumes, Compliance with schedules, High productivity levels, Flexibility, Reduced operating costs, Market growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Terminals</strong></td>
<td>Cargo volumes, Terminal productivity, Performance of service providers, Reduced operating cost, Market growth</td>
</tr>
<tr>
<td><strong>Cargo Owners</strong></td>
<td>Compliance with dwell times and lead times, Storage, Cargo handling productivity, No cargo degradation or damage, Reduced costs</td>
</tr>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Economic growth, Job creation, Access to the port industry, People development, Minimised externalities, Sustainability</td>
</tr>
<tr>
<td>(Service providers and Suppliers)</td>
<td></td>
</tr>
<tr>
<td><strong>Marine Services</strong></td>
<td>Targeted volumes, Asset utilisation, Vessel handling productivity levels, Demand coverage, Competency, Safety, Sustainability</td>
</tr>
<tr>
<td><strong>Port Authority</strong></td>
<td>Cargo and vessel volumes, Targeted levels of capacity utilisation, High productivity levels, Quick turnaround of vessels, Smooth logistics flows, Market growth</td>
</tr>
</tbody>
</table>
TNPA had engagements with the key port stakeholders to determine TOPS

- Department of Public Enterprises
- Transnet Performance and Monitoring Department
- National Port Consultative Committee (NPCC)
- Port Consultative Committees (PCC’s)
- SAASOA
- CLOF
- National Ports Regulator
- Terminal Operators
- Shipping Lines
- Industry / Chambers and main cargo owners
National spread of terminal operator licenses issued as at July 2012, “90 Licenses issued in total”

<table>
<thead>
<tr>
<th>Port</th>
<th>Container</th>
<th>Auto</th>
<th>Dry Bulk</th>
<th>Liquid Bulk</th>
<th>Break Bulk</th>
<th>Multi purpose</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCB</td>
<td></td>
<td></td>
<td>2</td>
<td>3</td>
<td></td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>DBN</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>24</td>
<td>5</td>
<td>14</td>
<td>54</td>
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<td>EL</td>
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<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>NGQ</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>PE</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>CT</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>SALD</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4</td>
<td>3</td>
<td>14</td>
<td>42</td>
<td>7</td>
<td>20</td>
<td>90</td>
</tr>
</tbody>
</table>
Licenses are specific to different terminals with respective key performance areas. The Full scope of measures for TOPS per license type

<table>
<thead>
<tr>
<th>Measure</th>
<th>Cont</th>
<th>Ro Ro</th>
<th>Liquid Bulk</th>
<th>Dry Bulk</th>
<th>Break Bulk</th>
<th>MPT</th>
<th>Info source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal delays of vessels at anchor (berthing delays)</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>TNPA</td>
</tr>
<tr>
<td>Berth occupancy</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>TNPA</td>
</tr>
<tr>
<td>Berth utilisation</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>TNPA</td>
</tr>
<tr>
<td>Ship Working Hour</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>Terminal</td>
</tr>
<tr>
<td>Berth equipment productivity</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☐</td>
<td>Terminal</td>
</tr>
<tr>
<td>Truck turnaround time</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☐</td>
<td>☒</td>
<td>☒</td>
<td>Terminal</td>
</tr>
<tr>
<td>Truck queues outside terminals</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>Cargo Agents</td>
</tr>
<tr>
<td>Rail turnaround time</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>TFR</td>
</tr>
<tr>
<td>Trains departed on time</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>TFR</td>
</tr>
<tr>
<td>*Cargo dwell time in terminals</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>Terminal</td>
</tr>
<tr>
<td>Terminal throughput</td>
<td>X</td>
<td>X</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>Terminal</td>
</tr>
</tbody>
</table>

*Import, export and transshipment must be shown separately

- If common user berth, consider in Phase 2
- Top 3 cargoes
- Strategic stockpile/storage periods declared for key products
- Terminals using road, rail or both modes
Driving efficiencies in the port System

- 3 Tiers Strategy
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Ops Centre

Terminal Operators Performance Standard

Oversight structure (Senior Operations Managers)

Precinct Strategy

Safety, Security and Environment
Improving efficiencies through Oversight Management by Senior Port Operations Management

SOMS providing operational oversight at the ports

In order to efficiently exercise oversight on port operations, TNPA has appointed as part of oversight structures The Senior Operations Managers across the port system.

Key deliverables

SOMS will provide the wider port community with a comprehensive and holistic view of port operations. This will include the merging of the TNPA marine operations (water), terminal operations (land); rail/road operations, shipping agents as well as cargo owners in the total supply chain to produce a product that can be marketed globally.

Effectively, SOM’s are responsible to oversee and monitor the day to day delivery of safe, secure, sustainable and efficient integrated water and landside operational services in support of TNPA’s long term corporate objectives, short and medium term planning objectives and guiding principles.

SOM’s together with Customer Relations Management and Harbour Master’s office will maintain close liaison with internal and external stakeholders (e.g. terminal operators, shipping lines and agents, cargo owners etc.), internal departments, government agencies and customers to ensure optimal use of port infrastructure and equipment at all times.
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- **Driving efficiencies in the port System**
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- **Ops Centre**
- **Terminal Operators Performance Standard**
- **Oversight structure (Senior Operations Managers)**

- **Precinct Strategy**
- **Safety, Security and Environment**
Precinct Management in larger ports to create focus and improve efficiencies
Durban Example

What is a Precinct Management

Aimed at making the Port Of Durban a high performance port. The Precinct Management Model allows the port to provide detailed, focused attention, to all areas within the port. The port is divided into five (5) autonomous operational precincts that operate as fully fledged business units with accountable structures led by the Senior Ops Managers. It provides for a singles point of entry entry/contact and accountability into the precinct business

<table>
<thead>
<tr>
<th>5 Business Precincts of Port of Durban</th>
<th>Precinct Strategic Focus</th>
</tr>
</thead>
</table>
| 1. Island View (Mainly Liquid Bulk – Chemicals, Oils, Petroleum Products) | **Infrastructure delivery**  
Monitor the execution of projects within the Precinct and ensure infrastructure is adequately maintained. |
| 2. Container Precinct (Durban Container Terminal comprises of Pier 1 & 2 and handles only Containers) | **Operational efficiency & Oversight**  
Improving port efficiency through increased productivity and operations oversight. |
| 3. Maydon Wharf (Mainly Dry bulk and Break-bulk) | **Cargo Volume throughput**  
Retention of existing volumes and identification of new business opportunities will ensure the precinct generate the necessary revenue to ensure financial sustainability |
| 4. Point and Leisure (Mainly automotive, fresh produce and Cruise Industry) | **Port Management Pipeline**  
The port of Durban supports the “home grown” concept. Positions will be filled from within the port and through mentoring and training create a Port Management Pipeline. |
| 5. Ship repair and Bay-head (Dry dock, Workshop 24 and Real Estate) | **Real Estate Management**  
Effective Real Estate Management will ensure optimal land utilisation, Terminal configuration and market related rentals. are collected on time. |
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- Safety, Security and Environment
TNPA high emphasis on **Security, Safety and Environmental Efficiencies**. We are incompliance with our regulatory regime in these key areas.

### Safety

- **DIFR performance improvement**
  - Budget: -46%
  - Actual: -85%

<table>
<thead>
<tr>
<th>Year</th>
<th>08/09</th>
<th>09/10</th>
<th>10/11</th>
<th>11/12</th>
<th>12/13</th>
<th>13/14 YTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>1.22</td>
<td>1.24</td>
<td>0.8</td>
<td>0.66</td>
<td>0.25</td>
<td>0.10</td>
</tr>
<tr>
<td>Actual</td>
<td>0.24</td>
<td>0.22</td>
<td>0.17</td>
<td>0.12</td>
<td>0.10</td>
<td></td>
</tr>
</tbody>
</table>

We are safety conscious port system.

### Security

TNPA is currently reviewing its entire security system with the intent to improve the security effectiveness in the ports. Focus and priority is given to access control, intelligence, fencing, surveillance.

### Environment

Audits carried out as part of oversight to make sure that port users comply with the National Environmental Act.
The End