NDPW
Infrastructure Delivery Management System (IDMS)

Implementation Methodology
September 2014

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OBJECTIVES OF THE WORKSHOP

① To establish the IDMS context
② To create an understanding of the IDMS
③ To determine the roles and responsibilities for rolling out the IDMS
④ To craft the method and governance arrangements for implementing the IDMS
⑤ To agree next steps
THE IDMS CONTEXT

What is it?

- The IDIP developed the Infrastructure Delivery Management System (IDMS) as a model for best practice delivery of infrastructure management.
- The IDMS is the model that describes the processes that make up public sector delivery and procurement management as it applies to the construction industry.
- It outlines the core processes associated with the planning, delivery, procurement, operation and maintenance of infrastructure works.
- The model presents the distinct different processes and sub-processes that are present in delivery management, namely: Portfolio Management, Project Management and Operations and Maintenance.
- Founded in The Constitution, Chapter 3: Cooperative Governance - “the IDMS is based on co-operation between Client Departments (Budget) and Public Works (Mandate)”.

THE IDMS CONTEXT

What is it not?

✓ It wont work without the commitment and active involvement of the leadership within the institution.
✓ It does not create its own energy.
✓ It is not a “plug-in-and-work” results generated system.
✓ It requires people for input, processing and output.
✓ It does not transgress any government law, policy, prescript or procedure.
✓ It is not open for abuse since it is auditable.
✓ In is not a once off initiative.
✓ It will not delay transformation or performance.
✓ It wont happen in “one day”.
✓ Does not have autopilot.
THE SYSTEM THAT DELIVERS CAPITAL WORKS & MAINTENANCE PROJECTS

National Treasury
(funder)

Sector Departments
(user/client)

Dept of Public Works
(custodian/implementing agent)
EXPECTED PRACTICES IN A "WORLD-CLASS" PUBLIC WORKS DEPARTMENT
UNDERSTANDING THE IDMS

Management Companion

Delivery Management Guidelines

Overview

Delivery Processes

Practice guides

Infrastructure Delivery Management System (IDMS)

Hosted on the cidb-website
UNDERSTANDING THE IDMS

• Built up in layers:
  – Main delivery processes – Level 1
  – Sub delivery processes – Levels 2 and 3

• Delivery Gates.

• Procurement milestones.

• Performance Management processes.

• Triggers – an action to trigger a forward pass action to a future process.
The IDMS: 3 Delivery Processes

DP1: Portfolio Management

DP2: Project Management

DP3: Operations & Maintenance
The IDMS with Sub Processes

DP1: Portfolio Management

DP1-1 Infrastructure Planning
- Develop/review U-AMP
- Develop/review C-AMP

DP1-2 Programme Management
- Develop/review Const. Proc. Strategy
- Develop/review IPMP
- Authorise Implementation
- Monitor & Control
- Close Out

DP2: Project Management

DP2-1 Implementation Planning
- Prepare Packages
- Define Packages
- Develop/Review IPIPs

DP2-2 Design
- Design Dev
- Detail Design
- MFC Design

DP2-3 Works
- Deliver works
- Handover works

DP2-4 Close Out
- Contracts Close Out
- Adminstv Close Out

DP3: Operations & Maintenance

DP3-1 Recognise & accept assets
DP3-2 Mobilisation for Facilities Mgt
DP3-3 Operations
DP3-4 Maintenance
DP3-5 Demobilisation of Facilities Mgt
The IDMS with Gateway System

**DP1: Portfolio Management**

**DP1-1 Infrastructure Planning**
- Develop/review U-AMP
- Develop/review C-AMP

**DP1-2 Programme Management**
- Develop/review Constr Proc Strat
- Develop/review IPMP
- Authorise Implementation
- Monitor & Control
- Close Out
- Manage Implementation

**DP2: Project Management**

**DP2-1 Implementation Planning**
- Prepare Packages
- Define Packages
- Develop/Review IPIPs (Prgr & Proj level)

**DP2-2 Design**
- Design Dev
- Detail Design
- MFC Design

**DP2-3 Works**
- Deliver works
- Handover works

**DP2-4 Close Out**
- Contracts Close Out
- Adminstv Close Out

**DP3: Operations & Maintenance**

**DP3-1 Recognise & accept assets**

**DP3-2 Mobilisation for Facilities Mgt**

**DP3-3 Operations**

**DP3-4 Maintenance**

**DP3-5 Demobilisation of Facilities Mgt**
THE GATEWAY SYSTEM

① Client/Management Control Points.
② Improved accountability.
③ Paper Trail.
④ Auditable process.
PORTFOLIO MANAGEMENT

• PFMA Section 38 (1):
  – “.. evaluating all major capital projects ..”
  – “..effective, efficient, economical and transparent use of resources..”
  – “.. safeguarding and maintenance ..”

• Chapter 5 of Treasury Regulations:
  – Prepare and submit a strategic plan and APP for MTEF period annually.
PORTFOLIO MANAGEMENT

• GIAMA
  – U-AMP.
  – Reviewed, submitted annually.
  – Strategic needs assessment.

• C-AMP
  – Reviewed, submitted annually.
  – Life cycle management plan for assets.

• OHS: Operations and Maintenance requirements.
PORTFOLIO MANAGEMENT PROCESS

- Infrastructure strategy
- Legislation & policies
- Long Term asset priorities

- Service delivery mandates
- Asset Register
- Budget allocation
- Monitoring & Feedback

Infrastructure management capability:
- Organisation
- Custodian
- Industry

- U-AMP (G1(a))
- C-AMP (G1(b))
- Construction Procurement Strategy (G2)
- IPMP
- Monitoring Reports
- Recommended actions
COMPONENTS OF PORTFOLIO MANAGEMENT

DP1.1: Infrastructure Planning
- Infrastructure Strategy
- Long term Asset Priorities
- Legislation & Policies

DP1.2: Programme Management
- Asset Register
- Service delivery mandates
- DP2 feedback
- DP 3 feedback
- Performance Management

Infrastructure asset management capacity:
- Organisation
- Custodian
- Industry

U-AMP G1(a)
C-AMP G1(b)

DP3: Operations & Maintenance
- IPMP (including Construction Procurement Strategy (G2))

DP2: Project Implementation
Delivery Processes – Overview

1. Provincial Infrastructure Strategy
2. Long term asset priorities
3. Legislation & policies

1. Asset register
2. Service delivery mandates
3. Budget allocation

Approval of project infrastructure budget

To:
Provincial Treasury
Custodian
National Treasury

Key:
Purple = Gateway Process items
G = Gates ex Gateway Process
PC = Procurement Milestone
PF = Performance Management
T = Trigger
PORTFOLIO OF IMMOBILE ASSETS

Portfolio Management

Project Management

Operation & Maintenance Management

Handover of constructed, extended, upgraded or rehabilitated asset

Feedback from Projects in Progress

Feedback from Operations and Maintenance
PORTFOLIO OF PROJECTS

- Portfolio Management
- Project Management
- Operation and Maintenance Management

Feedback from Projects in Progress
Handover of constructed, extended, upgraded or rehabilitated asset
Feedback from Operations and Maintenance
TWO PORTFOLIOS: THE DIFFERENCES

Immovable Assets

- **On-going** work.
- Goal: Keep the assets operational.
- OPEX: Current expenditure.
- GIAMA.
- Roles: **Custodian & Users**.
- Role Players: Treasury, Custodian(s) & User departments.

Projects

- **Temporary** undertakings.
- Goal: Create, Upgrade or extend existing assets.
- CAPEX: Capital Expenditure.
- Treasury Regulations.
- Roles: **Client & Implementer**.
- Role Players: Treasury, Implementer & Client Departments.
### USER AND CUSTODIAN PORTFOLIO MANAGEMENT OUTPUTS

<table>
<thead>
<tr>
<th>User organisations</th>
<th>Custodian organisations</th>
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</thead>
<tbody>
<tr>
<td>● U-AMP.</td>
<td>● C-AMP.</td>
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<tr>
<td>● Construction procurement strategy.</td>
<td>● Work Plans.</td>
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<tr>
<td>● IPMP.</td>
<td>● Organisation and Support plan.</td>
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BENEFITS OF PORTFOLIO MANAGEMENT

• Strategic Alignment.
• Improved Stakeholder Management.
• Good Governance.
• Legislative Compliance.
• Consistent Reporting.
• Improved Risk Management.
CONSTRUCTION PROCUREMENT STRATEGY

- Delivery Management Planning
- Contracting Arrangements Planning
- Procurement Arrangements Planning
- Review, identify and implement improvements
- Document Strategy
- Delivery Management Strategy
- Contracting Strategy
- Procurement Strategy

G2: Construction Procurement Strategy
The “IPMP”

The Client Department’s:
- MTEF Infrastructure Projects, and
- Management Requirements.

See as an “Instruction” to the Implementing Department/Agent (part of Service Delivery Agreement).
IPMP: THREE PARTS

Part 1: Management Requirements applicable to all Programmes

Communications Management Plan
HR Management Plan
Risk Management Plan
Procurement Management Plan
Time Management Plan
Cost Management Plan
Quality Management Plan
Scope Management Plan
Programme Management Plan
Part 2: Management Requirements applicable to specific Programmes
Part 3: Programme MTEF Project List
Separate list for each programme:

- Active Projects: Budgets based on Committed Cost.
- Approved Projects: Budgets (preferably) based on Tender Estimates.
- Proposed Projects: Budgets based on Preliminary or Conceptual Estimates.
PURPOSE OF PROJECT PLANNING: PROJECT OBJECTIVES

- Scope
- Quality

\[\text{What the Client Dept wants!} = \text{the product/facility}\]

- Time
- Cost

\[\text{Determined based on Resource Requirements} \text{ (given } \text{Assumptions and Constraints)}\]
IMPORTANCE OF PROJECT OBJECTIVES

Timeline

Start

Conceptual Planning happens here in Portfolio Planning Process!

Finish

Project Success measured here!
(in terms of the achievement of the stated Objectives!)
PROJECT STAGES

1. Planning
   • Package Preparation.
   • Package Definition.
   • Works Planning.

2. Design
   • Concept Design.
   • Detail design & Specification.
   • Manufacturing, Fabrication, Construction Information.

3. Works
   • Construct/Deliver the Works.
   • Handover of the Works

4. Close Out
   • Project Close Out.
   • Post Project Evaluation.
PROJECT STAGES, GOALS AND DELIVERABLES

Stage 1: Planning

• Stage 1.1: Preparation
  Defining the objectives, business need, acceptance criteria and client priorities and aspirations; Confirming of the scope; Establishing the control budget; Developing a Strategic Brief.

  Gate 3: Accepted Strategic Brief and updated PEP

Stage 1.2: Definition
  Establishing the feasibility of satisfying the strategic brief; Investigating alternative solutions; Selecting the preferred design option; Determining the initial design criteria, design options and cost plan; Developing a Concept Report.

  Gate 4: Approved Concept Report and updated PEP
PROJECT STAGES, GOALS AND DELIVERABLES

Stage 2: Design

Stage 2.1: Design Development

Develop in detail the accepted concept to finalise the design and definition criteria.

Gate 5: Approved Design Development Report and updated PEP

Stage 2.2: Detail Design and Specification (Production Information)

Produce the final detailing, performance definition, specification, sizing and positioning of all systems and components enabling either construction or the production of manufacturing and installation information for construction.

Gate 6a: Approved Production Information and updated PEP

Stage 2.3: Manufacture, fabrication and construction information

Client’s agents: Review the manufacture, fabrication and construction information prepared by others, based on the production information for design intent and conformance with scope of work.

Contractor: Produce the manufacture, fabrication and construction information based on the production information.

Gate 6b: Accepted Manufacture, Fabrication & Construction information
Stage 3: Works

Stage 3.1: Construct/Deliver the Works

Provide temporary works, Provide permanent works in accordance with the contract; Manage risks associated with health and safety on the site; Corrected notified defects which prevented the client or end user from using the works and others from doing their work.

Gate 7: Accepted works in accordance with requirements and updated PEP (Completion Certificate)

Stage 3.2: Handover the Works

Correct all notified defects; Commission works and, if necessary, train end user staff in the operation of the works.

Gate 8: Works taken over by User, complete with Record Information
Stage 4: Close Out

- **Stage 4.1: Project Close Out**
  Finalise and assemble record information and obtain outstanding statutory certificates Project Audit.

- **Stage 4.2: Post Project Evaluation**
  Conduct post-project review and capture data.
  
  *Gate 9: Acceptance of Close-out Report*
PROJECT IMPLEMENTATION

Project Implementation Stages:

- Planning.
- Design.
- Works.
- Close Out.

Procurement Stages?
CONTRACTING STRATEGIES

Summary of Contracting Strategies:

- Design by Employer:
  - PSP, then
  - Contractor.

- Management Contractor.
- Design and Construct Contractor.
- Develop and Construct Contractor.

The preferred Contracting Strategy will result in the Insertion of the Procurement Phase(s) at different points in project life span.
INFRASTRUCTURE PROGRAMME IMPLEMENTATION PLAN “IPIP”

Portfolio Level summary of all Programmes.

Programme Level summary of all Projects in a specific Programme:

- Based on the PEPs, with focus on Quality, Time and Cost, i.e.
- Project Schedule.
- Expenditure Projections.
THE O&M PROCESS

• Asset recognition
• Mobilisation for Facilities Management
• Asset **Operations**, which include
  – Facilities management
  – Engineering infrastructure management
  – Property management
  – Condition assessment surveys and
  – Remaining life-cycle costing
• **Maintenance** of assets
• The demobilisation of Facilities Management
OPERATIONS

• Property Management
  – Acquisition of property.
  – State Land Management.
  – Managing rates and municipal services payments.
  – Lease management.
  – General advice on property management, e.g. valuations.

• Facilities Management: “Soft” services”
  – Cleaning, Security, Gardening, etc.

• Asset Register
  – Purpose of Asset Register.
  – Typical Information Captured in Asset Register.
  – Users of Asset Register.

• Estimating & Budgeting for O&M
  – Utility costs, rates and taxes.
  – Facilities Management: Soft Services.
  – Hard services and maintenance.
  – Major upgrades, refurbishments and renovations based on Condition Assessments.
MAINTENANCE

• Definition of Maintenance
  – Routine
    • Repairs.
    • Preventative (e.g. Inspections, Servicing).
  – Condition Based (Capital Projects)
    • Renovations.
    • Refurbishments.

• Facilities Management: “Hard services”
  – Mechanical.
  – Electrical.
  – Plumbing.
  – Building.

• Infrastructure (Engineering) Management
  – Infrastructure repairs and preventative maintenance.

• Maintenance process
  – User & Custodian Roles & Responsibilities.
THE INFRASTRUCTURE DELIVERY CYCLE

**Infrastructure Delivery Cycle**

**3 Year MTEF Period**

**Improved Infrastructure Delivery Cycle**

**Legend:**
- O&S Plan – Organisation & Support Plan
- IPMP – Infrastructure Programme Management Plan
- IPIP – Infrastructure Programme Implementation Plan

*These are all the concurrent infrastructure delivery activities that need to be undertaken in any 1 year*