

**FACILITATING IMPROVED CO-OPERATIVE GOVERNANCE IN CIVIL SERVICE DELIVERY –ISO 14001 BASED MANAGEMENT SYSTEMS FOR WATER QUALITY MANAGEMENT IN THE DEPARTMENT OF WATER AFFAIRS AND FORESTRY (DWAF)**

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**ABSTRACT**

**The Constitution (Act 108 of 1996) and the National Environmental Management Act 107 of 1998 mandates the need and importance of co-operative governance within the environmental sector, providing the principles and foundations of co-operative governance and intergovernmental relations. The primary instruments provided for in the NEMA to achieve this, are Environmental Implementation and Environmental Management Plans. The Environmental Implementation and Management Plan published for the Department of Water Affairs and Forestry broadly addresses the co-operative mechanisms and arrangements that support alignment around environmental management internally within the Department, as well as externally with other spheres of Government and stakeholders. However, practical experience in dealing with DWAF provides clear evidence that in many instances, there is still a long way to go before co-operative governance will be achieved. This paper describes the development of ISO 14001 based management systems for water quality management in DWAF. Although these management systems are primarily being developed to meet the challenges of accountability and efficient service delivery, they also address some aspects of co-operative governance. The paper explains the planning processes followed in the development of the management systems, highlighting how the outcomes of the planning processes aim to facilitate better co-operative governance.**

**INTRODUCTION**

The Constitution (Act 108 of 1996) and the National Environmental Management Act 107 of 1998 (NEMA) mandates the need and importance of co-operative governance within the environmental sector, providing the principles and foundations of co-operative governance and intergovernmental relations. Section 41 (1)(h) of the Constitution, which specifies that all spheres of government and organs of state must co-operate in mutual trust and good faith by informing one another, consulting on matters of common interest, co-ordinating functions and legislation and adhering to agreed procedures, is particularly relevant.

NEMA provides for co-operative environmental governance by establishing amongst other things, procedures for co-ordinating environmental functions exercised by organs of state. The primary instruments provided for in sections 11 to 16 of the NEMA to achieve co-operative governance, are Environmental Implementation and Environmental Management Plans. These plans aim to co-ordinate and harmonise the environmental policies, plans, programmes and decisions of the various national departments that exercise functions that may affect the environment, or are entrusted with powers and duties aimed at the achievement, promotion, and protection of a sustainable environment, including provincial and local spheres of government. This is done in order to

minimise the duplication of procedures and functions, and promote consistency in the exercise of functions that may affect the environment.

The Environmental Implementation and Management Plan (EIMP) for the Department of Water Affairs and Forestry (DWAF), published on 14 December 2001, aims to assist the Committee for Environmental Co-ordination to align DWAF's environmental management policies and functions with that of other Government Departments and *vice versa*. It broadly addresses the co-operative mechanisms and arrangements that support alignment around environmental management activities internally within the Department, as well as externally with other spheres of government and stakeholders. This is primarily done through identifying areas of co-operation. However, due to the multitude of arrangements and linkages with various government departments in respect of resource and environmental management, as well as the extent, complexity and transitional nature of DWAF's functions, the former could not be evaluated, nor prioritised in great detail in the EIMP.

Practical experience in dealing with DWAF provides clear evidence that in many instances, there is still a long way to go before co-operative governance will be achieved. The processing and issuing of water use authorisations, which requires co-operation between different levels and functions within DWAF, sometimes takes more than a year. When the authorisation requires inputs from other government departments, the process could even be more prolonged. These delays can at least partially, be blamed on ineffective and inefficient co-operative governance processes.

This paper describes the planning phase in the development of ISO 14001 based management systems for two water quality management functionalities in DWAF. Although the management systems are primarily being developed to meet the challenges of accountability and efficient service delivery, by enabling the Directorate Water Quality Management (WQM) to audit the performance of the WQM function in different parts of the department and evaluate the efficiency and effectiveness of meeting goals and objectives, they also address some aspects of co-operative governance.

## **DEVELOPING ISO 14001 BASED MANAGEMENT SYSTEMS FOR WATER QUALITY MANAGEMENT IN DWAF**

### **Background to the project**

To meet the challenges of accountability and service delivery, the Directorate WQM in DWAF launched an initiative to establish a Water Quality Management Performance Assessment System (WQMPAS). This was done in order to enable the Directorate to audit the performance of the WQM function and determine the efficiency and effectiveness of meeting goals and objectives. Completion of the first phase of the initiative to develop the required WQMPAS resulted in a conceptual framework that specifies in general what the WQMPAS must encompass and accomplish. Phase 2 of the initiative focuses on development and implementation of a Management System for Water Quality Management (MS:WQM), which incorporates performance assessment as part of the checking and corrective action elements of the management system. This is being done for the Directorate WQM at DWAF Head Office (Head Office) and the Gauteng Regional Office Sub-directorate WQM: Upper Vaal Water Management Area (WMA) (Gauteng region), as the pilot Regional Office. However, it is envisaged that in coming years, the MS:WQM could be implemented at other Regional Offices as well.

### **Process to develop the MS:WQM**

International management standards, such as ISO 14001, provide organisations with the elements of an effective management system, which can be integrated with other management requirements, to assist organisations to achieve specific goals. All of these are based upon the Deming cycle of plan, do check and act.

In this project, SABS ISO 14001:1996 is used as a guideline against which the MS:WQM is planned, developed and implemented. However, to align the MS:WQM to the objectives of the project and ensure that it interfaces with current practices within DWAF, significant modifications were made to the general interpretation of SABS ISO 14001:1996. One of the most significant modifications involves limiting the use of the terms aspects and environment, as the MS:WQM does not focus on environmental aspects as required by SABS ISO 14001:1996, but on key performance areas for the WQM function within DWAF. As a result, a limited view of the environment was adopted that only includes matters related to WQM. Furthermore, the management system does not focus on identifying significant environmental aspects, but WQM aspects or potential root causes of failure of identified critical WQM activities. Objectives are developed for these critical WQM activities and targets for the various potential root causes of failure (aspects).

The planning phase of the project to develop a MS:WQM, involved determining the scope of the organisations, identifying key business processes, sub-processes and critical activities, as well as potential root causes of failure. It concluded with the development of objectives and targets to address the latter, as well as a Management Programme for WQM to implement the plan. The doing phase involves the development and implementation of arrangements such as procedures, guidelines and criteria to address the root causes of failure of identified critical activities, that should be addressed as a priority by the MS:WQM. The checking phase will measure and evaluate the effectiveness of the planned arrangements, while the acting phase will evaluate the suitability, adequacy and effectiveness of the MS:WQM and identify areas of improvement. The cyclical nature of the management cycle provides the opportunity for continually improving the management system.

### **Scope of the MS:WQM**

An ISO 14001:1996 EMS is developed and implemented by an organisation. In order to identify which activities products and services to include in the management system and what to exclude, it is important to determine the scope of the organisation. The MS:WQM scope entails delineation of the organisation's functions, areas of responsibility and structural arrangements; as well as the MS:WQM itself.

A scoping decision was taken that:

- the MS:WQM should reflect the WQM line function on all levels within the target organisations;
- due to the extent of the function and the limitations of the project, the MS:WQM should not cover all the activities of the organisations in little detail, but rather focus on a limited number of activities in more detail; and
- all staff within the organisations should be included.

As a result of this decision, some business processes, sub-processes and critical activities were parked during the planning of the MS:WQM. This does not mean that these were not considered to be important, or will not be included in the MS:WQM. It only means that they were considered to be of a lesser priority and could not be included into the MS:WQM at present, due to the resource limitations of the project. They will, however, be incorporated into the MS:WQM once it has been established and implemented, as and when the required resources become available.

### *Scope of the Directorate Water Quality Management*

The Directorate WQM forms part of the Chief Directorate Water Use and Conservation within DWAF. All the activities of the Directorate, identified in terms of business processes (and business sub-processes) and classified as core-, supporting- and cross-cutting business processes, will be included in the MS:WQM. However, this MS:WQM will initially only focus on four core business

processes. The remainder of the core business processes, as well as the supporting and cross-cutting business processes will be parked for inclusion at a later stage.

*Scope of the Gauteng Sub-directorate Water Quality Management*

The Sub-directorate WQM: Upper Vaal WMA forms part of the Gauteng Region within DWAF. All the activities of the Gauteng Region, as identified in terms of business processes (and business sub-processes) during the planning process, and classified as core-, supporting- and cross-cutting business processes, will be included in the MS:WQM. However, this MS:WQM will initially only focus on three core business processes. The remainder of the core business processes, as well as the supporting and cross-cutting business processes will be parked for inclusion at a later stage.

**Identifying critical activities that need to be controlled by the MS:WQM**

Due to resource limitations, the MS:WQM only focuses on managing the root causes of failure of critical WQM activities, as failure of these activities could result in the failure of the WQM function in the organisations. This will be achieved through developing objectives for these critical activities and targets for the potential root causes of failure. Plans will be developed to achieve the objectives and targets during the MS:WQM implementation phase.

Elaborate processes were followed to identify the critical activities that need to be controlled. Consideration was given to business processes, legal instruments applicable to and/or administered by the WQM function, as well as information within the organisations that can be used to highlight critical WQM issues (such as existing contracts and other agreements, *ad hoc* WQM initiatives, complaints received, possible emergencies and past incidents and accidents, current WQM documents, as well as known critical WQM issues or spatial hot spots). Reality checks were conducted at the end of the initial review process to determine the extent to which the outcomes of the process (KPA's, objectives, targets & KPIs) reflect the real situations with regard to WQM in the organisations.

*Identification of key business processes and sub-processes*

Key business processes and significant business sub-processes were identified through business process analyses.

Key business processes identified for inclusion into the current MS:WQM for Head Office were provision of WQM instruments (policies, guidelines etc.), administration of water use authorisations, verification of WQM functions (at regional offices) and communication and provision of information to internal DWAF clients (Table 1). The remainder were parked, for inclusion during expansion of the management system later.

**Table 1:** Business processes and sub-processes prioritised for inclusion into the initial MS:WQM for Head Office.

<b>Business process (BPs)</b>	<b>Status*</b>	<b>Business sub-processes (BSPs)</b>	<b>Status*</b>
Provision of WQM instruments	A	Determine the need for management instruments	A
		Develop the management instruments	A
		Remainder	P
Facilitation of water use authorisation	A	Administration of water use authorisations	A
		Remainder	P
Verification	A	Auditing of WQM function	A
		Remainder	P
Communication and provision of information	A	Technical support to internal clients	A
		Remainder	P

Business process (BPs)	Status*	Business sub-processes (BSPs)	Status*
Technical operations	P	All	P
HR Development & HR management	P	All	P
Administrative support function	P	All	P

\* A – Addressed, will initially be included into the MS:WQM

P – Parked, will only be included during expansion of the MS:WQM at a later stage

Key business processes identified for inclusion into the current MS:WQM for the Gauteng Region were the issuing of water use authorisations, pollution management and catchment management (Table 2). The remainder were parked, for inclusion during expansion of the management system later.

**Table 2:** Business processes and sub-processes prioritised for inclusion into the initial MS:WQM for Gauteng Region.

Business process (BPs)	Status*	Business sub-processes (BSPs)	Status*
Water use authorisations	A	Issuing of water use authorisations (permitting & licensing)	A
		Remainder	P
Pollution management (Reactive ICM)	A	Checking (Monitoring, auditing & inspections)	A
		Non-conformity, assessment and improvement	A
		Remainder	P
Catchment management (Pre-active ICM)	A	Performing resource directed WQM activities – Setting Water Quality Objectives	A
		Performing resource directed WQM activities – Catchment studies	A
		Remainder	P
WQM Policy (management instruments) development	P	All	P
Institutional development	P	All	P
Human resources development/management	P	All	P
Administrative support functions	P	All	P
Communication and provision of information (internal & external clients)	P	All	P

\* A – Addressed, will initially be included into the MS:WQM

P – Parked, will only be included during expansion of the MS:WQM at a later stage

Authorisation of water use is not only a key function performed by DWAF, but also one that requires involvement from various stakeholders. It is often also a process that frustrates water users, due to long time delays between the submission of applications and the issuing of authorisations, partially due to ineffective and inefficient co-operative governance processes. Both Head Office and the Gauteng Region identified key business processes that relates to this function. The remaining part of this paper will focus on these key business processes, i.e. issuing of water use authorisations of the Gauteng Region and administration of water use authorisations of Head Office, and how they relate to co-operative governance.

#### *Identification of critical activities*

The critical activities that need to be controlled by the MS:WQM, were identified after developing activity maps for the significant business sub-processes. Special efforts were made to ensure that the activity maps developed provided accurate representation of the processes, were easy to

understand with minimal instruction and clearly emphasised the critical activities for the significant business sub-processes (Table 3).

**Table 3:** Key activities identified for the two key business processes related to the authorisation of water use.

Organisation	Key business process	Critical activities
Gauteng Region (Sub-directorate WQM: Upper Vaal WMA)	Issuing of water use authorisations	Do legal and pre-assessment on the water use authorisation applications and decide whether to continue with the processing of the water use authorisation applications.
		Decide whether to continue with the processing of the water use authorisation applications after the detailed investigation had been completed.
		Prepare and/or update a motivation for the issuing of a license/permit that must be sent to Head Office
Head Office (Directorate WQM)	Administration of water use authorisations	Review water use authorisation applications for completeness of documentation.
		Evaluate water use authorisation applications.
		Decide whether to continue with the processing of the license/permit.
		Decide whether to approve the license/permit.
		Issue the license/permit.

### Identification of potential root causes of failure that need to be controlled

The potential root causes of failure (aspects) that need to be managed in order to prevent the critical activities from failing, were identified and evaluated during workshops held with Head Office and Gauteng Region. These were critically evaluated and rated as low, medium or high priority. The root causes rated as high, are summarised in Table 4, highlighting the root causes related to co-operative governance activities.

### Developing objectives and targets for the identified root causes of failure

To conform to the requirement of ISO 14001, objectives were developed for the critical activities and targets for the identified high priority potential root causes of failure during workshops with the Head Office and Gauteng Region. These are summarised in Tables 5 and 6. Key performance indicators (KPIs) were also generated to facilitate performance evaluation.

## DISCUSSION

Results from the planning phase of the project to develop a management system for water quality management clearly indicate that functions (key business processes) performed by DWAF, such as the authorisation of water use applications, involve processes and critical activities that necessitate co-operation between directorates and regional organisations internally in DWAF, as well as between DWAF and other government departments.

Both organisations identified the lack of clarity regarding the roles, responsibilities and authorities that different parties should play in the authorisation process as a potential root cause of failure that

need to be controlled in order to prevent critical activities in the authorisation process from failing, which could delay the whole process.

Other potential root causes of failure of the water use authorisation process related to co-operative governance activities include:

- disagreement between the role players on the interpretation of policy;
- lack of timeous feedback from other authorities involved in the authorisation process;
- lack of formal arrangements to deal with the issuing of water use authorisations or permits involving other departments, DWAF directorates & regional offices in emergency situations.

Objectives formulated for the different critical activities all related to the effective and efficient issuing of water use authorisations. Arranging a workshop of all role players involved in evaluating water use applications, in order to establish clear guidelines on mandates, roles and responsibilities for the evaluation of water use authorisation applications was identified by both organisations as a target that would assist in reaching these objectives. Other targets identified in this regard included documenting the guidelines established at such a workshop, implementing these and reviewing them periodically.

Targets formulated to address the lack of timeous feedback from other role players, as well as the lack of formal arrangements to deal with the issuing of water use authorisations during emergencies focussed on the development, implementation and periodically reviewing of procedures dealing with such situations.

## **CONCLUSION**

The development part of the system development process will involve activities required to achieve the identified objectives and targets, while the implementation of the latter will result in practical steps taken to address the problems experienced with co-operative governance. In such a way, the ISO14001 based management system for water quality management will facilitate improved co-operative governance in civil service delivery.

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**Table 4:** Root causes of failure for the critical activities identified for the two key business processes related to the authorisation of water use.

Organisation	Critical activities	Root causes of failure
Gauteng Region (Sub-directorate WQM: Upper Vaal WMA)	<ul style="list-style-type: none"> <li>• Do legal and pre-assessment on the water use authorisation applications and decide whether to continue with the processing of the water use authorisation applications.</li> <li>• Decide whether to continue with the processing of the water use authorisation applications after the detailed investigation had been completed.</li> <li>• Prepare and/or update a motivation for the issuing of a license/permit that must be sent to Head Office</li> </ul>	<p><b>Other root causes:</b></p> <ul style="list-style-type: none"> <li>• Personnel related root causes</li> <li>• Root causes related to the instruments/tools that is required/used</li> <li>• Root causes related to organisational management arrangement</li> <li>• Root causes related to the availability of easy accessible information</li> </ul> <p><b>Root causes related to co-operative governance activities:</b></p> <ul style="list-style-type: none"> <li>• Lack of understanding and delegation of responsibilities regarding the assessment of relevant information and deciding whether to continue with processing water use authorisation applications or not.</li> <li>• Lack of timeous feedback from other authorities, including other DWAF directorates, regarding the assessment of relevant information and deciding whether to continue or not.</li> </ul>
Head Office (Directorate WQM)	<ul style="list-style-type: none"> <li>• Review water use authorisation applications for completeness of documentation.</li> <li>• Evaluate water use authorisation applications.</li> <li>• Decide whether to continue with the processing of the license/permit.</li> <li>• Decide whether to approve the license/permit.</li> <li>• Issue the license/permit.</li> </ul>	<p><b>Other root causes:</b></p> <ul style="list-style-type: none"> <li>• Personnel related root causes</li> <li>• Root causes related to the instruments/tools that is required/used</li> <li>• Root causes related to organisational management arrangement</li> </ul> <p><b>Root causes related to co-operative governance activities:</b></p> <ul style="list-style-type: none"> <li>• Delaying of the evaluation process due to disagreement (between departments, DWAF directorates &amp; regions) on the legal mandate (roles, responsibility &amp; authority) &amp; policy interpretation regarding the evaluation and issuing of water use authorisations or permits.</li> <li>• Lack of formal arrangements to deal with the issuing of water use authorisations or permits involving other departments, DWAF directorates &amp; regional offices in emergency situations.</li> </ul>

**Table 5:** Targets and key performance indicators related to co-operative governance, for potential root causes of failure for the critical activities identified for the Gauteng Region key business process related to the authorisation of water use.

Organisation	Root causes of failure	Targets	Key Performance Indicator
Gauteng Region (Sub-directorate WQM: Upper Vaal WMA)	<ul style="list-style-type: none"> <li>Lack of understanding and delegation of responsibilities regarding the assessment of relevant information and deciding whether to continue with processing water use authorisation applications or not.</li> </ul>	<ul style="list-style-type: none"> <li>Request a workshop of all role players involved in evaluating the action needed to address the assessment of information, in order to establish clear guidelines on mandates, roles and responsibilities, within x timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>Percentage of identified needs (requests) communicated to the relevant parties within pre-determined timeframes</li> </ul>
		<ul style="list-style-type: none"> <li>Request that guidelines on mandates, roles and responsibilities be documented and distributed, within x timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>Percentage of identified needs (requests) communicated to the relevant parties within pre-determined timeframes</li> </ul>
		<ul style="list-style-type: none"> <li>Train all personnel involved in handling non-conformities on the implementation of the guidelines before y date.</li> </ul>	<ul style="list-style-type: none"> <li>Percentage of personnel involved in handling non-conformities identified by the TNA trained on the implementation of the guidelines, within x timeframe</li> </ul>
		<ul style="list-style-type: none"> <li>Review / revise guidelines on mandates, roles and responsibilities regarding the evaluation of water use authorisation applications every five years</li> </ul>	<ul style="list-style-type: none"> <li>Percentage of existing guidelines reviewed / revised every 5 years</li> </ul>
	<ul style="list-style-type: none"> <li>Lack of timeous feedback from other authorities, including other DWAF directorates, regarding the assessment of relevant information and deciding whether to continue or not.</li> </ul>	<ul style="list-style-type: none"> <li>Establish a procedure for dealing with feedback from other authorities regarding the assessment of relevant information and deciding whether to continue or not by y date</li> </ul>	<ul style="list-style-type: none"> <li>Percentage of required procedures developed within pre-determined timeframes</li> </ul>

**Table 6:** Targets and key performance indicators related to co-operative governance, for potential root causes of failure for the critical activities identified for the Head Office key business process related to the authorisation of water use.

Organisation	Root causes of failure	Targets	Key Performance Indicator
Head Office (Directorate WQM)	<ul style="list-style-type: none"> <li>• Delaying of the evaluation process due to disagreement (between departments, DWAF directorates &amp; regions) on the legal mandate (roles, responsibility &amp; authority) &amp; policy decisions regarding the evaluation and issuing of water use authorisations or permits.</li> </ul>	<ul style="list-style-type: none"> <li>• Arrange a workshop of all role players involved in evaluating water use applications, in order to establish clear guidelines on mandates, roles and responsibilities regarding the evaluation of water use authorisation applications, within x timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of workshops on critical issues arranged within pre-determined time frames.</li> </ul>
		<ul style="list-style-type: none"> <li>• Document guidelines on mandates, roles and responsibilities regarding the evaluation of water use authorisation applications, within x timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of required guidelines documented within pre-determined timeframes.</li> </ul>
		<ul style="list-style-type: none"> <li>• Implement guidelines on mandates, roles and responsibilities regarding the evaluation of water use authorisation applications, within x timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of developed guidelines implemented within pre-determined timeframes.</li> </ul>
		<ul style="list-style-type: none"> <li>• Review / revise guidelines on mandates, roles and responsibilities regarding the evaluation of water use authorisation applications every five years</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of existing guidelines reviewed / revised every 5 years</li> </ul>
	<ul style="list-style-type: none"> <li>• Lack of formal arrangements to deal with the issuing of water use authorisations or permits in emergency situations (involving between departments, DWAF directorates &amp; regions).</li> </ul>	<ul style="list-style-type: none"> <li>• Arrange a workshop of all role players involved in issuing water use authorisations, in order to define emergencies, by x date</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of workshops on critical issues arranged within pre-determined time frames.</li> </ul>
		<ul style="list-style-type: none"> <li>• Develop a procedure(s) (guidelines) for issuing of water use authorisations or permits during emergencies, within x timeframe.</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of required guidelines documented within pre-determined timeframes</li> </ul>
		<ul style="list-style-type: none"> <li>• Implement guidelines for issuing of water use authorisations or permits during emergencies, within x timeframe</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of developed guidelines implemented within pre-determined timeframes</li> </ul>
		<ul style="list-style-type: none"> <li>• Review / revise guidelines for issuing of water use authorisations or permits during emergencies every five years</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of existing guidelines reviewed / revised every 5 years</li> </ul>