



TRANS-CALEDON TUNNEL AUTHORITY (TCTA)

MMTS-2 WATER TRANSFER SYSTEM – ENVIRONMENTAL COMPLIANCE

FIRST AUDIT REPORT: APRIL 2014

Issue Date: April 2014

Revision No.: 1

Project No.: 12016

Date:	April 2014
Document Title	First Audit Report
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Revision Number:	# 1
Checked by:	Dr. Richard Kinvig
Approved:	Dr. Richard Kinvig
Signature:	
For:	TCTA

TITLE AND APPROVAL PAGE

Project name: MMTS-2, Water Transfer System
Report Title: First Environmental Compliance Audit Report
Authors: Stephen Burton
DEA reference no.: 14/12/16/3/3/2/334
Status of report: Revision 1
Audit Report No: 1
Date of issue: April 2014

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TRANS-CALEDON TUNNEL AUTHORITY (TCTA)

FIRST AUDIT REPORT

Contents	Page
1 INTRODUCTION	5
2 DEFINING ENVIRONMENTAL AUDITING.....	5
3 OUTLINE OF AUDIT PROCESS.....	6
4 ENVIRONMENTAL COMPLIANCE AUDIT RESULTS.....	6
4.1 Objective of the Environmental Compliance Audit	7
4.2 Scope of the Environmental Compliance Audit	7
4.3 Information Verified Onsite.....	7
4.4 Results of Audit.....	8
5 CONCLUSION.....	13

LIST OF TABLES

Table 1: Breakdown of Compliance Audit Score – April 2014	10
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LIST OF FIGURES

Figure 1: Compliance Percentages for Environmental Conditions Audited - April 2014.	9
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LIST OF ACRONYMS & ABBREVIATIONS

DEA	Department of Environmental Affairs
EA	Environmental Authorisation
ECO	Environmental Control Officer
EO	Environmental Officer
EMPr	Environmental Management Programme
EM	Environmental Monitor
EMC	Environmental Monitoring Committee
MMTS-2	Mooi Mgeni Transfer Scheme - Phase 2
TCTA	Trans-Caledon Tunnel Authority
WTS	Water Transfer System

DEFINITIONS

Auditing

An 'environmental' audit is a methodical examination (including tests, checks, and confirmation) of environmental procedures and practices with the view of verifying whether they comply with internal policies, accepted practices and legal requirements

Environmental Authorisation

The written statement from the relevant environmental authority in terms of the National Environmental Management Act (Act 73 of 1998), with or without conditions, that records its approval of a planned activity and the implementation thereof and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Environmental Management Programme (EMPr)

A detailed programme of action prepared to ensure that recommendations for enhancing positive impacts and/or limiting or preventing negative environmental impacts are implemented during the life-cycle of a project.

Monitoring

'Compliance' monitoring is a continuous and systematic process to ensure that the conditions in the Environmental Authorisation (EA) Environmental Management Programme (EMPr) are being adhered to.

Environmental Compliance Audit:

Environmental compliance audits examine the compliance of an organisation, a site or operation with environmental legislation, regulations, licences, and other documentation, including internal environmental policies. Compliance audits are applicable at a project and organisational level.

TRANS-CALEDON TUNNEL AUTHORITY (TCTA)

FIRST AUDIT REPORT

1 INTRODUCTION

SiVEST Environmental Division has been appointed by the **Trans-Caledon Tunnel Authority (TCTA)**, as the independent Environmental Control Officer (ECO) to undertake Environmental auditing and monitoring of the construction phase for the MMTS-2 Water Transfer System (WTS).

Environmental Auditing is undertaken by the ECO. The external auditor's functions include auditing the environmental performance of the implementation of the project and compliance against the conditions of the approved Environmental Management Programme (EMPr) and the Environmental Authorisation (EA).

An Environmental Compliance Audit which examined the compliance of the project with environmental legislation (using the EA and EMPr) was undertaken on 15 April 2014 in line with the requirements of the EA.

2 DEFINING ENVIRONMENTAL AUDITING

The International Standards Organisation (ISO) defines an environmental audit as a '*systematic, documented* verification process of objectively obtaining and *evaluating audit evidence* (verifiable information, records or statements of fact) to determine whether specified *environmental activities*, events, conditions, management systems, or information about these matters conform with audit criteria (policies, practices, procedures or requirements against which the auditor compares collected audit evidence about the subject matter), and communicating the results of this process to the client (organisation commissioning the audit).'

Environmental audits are necessary in assuring the accuracy and relevance of environmental monitoring. Issues identified during the audit process may lead to environmental standards that exceed regulatory requirements. Audits can apply at a project level, as well as at a strategic level.

It is important to note that a requirement of an environmental audit is that evidence must be verified by supporting documents, if this is not the case, then the process is a review, survey or assessment, but not an audit. Often the terms, audit and monitoring are used interchangeably, however these are two different concepts: monitoring is a continuous and systematic process to ensure that the conditions in the EA and EMPr are met while, an environmental audit is a methodical examination (including tests, checks, and confirmation) of environmental procedures and practices with the view of verifying whether they comply with internal policies, accepted practices and legal requirements.

Audits are conducted less frequently than monitoring, often annually or biannually. Possible methods for conducting an environmental audit vary from simple checklists to more complex programmes. These procedures use a systematic and structured approach to record whether an organisation is meeting its environmental objectives.

3 OUTLINE OF AUDIT PROCESS

The first stage of the environmental audit is to determine the audit objectives, followed by the scope of the audit. As this is the first audit for the MMTS-2 project, the approach taken will be different to the future audit approach in that this audit is focused on compliance against the EA and EMPr, but excludes any rehabilitation stipulations. Later Audits will be undertaken after construction is completed and post rehabilitation.

Information provided during the audit was verified on site. A checklist was used as the audit tool. This report formally presents the results of the audit conducted and will be used for decision making and any necessary corrective actions.

4 ENVIRONMENTAL COMPLIANCE AUDIT RESULTS

The Environmental Compliance Audit for the MMTS-2 project took place on 15 April 2014 in the MMTS-2 boardroom at the construction camp. The environmental audit team consisted of Stephen Burton (Auditor) from SiVEST, Mrs Kogi Naidoo, the TCTA Environmental Manager, Mr Ryan Phelan, the full time onsite Environmental Monitor (EM), Mr James Liversage, the WBHO Environmental Officer (EO), and Mrs Katie Fenenga, the Social Monitor.

A checklist, based on the conditions of the EA and EMPr, was used to audit the compliance of the project.

4.1 Objective of the Environmental Compliance Audit

The objectives of the audit include:

- Verifying MMTS-2's performance against the requirements of the EA and the EMPr; and
- Independently verifying through a random sample that compliance is being achieved and that information provided is an accurate reflection of onsite activities.

4.2 Scope of the Environmental Compliance Audit

The entire MMTS-2 project, including the infrastructure components, construction domain, construction activities and access roads were audited in terms of whether the environmental objectives and requirements of the EA and EMPr are being met. The scope includes the development footprint of the MMTS-2 project.

Verification of compliance includes the following:

- Determining and verifying whether all conditions stipulated in the EA are adhered to;
- Determining and verifying whether environmental targets set in the EMPr are adhered to, by checking against pre-determined indicators;
- Determining and verifying whether all environmental requirements, criteria and mitigation measures recommended in the EMP are adhered to;
- Determining and verifying whether the implementation of the EMP has been successful in preventing environmental pollution and damage; and
- Determining and verifying the overall effectiveness of environmental management practices onsite.

Environmental issues to be investigated include:

- The complaints register for the auditing period will be checked and the manner and turn-around period for attending to the complaints will be appraised;
- Performance of environmental management measures for non-conformances and incidents;
- Determining that information required by EA is present and available, as well as easily accessible;

4.3 Information Verified Onsite

An audit checklist based on the requirements of the EA and related EMPr was developed. Onsite information maintained by the EM, EO and SM was audited and verified. This included the following documents:

- EMPr and EA filed on site;
- Preconstruction surveys by specialists;
- Environmental Non-Conformance / Incident Register;
- Issues Register;
- Waste Disposal Certificates;
- Toolbox Talks Registers;
- MSDS' for all hazardous substances stored on site;
- Hazardous substances register;
- Water Quality Monitoring results;
- Air Quality Monitoring results;
- Department of Environmental Affairs (DEA) notification of commencement of construction;
- WBHO Appointment Contract;
- AECOM Appointment Contract;
- Water Use License;
- Environmental and Administrative Records.

4.4 Results of Audit

The full breakdown of the compliance audit score is contained in **Table 1** below, and visually represented in **Figure 1**.

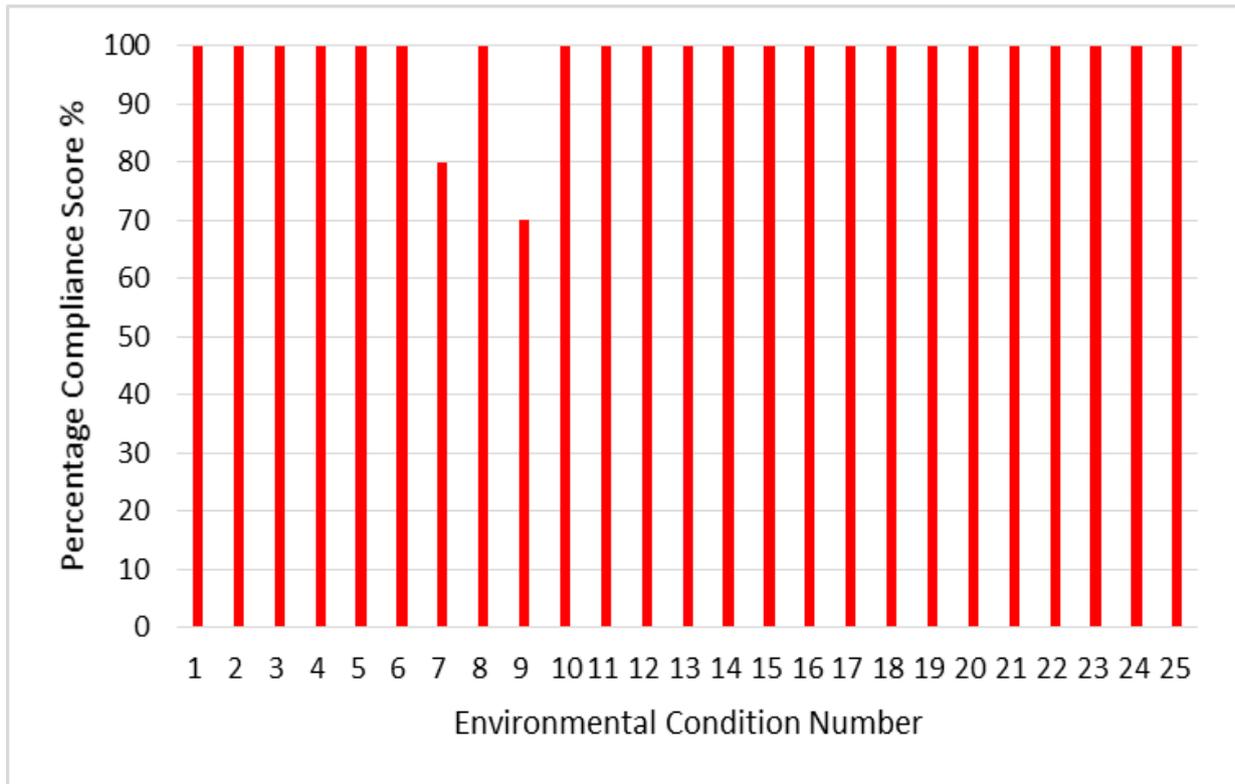


Figure 1: Compliance Percentages for Environmental Conditions Audited - April 2014.

Table 1: Breakdown of Compliance Audit Score – April 2014

No.	Conditions / Mitigation Measures	Responsibility	Maximum Compliance Score	Compliance Score for Audit	Percentage Compliance Score	Comments	Mitigation
1	Fourteen days' notice of intention to commence must be submitted to DEA	Applicant	5	5	100	Verified with a copy of letter	None
2	Groundtruthing of the whole servitude must be carried out by the relevant specialists.	Contractor	5	5	100	Verified that reports are complete	None
3	Copies of Environmental Authorisation and Amendments, as well as the approved Environmental Management Programme must be kept on site.	Contractor	5	5	100	Verified all documents are on site.	None
4	All general and hazardous waste generated during construction must be removed and disposed of at a registered waste disposal facility.	Contractor	5	5	100	General Waste Disposal Certificates kept on file. No Hazardous material as yet.	None
5	Hazardous and flammable substances must be stored in compliance with the applicable regulations and safety instructions.	Contractor	5	5	100	Chemical Management Plan and Material Safety Data Sheets were verified.	None
6	Sanitation facilities must be provided with at least one chemical toilet for every 15 workers. All liquid effluent generated through the construction camp must be disposed in a manner approved by the local municipality.	Contractor	5	5	100	Toilet hire certificate verified.	None
7	The Appointed Environmental Monitoring Official must ensure that complete records of activities are maintained on site.	Consultant	5	4	80	Method Statement Register is incomplete.	Method Statement Register requires updating
8	Wetland Rehabilitation Plan must be compiled and submitted to EKZNW for comment, and DEA for approval once	Contractor	5	5	100	This is in process.	

No.	Conditions / Mitigation Measures	Responsibility	Maximum Compliance Score	Compliance Score for Audit	Percentage Compliance Score	Comments	Mitigation
	construction has commenced						
9	A communication register must be maintained on site and must include a formalised file with all relevant information.	Applicant	5	3.5	70	No Backup of electronic media received.	Confirm all telephonic conversations with an email, and email all whatsapp messages to own email and file.
10	All staff, contractors and sub-contractors to be familiar with or be made aware of the EA contents	Contractor	5	5	100	A toolbox talk register for the Conditions of EA was verified.	None
11	Awareness of water conservation issues must be highlighted to all construction staff	Contractor	5	5	100	Toolbox talks to all staff were verified	None
12	Where possible all paper, plastic, glass and metal waste must be separated and recycled	Contractor	5	5	100	Recycling bins verified, as well as waybills for recycled material	None
13	NCR register must be kept on site	Contractor	5	5	100	Register verified, as well as all NCR documents.	None
14	Hazardous substances register is required to be available on site, and up to date.	Contractor	5	5	100	Register verified, as well as all chemicals on register.	None
15	All fuels stored on site must be within a bunded area that can contain 110% of the volume stored within the bund.	Contractor	5	5	100	Bunds in place, and all fuels appropriately stored.	None
16	Water quality monitoring must be undertaken monthly	Contractor	5	5	100	Monitoring taking place, and results verified	None
17	Air quality must be monitored.	Contractor	5	5	100	Monitoring occurring, and results verified	None

No.	Conditions / Mitigation Measures	Responsibility	Maximum Compliance Score	Compliance Score for Audit	Percentage Compliance Score	Comments	Mitigation
18	Approval of Specifications supplied to the contractor by TCTA	Applicant	5	5	100	Verified that specifications were approved by TCTA	None
19	Appointment of AECOM as site Engineer	Applicant	5	5	100	Verified that appointment is legal - contract in place.	None
20	Appointment of WBHO as Contractor	Applicant	5	5	100	Verified that appointment is legal - contract in place.	None
21	A daily site diary to be maintained on site by the Contractor	Contractor	5	5	100	The Environmental Monitor's Daily Diary was verified.	None
22	A Water Use License (WUL) is required	Applicant	5	5	100	WUL is in place and is being amended at present	None
23	Toolbox talk register must be maintained on site for all toolbox talks undertaken as a result of NCR's	Contractor	5	5	100	Register, and signed toolbox talks verified on site.	None
24	All topsoil removed from the servitude must be appropriately stockpiled and protected	Contractor	5	5	100	Stockpiles verified.	None
25	Extent and route of construction activities as per the EA	Applicant	5	5	100	Route is as approved by the EA, verified by engineers and surveyors	None
Total Compliance for this Audit			125	122.5	98		

5 CONCLUSION

Environmental audits help in assuring the accuracy and relevance of environmental monitoring. A requirement of an environmental audit is that evidence must be verified by supporting documents and environmental auditing is defined as a methodical examination (including tests, checks, and confirmation) of environmental procedures and practices with the view of verifying whether they comply with internal policies, accepted practices and legal requirements.

The environmental audit of the MMTS-2 project occurred in April 2014 and used two main tools: a checklist and site verification through interviews. No major non-compliance was noted and only two conditions required slight improvement. A number of recommendations have been made and should be undertaken as soon as possible.

The total compliance for this audit is 98%, for which the environmental team is commended.