



Project Charter

Conservatives Association for Environment Protection

Document Control Department
Doc. Ref. CAEP-0218/TWR

Project Name: TAPCI-2018 – ERMS
Tawergha, Libya

January 2018

This document contains material classified “Brainstorming – UT Scientific Board Workshop”. Except as specifically authorized by Green Libya Inc., the holder of this document shall keep the information contained herein confidential and shall protect the same in whole or in part from disclosure or dissemination to any unauthorised party.

Copyright CAEP Libya NGO

This publication may not be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of

Document Details

Doc. Ref.	CAEP – 0218 / TWR
Prepared by:	Conservatives Association for Environment Protection
Client	Tawergha City Rebuilding Foundation (TCRF)
Project:	TAPCI-2018 – ERMS
Doc. Reference:	CAEP-0218/TWR
Version:	1.03
Status:	Review for Approval
Date:	22 January 2018
Scope:	Post-crisis Environmental Assessments
Completeness:	Deadline March 2018
Confidence:	Brainstorming – UT Scientific Board Workshop
Classification:	Confidential
Project Team	University of Tripoli (UT), Conservatives Association for Environment Protection (CAEP Libya NGO), Green Libya Oil Services Inc.,
Key Contact:	Sabri I. Ebdewi Conservatives Association for Environment Protection
Address:	PO Box 91238 Tripoli Libya
Phone (voice):	+218 (0)91 35 31 025
Company email:	info@greenlibya.ly
Internet email:	ucpuretm@gmail.com
DISCLAIMER	The project team does not accept any liability for any direct or indirect damage resulting from the use of this charter or its content. This charter contains the results of research by the authors and is not to be perceived as the opinion of Tawergha City Rebuilding Foundation.

Document History

Version	Date	Editor	Details
1.01	31 March 2013	Sabri Ebdewi	Created.
1.02	16 August 2014	Sabri Ebdewi	Logo change.
1.03	22 January 2018	Sabri Ebdewi	Scope Change, update dates

Documentation Sign-Off & Reviewers

Contributors	Contact Info
Scientific Board CAEP Libya NGO	Dr. Al Mabrock Fares Academic Affairs Deputy University of Tripoli

Sign-Off Authorization		
Name	Contact Info	Signature

Table of Contents

1.	GLOSSARY OF TERMS	5
2.	CONTEXT.....	6
3.	SCOPE	7
4.	PURPOSE	8
5.	OBJECTIVES	9
6.	DESCRIPTION.....	10
6.1	Project Definition	10
6.2	Project Deliverables	11
6.3	Project Organization	13
6.4	Project Team Structure, Roles, Responsibilities.....	13
6.5	Organizational Constraints	13
6.6	Project Plan & Budget	15
7.	CRITICAL SUCCESS FACTORS	16
7.1	Project Ownership	16
7.2	Project Organizational Infrastructure	17
7.3	Project Roles & Responsibilities	17
8.	IMPACTS.....	18
9.	PROJECT RISK ANALYSIS	21
	ANNEX A	22
	ANNEX B	24
	ANNEX C	30
	ANNEX D	31

1. GLOSSARY OF TERMS

AAI

- All Appropriate Inquiry, a standard set forth by EPA for conducting Phase I Environmental Site Assessments.

ASTM

- American Society for Testing and Materials, an organization that writes technical standards and guidelines.

Brownfield Site

- Abandoned, idled, or under-used property where redevelopment or reuse is complicated by real or perceived environmental contamination.

CAEP

- Conservatives Association for Environment Protection

EGA

- Libyan Environment General Authority

EPA

- United States Environmental Protection Agency

ESA

- Environmental Site Assessment

LMAC

- Libyan Mine Action Center

Phase I

- Identifies potential environmental concerns. A Phase I Environmental Assessment involves a review of records, a site reconnaissance (walk-through), and interviews to evaluate whether past or current activities at the site raise environmental concerns. Further described in EPA's AAI and in ASTM1527-05 standard.

Phase II

- Evaluates potential concerns identified in the Phase I ESA. Phase II ESAs are tailored to meet site-specific needs and, at a minimum, may involve limited sampling and analysis to confirm or rule out potential environmental concerns.

QAPP

- Quality Assurance Project Plan, a formal document describing in comprehensive detail the necessary quality assurance, quality control, and other technical activities that must be implemented to ensure results of sampling and laboratory work will satisfy stated performance criteria.

RFP

- Request for Proposal

TAB

- Technical Assistance to Brownfields

TRF

- Tawergha City Rebuilding Foundation

UT

- University of Tripoli

2. CONTEXT

The goal is to provide required investigation to properly ascertain what risks exist and how to properly manage or mitigate them without engaging in unnecessary and expensive environmental work.

The objective during the process is, to approach and resolve current problems, to establish criteria that allow to later, cases by case, to focus on essential environmental matters relevant to the characteristics of specific sites and particular conditions of a project.

In addition to their tragic human toll, disasters and conflicts can destroy infrastructure, undermine human security and tear apart the fabric of sustainable development. Their impacts are disproportionately borne by the most vulnerable sectors of society, affecting livelihoods and compounding poverty.

As a victim or a driver of crisis, the environment can play a pivotal role in human security and well-being. Degraded or poorly managed ecosystems can lead to conflict over dwindling water, food or fuel resources, or to increased exposure and vulnerability to natural hazards, such as landslides or flash floods. Conversely, sustainable management of natural resources can help reduce the risk of disasters and conflict, and provide a strong platform for recovery, development and lasting peace.

Through its Disasters and Conflicts sub-programme, UNEP provides four core services to Member States:

- Post-crisis environmental assessments
- Post-crisis environmental recovery
- Environmental cooperation for peace building
- Disaster risk reduction

As the focal point for environment within the UN crisis response system, UNEP also works to integrate environmental considerations within humanitarian and peacekeeping operations. Coordinated by UNEP's Post-Conflict and Disaster Management Branch, the Disasters and Conflicts sub-programme is delivered through several key actors and partners, including the Joint UNEP/OCHA Environment Unit, the Environment and Security (ENVSEC) Initiative, and the APELL (Awareness and Preparedness from Emergencies on a Local Level) Programme.

For more information, please contact: postconflict@unep.org.

3. SCOPE

Post-crisis Environmental Assessment

Conduct field-based scientific assessments to identify the environmental risks to human health, livelihoods and security following conflicts, disasters and industrial accidents. To inform local populations, decision-makers and recovery efforts,

To conduct detailed post-crisis environmental assessments based on in-depth fieldwork, laboratory analysis and state-of-the-art technology. These assessments identify major environmental risks to health, livelihoods and security and provide recommendations to national authorities on how to address them.

Environmental Site Assessment – conducted in general conformance with ASTM 1527-05 and may include multiple additional business environmental risk items, often referred to as "environmental due diligence," is utilized by stakeholder to evaluate a property for potential environmental contamination and to assess the potential liability for contamination present at the property.

A **Project Risk Management Plan** is a controlling document that incorporates the goals, strategies, and methods for performing risk management on a project. The Project Risk Management Plan describes all aspects of the risk identification, estimation, evaluation, and control processes. The purpose of developing such a plan is to determine the approach for cost-effectively performing risk management on the project.

ISO 14045:2012 describes the principles, requirements and guidelines for eco-efficiency assessment for product systems including:

- the goal and scope definition of the eco-efficiency assessment;
- the environmental assessment;
- the product-system-value assessment;
- the quantification of eco-efficiency;
- interpretation (including quality assurance);
- reporting;
- Critical review of the eco-efficiency assessment.

Requirements, recommendations and guidelines for specific choices of categories of environmental impact and values are not included. The intended application of the eco-efficiency assessment is considered during the goal and scope definition phase, but the actual use of the results is outside the scope of ISO 14045:2012.

4. PURPOSE

The purpose of this project is to evaluate environment impacts, characterize, assess and recommend the most optimum mitigation and management option, both technically and commercially.

- Identification of relevant contents for environmental assessment that were traditionally omitted or deficiently approached.
- Definition of the minimal contents and the way to be presented for their incorporation to an electronic platform, which allows homologating and managing information.
- Perfecting contents that are also a contribution to the evaluation of other projects such as; (i) those associated to demining and (ii) renewable energy management.
- Strengthening of environmental framework through the simultaneous participation of State Agencies with an environmental competence in the elaboration of the Guide.
- Improvement of environmental management in the productive sector as the companies involved in the Guide lacked previous bodily work experience with environmental purposes.
- Avoid or diminish the discretion in the assessment of projects.

Post-Crisis Environmental Recovery

Recovery: In the aftermath of a crisis, implement environmental recovery programmes through field-based project offices to support long-term stability and sustainable development in conflict and disaster-affected countries.

Environmental Management

One of the concrete results following on from the United Nations Conference on Environment and Development, in Rio de Janeiro, in 1992, was the development by ISO of the ISO 14000 family of standards for environmental management which translates into action ISO's commitment to support the objective of sustainable development discussed at the first Earth Summit.

In essence, the ISO 14000 family provides a framework for organizations large and small, in manufacturing and services, in public and private sectors, in industrialized, developing and transition economies, to:

- Minimize harmful effects on the environment caused by their activities
- Meet regulatory requirements
- Achieve continual improvement of their environmental performance
- Improve business performance through more efficient use of resources.

5. OBJECTIVES

The objectives:

- To enable the community to become competitive in the global market, since the ISO 14001 EMS is an internationally accepted Environmental Management Standard, this becomes de-facto in the global market place;
- Assist to achieve a sustainable use of natural resources by protecting all areas concerned with exploration and the community in which they operate whilst enhancing quality and improved financial performance.
- To define a sequential approach towards the implementation of an EMS as a benchmark for the existing, new and potential life standard in Libya.
- Identification of relevant contents for environmental assessment that were traditionally omitted or deficiently approached.
- Definition of the minimal contents and the way to be presented for their incorporation to an electronic platform, which allows homologating and managing information.
- Perfecting contents that are also a contribution to the evaluation of other projects such as; (i) those associated to demining and (ii) renewable energy management.
- Strengthening of environmental framework through the simultaneous participation of State Agencies with an environmental competence in the elaboration of the Guide.
- Improvement of environmental management in the productive sector as the community involved in the Guide lacked previous bodily work experience with environmental purposes.
- Avoid or diminish the discretion in the assessment of projects.

6. DESCRIPTION

Environmental Management is becoming a part of societal life and a dominant issue for every sector of economies in the developed world. However, due to the weakness in the overall practices of Libyan Legislation in the form of guidelines and detailed regulations, procedures and reporting schemes undertaken in the international levels.

“The rules and regulations specified by developed countries concerning environmental protection are becoming highly challenging. These have posed tremendous difficulties for both the government of Libya, as well as the society to meet the national and international legislative requirements.”

Since Oct 2011, new Libya has emerged from an eight months civil war and it is still going through a transitional process according to the requirements and expectations of the nations and the world, therefore, in this process of transformation, even now become one of the competitive nations This is an enormous interdisciplinary work, which requires a lot of effort.

The present work aims to introduce an internationally accepted environmental risk management system according to the ISO 14001 standard to enable remove the prevalent deficiencies as far as environmental impact management is concerned in the industry.

This work uses Tawergha Internal Displacements as a model community for case study analyses, which would provide an excellent opportunity for the implementation of ERMS reviewing in accordance with ISO 14001 in Libya. The detailed analysis is based on the cumulative assessment of the current environmental management manual, interviews with some personnel and telephone communications with some state employees.

The analysis reveals the strengths and weaknesses in the concerning EMS planning, implementation, checking and review. Using the up-to-date adopted international standards as a benchmark, the work shall result in the formulation of procedures to be followed by the other communities in compliance with the international standards.

6.1 Project Definition

Issues may arise in the course of any EA which complicate the process. There can be numerous sources conflict and dissension -- economic, political, social, ethnic, gender-based and simply personal. The issue of the control and use of natural resources is one which regularly arouses debate in a community, and one which is highly pertinent to EAs. There may be disputes over the potential environmental impact of the project. Some community members may be willing to accept environmental damage if it means increased economic standards. The rest of the community may disagree. A project which involves a major shift in direction for a community -- such as replacing food crops with cash crops or introducing some form of mechanisation -- may not receive the full support of the community.

The community may unite around a position which is contrary to that taken by the EA team and project managers. Again, it may be willing to tolerate a higher level of environmental damage than the EA team feels is warranted, in order to attain economic benefits. It may even become clear during the EA that there is no support for the project. The community may have other priorities. The EA team may discover that a project's long-term sustainability hinges on changing a traditional practice that the community is reluctant to relinquish.

6.2 Project Deliverables

At a minimum, the following project deliverables are expected:

- **Work Plan for Final Negotiated Scope of Services (Before kick-off)**

This document will be a revision of the original proposal, as negotiated with city representatives. It will also include a Quality Assurance Project Plan and required health and safety documents.

- **Monthly Progress Reports and Invoice Submittals (Monthly after kick-off)**

Progress reports should contain short summaries of progress for all phases of work, data, and findings. Also, information that relates to decisions for subsequent assessment work or redevelopment will be reported in a timely manner.

- **Work Plans for Additional Investigations (if needed)** Applicable only as negotiated.

- **Phase I Environmental Site Assessment Report (After 45 days of kick-off)**

A Phase I Environmental Site Assessment (ESA) is a document prepared to identify recognized environmental conditions (RECs) relating to a particular property.

They are most often prepared in accordance with ASTM D-1527, which is an internationally recognized standard for conducting ESAs. This written report includes:

- A description and summary of the current site use and physical conditions
- Site reconnaissance observations and review of municipal records
- Environmental database report
- Historical land use records and mapping
- And aerial photographs

The Environmental Site Assessment deliverable is a written report with supporting documents describing our observations and findings, and opinion relative the existence of RECs associated with the site.

- **Phase II Environmental Site Assessment Report (After 15 days of Phase I Report handover)**

This report will summarize assessment procedures and results, including definition of the lateral and vertical extent of contamination. It will also include a brief summary of quality assurance/quality control performance, and an appendix containing boring logs, field data, laboratory analytical data, chain-of-custody records, photograph logs, documentation of proper management of investigation-derived wastes, and abandonment records for boring and monitoring wells, if applicable.

- **Phase III Recommendations (After 30 days of Phase II Report handover)**

Recommendations for remedial alternatives with rough cost estimates.

- **Phase IV Risk Management Plan (After 30 days of Phase III Report handover)**

Remediation System Design and Cleanup Execution – incorporates all the findings of the first three phases of investigations to design a cost-effective cleanup of the property.

- **Community Outreach Report (After 30 days of Phase III Report handover)**

This report will summarize the information presented and feedback received relevant to redevelopment objectives and scope of the assessment work.

Milestone	M1 03/2018	M2 04/2018	M3 05/2018	M4 06/2018
	Phase 1	Phase 2	Phase 3	Phase 4
Phase I - Environmental Site Assessment¹ All Appropriate Inquiries requirements must be rigorously followed and completed to qualify for landowner liability protection. <ul style="list-style-type: none"> • Reviews of historical and commonly known or reasonably attainable information, • Review of government records; • Visual inspections of the property and adjacent properties; • An evaluation of commonly known or reasonably attainable information, including the degree of obviousness of the presence of contamination and the ability to detect the presence of such contamination; • Data gaps, and the significance of those data gaps in the Environmental Professional's opinion; • Evaluation of other projects such as; (i) those associated to the regulation of mining safety and (ii) the projects of perforation of wells in projects of geothermic energy.) 	3	2	1	
Phase II - Environmental Site Assessment ASTM E1903 - 11 Standard Practices for Environmental Site Assessments: Phase II Environmental Site Assessment Process. Soil, Groundwater and Surface Water Contamination Assessment – investigates the specific recognized environmental conditions identified in the Phase I ESA and generates hard data.		3	2	
Phase III - Environmental Site Assessment Remedial Investigation and/or Opinion of Remediation Cost Estimates – builds on the documentation created in Phase II and seeks to determine the extent and severity of an identified contamination problem.		1	3	1
Phase IV Remediation System Design and Cleanup Execution – incorporates all the findings of the first three phases of investigations to design a cost-effective cleanup of the property			1	3

¹ Phase I Environmental Site Assessment – conducted in general conformance with ASTM 1527-05 and may include multiple additional business environmental risk items, often referred to as "environmental due diligence," is utilized by purchasers and lenders to evaluate a property for potential environmental contamination and to assess the potential liability for contamination present at the property. Quality is the key in Phase I environmental assessments

6.3 Project Organization

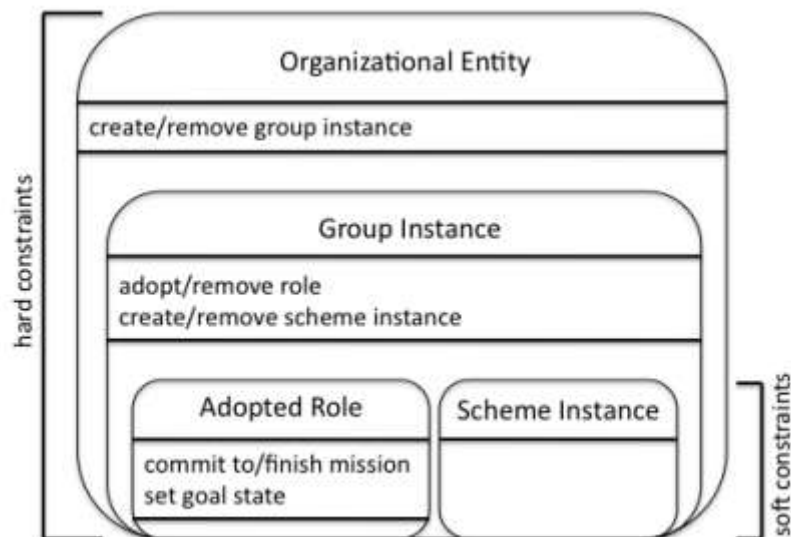
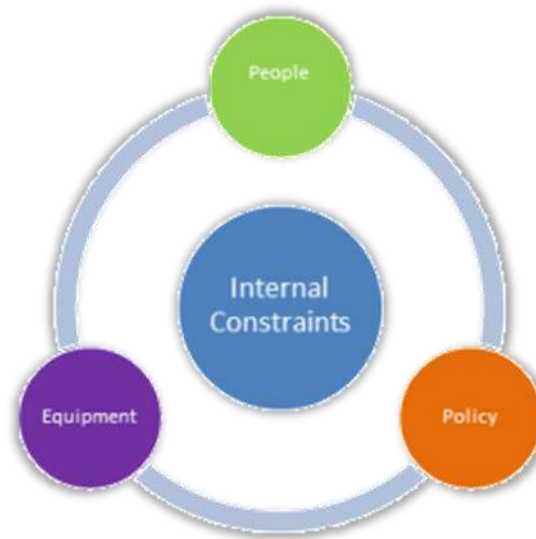
Organization			
Accreditor		SCA	
1. Environment General Authority			
2. Libyan Mine Action Center			
Expert Stakeholders		EXS	
1. Environment General Authority			
2. E11 (SPECAIL STATE AGENIES)			
3. E12 (RESEARCH CENTERS)			
4. E13 (GENERAL WATER BOARD)			
5. E14 (COMMUNITY & CIVIL SOCIETY)			
6. E15 (NATIONAL CIVIL SAFETY BOARD)			
Auditor		SCA	
1. Environment General Authority			
2. A11 (Antiquity General Authority)			
3. A12(Libyan Mine Action Center)			
Consultant		ACD	
1. Environment General Authority			
2. UNHCR & UNDP & UNEP			
3. Libyan National Centre for Standardization and Metrology (LNCSM)			
4. University of Tripoli			

6.4 Project Team Structure, Roles, Responsibilities

Name & Company	START ON	TYPE	UNTIL
Project Manager		FT	
PM (CAEP)	1/3/2018		30/6/2018
Expert		FT	
L1 (CAEP)	1/4/2018		30/6/2018
L2 (CAEP)	1/5/2018	CT	30/6/2018
E2 (UNEP)	1/3/2018	CT	30/5/2018
Analyst		FT	
A1 (UNEP)	1/5/2018		30/6/2018
L3 (CAEP)	1/4/2018	CR	30/6/2018
A2 (CAEP)	1/6/2018	PT	30/6/2018
Consultant		FT	
(CAEP)	1/6/2018		30/6/2018
C1 (UNDP)	1/3/2018	PT	30/6/2018
C2 (UNEP)	1/4/2018	CR	30/6/2018

6.5 Organizational Constraints

1. Time
2. Assets
3. Liquid Assets
4. Resources
5. Quality
6. Knowledge
7. Regulatory Compliance
8. Interests of Stakeholders
9. Organizational Culture
10. Risk Tolerance



6.6 Project Plan & Budget

Project phases and price of services

Phase 1

- | | |
|---|---------------------|
| a. Assessments and Desktop Studies | |
| Estimated Phase 1.a duration: | 21 days (168 hours) |
| Commencement date: | Mar – Apr 2018 |
| b. General Survey | |
| Estimated Phase 1.b duration: | 21 days (210 hours) |
| Commencement date: | Apr – May 2018 |
| c. Delivery of ESA Report “Project Scope” | |
| Estimated Phase 1.c duration: | 14 days (140 hours) |
| Commencement date: | May 2018 |

Phase II - Environmental Site Assessment

Soil, Groundwater and Surface Water Contamination Assessment – investigates the specific recognized environmental conditions identified in the Phase I ESA and generates hard data.

Estimated Phase 1.a duration:	21 days (168 hours)
Commencement date:	May 2018

Phase III - Environmental Site Assessment

Remedial Investigation and/or Opinion of Remediation Cost Estimates – builds on the documentation created in Phase II and seeks to determine the extent and severity of an identified contamination problem.

Estimated Phase 1.a duration:	21 days (168 hours)
Commencement date:	Jun 2018

Phase IV

Remediation System Design and Clean-up Execution SOPs – incorporates all the findings of the first three phases of investigations to design a cost-effective clean-up of the property.

Estimated Phase 1.a duration:	21 days (168 hours)
Commencement date:	Jul 2018

The supervision fee² for the Assessment

LYD 271,900.⁰⁰⁰

Note: Price does not include: mobilisation/demobilisation to project area, transport, subsistence and accommodation.

² See Annex C

7. CRITICAL SUCCESS FACTORS

When Conducting an Effective Environmental Assessment: Remember the Key Points to:

- Keep environmental assessment in perspective. Recognise it as a tool to enhance the decision-making process, "not the decision-making process itself".
- Keep the assessment simple and concentrate on pertinent factors and data. It should be "rigorous but not necessarily laborious". The type of assessment needed by community projects should be relatively quick and uncomplicated.
- Focus time and effort on the most relevant matters. The assessment of a latrine and sanitation project to be built near a river does not require an inventory of local flora and fauna. The priority would be to understand the impact of the project on the stream as well as on social and economic life.
- The process should be neither protracted nor hasty. It is better to take the time needed to do a proper job than to pay later for carelessness. Stay flexible throughout the assessment in order to meet any new challenges which may arise.
- Tailor each assessment to the particular needs of the project. Each project has a unique set of environmental, economic and social characteristics. The values and priorities of the target population and the extent of their participation and support will also vary from project to project.
- Be inventive. There is no standard format available for interpreting the information gathered during an environmental assessment.
- Be prepared for inexact and suggestive data which call for speculation and extrapolation. "Typically, data will be imperfect, and assumptions open to challenge. Quantification may be difficult (and in some circumstances, impossible).
- Nevertheless, lack of perfect information and insight should not stand in the way of conducting environmental assessment with the best available knowledge and data. Indeed, exposing the limits and inadequacies of knowledge, data and interpretation, can help stimulate improvements in the understanding of environmental issues and accelerate the provision of reliable information to support informed decision making".
- Avoid secrecy. Open communication among all stakeholders throughout the assessment process not only produces better results, but also increases the project's credibility and builds trust and acceptance on the part of the wider community.
- Seek external help and advice in situations which require more expertise than is available in the project management and environmental assessment teams.

POST CONFLICT ACTIVITIES THAT IMPACT THE ENVIRONMENT

See ANNEX D

7.1 Project Ownership

Tawergha City Rebuilding Foundation (TCRF)

7.2 Project Organizational Infrastructure



7.3 Project Roles & Responsibilities

Name & Company	Role	Report to	Responsibility
Project Manager	Supervisor	TRD	Maintain Project Consistency
Expert	Advisor	PM	
Analyst	Forecaster	PM	
Consultant	Counselor	PM	

8. IMPACTS

Climate change

The ISO 14064:2006 series and the ISO 14065:2007 standard provide an internationally agreed framework for measuring greenhouse gas (GHG) emissions and verifying claims made about them so that “a ton of carbon is always a ton of carbon”. They support programs to reduce GHG emissions as well as emissions trading programs.

Beyond their welcome by the United Nations Framework Convention on Climate Change, they are now being implemented on a day-to-day basis by users as varied as a New Zealand printer, a Norwegian shipping company, an Indian construction company and the Spanish organization that is one of the world’s largest transport infrastructure providers. ISO and the environment

Economy

ISO standards provide solutions and achieve benefits for almost all sectors of activity, including agriculture, construction, mechanical engineering, manufacturing, distribution, transport, healthcare, information and communication technologies, food, water, the environment, energy, quality management, conformity assessment and services.

Efficiency, effectiveness, innovation

These standards contribute to sustainable economic development by increasing efficiency, effectiveness and, therefore, conserving resources. They keep the wheels of industry turning by providing specifications, dimensions, requirements and testing and maintenance regimes for engineering, construction, production and distribution.

They ensure compatibility and interoperability of the information and communications technologies that have become the backbone of almost every sector.

They speed up the time to market and diffusion of products and services derived from innovation, such as nanotechnologies and vehicles powered by electrical batteries or hydrogen. They facilitate trade, providing a basis for agreement between business partners and the technical support for regulation.

Economic benefits

Several studies have found that the economic benefits of standardization represent about 1% of gross domestic product. This shows that standards make an annual contribution of GBP 2.5 billion to the economy, and attribute 13% of the growth in labour productivity. Standards and related conformity assessment (checking that products and services measure up to standards) have an impact on 80 % of the world’s trade in commodities.

Management standards

ISO 14001, referred to above, is a management system standard like the pioneer in this field, ISO 9001 for quality management. These are among ISO’s best-known standards and are thoroughly integrated into the global economy. At the end of 2010, there were more than a million users of ISO 9001 alone in 178 countries. Beyond their immediate objectives of helping organizations large and small to improve, respectively, environmental and quality management performance, they are widely used to establish confidence between business partners, as a condition to participate in global supply chains and qualify to tender for procurement contracts.

The management system approach pioneered by ISO 9001 and further developed by ISO 14001 has since been followed by other standards for the needs of specific sectors, or to address specific issues.

They include:

- Information security (ISO/IEC 27001)
- Food safety (ISO 22000)
- Supply chain security (ISO 28000)
- Energy management (ISO 50001)
- Road traffic safety management (ISO 39001 – under development).
- Although the ISO 31000 standard for risk management is not a management system standard, it shares with this category the attribute of being generic, providing benefits for any organization in the public or private sector. These benefits may be economic, environmental or societal, making it an important tool for sustainability.

Society

ISO standards help governments; civil society and the business world translate societal aspirations, such as for social responsibility, health, and safe food and water, into concrete realizations. In so doing, they support the United Nations' Millennium Development Goals.

Social responsibility

1 November 2010 saw the publication of ISO 26000 which gives organizations guidance on social responsibility, with the objective of sustainability. The standard was eagerly awaited, as shown by the fact that a mere four months after its publication, a Google search resulted in nearly five million references to the standard.

This indicates there is a global expectation for organizations in both public and private sectors to be responsible for their actions, to be transparent, and behave in an ethical manner. ISO 26000, developed with the engagement of experts from 99 countries, the majority from developing economies, and more than 40 international organizations, will help move from good intentions about social responsibility to effective action.

Health

ISO offers more than 1,400 standards for facilitating and improving health-care. These are developed within 19 ISO technical committees addressing specific aspects of healthcare that bring together health practitioners and experts from government, industry and other stakeholder categories. Some of the topics addressed include health informatics, laboratory equipment and testing, medical devices and their evaluation, dentistry, sterilization of healthcare products, implants for surgery, biological evaluation, mechanical contraceptives, prosthetics and orthotics, quality management and protecting patient data.

They provide benefits for researchers, manufacturers, regulators, health-care professionals, and, most important of all, for patients. The World Health Organization is a major stakeholder in this work, holding liaison status with 61 of ISO's health-related technical committees (TCs) or subcommittees (SCs).

Food

There are some 1 000 ISO food-related standards benefitting producers and manufacturers, regulators and testing laboratories, packaging and transport companies, merchants and retailers, and the end consumer. In recent years, there has been strong emphasis on standards to ensure safe food supply chains. At the end of 2010, five years after the publication of ISO 22000, the standard was being implemented by users in 138 countries.

At least 18 630 certificates of conformity attesting that food safety management systems were being implemented according to the requirements of the standard, had been issued by the end of 2010, an increase of 34 % over the previous year.

The level of inter-governmental interest in ISO's food standards is shown by the fact that the UN's Food and Agriculture Organizations has liaison status with 41 ISO TCs or SCs.

Water

The goals of safe water and improved sanitation are ingrained in the UN Millennium Development Goals. ISO is contributing through the development of standards for both drinking water and wastewater services and for water quality. Related areas addressed by ISO include irrigation systems and plastic piping through which water flows.

In all, ISO has developed more than 550 water-related standards. A major partner in standards for water quality is the United Nations Environment Programme.

9. PROJECT RISK ANALYSIS

See Annex B.

ANNEX A

Solar storms have been on the rise in recent years and many have heard that this is due to the sun's reaching its solar max peak in solar activity, but did you know that solar storms can affect your life in a big way and there are things you can do to protect yourself?

To begin with, there are a few key terms regarding solar weather that you should be aware of, pertinent terms relating to current space weather and how it can affect the average individual's life, or your life to be specific.

Solar Flare

This is a term that seems overused quite often and is not always used with the correct definition in mind. A solar flare, in its most simple interpretation, is an explosion of magnetic energy on the sun's surface causing a bright flash of light. The energy released from this explosion travels at the speed of light and arrives here at our planet in about 8 minute's time. Generally, a solar flare only affects satellites and radio communications and has little to no effect on the average person's life. Flares are measured on a scale of A, B, C, M and X. (A) being the smallest and (X) being the largest. Even flares of the largest size, an X, are little concern for people down on ground level aside from persons on aircraft or boats who may lose radio communication.

Unfortunately, flares sometimes come with strings attached in the way of CMEs, short for coronal mass ejections that often coincide with the eruption of a flare, especially larger flares and long duration flares called LDEs (long duration events).

Coronal Mass Ejection (CME)

A coronal mass ejection is a large cloud of super-hot and electrically charged plasma that erupts from the surface of the sun and expands out into the solar system. These events often coincide with solar flares and, although they can both happen independently, frequently a large solar flare will have an associated large CME.

The problem with CMEs is that they have a much deeper impact on us than solar flares do. A CME is much slower than a solar flare, usually taking 1-5 days to reach Earth, but can have effects that last for days after making contact. When a coronal mass ejection reaches our planet, it puts pressure on the Earth's magnetosphere (our magnetic shield that protects us from radiation and solar winds). As the cloud presses around us, plasma and energy are caught up and collected in the tail of our magnetosphere. When the tail becomes saturated, it "snaps" and dumps all that collected electric energy and plasma into our atmosphere creating the breath-taking aurora borealis and, another one of our important terms, geomagnetic storms.

Geomagnetic Storm

The geomagnetic storm is a major player in the solar weather that can affect your life. Geomagnetic storming is an increased amount of energy or electric current in our magnetosphere and atmosphere. A storm like this can cause several problems including rendering compasses useless and disrupting radio and radar functioning, but perhaps the most problematic result of geomagnetic storming is the ground induced currents, or GICs. During a geomagnetic storm the air is basically filled with electric energy trying to find a way to the ground and the energy is collected by anything conductive that can serve as a ground. Unfortunately, the long power lines we have all across the world are a prime target for this energy. As the energy feeds into the long cables and is then fed into the power grid, it can overload transformers causing cascading power outages that can affect vast areas such as entire states or even entire countries. Not only does it cause black outs, but also the power outages it causes can last for long periods of time as the transformers can be permanently

damaged or destroyed. Many of these transformers can take weeks, months or even years to replace and are upwards of a million dollars apiece.

The above are only a few examples of how solar storms can affect the average person. Others are radiation exposure in air planes, damage to home electronics, GPS error or malfunctions, and increased risk of heart attack and stroke, just to name a few. The point is that knowing about these storms and what they can cause is the first step in being prepared to deal with them. The next step is learning what things you can do to prepare for what can happen and how you can minimize the threat and damage these storms can cause. Simply familiarizing yourself with solar storms and taking preparatory measures such as building up a food and water storage sufficient for your needs are a great start.

ANNEX B

PROJECT RISK ANALYSIS

Activity	Impact Description
<p>The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres at any one location or site.</p>	<p>Impacts may include:</p> <ul style="list-style-type: none"> • impacts on the ecosystem, habitat, plants and animals from construction of facilities and support infrastructure; and • potential water/air/soil pollution through leakage or damage to storage facilities and the resulting health impacts on nearby inhabitants and ecosystems/organisms.
<p>Reconnaissance, prospecting, mining or retention operations as provided for in the Petroleum Development Act in respect of such permissions, rights, permits and renewals thereof.</p>	<p>Mining activities (prospecting, mining, and mining closure) may have the following impacts:</p> <ul style="list-style-type: none"> • degradation of ecosystems by destroying and changing habitat; • water pollution from waste dumps; • increased water and energy usage; • noise and air pollution from transport and processing infrastructure; • cultural and socio-economic impacts on surrounding inhabitants (benefits from mining are rarely shared with local communities); and • influx of people could result in inflow of HIV/AIDS, other STDs, human transmittable diseases, prostitution, drugs, breakdown of social/cultural norms etc.
<p>The decommissioning of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of more than 10 hectares.</p>	<p>The decommissioning of a dam may cause flooding, erosion and sedimentation of downstream environments and suffocation of organisms, as well as potential damage to property.</p> <p>There will be environmental benefits to returning a waterway to its natural flow.</p>

Activity	Impact Description
<p>The transformation or removal of indigenous vegetation of 3 hectares or more or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem.</p>	<p>Impacts may include:</p> <ul style="list-style-type: none"> • habitat loss; • erosion; and • negative impact on populations of threatened species (vulnerable, endangered and critically endangered).
<p>The abstraction of groundwater at a volume where any general authorization issued in terms of the National Water Act will be exceeded.</p>	<p>Impacts associated with the extraction of water in large quantities may be:</p> <ul style="list-style-type: none"> • reduction of groundwater supplies and, if done in excessive quantities, could supersede replenishment levels causing collapse of water supply; • cumulative impacts of many people abstracting water from one groundwater source; • leaching of soils and salt-water intrusion if the aquifer is nearby the coast; and <p>Long-term impacts could be ecosystem degradation as well as subsidence (when the ground collapses), preventing the aquifer from being recharged and thus a total loss of a renewable resource.</p>
<p>The construction of masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission, but excluding masts of 15 metres and lower exclusively used</p> <ul style="list-style-type: none"> • by radio amateurs; or • for lighting purposes • flag poles; and • lightning conductor poles 	<p>Impacts may include:</p> <ul style="list-style-type: none"> • visual impacts; • ecosystem degradation from construction of masts and supporting infrastructure; • disturbance of breeding sites (i.e. removal of trees in which birds nest).

Activity	Impact Description
<p>The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long.</p>	<p>Road construction and its supporting infrastructure (e.g. toll booths) may have the following impacts:</p> <ul style="list-style-type: none"> • ecosystem degradation by creating a barrier between ecosystems; • increasing road strikes of birds and wildlife (especially slow-moving organisms like frogs, tortoises); • soil erosion; and • interruption of ecosystem processes, especially if the road is built through sensitive areas (i.e. streams, wetland or alongside coastal strip). <p>There may also be socio-economic opportunities and impacts. Increased access to remote areas may bring economic benefits but may also result in transmission of diseases like HIV, degradation of natural areas due to increased human visitation and negative impacts on local livelihoods and culture.</p>
<p>The transformation of undeveloped, vacant or derelict land to –</p> <p>establish infill development covering an area of 5 hectares or more, but less than 20 hectares; or</p> <p>residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare.</p>	<p>Impacts may include:</p> <ul style="list-style-type: none"> • ecosystem impacts associated with construction and development (e.g. habitat destruction, impacts to animals and plants); • infilling of existing vacant lots could further reduce green urban areas and impact on remaining essential habitats (i.e. threatened mole species, birds); • further fragmentation of ecosystems, destruction of ecosystem integrity and reduction of ecosystem services; and • increased residential development in an area may increase demand for water and electricity supplies, and increase waste production and traffic congestion.
<p>Phased activities where any one phase of the activity may be below a threshold specified in this Schedule but where a combination of the phases, including expansions or extensions, will exceed a specified threshold</p>	<p>Cumulative impacts must be considered.</p>

Activity	Impact Description
<p>The subdivision of portions of land 9 hectares or larger into portions of 5 hectares or less</p>	<p>Impacts may include:</p> <ul style="list-style-type: none"> • ecosystem impacts associated with construction and development (e.g. habitat destruction, impacts to animals and plants); and • Infilling of existing vacant lots could further reduce green urban areas and impact on remaining essential habitats (i.e. threatened mole species, birds), cause further fragmentation of ecosystems, destruction of ecosystem integrity and reduction of ecosystem services. <p>More residential development in an area may result in increased demand on water and electricity supplies, and increase waste production and traffic congestion.</p>
<p>The development of a new facility or the transformation of an existing facility for the conducting of manufacturing processes, warehousing, bottling, packaging, or storage which, including associated structures or infrastructure, occupies an area of 1 000 square metres or more outside an existing area zoned for industrial purposes.</p>	<p>Construction and development of a large area may have the following impacts:</p> <ul style="list-style-type: none"> • ecosystem degradation (e.g. impacts on plants, animals and habitat); • increased traffic leading to congestion and more air pollution; and • potential for increased pollution if waste from manufacturing is not processed correctly.
<p>The transformation of an area zoned for use as public open space or for a conservation purpose to another use</p>	<p>Impacts will depend on the new purpose of the area.</p>

Activity	Impact Description
<p>The release of genetically modified organisms into the environment in instances where assessment is required by the Genetically Modified Organisms Act or the National Environmental Management: Biodiversity Act</p>	<p>Impacts may include:</p> <ul style="list-style-type: none"> • a reduction of biodiversity; • a weakening of genetic integrity of wild organisms through mixing with GMOs; • replacement of indigenous populations with invasive alien GMOs; and • Unanticipated impacts on other species of flora and fauna in the ecosystem (i.e. interaction of GMOs with certain species of vegetation might destroy vegetation and catalyse soil degradation thereby having adverse effects on the entire ecosystem process).
<p>The release of any organism outside its natural area of distribution that is to be used for biological pest control.</p>	<p>Release of alien organisms may negatively impact native flora/fauna/habitats through invasion.</p>
<p>The decommissioning of existing facilities or infrastructure, other than facilities or infrastructure that commenced under an environmental authorisation issued in terms of the Environmental Impact Assessment Regulations, for</p> <ul style="list-style-type: none"> • electricity generation; • nuclear reactors and storage of nuclear fuel; • industrial activities where the facility or the land on which it is located is contaminated or has the potential to be contaminated by any material which may place a restriction on the potential to re-use the site for a different purpose; • the disposal of waste; • the treatment of effluent, wastewater and sewage with an annual throughput capacity of 15 000 cubic metres or more; • the recycling, handling, temporary storage or treatment of general waste with a daily throughput capacity of 20 cubic metres or more; or • the recycling, handling, temporary storage or treatment of hazardous waste. 	<p>A strategy should be developed to ensure the long-term clean-up of the site.</p>

Activity	Impact Description
<p>The recommissioning or use of any facility or infrastructure; excluding any facility or infrastructure that commenced under an environmental authorization issued in terms of the Environmental Impact Assessment Regulations, for</p> <ul style="list-style-type: none"> • electricity generation; • nuclear reactors and nuclear fuel storage; or • facilities for any process or activity, which require permission, authorisation, or further authorisation, in terms of legislation governing the release of emissions, pollution, effluent or waste prior to the facility being recommissioned. 	<p>Possible impacts include:</p> <ul style="list-style-type: none"> • increased water/energy usage; • increased pollution of air, soil and water from revived operations; and • impacts on residential settlements that may have been built since decommissioning (i.e. settlements that have developed next to a facility that was not in operation may be impacted by air/water/soil pollution, increased water usage, noise, traffic.)
<p>The expansion of or changes to existing facilities for any process or activity; which requires an amendment of an existing permit or license, or a new permit or license in terms of legislation governing the release of emissions, pollution, effluent.</p>	<p>Impacts will depend on the degree of expansion or type of change to the existing facility.</p> <p>Could result in increased pollution and safety hazards.</p>

ANNEX C

Table 1: Environmental Supervision Costs (USD \$)

No.	Subject	Cost	Note
1.	Current status research and material fee	52,800	Collect in separate based on project and local situation.
1.1	Social environment research	4,800	
1.2	Environmental, hydrologic, geological and weather research	8,000	
1.3	Surface water and underground water current status research	24,000	
1.4	Ecological environment current status research	8,000	
1.5	Engineering status research fee	8,000	
			105,600
2.	Assessment fee	111,600	Includes the assessment after the implementation and demonstration project.
2.1	EIA outline compose	8,000	
2.2	Engineer assessment	16,000	
2.3	Environment current status assessment	24,000	
2.3.1	Surface water	9,600	
2.3.2	Gas	3,200	
2.3.3	Waste	1,600	
2.3.4	Ecology	4,800	
2.3.5	Noise	1,600	
2.3.6	Social-economy	3,200	
2.4	Forecast EIA	18,800	
2.4.1	Surface water	12,800	
2.4.2	Gas	4,800	
2.4.3	Noise	3,200	
2.5	EIA, countermeasure, environment plan	44,800	
2.5.1	Surface water	9,600	
2.5.2	Gas	3,200	
2.5.3	Noise	1,600	
2.5.4	Waste	1,600	
2.5.5	Underground water, soil, ecology	3,200	
2.5.6	Total amount control option	3,200	
2.5.7	Clear production analysis	1,600	
2.5.8	Pollution treatment and prevention measure	8,000	
2.5.9	Profit and loss analysis	1,600	
2.5.10	Environment management and monitoring plan	3,200	
2.5.11	Public participant	8,000	
			312,800
3.	Monitoring and measure fee	160,000	Including surface water, gas, noise, underground water and soil. The local water resource and environment protection organs undertake the responsibilities.
			160,000
4.	Compose report	48,000	Completed EIA organs
5.	Print	8,000	
6.	Viaticum	48,000	
7.	Consultation	48,000	
GLOSCO		152,000	
			418,400
8.	Management and tax 13.2% of above		57,200
9.	Unpredictable fee 7% of above		37,400
TOTAL			571,000

ANNEX D

ACTIVITIES THAT IMPACT THE ENVIRONMENT

1. The construction of facilities or infrastructure, including associated structures or infrastructure, for
 - a. the generation of electricity where the electricity output is more than 10 megawatts but less than 20 megawatts;
 - b. the above ground storage of 1 000 tons or more but less than 100 000 tons of ore;
 - c. the storage of 250 tons or more but less than 100 000 tons of coal;
 - d. resorts, lodges, hotels or other tourism and hospitality facilities in a protected area;
 - e. any purpose where lawns, playing fields or sports tracks covering an area of more than three hectares, but less than 10 hectares, will be established;
 - f. sport spectator facilities with the capacity to hold 8 000 spectators or more;
 - g. the slaughter of animals with a product throughput of 10 000 kilograms or more per year;
 - h. the concentration of animals for the purpose of commercial production in densities that exceed
 - 20 square metres per head of cattle and more than 500 head of cattle per facility per year;
 - eight square meters per sheep and more than 1 000 sheep per facility per year;
 - three square metres per head of poultry and more than 250 poultry per facility at any time, excluding chicks younger than 20 days;
 - three square metres per rabbit and more than 250 rabbits per facility at any time;
 - 100 square metres per ostrich and more than 50 ostriches per facility per year or 2500 square metres per breeding pair;
 - i. aquaculture production, including maricultural and algae farms, with a product throughput of 10000 kilograms or more per year;
 - j. agroindustry purposes, outside areas with an existing land use zoning for industrial purposes, that cover an area of 1 000 square metres or more;
 - k. the bulk transportation of sewage and water, including storm water, in pipelines with
 - an internal diameter of 0,36 metres or more; or
 - a peak throughput of 120 litres per second or more;
 - l. the transmission and distribution of electricity above ground with a capacity of more than 33 kilovolts and less than 120 kilovolts;
 - m. any purpose in the one in ten-year flood line of a river or stream, or within 32 metres from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including -
 - canals;
 - channels;
 - bridges;
 - dams; and
 - weirs;
 - n. the off-stream storage of water, including dams and reservoirs, with a capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of the activity listed in item 6 of Government Notice No. R. 387 of 2006;
 - o. the recycling, re-use, handling, temporary storage or treatment of general waste with a throughput capacity of 20 cubic metres or more daily average

- measured over a period of 30 days, but less than 50 tons daily average measured over a period of 30 days;
- p. the temporary storage of hazardous waste;
 - q. the landing, parking and maintenance of aircraft including -
 - helicopter landing pads, excluding helicopter landing facilities and stops used exclusively by emergency services;
 - unpaved aircraft landing strips shorter than 1,4km;
 - structures for equipment and aircraft storage;
 - structures for maintenance and repair;
 - structures for fuelling and fuel storage; and
 - structures for air cargo handling;
 - r. the outdoor racing of motor powered vehicles including -
 - motorcars;
 - trucks;
 - motorcycles;
 - quad bikes;
 - boats; and
 - jet skis;
 - s. the treatment of effluent, wastewater or sewage with an annual throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres;
 - t. marinas and the launching of watercraft on inland fresh water systems;
 - u. above ground cableways and funiculars;
 - v. advertisements as defined in classes 1(a), 1(b), 1(c), 3(a), 3(b), 3(l) of the South African Manual for Outdoor Advertising Control
2. Construction or earth moving activities in the sea or within 100 metres inland of the high-water mark of the sea, in respect of
 - facilities for the storage of material and the maintenance of vessels; fixed or floating jetties and slipways;
 - tidal pools;
 - embankments;
 - stabilising walls;
 - buildings; or
 - infrastructure.
 3. The prevention of the free movement of sand, including erosion and accretion, by means of planting vegetation, placing synthetic material on dunes and exposed sand surfaces within a distance of 100 metres inland of the high-water mark of the sea.
 4. The dredging, excavation, infilling, removal or moving of soil, sand or rock exceeding 5 cubic metres from a river, tidal lagoon, tidal river, lake, in-stream dam, floodplain or wetland.
 5. The removal or damaging of indigenous vegetation of more than 10 square metres within a distance of 100 metres inland of the high-water mark of the sea.
 6. The excavation, moving, removal, depositing or compacting of soil, sand, rock or rubble covering an area exceeding 10 square metres in the sea or within a distance of 100 metres inland of the high-water mark of the sea.
 7. The above ground storage of a dangerous good, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic metres but less than 1 000 cubic metres at any one location or site.
 8. Reconnaissance, prospecting, mining or retention operations as provided for in the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), in respect of such permissions, rights, permits and renewals thereof.
- Until April 2007, mining applications are not subject to these new EIA regulations. DEAT and DME are developing a process that will satisfy both the environmental and mining requirements.*

However, activities that are related to mining developments but are listed activities under NEMA are subject to the EIA regulations. For example, the construction of burrow pits is a listed activity under the new regulations and would require environmental authorisation even if the burrow pits are associated with a mining facility.

9. The establishment of cemeteries.
10. The decommissioning of a dam where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of more than 10 hectares.
11. The transformation or removal of indigenous vegetation of 3 hectares or more or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).
12. The abstraction of groundwater at a volume where any general authorisation issued in terms of the National Water Act, 1998 (Act No. 36 of 1998) will be exceeded.
13. The construction of masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission, but excluding
 - masts of 15 metres and lower exclusively used
 - by radio amateurs; or
 - for lighting purposes
 - flag poles; and
 - lightning conductor poles
14. The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long.
15. The transformation of undeveloped, vacant or derelict land to –
 - establish infill development covering an area of 5 hectares or more, but less than 20 hectares; or
 - residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare.
16. Phased activities where any one phase of the activity may be below a threshold specified in this Schedule but where a combination of the phases, including expansions or extensions, will exceed a specified threshold
17. The subdivision of portions of land 9 hectares or larger into portions of 5 hectares or less
18. The development of a new facility or the transformation of an existing facility for the conducting of manufacturing processes, warehousing, bottling, packaging, or storage which, including associated structures or infrastructure, occupies an area of 1 000 square metres or more outside an existing area zoned for industrial purposes.
19. The transformation of an area zoned for use as public open space or for a conservation purpose to another use
20. The release of genetically modified organisms into the environment in instances where assessment is required by the Genetically Modified Organisms Act, 1997 (Act No. 15 of 1997) or the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).
21. The release of any organism outside its natural area of distribution that is to be used for biological pest control.
22. The decommissioning of existing facilities or infrastructure, other than facilities or infrastructure that commenced under an environmental authorisation issued in terms of the Environmental Impact Assessment Regulations, 2006 made under section 24(5) of the Act and published in Government Notice No. R. 385 of 2006, for
 - electricity generation;

- nuclear reactors and storage of nuclear fuel;
 - industrial activities where the facility or the land on which it is located is contaminated or has the potential to be contaminated by any material which may place a restriction on the potential to re-use the site for a different purpose;
 - the disposal of waste;
 - the treatment of effluent, wastewater and sewage with an annual throughput capacity of 15000 cubic metres or more;
 - the recycling, handling, temporary storage or treatment of general waste with a daily throughput capacity of 20 cubic metres or more; or
 - the recycling, handling, temporary storage or treatment of hazardous waste.
23. The recommissioning or use of any facility or infrastructure; excluding any facility or infrastructure that commenced under an environmental authorisation issued in terms of the Environmental Impact Assessment Regulations, 2006 made under section 24(5) of the Act and published in Government Notice No. R. 385 of 2006; after a period of two years from closure or temporary closure, for
- electricity generation;
 - nuclear reactors and nuclear fuel storage; or
 - facilities for any process or activity, which require permission, authorisation, or further authorisation, in terms of legislation governing the release of emissions, pollution, effluent or waste prior to the facility being recommissioned.
24. The expansion of or changes to existing facilities for any process or activity; which requires an amendment of an existing permit or license, or a new permit or license in terms of legislation governing the release of emissions, pollution, effluent.