

A review package for South African EIA follow-up performance

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Dissertation submitted in fulfilment of the requirements for the
degree *Magister Scientiae* in *Geography and Environmental
Management* at the Potchefstroom Campus of the North-West
University

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May 2016

Foreword and Acknowledgements

“I can do all things through Christ who strengthens me” – Philippians 4:13

First and foremost, I am thanking my Creator who gave me the strength and passion to complete this dissertation. Without Him I would be nothing.

Second, I would like to thank my husband, Marius Alers, for supporting me emotionally and financially through the process of completing this dissertation. “Liefie jy beteken alles vir my”.

Third, I would like to thank my parents (biological and in-laws) for always having faith in me and my abilities. Thank you, dad, for helping me to translate Prof’s “hierogliewe”, and both my mom’s for always showing love and support. A special thanks to Jessica Page, who supported me in the tough times of writing this dissertation and providing me with a lifelong friendship.

Last, but certainly not least, I would also like to thank you, Professor Luke Sandham, for guiding me through this process and having confidence in my work. Your guidance will always be remembered and I am sure that students before and after me would agree that you are the best.

I would also like to acknowledge and show appreciation to all my colleagues, the consultants and companies who assisted in providing me with the data to complete this dissertation.

Without the support and guidance of the people listed above, this dissertation would not have been possible. Again, thank you.

Abstract

Over the last couple of decades the Environmental Impact Assessment (EIA) process has grown to be an important tool for environmental management. However, EIA follow-up, widely considered as a critical step in the process, is neglected globally. To improve the success of EIA follow-up, 17 International Best Practice Principles (IBPP) for follow-up have been developed. In this study, the provisions made in the South African mandatory requirements, regulations, and guidelines as well as the successful implementation of follow-up in selected case studies under the ECA, NEMA 2006, and NEMA 2010 EIA regulations were evaluated according to the 17 IBPP. In order to review the selected case studies under these three regulatory regimes, a review package for follow-up was developed, with review topics based on the 17 IBPP, and the package designed on the same basis as the Lee-Colley Review Package. Six projects were selected under the ECA regulatory regime and seven under the NEMA 2006 regime, but for the NEMA 2010 regime only two case studies were available. The selected case studies included wastewater management facilities, housing, recreational facilities, tourism facilities, and infrastructure development projects such as pipelines, solar plants, filling stations and roads. The competent authority in these instances ranged from National to Provincial (mainly Mpumalanga, Limpopo and Northern Cape) government.

The results indicated that the overall performance of follow-up for the 15 case studies in terms of the 17 IBPP was satisfactory under all three the regulatory regimes, with best performance under the NEMA 2006 regime. A number of areas of strength and a few areas of weaknesses were observed.

The strengths included well-defined follow-up outcomes, objectives, targets clear performance criteria; good commitment to follow-up activities; provision for timely, adaptive and action orientated follow-up programmes in both the pre-decision and post decision EIA phases; proponent and regulator accountability for implementing EIA follow-up; and provision of adequate resources.

Weaknesses included poor description of objectives and goals, a lack of communicating and providing feedback on EIA follow-up outcomes, a shortage of genuine opportunities to involve the community in follow-up activities, and failure to address sustainability issues beyond a project level.

Therefore, despite the weaknesses, it appears that in terms of the criteria of this study, follow-up in South Africa is relatively well performed. The results suggest that the roles of

the EAP, the ECO and competent authority are important contributing factors to the successful implementation of the 17 IBPP for follow-up.

These results are good news in terms of EIA follow-up in the South African context, however further research in follow-up is required covering more provinces, sectors and EIA regimes. It is recommended that the areas of weakness identified be addressed in future EIA practice, including better involvement of the community in follow-up activities; improving requirements on communicating follow-up outcomes; addressing sustainable issues beyond project level; clearly defining follow-up objectives and goals; and clearly defining the role of the EAP, the ECO, and the competent authority with regards to addressing follow-up principles.

Key words: Environmental Impact Assessment (EIA), EIA follow-up, International Best Practice Principles for follow-up (IBPPFU), IBPPFU review package, EAP (Environmental Assessment Practitioner), ECO (Environmental Control Officer), competent authority

Samevatting

Gedurende die laaste dekades het die Omgewingsinvloedbepaling (OIB) proses gegroei tot 'n belangrike werktuig van die omgewingsbestuur. Alhoewel die OIB terugvoering 'n kritiese stap in die proses is, word dit nog wêreldwyd grootliks geignoreer. Om die sukses van die OIB opvolgproses te verbeter is 17 internasionale-beste-praktyk-beginsels (IBPB) ontwikkel. In hierdie studie is die bepalinge wat gemaak is in die Suid Afrikaanse verpligte voorwaardes, regulasies en riglyne, sowel as die suksesvolle implimentering van die opvolg proses in geselekteerde gevallestudies onder die Wet op Omgewingsbewing (WOB), Wet op Nasionale Omgewingsbestuur (WNOB) 2006, en WNOB 2010 OIB regulasies geëvalueer volgens die 17 IBPB. Om die geselekteerde gevallestudies onder hierdie drie regulerende regimes te evalueer was 'n hersieningspakket ontwikkel. Hierdie hersieningspakket se hersieningshoofde is gebaseer op die 17 IBPB, en die pakket is ontwerp op dieselfde basis as die Lee-Colley Hersieningspakket. 'n Totaal van ses projekte was geselekteer onder die OBA regulasies, en sewe onder die WNOB 2006 regulasies. Net twee gevalle studies was vir evaluasie beskikbaar onder die WNOB 2010 regulasies. Die geselekteerde gevallestudies is opgemaak uit die volgende: rioolwerke, behuising, ontspanningsfasiliteite, toerismefasiliteite, en infrastruktuur ontwikkelingsprojekte, soos pyplyne, sonkrag stasies, vulstasies en paaie. Die bevoegde owerheid in hierdie gevalle het gewissel van nasionale- en provinsiale vlak (hoofsaaklik Mpumalanga, Limpopo en Noord Kaapse regerings).

Die uitslae het aangedui dat die resultate van die 17 IBPB onder al drie die regulerende regimes bevredigend was, met die beste resultate onder die WNOB 2006 regime. 'n Hele paar sterkpunte, asook 'n paar gebreke is waargeneem.

Die sterkpunte wat waargeneem is, is duidelik gedefinieerde beskrywing van opvolgaksies en uitslae, doelwitte, oogmerke, duidelike prestasiekriteria; verbintenis tot opvolgaktiwiteite; voorsiening van tydige, aanpasbare, en aksiegeoriënteerde opvolgprogramme in beide die voor- en na-besluitneming OIB fases; die voorsteller en reguleerder is aanspreeklik vir die implimentering van OIB opvolgaksies; en voorsiening van voldoende hulpbronne.

Tekortkominge was onder andere swak kommunikasie en terugvoering van mikpunte en doelwitte op OIB opvolg uitslae; 'n gebrek aan werklike deelname van die gemeenskap in die opvolgaksies; die weglating om kwessies van volhoubaarheid te adresseer na projekvoltooing.

Dit wil sê dat, ten spyte van die tekortkominge blyk dit in terme van die kriteria van hierdie studie dat opvolg in Suid Afrika relatief goed gevaar het. Die resultate wys daarop dat die

rolle van omgewingsinvloedpraktisyn (OIP) en die omgewingsbestuurbeampste (OBB) en die bevoegde owerheid wel belangrike faktore is wat bydra tot die suksesvolle implimentering van die 17 IPBB vir opvolg. .

Hierdie resultate is goeie nuus vir ten opsigte van die OIB opvolg proses in Suid Afrika. Verdere navorsing, met spesifieke fokus op die opvolg proses, wat verstrekk oor meer provinsies, sektore en OIB regimes is nodig. Dit word voorgestel dat die areas van gebreke wat waargeneem is geadresseer word in toekomstige OIB praktyk, insluitende beter betrokkenheid van die gemeenskap in opvolgaksies, verbetering van vereistes rakende kommunikasie van opvolg aksies se uitslae; die addressering van volhoubare kwessies na voltooiing van die projek; duidelik gedefinieerde opvolg doelwitte, oogmerke en mikpunte; en die duidelike definieering van die rol van die OIP, die OBB en die bevoegde owerheid met betrekking tot opvolg beginsels.

Sleutelwoorde: Omgewingsinvloedbepaling (OIB) opvolg, internasionale-beste-praktyk-beginsels (IBPB), , Internasionale-beste-praktyk-beginsels vir Opvolg (IBPPFU) hersieningspakket, Omgewingsinvloedpraktisyn (OIP), Omgewingsbestuurbeampste (OBB).

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Acronyms and Abbreviations

BA – Basic Assessment

BPP – Best Practice Principle

BAR – Basic Assessment Report

BS EN ISO 14001 – A British Standard, European Norm, International Organisation for Standardisation, standard number 14001

DEA – Department of Environmental Affairs

EA – Environmental Authorisation

EAP – Environmental Assessment Practitioner

ECA – Environment Conservation Act, Act 73 of 1989

ECO – Environmental Control Officer

EIA – Environmental Impact Assessment

EIR – Environmental Impact Report

EIS – Environmental Impact Statement

EMAS - European Union's Eco Management and Audit Scheme

EMP – Environmental Management Plan

EMPr – Environmental Management Program (also referred to as a EMP)

EMS – Environmental Management System

I&AP – Interested and affected parties

IAIA – International Association of Impact Assessments

IBPP – International Best Practice Principles

IBPPFU - International Best Practice Principles for follow-up review package

IEM – Integrated Environmental Management

NEMA – National Environmental Management Act, act 107 of 1998

NEMAQA - National Environmental Management Act: Air Quality, act 39 of 2004

NEMBA - National Environmental Management Act: Biodiversity, act 10 of 2004

NEMWA - National Environmental Management Act: Waste, act 59 of 2008

PPP – Public Participation Process

RA – Review area

RC – Review category

ROD – Record of decision

S&EIA – Scoping and Environmental Impact Assessment

CHAPTER 1: INTRODUCTION, RESEARCH BACKGROUND, AND METHOD

1.1 Introduction

Environmental Impact Assessment (EIA), introduced in the 1960s, is being used as a tool to consider the environmental impact of projects in advance. It has grown remarkably over the last four decades, to a degree that most countries in the world have an EIA system in place (Kvaerner *et al.*, 2006; Morgan, 2012). The International Association for Impact Assessment (IAIA, 1999) defines the EIA process as identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals before a decisions or commitments are made. An operational definition describes the EIA as “a technique and process by which information about the environmental effects of a project is collected, both by the developer and from other sources, and taken into account by the planning authority forming their judgements on whether the development should go ahead” (Glasson *et al.*, 2005: 3-4).

The EIA process, as identified by Glasson (2005), involves a number of steps, including: Project screening; Scoping; Consideration of alternatives; Description of the project/development action; Description of the environmental baseline; Identification of the main impacts; Prediction of impacts; Evaluation and assessment of significance; Mitigation; Public consultation and participation; Report presentation; Review; Decision making; and lastly, on Post-decision monitoring and Auditing (widely referred to as EIA follow-up), which is the focus of this study (Glasson *et al.*, 2005: 4-6). Examining the success of EIA has become the trend in recent times. Ahammed and Nixon (2006) with reference to other authors (i.e. Sadler, 1998) highlighted the importance of effect monitoring and impact auditing by listing them as part of six EIA success evaluation criteria (Ahammed & Nixon, 2006).

Morrison-Saunders and Arts (2004:3) refer to the phrase ‘EIA follow-up’ as an “umbrella” term to describe post decision EIA activities, such as but not limited to, monitoring and auditing. In the investigation done on the topic of EIA Follow-up, it was realised that, in essence, follow-up allows for EIA practitioners and stakeholders to shift their approach from a theoretical perspective on a proposal (where the decision of the authorizing agency is based on predictions and expectations of an activity in theory) to an actual understanding and knowledge of the existing situation during the implementation of projects (Morrison-Saunders & Arts, 2004). Additionally, Morrison-Saunders *et al.* (2003) summarised the purpose of follow-up to include: better project management, feedback on EIA processes and

communication about environmental performance. This may be defined in EIA regulations or may be a product of project type (Morrison-Saunders *et al.*, 2003:44). This “umbrella” term is also used by Marshall *et al.* (2005:176) to include the four main elements of the EIA follow-up process, i.e. Monitoring, Evaluation, Management and Communication. Marshall *et al.* (2005:176) developed a set of “best practice” principles as a guideline for EIA practitioners to determine the effectiveness of a good follow-up system. Morrison-Saunders argues that the success of EIA follow-up is largely dependent on the approaches and techniques used, and the available resources and capacity for conducting follow-up (Morrison-Saunders *et al.*, 2003).

In the 1970's the EIA process was introduced in South Africa on a non-mandatory basis. Then, in September 1997, this process became mandatory with the promulgation of EIA regulations in terms of the Environment Conservation Act, Act no 73 of 1989 (ECA) (Kidd & Retief, 2009; Sandham *et al.*, 2013). The EIA system, established by these regulations, consisted of five main steps, as described by Sandham *et al.* (2013). These steps are in line with international practice. They are:

- Submission of the application for authorization to undertake an activity;
- Scoping;
- Environmental Impact Report (EIR) that includes the public's involvement, specialists' reports and the draft Environmental Management Plan (EMP);
- Review of EIR by the competent authority and;
- The competent authority provides the Environmental Authorization which describes the conditions for approval (Sandham *et al.* 2013:156).

According to Wood (1999), in the ECA, only the EIA pre-decision procedures were incorporated into the regulations, and it does not include the monitoring and auditing steps of the international best practice principles (Wood, 1999:53). In 1998, the National Environmental Management Act, no. 107 of 1998 (NEMA) was promulgated and replaced some of the provisions of the ECA (Sandham *et al.* 2013:156), but EIA provisions in terms of the ECA remained in force, until new EIA regulations were promulgated in 2006 in terms of NEMA.

The EIA regulations promulgated in 2006 as part of Chapter 5 of NEMA, include the description of a Draft Environmental Management Plan (EMP). This document's purpose, as defined in the regulations, is to stipulate management and mitigation measures to minimize negative environmental outcomes (South Africa, 2006). In 2010, the 2006 regulations were amended, retaining the follow-up procedures that were made provision for in the EMP. In

addition to the defined requirements of an EMP, the 2010 regulations include a requirement for a rehabilitation and a closure plan, as well as an environmental awareness program (South Africa, 2010). The third revision of the EIA regulations under NEMA was promulgated in December 2014. This regulation requires a more detailed plan, specifically addressing the financial provisions available for rehabilitation, environmental liability and closure plans. It also includes a detailed requirement for post-decision auditing (South Africa, 2014).

1.2 Problem statement

The issue of follow-up in South Africa has stimulated a limited amount of research. Hulett and Diab (2002) investigated the status of follow-up in South Africa and revealed that environmental practitioners at the time were aware of the importance of follow-up, but that their understanding thereof differed from the accepted international practices.

In a study aimed at addressing the lack of attention paid to what follows the granting of an Environmental Authorisation (EA). Youthed (2009) explored the implementation of an EIA follow-up procedure in a region of the Eastern Cape Province. In this study follow-up focused on assessing the extent of non-compliance with the EIA consent conditions as well as the overall impact that the said development had on the environment. The results were then used to develop a risk screening tool that could be used to screen out new EIA applications that were likely to require follow-up to control default or impact (Youthed, 2009).

A critical analysis of the predictions and compliance from the construction phase of a high profile mega shopping mall in the North West Province was conducted by Jordaan (2010). The aim of this study was to determine the actual effect and contribution of the EIA process to decision making and implementation practices. In this case study it was found that some of the impacts were unavoidable (Jordaan, 2010).

Jennings (2011) pointed out the important role of permit conditions in enabling compliance and facilitating compliance monitoring with specific reference to the South African context. In this study a number of EAs were examined and tested for conformance with legislated requirements, and practicality of monitoring for compliance. A number of contributing factors were identified to achieve this monitorability (Jennings, 2011).

Wessels and Morrison-Saunders (2011) identified compliance monitoring and enforcement of the Environmental Management Plan and Authorisation as one of the significant challenges facing the South African EIA system, and described the role of an independent Environmental Control Officer (ECO) as part of the follow-up process in South Africa. Wessels (2013) showed that a history of poor application and enforcement of environmental

law, a weak EIA framework, and a lack of trust in self monitoring measures have negative consequences in relation to the independence of EIA practitioners. It was also found that there are a number of factors and related pressures that influence the EIA follow-up framework, amongst others the independence of the ECO (Wessels 2013:).

However, although the concept and international principles for EIA follow-up have been explored locally, very little research has been published on measuring the performance against the International Best Practice Principles (IBPP) of the South African EIA follow-up, prompting the following research question:

How successful is EIA follow-up in the South African context in terms of International Best Practice Principles (IBPP)?

This can be answered best by addressing two sub-questions.

- 1.1. To what extent has provision for EIA follow-up been made in the South African mandatory requirements, regulations and guidelines (ECA/NEMA) in terms of IBPP?
- 1.2. What is the performance of follow-up in South Africa, as revealed in a sample of EIA's?

1.3 Research aim and objectives

The aim of this study is to measure the performance of EIA follow-up in South Africa in terms of International Best Practice Principles (IBPP).

In order to reach the aim of the study, the following objectives are set:

1. To evaluate the provisions for EIA follow-up in the South African mandatory requirements, regulations and guidelines in terms of IBPP and to develop an EIA follow-up review package.
2. To use the developed EIA follow-up review package in order to review the performance of implementing follow-up in a sample of EIA case studies.

1.4 Approach of investigation and analysis

With the research aim and objectives now defined, Figure 1 illustrates the approach to achieve the aim and objectives of the study.

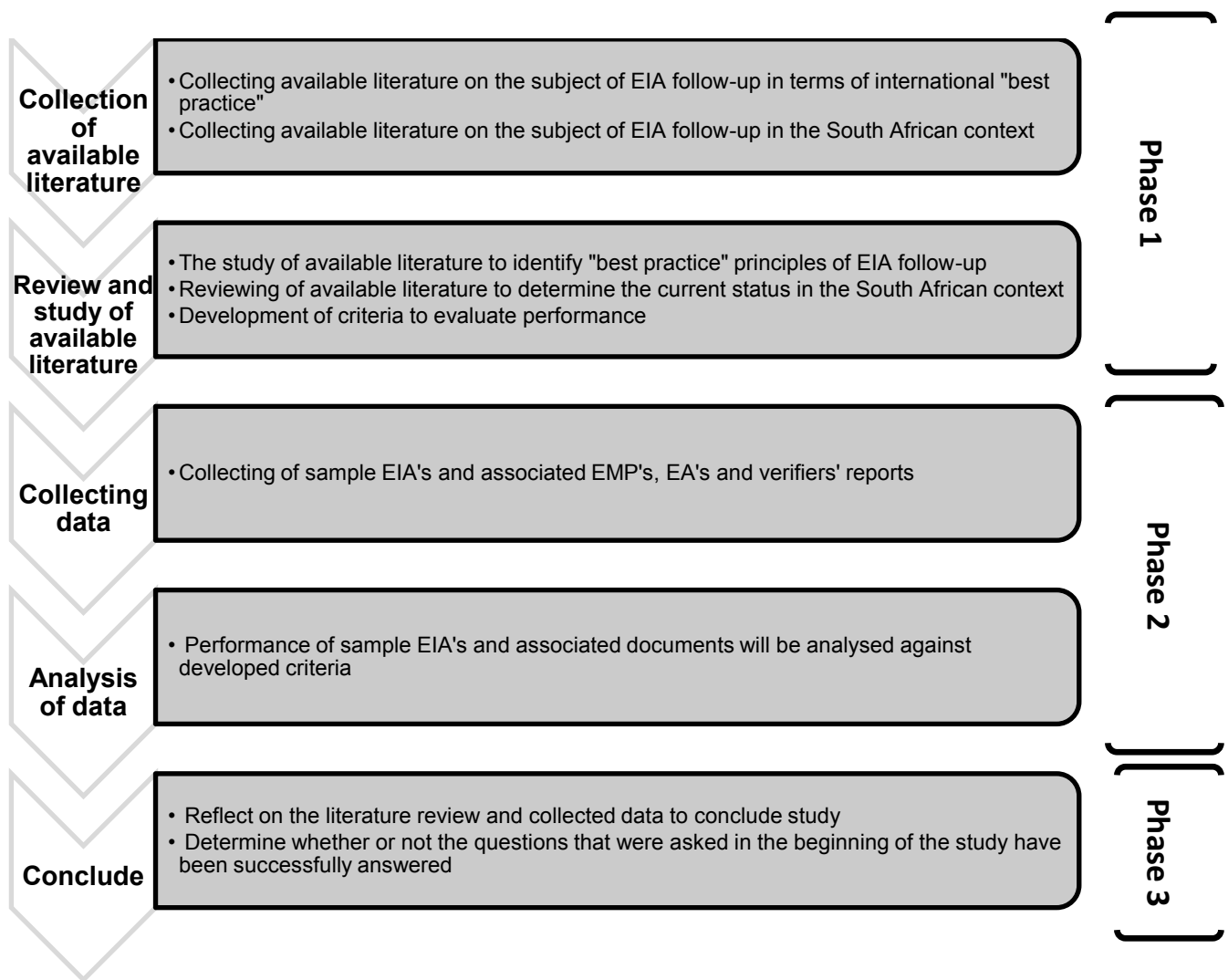


Figure 1: Approach of investigation and analysis

1.4.1 Phase 1 - An analysis of literature

Available research and literature with regards to International "Best Practice" is analysed in terms of the context of the research theme in Chapter 2. In this chapter, the performance of EIA follow-up within the South African applicable mandatory requirements, regulations, and guidelines is evaluated (Objective 1) according to the International Best Practice Principles (IBPP) for EIA follow-up developed by Marshall *et al.* (2005) and Morrison-Saunders *et al.* (2007). In Chapter 3, a detailed method on the modification of these principles into criteria to evaluate the performance of EIA follow-up within the selected EIA case studies (Objective 1 and 2) is explained. A total of six projects under the ECA regulatory regime, seven under the NEMA 2006 regime, and two under the NEMA 2010 regulatory regime were available.

1.4.2 Phase 2 - An empirical investigation

In Chapter 4, the results of the performance of the selected available projects, hereafter referred to as case studies¹ comprising of a set of documents are analysed and discussed according to the developed criteria mentioned above.

A number of factors contributed to the selection of case studies for this study. Although there is much documentation that would indicate the performance of EIA follow-up - i.e. minutes of meetings, internal/external audit report, communication with interested and affected parties, non-conformance/compliance reports, inspection reports, monitoring committee reports, and many more information generated during the implementation of a project phase - due to time, resource and availability of information constraints only the following documentation formed part of the selected case studies to be reviewed:

- Environmental Impact Report (EIR);
- Environmental Authorisation (EA); and
- Environmental Control Officer's (ECO) compliance report.

The documentation listed above is considered to be the fundamental documentation to provide an indication of the performance of EIA follow-up in the South African context. Figure 2 illustrates the consideration of selected case studies.

The selected case studies were as follows:

- A total number of 11 case studies were available where the provincial department is the authorizing agency. Under both the ECA and NEMA 2006, the selected case studies are limited to Mpumalanga and Limpopo provinces. Under NEMA 2010 it is limited to the Eastern Cape.
- A total number of 2 case studies were available where the national department is the authorising agency.
- The selected case studies included the infrastructure development, housing, tourism and recreational and waste management sectors.
- A relatively small sample of 15 case studies could be found.

¹ The reference to the term “case studies” should not be confused with conducting case study research, which involves various methods of sourcing and analysing data.

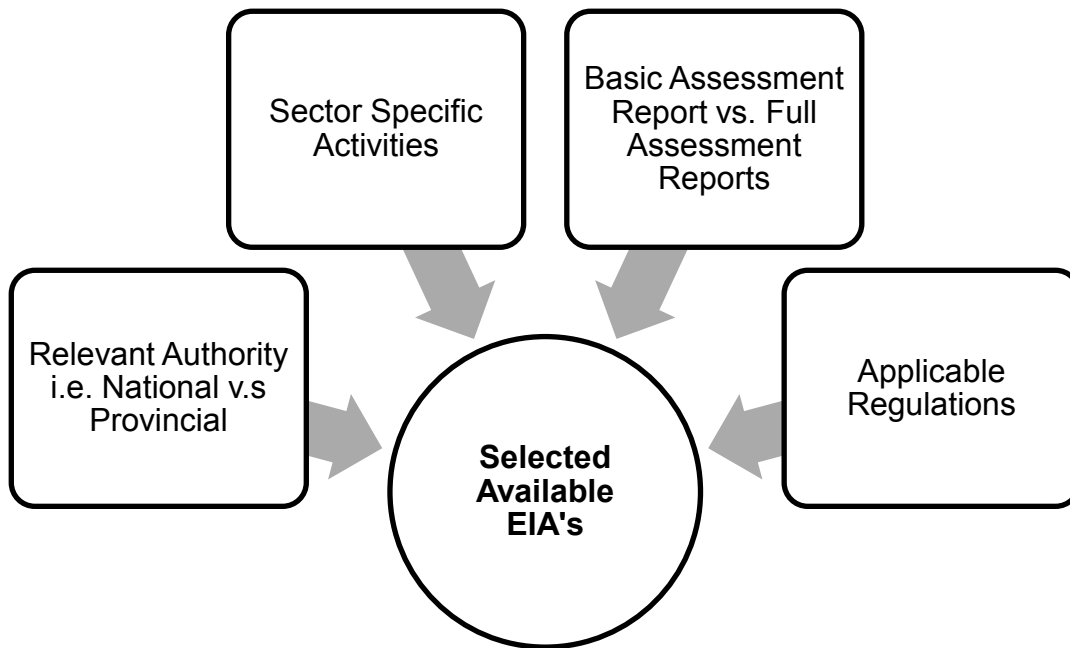


Figure 2: Considerations for selecting available EIA's

The performance of the sampled EIA case studies (Objective 2) against “Best Practice” principles is then assessed; the performance results are then discussed and key areas of strengths and weakness in terms of the implementation of IBPP are identified.

1.4.3 Phase 3 – Conclusion and Recommendation

The study is concluded In Chapter 5 with recommendations based on the investigation, analysis and results of this study.

CHAPTER 2: LITERATURE STUDY – PAINTING THE BACKGROUND OF EIA FOLLOW-UP

In order to evaluate the performance of any EIA follow-up process, it is important to understand what is defined as follow-up. There is a wide range of definitions, elements, and factors of follow-up that requires understanding. The purpose of this chapter is to paint the background of follow-up.

3.1 Where does EIA follow-up fit in?

The Environmental Impact Assessment (EIA) process, as first introduced in the 1970's, has been the key instrument for environmental management for over 40 years (Morgan, 2012). The main aim of EIA is to prevent harmful environmental outcomes. However, in the case of each individual country with its own unique set of circumstances, its application, practice and procedures will vary to suit the political, social and environmental situation of that country (Ahammed & Nixon, 2006; Morgan, 2012). Follow-up, also referred to as 'post-decision monitoring and auditing', is the last of a number of steps in the EIA process; and assesses the impact of developments in a systematic, holistic and multidisciplinary way (Glasson *et al.*, 2005).

A trend to examine the effectiveness of EIA has increased over recent years. In a study to determine the status of impact monitoring in South Australia, Ahammed and Nixon noted the six areas that determine the overall effectiveness as identified by Sadler (1998). One of these six areas includes 'effect monitoring' and 'impact auditing' (Ahammed & Nixon, 2006). Morrison-Saunders and Arts (2004) describes the term 'follow-up' to include "*monitoring, auditing, ex-post evaluation, post-decision analysis and post-decision management*", and argues that this 'umbrella' term forms an integral part of appraising the effectiveness or success of EIA (Morrison-Saunders & Arts, 2004:1). Morrison-Saunders *et al.* (2003) summarises the purpose of follow up to include improved project management (controlling), feedback on the EIA process (learning), and communication of the environmental performance (informing). Each of the purposes for EIA follow-up may be described either in a country EIA regulation, or as a result of a project circumstance (Morrison-Saunders *et al.*, 2003). Morrison-Saunders *et al.* (2003) also state that "the extent to which the purposes of follow-up are attained will be largely a function of the approaches and techniques used and the available resources and capacity for conducting follow-up" (Morrison-Saunders *et al.*, 2003:44).

3.2 EIA follow-up elements

Marshall *et al.* (2005) defines follow-up as the “monitoring and evaluation of the impact of a project or plan for the management of, and the communication about, the environmental performance of that project or plan” (Marshall *et al.*, 2005: 176). Looking at the definition, follow-up is thus comprised of four elements: Monitoring, Evaluation (also referred to as auditing), Management and Communication (Marshall *et al.*, 2005: 176).

3.2.1 Monitoring

As defined by a number of authors, monitoring is the ‘*collection of data and the comparison with standards, predictions or expectations*’ (Morrison-Saunders & Arts, 2004; Marshall *et al.*, 2005; Morrison-Saunders *et al.*, 2007; Morrison-Saunders *et al.*, 2003).

Monitoring as a pre-decision function (before the commencement of an activity) typically includes the collection of baseline monitoring data. This provides the foundation for the prediction and evaluation of the specific environmental impact in the EIS (Environmental Impact Statement). ‘Best Practice’ includes monitoring as a post-decision function (after authorisation has been granted and activity has commenced) that ensures compliance with the EIS, as well as investigates the actual effects or impact of the initial decision (Morrison-Saunders & Arts, 2004; Marshall *et al.*, 2005; Morrison-Saunders *et al.*, 2007; Morrison-Saunders *et al.*, 2003). Branis and Christopoulos (2005) also highlight the importance of a monitoring programme as a tool of assessing the predictive value of the impact identified on the onset of the EIA (Branis & Christopoulos, 2005).

Ahammed and Nixon (2006), together with numerous authors, have found that the importance of impact monitoring in the EIA process was mostly concerned with pre-decision monitoring, in essence neglecting post-decision monitoring, and including auditing, globally (Ahammed & Nixon, 2006; Morrison-Saunders & Arts, 2004; Marshall *et al.*, 2005; Morrison-Saunders *et al.*, 2007; Morrison-Saunders *et al.*, 2003). Dipper *et al.* (2010) describes the lack of follow-up and feedback as what causes the EIA process to remain a “static, linear exercise”, whereas the success thereof would rather become a dynamic and iterative process” (Dipper *et al.*, 1998:733).

3.2.2 Evaluation

Evaluation or auditing is described by literature as the determination of conformity with set standards or expectations, as well as measuring the environmental performance of the activity. (Morrison-Saunders & Arts, 2004; Marshall *et al.*, 2005; Morrison-Saunders *et al.*, 2007; Morrison-Saunders *et al.*, 2003).

Ramjeawona and Beedassy (2004), in a case study where the EIA follow-up system of the Mauritian hotel and coastal development sectors were tested, refers to compliance monitoring as a two part process. The first part is “a regulatory audit where this has the same meaning as the post-EIA compliance monitoring which is a less quantitative method to determine the terms and conditions of the project approval are adhered to” (Ramjeawona & Beedassy, 2004: 545). The second part is referred to as an ‘impact prediction audit’. Ramjeawona and Beedassy argue that the use of the impact prediction audit determines the performance of actual impacts compared to those that were predicted in the initial EIA report. The objective of the impact prediction audit, as identified in this study, has two basic functions. One is to check the accuracy of the initial predictions and to explain the errors. The other is to assess the success of the mitigation measures identified to reduce impacts. This may ensure that future prediction methods and the management of the associated impacts are more valid (Ramjeawona & Beedassy, 2004: 545). Branis and Christopoulos (2005) point out that environmental management programmes investigated in the case of Czech EIA’s only focuses on monitoring compliance with standards and neglects testing the prediction outcomes (Branis & Christopoulos 2005).

Post-decision auditing, being one type of determinant for follow-up, could have numerous benefits; among others being to provide feedback in the EIA process and to provide the opportunity to learn from past experience and to implement the knowledge garnered from lessons learnt (Dipper *et al.*, 1998).

3.2.3 Management

According to Marshall *et al.* (2005), management is defined as “making decisions and taking appropriate action in response to issues arising from monitoring and evaluation activities” (Marshall *et al.*, 2005: 176). These ongoing management decisions may be made by the proponent or the EIA regulator (Marshall *et al.*, 2005).

Marshall (2002) states that management controls exerted by the company EMS (environmental management system) are increasingly being adapted and applied within EIA. Business-orientated EMS’s have developed in direct response to an increasing internal and external awareness of environmental risk, the need to demonstrate proof that a business is in control of its environmental impact, and the conditional requirements of the operation licenses it holds.

Most companies have voluntarily developed their EMS in line with international standards, those being BS EN ISO 14001 or the European Union’s Eco Management and Audit Scheme (EMAS), or are planning to do so. In practice, EIA demands from management

structures to implement the conclusions that arise from its process. By itself, the EIA process is not equipped to execute such actions. On the other hand, the EMS process is primarily a proactive management tool, sensitive to existing environmental effects of operations and easily adapted to control risk or incorporate enacting procedures. Marshall (2005) describes Environmental Management Plans (EMP's) as an effective tool to integrate the EIA process into an EMS, providing adequate control, as well as setting a flexible system to cope with the dynamics and requirements of a particular project. In addition, Marshall (2005) argues that the EMP's, with the function of managing the environmental outcomes of a project, acts as an EMS interface between the EIA process and the subsequent project planning and development phases (Marshall, 2005:287).

It is also argued by Marshall (2005) that EIA is only successful as a management technique when its findings are incorporated into the business-making process of the company. Successfully integrated within the EMS structures of a company, the findings and conclusions of the EIA can be transferred into action (Marshall, 2005:292).

3.2.4 Communication

This element, equally important in the pre and post-decision phase of the EIA process, entails informing the stakeholders about the results of EIA follow-up. The purpose of communication in the follow-up process is to provide feedback on the project management activities and the implementation of the monitoring and evaluation results. Marshall *et al.* (2005) highlights that follow-up programmes may extend beyond simple communication, with specific reference to direct stakeholder participation in the monitoring, evaluation and management elements of EIA follow-up (Marshall *et al.*, 2005).

3.3 Principal Groups of EIA follow-up stakeholders

To understand EIA-follow up better, it is important to note the principal group of stakeholders. These stakeholders play an important role in all EIA follow-up elements, as described in the previous section. Literature (Morrison-Saunders *et al.*, 2007; Marshall *et al.*, 2005; Morrison-Saunders & Arts, 2004; and Morrison Saunders *et al.*, 2003) identifies three principle groups of stakeholders that are involved:

3.3.1 The proponent or first party stakeholder

The proponent or first party stakeholders are the developers of the projects. These developers can either be private companies or government organisations. The proponent would be responsible for project management and therefore is expected to perform most of

the follow-up activities (Noble & Storey, 2004; Morrison-Saunders *et al.*, 2007; Marshall *et al.*, 2005; Morrison-Saunders & Arts, 2004; and Morrison Saunders *et al.*, 2003).

3.3.2 The regulators or the second party stakeholder

Worldwide, the EIA process has been accepted in most countries as a legal requirement for the development of projects. The regulators or other government agencies playing the 2nd party stakeholder's role are to ensure that the proponent complies with the conditions or requirements set out by legislation. Sanchez and Morrison-Saunders (2011) also highlight the important role the regulators play in improving the EIA process continuously by learning from experience (Sanches & Morrison-Saunders, 2011; Morrison-Saunders *et al.*, 2007; Marshall *et al.*, 2005; Morrison-Saunders & Arts, 2004; and Morrison Saunders *et al.*, 2003).

3.3.3 The community or third party stakeholders

The community or 3rd party stakeholder, being independent from the proponent and regulators, in many instances (for example in a study done by Slinger *et al.* (2005) on the Great Brak), may have a positive contribution to add to the EIA process. The community has a special knowledge of the local areas where activities will take place, and may also have an interest in measuring the performance - or in some instances scrutinising activities - of development. This often serves as a driving force for the proponent and the regulators alike to implement EIA follow-up programs. Hunsberger *et al.* (2005) argues that the increasing involvement of the public in follow-up activities, for example monitoring, could improve the quality and local relevance of environmental assessment, and at the same time reaching the goal of sustainability (Hunsberger *et al.*, 2005; Morrison-Saunders *et al.*, 2007; Marshall *et al.*, 2005; Morrison-Saunders & Arts, 2004; and Morrison Saunders *et al.*, 2003).

3.4 Towards successful EIA follow-up

By investigating the different elements in the previous section, it is clear that there are many factors that may determine the success of EIA follow-up. Figure 3 summarises what literature (Morrison-Saunders & Arts, 2004; Morrison-Saunders *et al.*, 2003) identifies these factors. The sections to follow explore these factors in a bit more detail, and look at their implementation internationally. The sections to follow highlight what is considered to be best practice.

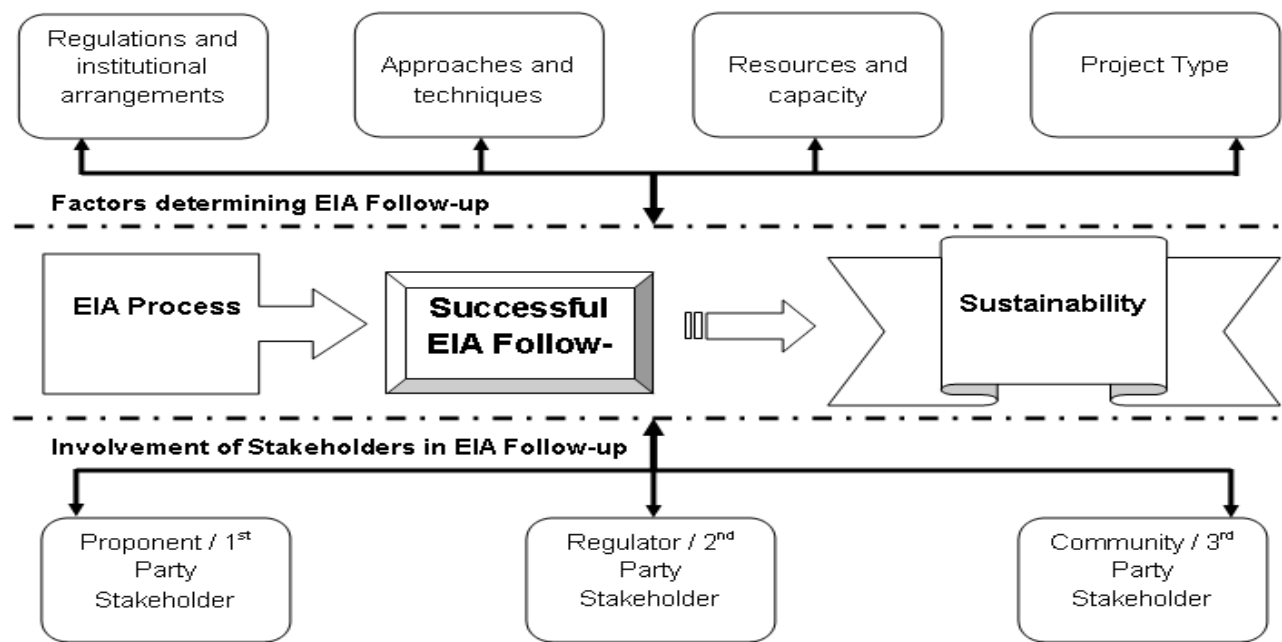


Figure 3: Towards sustainability-factors that determine the success of follow-up

3.4.1 Regulations and institutional arrangements

Regulations and institutional arrangements set the legal requirements and administrative framework for conducting EIA follow-up. According to Morrison-Saunders and Arts (2004), there are three Spectrums of regulatory approaches:

- Self-regulation by the proponent, such as the use of EMPs that act as the interface between EIA documents and an EMS.
- Command and Control by government regulators, i.e. availability of regulations and legislations promoting follow-up.
- Public pressure by the community stakeholders who exert pressure on the proponent or the Government to participate in self regulation or “green initiatives”.

3.4.2 Approaches and techniques

Morrison-Saunders *et al.* (2003) list various approaches and techniques which contribute towards successful follow-up. These approaches vary between the following:

3.4.2.1 Pragmatic approach

Morrison-Saunders *et al.* (2003) describe this approach as being dependent on existing procedures and programs that are already fed by available resources. An example of this approach is countries such as Germany and Netherlands, where a highly developed system of environmental regulations already exists. Additionally, the monitoring of activities also

exists outside of the EIA framework. For this approach to succeed, the implementation thereof needs to focus especially on ²scoping aspects (Morrison-Saunders *et al.*, 2003).

3.4.2.2 Permits and contracts

Morrison-Saunders *et al.* (2003) have noted a case study in Western Australia, where the Environmental Protection Authority included a list of recommended environmental conditions in a report to the Minister of Environment. In Western Australia the minister is the final decision maker and sets the legal binding conditions in the form of a permit. This testifies to the fact that the approach is successful. Together with the description of the follow-up function within a permit, Morrison-Saunders *et al.* (2003) refer to a number of countries (Western-Australia and Brazil for example) that describe a clear statement of monitoring and mitigation actions in the EIS's and approval conditions. This then facilitates the transfer of these responsibilities into contract documents to whomsoever would act as the developer (be it the proponent itself or a contractor to the proponent).

Ramjeawona and Beedassy (2004) also found, in the case of the EIA system of the Island of Mauritius, that a more detailed description of follow-up activities should form part of the EIA licence. As a result of this case study, a recommendation was made to include the following specifications within any such permit (Ramjeawona & Beedassy, 2004:548):

- Setting of parameters or impacts requiring monitoring;
- Stipulating the frequency of monitoring activities, or describing the procedures, practices methods or equipment required for the implementation of monitoring activities;
- Setting standards or criteria to be used for evaluating and auditing monitoring data;
- Defining the action plans and procedures in response to the results of such monitoring programs;
- Defining the nature, format or frequency of the reporting of the results and findings of monitoring activities or action plans and procedures; and
- Allowing for the release of the monitoring and auditing reports to the public.

3.4.2.3 Scientific monitoring

Morrison-Saunders *et al.* (2003) and Morrison-Saunders and Arts (2004) stated that in this approach, EIA follow-up monitoring and evaluation programs are based on rigorous scientific

²Scoping addresses the impact and issues in the EIA process. This phase of the process decides from all the possible impacts and alternatives, which are significant ones. It is an ongoing evaluation of impacts throughout the EIA process (Glasson *et al.*, 2005).

monitoring, irrespective of which components of the environment are being investigated. It is argued that this approach can be useful to test impact predictions and to determine environmental outcomes of cumulative developments on ecosystems. It is also suggested that deficiencies in these scientific monitoring methods used in the EIS reports contribute to poor follow-up outcomes (Morrison-Saunders & Arts, 2004; Morrison-Saunders *et al.*, 2003).

This approach was recommended for impact prediction audits in the case study that evaluated the Mauritian EIA system. The use of an evaluation model, initially developed by Wilson (1998), and based on a procedure consisting of nine steps used specifically to audit an EIA was adapted for evaluating the impact predictions associated with the hotel and coastal development sector. This adapted model would allow for a more practical approach which views the EIA predictions as a scientific hypothesis requiring a more rigorous evaluation through statistical testing and experimental control (Ramjeawona & Beedassy, 2004).

3.4.2.4 Simple but rigorous techniques

Due to time, capacity and/or resource constraints, the use of simple but rigorous approaches may be enough for an effective follow-up outcome. An example of such an approach, as suggested by Morrison-Saunders *et al.* (2003), may be the active engagement of the local community. In many cases the community may have the necessary experience and knowledge to contribute to successful follow-up (Morrison-Saunders *et al.*, 2003).

O'Faircheallaigh (2007) explored aboriginal participation as a requirement in environmental agreements that allowed for the increased involvement of the Canadian people in the environmental planning and management. In some of the environmental agreements analysed during this study, it was found that the aboriginal people were designated signatories, giving them a legal right to pursue enforcement of their terms and to take legal action if the proponent of the specific activity did not comply with legislation and regulations (O'Faircheallaigh, 2007). This approach, however, to be effective would rely on the community having a special knowledge of a country's legislative and regulatory frameworks.

3.4.2.5 Flexibility and adaptive management

In this approach follow-up activities are carried out in an adaptive and flexible manner. An example used by Morrison-Saunders *et al.* (2003) is Western-Australia. Common EIA practices in this country are the setting of conditions in which an environmental objective is specified. However, the method of how the proponent should achieve this objective is not described, thus further requiring an EMP. The EMP describes the details of the mitigation and monitoring measures to achieve the set objectives. It is then submitted for a decision

(either to be accepted or rejected) to the regulator by the proponent before any activity commences (Morrison-Saunders *et al.*, 2003).

3.4.2.6 Role of EIA culture

Morrison-Saunders *et al.* (2003) state that, to date, no empirical studies have been carried out to test which of the above mentioned approaches are the most successful. It should, however, be noted that the differences in approaches to EIA follow-up highlights the differences in cultural approaches to EIA. Morrison-Saunders *et al.* (2003) also summarise how approaches and techniques may vary according to the regulatory spectrum. For example, a follow-up instrument in a command and control regulatory setting would rely on permits, contracts or licences, whereas in a self regulatory setting the use of EMP's, a EMS or corporate environmental reports would contribute to successful follow-up (Morrison-Saunders *et al.*, 2003).

3.4.3 Resources and capacity

In order for EIA follow-up to be a reality, the provision of adequate resources and capacity is essential. The adequacy of resources would be determined and dependant on the implemented system and the administrative procedures and techniques. Morrison-Saunders *et al.* (2003) highlight that in Brazil, for example, the multi-institutional roles played by the contractor's environmental professionals, the consultants and the government supervision teams proved effective. The factors for success, described by Morrison-Saunders *et al.* (2003), include activities based on a robust protocol, clear defined roles and responsibilities and a protocol that is fully verifiable and auditable. A disadvantage of this approach was the cost associated with the supervision, reporting and a system of checks and balances (Morrison-Saunders *et al.*, 2003). A specific case study in Brazil involved a road building scheme, where the proponent hired its own team of consultants to execute the monitoring program, as required by the authorising licence, and to oversee the construction activities. This placed the contractor under strict compliance supervision (Gallardoa & Sa'nchezb, 2004).

Additional to human resources, capacity building and professional training, technological resources may also contribute to the succession of EIA follow-up. Another example used by Morrison-Saunders *et al.* (2003) is that in Hong Kong the follow-up system utilises a sophisticated internet based reporting system that requires the EIA regulators and proponents to invest in supporting technological infrastructure. It is also noted that the community can be a resource in its own right (Morrison-Saunders *et al.*, 2003).

As concluded by Morrison-Saunders *et al.* (2003), the essential ingredient for successful EIA follow-up is the provision of sufficient resources within the capacity of both the proponent and the regulator. However, excluding this ingredient does not necessarily imply that with limited resources no useful EIA follow-up can be conducted (Morrison-Saunders *et al.*, 2003).

3.4.4 Project type

As each scenario differs from project to project the method for conducting EIA follow-up would depend on the characteristics of the activities. Morrison-Saunders and Arts (2004) use the size of the project (e.g. small vs. big investments) and the initiator of the project as examples of these characteristics. In the case, for example, of large investment projects which operate over longer time frames, additional follow-up attention may be required. Morrison-Saunders and Arts highlight that in the case where the initiator is a government agency, it is expected of this proponent to behave differently to a private company, given that a government proponent would presumably be developing public resources (Morrison-Saunders & Arts, 2004).

3.4.5 International Principles for “Best Practice” EIA follow-up (IBPP)

After exploring the dimensions of follow-up by investigating the elements and factors that determine their success, it was realised that a set of “Best Practice” principles (IBPP) be developed (Morrison- Saunders & Arts, 2004). After a number of published articles that investigate case studies, and IAIA conference workshops from 1999 to 2005, Marshall *et al.* (2005) and Morrison-Saunders *et al.* (2007) developed these principles.

The total number of seventeen IBPP are divided into ³Guiding Principles (the “why” and the “what”) and ⁴Operational Principles (the “who” and “how”). Each IBPP describes the core values of follow-up and allows for progress towards more practical guidance for direct and actual implementation.

The IBPP highlight the importance of the following EIA follow-up outcomes:

- Minimizing the negative environmental outcomes of development and maximizing the positive environmental outcomes, with the main focus being on actions taken to achieve the overall goal or objective of the EIA process (IBPP 1);

3 IBPP 1-3 describes “why” follow-up should take place and IBPP 4-6 describes “what” is follow-up.

4 IBPP 7-11 describes “who” is responsible for follow-up and IBPP 12-17 describes “how” follow-up should take place.

- Transparency and openness towards all stakeholders (IBPP 2);
- A commitment of all stakeholders to develop and implement a follow-up programme focusing on all four follow-up elements (IBPP 3);
- The use of legislative and administrative, socio-economic and cultural circumstances, and fitting them all together with existing planning, decision-making and project management activities (IBPP 4);
- Dealing with cumulating effects and sustainability beyond an individual project level (IBPP 5);
- Follow-up activities that are timely, adaptive, and action orientated (IBPP 6);
- Proponent of change accepting accountability for implementing EIA follow-up (IBPP 7);
- Regulators ensuring that follow-up is taking place (IBPP 8);
- Involvement of the community in follow-up (IBPP 9);
- Open co-operation without prejudice between all stakeholders (IBPP 10);
- Promoting continual improvement for future practice (IBPP 11);
- Clearly dividing the roles, tasks and responsibilities (IBPP 12);
- Achieving goals and objectives set out by the follow-up program (IBPP 13);
- Ongoing scoping and designing the follow-up programme in order to fit the proposed activity (IBPP 14);
- Setting clear performance criteria (IBPP 15);
- Developing follow-up actions or programs that cover the entire lifecycle of the development, not only in the design and construction phases, but also in the operation and decommissioning phase (IBPP 16); and
- Providing adequate resources for follow-up activities (IBPP 17).

Appraising the success of any one project based on the IBPP for follow-up has not been attempted before this study. Thus, the IBPP for follow-up as set out by Morrison-Saunders *et al.* (2007) and Marshall *et al.* (2005) and included as Appendix 1, forms the basis from which to determine the level of success. The use of the IBPP as appraising guideline may not necessarily provide an absolute truth of the successful follow-up towards sustainability, but the results may indicate important areas in need of improvement.

3.4.6 Success concluded

After exploring international literature and case studies, it is clear that there are many different elements, factors, and approaches that contribute to successful follow-up. The IBPP

described in the previous section intertwines all the different approaches into one simple set of principles.

It is clear that the understanding and implementation of follow-up is a “learning from experience” process. There is no one definite method to ensure successful follow-up. A program designed for a first world country may not necessarily be practicable for a third world country, and is it important to tailor the follow-up program to the mould of what is required in a specific country.

The next section explores the history of EIA follow-up within the South African context. The purpose is to investigate what case studies on follow-up have been published, but more importantly, the purpose is to investigate the first objective of this study, which is evaluating the provisions for EIA follow-up in the South African mandatory requirements, regulations and guidelines in terms of IBPP.

3.5 EIA follow-up in South Africa

In the sections to follow, South African environmental governance, legislative background, as well as literature on EIA follow-up will be assessed in order to determine what follow-up elements and approaches are addressed.

For the purpose of this study, only the EIA regulations under the Environment Conservation Act (ECA no 73 of 1989), the National Environmental Management Act (NEMA no 107 of 1998) regulations of 2006, and the NEMA 2010 regulations will be tested. However, in December 2014 a new set of regulations were published, and the changes will be discussed briefly. The implementation of the NEMA 2014 regulations will not be tested due to the lack of available data.

3.5.1 Environmental Governance in South Africa

The Environment Conservation Act (ECA), promulgated before the promulgation of the 1996 constitution, had laid the foundation for environmental management in South Africa. However, the process still had its flaws. In 1994, democracy in South Africa brought with it constitutional restructuring. Responsibilities within the different governmental spheres (National, Provincial and Local) had to be redefined. In 1996, the promulgation of the Constitution of South Africa recognised a responsibility for the environment across all three spheres of government (Müller, 2009).

S 24 of the Constitution states:

“Everyone has the right - (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that - (i) prevent pollution and ecological degradation;(ii) promote conservation;(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”

The limitations to describing the environmental functions within the Constitution lead to the framework act for environmental governance, the National Environmental Management Act no 107 of 1998 (NEMA).

The environmental management framework had to first go through some growing pains. With the promulgation of NEMA, the need for and the importance of ⁵co-operative governance was recognised (Müller, 2009). This co-operative governance allows for the proponent, regulator, and the community, as described in the previous section, to ultimately have a combined responsibility to include follow-up in the legislated framework.

3.5.2 Provision made in legislation and regulations for EIA follow-up in SA

In Chapter 1 the first objective of this study has been identified: *To evaluate the provisions for EIA follow-up in the South African mandatory requirements, regulations and guidelines in terms of IBPP and develop an EIA follow-up review package.*

The sections to follow will address the evaluation of provisions in legislation and regulations for EIA follow-up in South Africa. Specific reference is made to the IBPP discussed earlier.

3.5.2.1 Provisions under ECA

In September 1997, the EIA process had been set as the regulated method of determining environmental impacts with the promulgation of the EIA regulations in terms of the Environment Conservation Act (ECA) (Sandham *et al.*, 2013; Kidd & Retief, 2009). The steps that were promulgated in the ECA EIA system were derived from international practices, namely: submitting an application for the purpose of authorisation for a specific activity listed in the regulations; the Scoping process that included extensive public participation and provided the plan of study for the EIA; the EIR (environmental impact

⁵ Co-operate environmental governance as defined by Müller (2009): “the evolution of developed governance in environmental policy involving discussions, agreement, and a blend of formal and informal regulations between industry, citizen groups and commonly state bodies” (Müller, 2009:84).

report) which included the information gathered during the public participation process, specialist reports, and the draft EMP; the review of the EIR by the competent authority; and the provision of the environmental authorisation that described the conditions of the approval (Sandham *et al.*, 2013:156).

Under ECA much attention was given to the EIA pre-decision phase which lacked the description of follow-up activities, such as monitoring and auditing, and that international best practice had described as an important phase of the process (Wood, 1999). However, some of the requirements set out by this act and the publication of EIA guidelines may have lead to voluntary follow-up. As one of the main steps in the EIA process under the ECA regulation included the submission of the EIR, the EMP may have provided some form of provision for follow-up activities. Unfortunately, the requirements for the content of the EMP had not formed part of the act, but the Department of Environmental Affairs at the time released the Integrated Environmental Management (IEM) guidelines (DEA, 1992). As a guideline for practitioners, the (IEM) series had been specific about the importance of monitoring and auditing. Yet, the EIA regulations had excluded follow-up requirements resulting in a major flaw in the South African EIA process (Wood, 1999). As a result, the inclusions and contents of a monitoring programme were highly dependent on the independent consultant or EAP (environmental assessment practitioner) (South Africa, 1997; Sandham *et al.*, 2013; Wood, 2003).

The IEM volume 1 published in 1992 (Wood, 2003: 255):

“A monitoring programme should be required for all proposals... This programme should include clear guidelines as to what should be done, who should do it, and who should finance it. Aspects to be covered include verification of impact prediction, appraisal of mitigatory measures, adherence to approved plans, and compliance with conditions of approval.”

After the consideration of the application, including the review and acceptance of the EIR, the competent authority as part of the EIA process approves of the activity by the issuing of the ROD (record of decision). Under the ECA regulations, the ROD had to include “the conditions of the authorisation (if any), including measures to mitigate, control or manage environmental impacts or to rehabilitate the environment” (GG18261, GNR1183 of 1997: s10 (g)). This section relied on the competent authority to provide requirements for follow-up.

To summarise the provisions made in ECA, it is clear that follow-up relied on voluntary or self-regulatory implementation. However, since the promulgation of ECA the framework for environmental management has vastly improved, with NEMA now replacing ECA and the

EIA regulations under ECA. These improvements will be discussed under the headings to follow.

3.5.2.2 Provisions under NEMA 2006 regulations

As a growing environmental management system, the National Environmental Management Act was promulgated in 1998, replacing some of the provisions of ECA (Sandham *et al.*, 2013). Important changes were made with the promulgation of the 2006 EIA regulations under NEMA, replacing the EIA provisions under ECA. The changes highlighted by Sandham *et al.*, (2013) include: more detailed thresholds for certain types of activities; extending the list of activities requiring an EIA e.g. mining; inclusion of time frames; and finally, yet deserving emphasis, provision for post decision follow-up (Sandham *et al.*, 2013:156).

The process under ECA resulted in more information than usually envisaged for a scoping report, but less than required for scoping according to best practice (Sandham *et al.*, 2013). With the EIA regulations under the NEMA 2006 and 2010 regimes, the published list of activities either required a Basic Assessment (BA) or a Scoping and EIA (S&EIA) process. The BA formalised the comprehensive scoping report for smaller projects, while the S&EIA restricted the more comprehensive scoping assessment to large scale projects with potentially significant impacts (Sandham *et al.*, 2013).

As part of the newly developed framework for environmental management, NEMA starts off by introducing principles. These principles are carried throughout the subordinate acts, namely NEMWA (National Environmental Management Waste Act, act no. 59 of 2008), NEMAQA (National Environmental Management Air Quality Act, act no. 39 of 2004), and NEMBA (National Environmental Management Biodiversity Act, act no. 10 of 2004). Though these principles had been set with the promulgation of this act in November 1998, the EIA regulations under NEMA were published in April 2006 (South Africa, 1998).

The ⁶NEMA principles, as listed in Appendix 5, may be interpreted as fulfilling requirements set in the IBPP for EIA follow-up (Table 1 indicates how the NEMA principles may be interpreted as addressing IBPP for follow-up).

Table 1: Interpretation of NEMA principles addressing IBPP for follow-up

⁶ It should be noted that the purpose of the NEMA principles is not to promote EIA follow-up specifically, however it sets environmental management principles and may address EIA follow-up as part of the South African environmental management system.

IBPP for follow-up (as described in table 2)	NEMA principle (applicable section in act)	Interpretation
Principle 1: Follow-up is essential to determine EIA (or SEA) outcomes	(4)(a)(i); (4)(a)(vii); and (4)(a)(viii)	The main outcome of EIA follow-up is to minimise the negative outcomes and to maximise the positive outcomes, with the focus on actions taken to achieve this goal. The selected NEMA principles clearly have the same objective and can be argued that this aligns with the first IBPP.
Principle 2: Transparency and openness in EIA follow-up is important	(4)(d); (4)(f); and (4)(k)	The NEMA principles address the basic human right to a safe and healthy environment. As with the IBPP, NEMA principles require that decisions must be made in an open and transparent manner. S2 (4) (f) requires that the active engagement of stakeholders in environmental governance be promoted and be provided with genuine opportunities to participate. Though the NEMA principles do not directly refer to EIA follow-up, it may be interpreted that the IBPP for follow-up is addressed.
Principle 3: EIA should include a commitment to follow-up	(4)(e)	S2 (4) (e) refers to the responsibility for environmental health throughout the entire life cycle of an activity or project. It does not directly address follow-up as such, however it indirectly lays the responsibility on the developer to ensure follow-up activities.
Principle 4: Follow-up should be appropriate for the EIA culture and societal context	No specific principle, however the voluntary use of the IEM series may address this principle.	
Principle 5: EIA follow-up should consider cumulative effects and sustainability	(4)(b)	NEMA considers environmental management on a strategic level and requires it to be integrated. At the heart of the set principles in NEMA its purpose is to address sustainability.
Principle 6: EIA follow-up should be timely, adaptive and action oriented	(4)(a)(vii) and (4)(e)	In the NEMA principles it does not refer to a follow-up plan as such. However, it does require that a risk-adverse and cautious approach is applied. It is the responsibility of the developer and or the policy maker to ensure environmental health throughout the entire life cycle of an activity or project.
Principle 7: The proponent of change must accept accountability for implementing EIA follow-up	(4)(e) and (4)(p)	NEMA clearly identifies the proponent as the responsible person(s) to carry the cost of remediation, environmental degradation and consequent adverse health effects, as well as preventing, controlling or minimising further pollution, damage or adverse health effects. As mentioned before, this responsibility must be carried throughout the entire life cycle of the activity or project.
Principle 8: Regulators should ensure that EIA is followed up	(4)(l) and (4)(m)	Not referring directly to follow-up, NEMA provides the requirement for ensuring intergovernmental co-ordination. The setting of policies and legislation as well as actions required to ensure enforcement lies with the regulators.
Principle 9: The community should be involved in EIA follow-up	(4)(f); (4)(g); and (4)(h)	NEMA is clear about the involvement of the public in environmental management. It requires that opportunities to develop the understanding, skills and capacity to achieve participation in the process of development be provided to the I&AP. NEMA also recognises all forms of knowledge

		that the public may contribute to the activity or project.
Principle 10: All parties should seek to co-operate openly and without prejudice in EIA follow-up	(4)(f); (4)(g); and (4)(h)	With the principles set in NEMA, it should be expected that a culture to avoid, reduce, or remedy adverse environmental effects is created.
Principle 11: EIA follow-up should promote continuous learning from experience to improve future practice	(4)(h) and (4)(k)	NEMA promotes environmental education and awareness to the community. It also requires that decisions be taken in an open and transparent manner. This indirectly would require good communication and active feedback promoting continuous learning from experience.
Principle 12: EIA follow-up should have a clear division of roles, tasks and responsibilities	(4)(p)	The NEMA principle does not directly provide a clear set of roles, tasks and responsibilities. However, it lays the responsibility to remediate pollution, degradation and adverse health effects as well as preventing, controlling or minimising further pollution with the proponent.
Principle 13: EIA follow-up should be objective-led and goal oriented	(4)(a)(i); (4)(a)(vii); (4)(a)(viii); (4)(b); (4)(e); (4)(h); and (4)(k)	Though not referring to follow-up specifically, the NEMA principles clearly define objectives and goals to prevent pollution, degradation and adverse health effects. It promotes a risk averse and cautious approach to environmental management and ensures that the responsibility lies with the proponent throughout the entire life cycle of the project or activity. Promoting learning from experience, NEMA sets the culture of integrating management, acknowledging that all elements of the environment are interlinked. Promoting community awareness and education, the NEMA principles may provide the opportunity of I&AP to be more accepting of projects or activities, as well as being able to understand the consequences more clearly and contributing positively to development.
Principle 14: EIA follow-up should be "fit-for-purpose"	(4)(i)	NEMA promotes that the social, economic and environmental impacts of activities be considered, assessed and evaluated - providing the opportunity for the management to be 'fit-for-purpose'.
Principle 15: EIA follow-up should include the setting of clear performance criteria	Not addressed	No specific performance criteria with regard to follow-up have been addressed in the list of NEMA principles.
Principle 16: EIA follow-up should be sustained over the entire lifecycle of the activity	(4)(e)	Although not directly addressing follow-up, NEMA clearly states the responsibility for environmental management throughout the entire life cycle of a project or activity, and it may be argued that this includes follow-up activities.
Principle 17: Adequate resources should be provided for EIA follow-up	(4)(p)	The NEMA principles do not specify resources. However, it requires that the cost of remediating pollution, environmental degradation and adverse health effects, as well as the cost associated with the preventing, controlling or minimising of further pollution, environmental damage or adverse health effects, be carried by the proponent.

Chapter 5 of NEMA promotes the use of EIA as an effective tool and defines the objectives for an integrated environmental management system (Appendix 5 provides the objectives as described NEMA).

This chapter also allows for the publication of listed activities that may require authorisation before the commencement of an activity. The NEMA EIA regulations (came into effect in April 2006), in fulfilment of the requirements set in the act to publish regulations for the process to receive authorisation, provides a more detailed set of requirements than its predecessor. Table 2 lists the applicable requirements in the NEMA 2006 EIA regulations (GNR. 385 of April 2006) that may be interpreted as IBPP EIA follow-up requirements.

Table 2: List of NEMA 2006 EIA follow-up requirements (South Africa, 2006)

IBPP for follow-up (as described in table 2)	Basic Assessment Requirements as stipulated in EIA regulations	Scoping EIA requirements as stipulated in EIA regulations	Interpretation
Principle 1: Follow-up is essential to determine EIA (or SEA) outcomes	Contents of a basic assessment report: S 23 (2) (g); S 23 (2) (i).	Contents of Draft EMP: S34 (b) (i), (ii), (iii), (iv), and (v).	The regulations stipulate the management and mitigation measures needed to minimize the negative environmental outcomes, with the focus of the assessment on actions to be taken throughout the activity.
Principle 2: Transparency and openness in EIA follow-up is important	Requirements for Public Participation: S 56 (6) (a) and (b), S 58 (1).		The regulations require that information be made available to the potential interested and effected parties, and that the I&APs be provided with a reasonable opportunity to comment on the application. However, the active engagement of the stakeholders in the follow-up process has not been specified. The active involvement of the community would be reliant on the EAP and proponent as part of the environmental management plan. It then may be included as a requirement on the EA.
Principle 3: EIA should include a commitment to follow-up	Contents of a basic assessment report: S23 (2) (i).	Contents of Draft EMP: S 34 (d), (e), and (f). Contents of an Environmental Authorisation (EA): S 38 (d) (ii).	The regulations provide for the requirement to identify persons responsible for the implementation of the mitigation measures within a set timeframe. A management plan for the monitoring and management of impacts must be developed throughout the life cycle of the activity. It should be noted that this requirements is only specified for the S&EIA process, and it is not specified for the basic assessment process.
Principle 4: Follow-up should be appropriate for the EIA culture and societal context	No specific reference. However, the design of the EIA regulations to fit the South African context to test whether the follow-up method is further explored in the chapters to follow.		
Principle 5: EIA follow-up should	Contents of basic assessment	Contents of EIR:	The description of the significance of the environmental impacts including the cumulative effects, should form part of

consider cumulative effects and sustainability	report: S 23 (2)(h).	S32 (2)(k) (i), (ii), (iii), (iv), (v), (vi), and (vii).	the EIA process. The requirement for the Scoping process is described in more detail as it requires the further analysis of the extent and the duration, as well as the probability of the impact occurring, the degree to which the impact can be reversed and mitigated, and the degree to which the impact may cause irreplaceable loss of a resource.
Principle 6: EIA follow-up should be timely, adaptive and action oriented	Contents of basic assessment report: S 23(2) (i).	Contents of Draft EMP: S 34(d), (e), and (f).	The regulations stipulate that compliance monitoring forms part of the management plan as part of the S&EIA process. It is therefore dependant on the EMP to provide the frequency and time periods.
Principle 7: The proponent of change must accept accountability for implementing EIA follow-up	S 17 (1). Contents of EA: S 38 (2) (b), (i), (ii), and (iii); S 38 (2) (c).		It is the responsibility of the proponent to appoint, at own cost, the independent EAP for the application process. As part of the authorisation, it is required that the holder of the authorisation (proponent) provides the competent authority with a compliance report stipulating details on non-compliances, rectification measures, and preventative measures taken. The frequency of reporting to the competent authority is also stipulated in the authorisation.
Principle 8: Regulators should ensure that EIA is followed up	Contents of EA: S 38 (d)(ii); S 38 (2)(b) (i), (ii), and (iii); and S 38 (2)(c)		It is the responsibility of the regulator to specify the requirements for the management, monitoring and reporting of the impacts on the environmental authorisation. The authorisation also requires the preparation of a compliance audit report at specific intervals. There is, however, no mention of reporting compliance to the I&AP.
Principle 9: The community should be involved in EIA follow-up	Requirements for Public Participation: S 56 (6) (a); 56 (6)(b); and 58 (1).		The regulations require the participation of the affected parties, where all relevant facts and information must be provided to the I&AP. It allows for the public to comment on the application. The public's participation in these activities is, however, subject to the public having the necessary knowledge of follow-up activities. It should be noted that the regulations do not specifically refer to the involvement of the public in follow-up activities, but may require the appointed EAP to initiate such cooperation.
Principle 10: All parties should seek to co-operate openly and without prejudice in EIA follow-up	S 17 (1). Contents of EA: S 38 (2) (b), (i), (ii), and (iii); S 38 (2) (c). Requirements for Public Participation: S 56 (6) (a); 56 (6) (b); and 58 (1).		It is clear that the roles and responsibilities for the proponent (holder of the authorisation), the regulator, and the public have been identified. However, the direct involvement of the public in follow-up activities depends on the EAP managing the Public Participation process.
Principle 11: EIA follow-up should promote continuous learning from experience to improve future	Requirements of EA: S 38 (d) (ii); S 38 (2) (b) (i), (ii), and (iii); and S 38 (2) (c).		Frequent auditing and compliance monitoring promotes continuous learning from the experience. The regulations only specify that reports be submitted to the competent authority. They do not specify that results from the reports be communicated to the public or I&AP.

practice

Principle 12: EIA follow-up should have a clear division of roles, tasks and responsibilities	S 18	S 18 Contents of Draft EMP: S 34(d), (e), and (f).	The roles and responsibilities of the EAP are clearly identified in S18 of the regulations. They clearly state that the EAP must be competent for the task. During the Scoping and EIA process the roles and responsibilities for the implementation of mitigation measures are identified in the EMP. It also provides time periods within which the measures must be implemented.
Principle 13: EIA follow-up should be objective-led and goal oriented	Contents of basic assessment report: S 23 (2) (i). Requirements of EA: S 38 (d) (ii); S 38 (2) (b) (i), (ii), and (iii); and S 38 (2) (c). Requirements of Public Participation: S 56 (6) (a); 56 (6) (b); and 58 (1).	Requirements of Draft EMP: S 34(d), (e), and (f).	The regulations provide for the clear goal of preventing or minimising environmental impacts. Mitigation measures, monitoring requirements, and reporting of compliance are specified in the EMP. It should be noted that the requirements of the BAR, however, are not that clear on specific objectives. It also promotes the involvement of the public in the provision of information regarding impacts and mitigation measures. As a baseline for a management plan, it is the responsibility of the EAP to ensure that information is integrated and promotes improvement of scientific and technical knowledge.
Principle 14: EIA follow-up should be "fit-for-purpose"	Requirements of EA: S38 (1) (b); and S 38 (1) (c) (i), and (ii).		A clear description of the proposed activity should be identified explaining the size, context, and background of anticipated impacts. The mitigation measures should be specific to the proposed activity resulting in a "fit-for-purpose" management plan.
Principle 15: EIA follow-up should include the setting of clear performance criteria	Contents of EA: S 38 (d) (ii).		Requirements for the management, monitoring, and reporting of impacts of the activity should be clearly defined. However, the EAP is responsible to identify performance criteria used to assess the follow-up actions.
Principle 16: EIA follow-up should be sustained over the entire life of the activity	Contents of EA: S 38 (d) (ii).		The authorisation should specify requirements for the management, monitoring, and reporting of the impacts of an activity throughout the entire life cycle of the activity.
Principle 17: Adequate resources should be provided for EIA follow-up	Appointment of EAP (Environmental Assessment Practitioner): S 17 (1).	Requirement of Draft EMP: S 34(d).	The regulation provide for the appointment of responsible persons i.e. the EAP and the persons responsible for the implementation of mitigation measures. It is therefore the responsibility of the proponent (holder of the authorisation) to provide time, staff and capacity to achieve successful follow-up outcomes.

Apart from the weaknesses identified in Table 2, a major weakness for the 2006 EIA process is the exclusion of a detailed draft EMP for the BA process. The public participation process focuses on the pre-decision phase of the process and lacks the active engagement of stakeholders in the follow-up process.

3.5.2.3 Provisions under NEMA 2010

In 2010, the 2006 regulations were amended. As an improvement on the 2006 regulations, both the BA and S&EIA process required a draft EMP. In section 33 (see Appendix 5) of the regulations (GNR. 543 GG 33306 of June 2010), a detailed description of the EMP requirements is listed (South Africa, 2006:32; South Africa, 2010:42).

Apart from the BA also requiring a draft EMP, the inclusion of a rehabilitation and closure plan, and the environmental awareness program, no other additional requirements in terms of EIA follow-up were included in the amendments. Similar to the 2006 EIA regulations, the following weaknesses with regard to the 2010 EIA follow-up were identified:

- The Public Participation process still focuses on the pre-decision phase of the process, and lacking the active engagement of the stakeholders in the follow-up process. The active involvement of the community would be reliant on the EAP and proponent as part of the environmental management plan in the pre-decision phase;
- There is no mention of reporting environmental compliance to the I&AP;
- It is clear that the roles and responsibilities for the proponent (holder of the authorisation), the regulator, and the public have been identified. However, the direct involvement of the public in follow-up activities relies on the EAP managing the Public Participation process; and
- Though the requirements for the management, monitoring, and reporting of impacts of the activity should be clearly defined, the EAP is responsible to identify performance criteria used to assess the follow-up actions. Therefore, the success of this follow-up system is reliant on the ⁷competency of the EAP, as well as the skill of the authority.

3.5.2.4 Provisions under NEMA 2014

On the 8th of December 2014, a new set of EIA regulations came into effect, replacing the ECA, NEMA 2006 and 2010 regulations. Additional to the requirements set out by the

⁷ It is important to note that both the 2006 and 2010 regulations do not define competency in specific detail with regard to the EAP. It does, however, list general requirements for an EAP, though this requirement is reliant on the disclosure of experience and qualification.

NEMA 2006 and 2010 regulations, GNR 982 GG 38282 of 2014 included a number of improvements. Appendix 5 highlights the specific sections added and regarded as improvements.

The following improvements resulted from this regulation:

- The audit report containing the details set out in S 34 (2) must be made available to all members of the public. This in effect would require the proponent to report the environmental management outcomes, including follow-up activities, to the I&AP.
- In addition to the publication of these reports, the continual scoping resulting from audit findings may result in the need to amend the EMP. Throughout this process the I&AP is allowed to participate in finding relevant solutions (S 37).

Although the NEMA 2014 regulations define follow-up activities more clearly, the following short-comings are still applicable:

- The active involvement of the community in the development of follow-up programs in the pre-decision phase would still be reliant on the EAP.
- In the case where any insufficiencies regarding environmental outcomes have been recorded in the independent audit report, it would rely on the discretion of the proponent to recommend an amendment to rectify the shortcomings. The additional cost associated with the further PPP may affect the decision of the proponent to avoid amendments altogether.
- The requirements for the management, monitoring, and reporting of impacts of the activity are still defined by the appointed EAP and specialist, and they are responsible to identify performance criteria used to assess the follow-up actions. Therefore, the success of this regulation is still reliant on the competency of the EAP, as well as on the competency of the authority.

3.5.3 Follow-up research in South Africa

Research on EIA follow-up has only recently emerged in the South African context. Wood (1999) revealed the apparent lack of follow-up done, amongst other areas of weakness (such as public participation, EIA report review and centrality of the full range of impacts on decision-making), in South Africa (Wood, 1999).

The investigation completed by Hulett and Diab (2002) on the status of follow-up in the South African context revealed that the EAP (environmental assessment practitioner(s)) at the time of the study had been aware of the importance of follow-up. However, the understanding thereof differed from the accepted international practices. In addition, Hulett

and Diab (2002) found that the need to engage the I&APs (interested and affected parties) was neglected and most EAPs believed follow-up to be the implementation of the EMP during the construction phase. Four models for EIA were proposed by Hulett and Diab (2002) in order to further the understanding and implementation of follow-up, namely a Legal-Based approach (approach that legislates follow-up requirements), Partnership approach (approach involving the I&AP participating in follow-up activities), Self-regulatory approach (approach involves EMS and internal auditing systems i.e. implementing ISO 14001) and Incentive or Disincentive approach (penalties and awards system to ensure compliance i.e. contractual agreements) (Hulett & Diab, 2002).

Slinger *et al.* (2005) examined the EIA follow-up process in the Great Brak estuary case study and found the view that EIA forms the starting point of a linear progress towards an EMS (Environmental Management System) inadequate. Slinger *et al.* (2005) suggest it would be more helpful to view the follow-up process as one of iterative learning, never quite returning to the starting point, but persisting into management system phase of a project or activity. It was highlighted that this view of EIA follow-up as an adaptive environmental management approach that facilitates learning concurs with the positive evaluation of experiences internationally (i.e. Western Australia by Morrison-Saunders and Baily, 2002). The Great Brak estuary case study showed that day-to-day management knowledge had increased with time and is backed up by improved procedures and public involvement. The public involvement was intense in the beginning, and became more widespread and continually grew. This now knowledgeable representative public, who acted to check on the quality and degree of involvement of the relevant authorities, together with the proponent of this case study, showed that shared responsibility as a goal had been and is achievable in South Africa (Slinger *et al.*, 2005).

Youthed (2009) conducted an in depth study, by exploring an EIA follow-up procedure in a region of the Eastern Cape Province, aimed at addressing the lack of attention paid to the process that follow the granting of an Environmental Authorisation (EA). The objective of this study was two folded. The first objective was to assess the amount of non-compliance with the EIA consent conditions as well as the overall impact that the development had on the environment. The second objective was to utilise the results to develop a risk screening tool that could be used to screen out new EIA applications that were likely to require follow-up to control default or impact (Youthed, 2009).

In the analysis conducted by Jordaan (2010), the predictions and compliance from the construction phase of a high profile mega shopping mall in the North West Province were investigated. This study determined the actual effect and contribution of the EIA process to

decision making and implementation practices. It was found that some of the impacts were unavoidable. It was also found that the mitigation measures were not implemented or identified or that EIA follow-up served its purpose in the form of implementing effective auditing programmes in order to monitor legal compliance (Jordaan, 2010).

Jennings (2011) highlighted the important role of permit conditions in enabling compliance and facilitating compliance monitoring. This study examined a number of EA and tested for conformance with legislated requirements, and practicality of monitoring for compliance. A number of contributing factors were identified to achieve monitorability. The main contributing factors were found to be the following: interpretation of the regulations specifying permit content by officials; gaps in guidance on the part of the regulations themselves; and a tendency to focus on construction related impacts. It was also found that the lack of clarity regarding the roles and functions of environmental control officer and environmental auditor further contribute to poor monitorability of permit conditions (Jennings, 2011).

Wessels and Morrison-Saunders (2011) defined the role of an independent ECO (Environmental Control Officer) as “an independent, competent person or body in a position to influence people’s behaviour during the construction phase of a project, with selected environmental monitoring instruments; in order to assure and at time ensure, record, and communicate compliance to applicable environmental conditions and performance specifications.” (Wessels & Morrison-Saunders, 2011:28). In the South African context the key roles of an ECO include the following: compliance monitoring; implementation and enforcement; ensuring legal compliance; advising and/or consulting; communicating; reporting; and raising awareness (Wessels & Morrison-Saunders, 2011:27). In addition to defining the role of the independent ECO, Wessels and Morrison-Saunders (2011) highlight that the ECO has little or no authority to fulfil his/her role, unless the authority and responsibility are assigned through the project/activity, EA (Environmental Authorisation), EMP or contractual or other rules of engagement (Wessels & Morrison-Saunders, 2011).

As described in the before mentioned definition of an independent ECO, it is clear that ‘independence’ of the person fulfilling the role is maintained. After almost 20 years there are still significantly differing views on the role and the independence of an ECO (Wessels & Morrison-Saunders, 2011). The study done by Wessels and Morrison-Saunders (2011) allowed for the further investigation into the importance of the independent ECO. With the roles and responsibilities defined, Wessels (2013) investigated factors that influence the independence of EIA verifiers (ECO). These factors have been divided into 5 categories, namely: financial factors (direct or indirect material interest); commercial factors

(employment relationship, prior relationship, other existing business relationship, and managerial advisory service and/or responsibility); professional factors (competency or skill, appearance, and accountability); personal factors (family relations and close personal relations); and other factors (government or political influence, transparency of reporting, diversity of team, intimidation factors, size of verification firm, and duration of on-site service) (Wessels, 2013).

Wessels *et al.* (2015) formulated follow-up verification objectives using various academic sources, Acts, and guideline documents. The purpose of this study is to appraise how independent EIA follow-up verifiers add value to the construction industry, and to what extent do they add value. The outcome of this case study revealed significant insight as well as interesting results (Wessels *et al.*, 2015).

It was found that ECO's, as the independent EIA verifiers in the South African construction industry, added value by: screening listed activities (in terms of NEMA and or other SEMA's); being involved with scoping phases of projects; allocating resources for EIA follow-up; doing implementation of specifications by informing decision making and doing reporting on and communicating of EIA follow-up results to stakeholders; checking monitoring of and evaluating legal compliance/performance; controlling environmental records for information retrieval purposes; and being involved with community participation (Wessels *et al.*, 2015:187).

When investigating the extent of value added to the construction industry by the ECO, Wessels *et al.* (2015) had a number of, and some interesting, findings:

- One of the key value-adding roles of the ECO verification function was found to be the screening of listed activities for current and future projects. As an experienced independent verifier, the ECO may offer vast on-site environmental experience and knowledge of the construction industry, and in some of the case studies, found that additional identification of listed environmental activities had been identified that were not in the original EIA application process (Wessels *et al.*, 2015:187).
- Results indicated that ECO's contribute to a lesser extent in the pre-construction and commissioning of the environmental Performance Specifications. Wessels *et al.* (2015) pointed this finding out as 'alarming' due to the 'evidence suggesting no person is fulfilling this responsibility during the vulnerable stage of the project' (Wessels *et al.*, 2015:187). However, it was found that in some of the case studies investigated, the verifiers were involved with the identification and allocation of financial and human resources for EIA follow-up activities (Wessels *et al.*, 2015).

- Results also indicated that the ECO added very little value in monitoring and measurement of environmental effects. In addition, an observation was made that the verifiers did not have the authority to make decisions on environmental management and enforcement matters. However, they added value by influencing decisions (Wessels *et al.*, 2015:187).

3.6 Concluding remarks on literature

As pointed out in the previous sections, there is no one way of implementing EIA follow-up. International follow-up literature was discussed indicating the types of factors and approaches that contribute to the successful implementation of follow-up. It is also clear from literature that follow-up is considered as the weaker implementing phase of the EIA process. Thus the development of the IBPP as a guiding tool offers a good basis to evaluate the success of follow-up at legislative level or at project level.

The South African legislation and regulations that guide the implementation of the EIA process show some areas of weakness when compared to the IBPP. Table 3 summarises the weaknesses identified within the three different EIA regulatory regimes.

Table 3: Summary of weaknesses identified within the EIA regulatory regimes

ECA	NEMA 2006	NEMA 2010
Lack of describing activities, such as monitoring and auditing	Exclusion of a detailed draft EMP (describing monitoring and management requirements) for the BA process	Detailed draft EMP (describing monitoring and management requirements) forms part of the BA process
Requirements for the content of the EMP had not formed part of the act		
Extensive Public Participation formed part of the “beefed up” scoping process, with the focus on the pre-decision phase	Public participation process focuses on the pre-decision phase of the process and lacks the active engagement of stakeholders in the follow-up process	Public Participation process still focuses on the pre-decision phase of the process , while lacking the active engagement of the stakeholders in the follow-up process
	Active engagement of the stakeholders in the follow-up process has not been specified and is reliant on the EAP and proponent as part of the environmental management plan	The active involvement of the community would be reliant on the EAP and proponent as part of the environmental management plan in the pre-decision phase
	It is reliant on the public having the necessary knowledge on follow-up activities in order to participate. The direct involvement of the public in follow-up activities relies on the EAP managing the EIA process	It is clear that the roles and responsibilities for the proponent (holder of the authorisation), the regulator, and the public have been identified. However, the direct involvement of the public in follow-up activities relies on the EAP managing the Public Participation process
Compliance reporting formed part of the ROD/EA and excluded the reporting of compliance to the I&AP	There is no mention of reporting compliance to the I&AP	There is no mention of reporting environmental compliance to the I&AP
Inclusions and contents of a monitoring programme is highly dependent on the independent consultant or EAP	Contents of the monitoring programme is dependent on the independent EAP	Though the requirements for the management, monitoring, and reporting of impacts of the activity should be clearly defined, the EAP is responsible to identify performance criteria used to assess the follow-up actions. Therefore, the success of the current follow-up system is reliant on the competency of the EAP, as well as the competency of the authority
Follow-up relies on voluntary or self-regulatory implementation	Follow-up relies on the competency of the EAP and authority (set requirement in the EA)	

As the local case studies show, follow-up outcomes in South Africa are highly dependent on the role of the EAP in the pre-decision phase, and the independent verifiers, such as the ECO's, in the post-decision phase. Although the importance of follow-up has been realised in the South African legal context, it is clear that in order to evaluate the overall performance against the IBBP, all aspects (monitoring, auditing, management and communication) of follow-up should be considered.

CHAPTER 3: METHODS AND MATERIALS

In Chapter 1, two main objectives were identified. The first objective was to evaluate the provisions for EIA follow-up in terms of the South African mandatory requirements, regulations and guidelines in terms of IBPP and then to develop evaluation criteria for follow-up based on the International Best Practice Principles (IBPP). The second objective is to use this developed evaluation criteria to review the performance of follow-up in a sample of EIA case studies (the case studies comprising of a number of documents as discussed in Chapter 2).

The research approach is qualitative with the intent of designing a review package based on the international best practice principles for EIA follow-up described in Chapter 2, as well as including the requirements of the South African context, and then testing this review package on the available documentation of each case study.

The sections to follow describe the method and approach in the development of the IBPP for EIA follow-up review package.

4.1 Development of the EIA follow-up review package

In Chapter 2, the 17 IBPP for follow-up were discussed. These principles are categorized into the following areas:

- Principles 1 to 3 present the “why” or the core values of EIA follow-up;
- Principles 4 to 6 address the nature, or the “what” of EIA follow-up;
- Principles 7 to 11 concern the roles and responsibilities of participants, or the “who” in EIA follow-up; and
- Principles 12 to 17 address how EIA follow-up should be conducted (“how”).

Principles 1 to 6 serve as guiding principles, whereas principles 7 to 17 are the operating principles designed to achieve successful follow-up. These principles are used throughout this chapter as the basis for the development of the evaluation criteria.

Lee *et al.* (1999) developed a review package consisting of evaluation topics for the purpose of reviewing the quality of Environmental Impact Statements (EIS), or known in South Africa as EIR (Environmental Impact Report). In South Africa, the Lee and Colley review package has been extensively used to examine EIA quality for proposed development actions in various sectors i.e. mining, housing, renewable energy projects, hazardous waste management projects as well as tourism projects in ecologically sensitive and protected areas (Sandham and Pretorius, 2008; Sandham *et al.*, 2010; Sandham *et al.*, 2013). The use

of this review instrument illustrates that the Lee and Colley review package has been used successfully in the South African context for various research projects on EIA report quality.

Therefore, the method described by Lee *et al.* (1999) was used as a point of departure to develop a review package called the International Best Practice Principles for Follow-up for the purpose of appraising the implementation of EIA follow-up (hereafter referred to as the IBPPFU review package). The sections below describe the Lee-Colley review package and explain how this method was used to develop a review package for EIA follow-up based on the IBPP.

4.1.1 The Lee-Colley review package

The review package developed by Lee *et al.* (1999) allows for the hierarchical arrangement of criteria used to review the EIR. When reviewing an EIR using this method, the reviewer starts from the lowest level (which is the simplest criteria relating to specific tasks and procedures), and then moves progressively upwards to the higher levels (which are the more complex criteria for broader tasks and procedures in the process), and then ultimately reaches the overall assessment of the report (Lee *et al.*, 1999).

The Lee-Colley review topics are arranged into four hierarchical levels, namely:

- **Level 1 - Review Sub-categories:** These comprise the detailed Review Sub-categories within each Review Category, and are preceded by three digits e.g. 1.1.1 in the list of review topics.
- **Level 2 - Review Categories:** These are the categories undertaken within each Review Area, and are preceded by two digits e.g. 1.1 in the list of review topics.
- **Level 3 - Review Areas:** These represent the main areas of the process and are preceded by a one digit in the list of review topics.
- **Level 4 - Overall assessment:** This represents the overall assessment. The final assessment symbol of the overall performance is then concluded by taking into consideration the performance of the different review areas, categories and sub-categories (Figure 4).

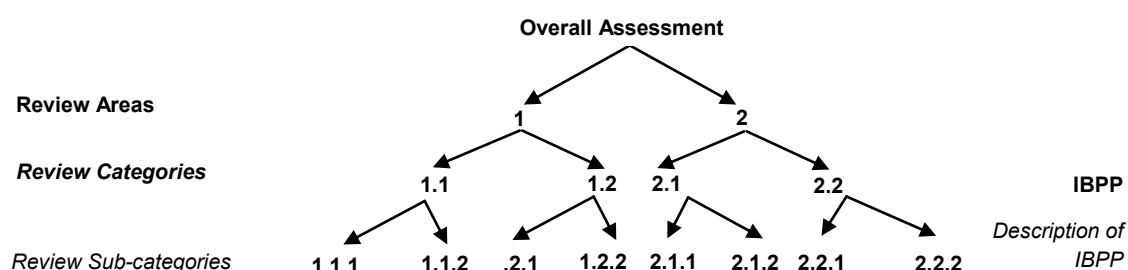
4.1.2 The EIA Follow-up review package based on IBPP

The Lee-Colley review package, as described in the previous section, developed a set of evaluation topics for the purpose of reviewing EIR quality. These evaluation topics form a set of 17 International Best Practice Principles (IBPP) for EIA follow-up, which was then used to formulate a review package called the International best practice principles for follow up

review package (IBPPFU review package). This review package was designed to evaluate the following documents of each sample case study: the Environmental Impact Report (EIR), the Environmental Management Plan & regulations (EMPr), the Record Of Decision / Environmental Authorisation (ROD/EA), and the Environmental Control Officer's (ECO) report.

The evaluation topics for the IBPPFU review package have been arranged in a similar manner to that of the Lee and Colley Review Package, and are positioned in the following hierarchy (Figure 4):

- **Review Area** – the IBPPs are divided into four main areas ('why'; 'what'; 'who'; and 'how'). Each of these areas is used as a review area and is represented by a one digit in the list of evaluation topics, e.g. "1. Presentation of EIA follow-up core values ('why')";
- **Review Category** – the 17 IBPPs, as grouped into four main areas (i.e. principles 1 to 3 represent the core values of EIA follow-up), are used as review categories, and are represented by two digits in the list of evaluation topics, e.g. "1.1. Describing Follow-up to determine EIA (or SEA) outcomes"; and
- **Review Sub-categories** – The sub-categories are derived from the description of each IBPP (Appendix 1), on the basis that if each of the details comprising the IBPP description is addressed, then the principle as a whole will also have been addressed. The review sub-categories are represented by three digits in the list of evaluation topics. In addition to the 17 IBPPs described in appendix A, the South African mandatory requirements, regulations, and guidelines discussed in Chapter 2, provide specific requirements within the South African context. ⁸These requirements were incorporated into the IBPPFU review package, and are shown with shading in Table 4.



⁸ Requirements specific to the South African mandatory requirements, regulations, and guidelines are typed as bold in Table 5.

Figure 4: A schematic representation of the evaluation topic hierarchy

Table 4 below illustrates the Lee-Colley review topics as a guiding tool, along with the developed IBPPFU review topics and their hierarchical arrangement.

Table 4: Example extract to illustrate how the Lee and Colley Review Package was used as guiding tool to develop the IBPPFU review package

Lee et al. (1999) EIR review package topics		IBPPFU review package topics	
1	Description of the development, the local environment and the baseline conditions	1	Presentation of core values of EIA follow-up ("Why")
1.1	Description of the development: The purpose(s) of the development should be described, as should the physical characteristics, scale and design. Quantities of materials needed during construction and operation should be included and, where appropriate, a description of the production processes.	1.1	Describing Follow-up to determine EIA (or SEA) outcomes.
1.1.1	The purpose(s) and objectives of the development should be explained.	1.1.1	Have Objectives and Targets been set to minimize the negative consequences of the development and to maximize the positive outcomes?
1.1.2	The design and size of the development should be described. Diagrams, plans or maps will usually be necessary for this purpose.	1.1.2	Has a programme, with the emphasis on action to be taken, been developed to reach the defined objectives and targets?

The modifications delivered a review package (IBPPFU review package) with four review areas, 17 review categories, and 63 sub-categories. These are summarised in Table 5. The complete IBPPFU review package can be found in Appendix 2.

Table 5: Abbreviated IBPPFU review package

IBPPFU review package	
1. Presentation of core values of EIA follow-up ("Why")	3.4. All parties should seek to co-operate openly and without prejudice in EIA follow-up (BPP 10)
1.1. Describing Follow-up to determine EIA (or SEA) outcomes (BPP 1)	3.4.1 Participation of the proponent, regulator and community in initiating a practical and reasonable EIA follow-up programme
1.1.1. Setting of Objectives and Targets	3.4.2. Shared sense of purpose to avoid, reduce, or remedy adverse environmental effects
1.1.2. Development of action programme to reach the defined objectives and targets	3.4.3. Consensus of the procedural and methodological approach by all parties
1.2. The importance of transparency and openness in EIA follow-up is highlighted (BPP 2)	3.4.4. Identification of the roles and tasks of parties identified in terms of EIA follow-up
1.2.1. Identification of stakeholders and allowing feedback on the EIA process	3.4.5. Commitment to carry out required tasks and provide a constructive response to the findings of EIA follow-up by all parties
1.2.2. Informing the stakeholders of the implications of the commencement of activities	3.5. EIA follow-up should promote continuous learning from the experience to improve future practice (BPP 11)
1.2.3. Transparency and communication of actions and decisions resulting from EIA follow-up to stakeholders	3.5.1. Actively addressing EIA follow-up findings throughout the activity as part of the management system implemented
1.2.4. Providing Stakeholders with a genuine opportunity to engage in follow-up activities	3.5.2. Feedback to stakeholders about lessons learned
1.3. Inclusion of commitment to follow-up (BPP3)	3.5.3. The contribution made by lessons learned, or the contribution made by certain non-conformances or incidents related to changes in procedure or policy
1.3.1. Clear commitment to undertake EIA follow-up and accountability for actions of all parties	4. Description of method of how EIA follow-up should be conducted ("How")
1.3.2. Provision of a follow-up program for the pre-decision EIA process and the implementation thereof post decision	4.1. EIA follow-up should have a clear division of roles, tasks and responsibilities (BPP 12)
1.3.3. Follow-up commitments relate to program preparation and the implementation of monitoring, evaluation, management and communication	4.1.1. The identification of a set of clearly divided roles, tasks and responsibilities in the pre-decision EIA documentation, and the subsequent EIA approvals and management systems
2. Addressing the nature of EIA follow-up ("What")	4.1.2. Clear definition of tasks and responsibilities within and between the different parties
2.1. Follow-up should be appropriate to the EIA culture and the societal context (BPP 4)	4.1.3. Competency of all practitioners
2.1.1. Incorporation of EIA follow-up into the EMPr	4.2. EIA follow-up should be objective-led and goal orientated (BPP 13)
2.1.2. Incorporation of EIA follow-up elements in the Environmental Authorisation (ROD/EA)	4.2.1. Controlling of activities and their environmental impacts
2.1.3. Incorporation of other mechanisms of EIA follow-up	4.2.2. Maintaining decision-making flexibility and promoting an adaptive management approach to EIA and project management
2.2. EIA follow-up should consider cumulative effects and sustainability (BPP 5)	4.2.3. Improving scientific and technical knowledge
2.2.1. Dealing with cumulative effects of multiple developments and sustainability issues	4.2.4. Improving community awareness and acceptance of projects
2.2.2. Application of follow-up outcomes beyond the project level	4.2.5. Integrating with other information i.e. state of the environment reports or EMS
2.3. EIA follow-up should be timely, adaptive and action orientated (BPP 6)	4.3. EIA follow-up should be "fit for purpose"(BPP 14)
2.3.1. Tackling of environmental issues in an adaptive and pro-active way	4.3.1. EIA follow-up requirements appropriate to the anticipated environmental effects
2.3.2. Frequency of monitoring data collection and evaluation of	4.3.2. Designing the EIA follow-up program specifically in terms of design, location and affected stakeholders

2.3.3. Actions taken to meet the defined goals of EIA follow-up programs	4.3.3. Tailoring the EIA follow-up program to be practicable and feasible, focusing on the "art of the possible"
3. Designation of roles and responsibilities ("Who")	4.3.4. EIA follow up should undergo ongoing scoping
3.1. The proponent of change must accept accountability for implementing EIA follow-up (BPP 7)	4.4. EIA follow-up should include the setting of clear performance criteria (BPP 15)
3.1.1. Consideration of consequences by the proponent	4.4.1. Developing performance criteria that reflects best practice in the EIA follow-up actions or programs
3.1.2. Responsibility of the proponent for the mitigation of adverse effects and for the communication of follow-up results to stakeholders	4.4.2. Development of key performance criteria through well-defined methodologies or approaches to monitoring, evaluation, management and communication
3.1.3. Taking advantage of the benefits of EIA follow-up as a project management instrument	4.4.3. Producing useful information and outcomes through follow-up actions
3.1.4. Consideration of cost benefit on mitigation measures throughout the life cycle of the activity	4.4.4. Monitoring and auditing of significant impacts and aspects against the existing management plan
3.2. Regulators should ensure that EIA is followed up (BPP 8)	4.4.5. Implementation and improvement of findings and recommendation follow-up audits
3.2.1. Determining and ensuring the need for EIA follow-up by the regulators	4.4.6. Communication of results of the monitoring reports and audit reports to all stakeholders
3.2.2. Regulating follow-up requirements	4.4.7. Review of objectives and targets that result from monitoring and audit reports
3.2.3. Securing a balance between the interests of both the proponent and the community	4.5. EIA follow-up should be sustained over the entire lifespan of the activity (BPP 16)
3.2.4. Ensuring the proponent's compliance and promoting learning from the experience	4.5.1. Determination of the need for and content of EIA follow-up during the screening and scoping phase of the EIR preparation
3.2.5. Appointment of an ECO	4.5.2. EIA follow-up actions or programs cover the entire life cycle of the activity
3.2.6. Submission of ECO compliance reports to the competent authority throughout the life cycle of the project	4.5.3. Consideration of long term and short term environmental changes for the EIA follow-up program
3.2.7. Distinguishing the competing roles of developer, funder, provider and decision-maker to avoid conflict (Regulator has same function as proponent)	4.6. Adequate resources should be provided for EIA follow-up (BPP 17)
3.3. The community should be involved in EIA follow-up (BPP 9)	4.6.1. Provisions for time, staff and capacity ensuring cost-effective, efficient and pragmatic EIA follow-up
3.3.1. Informing the community about the EIA-follow-up outcomes	4.6.2. Implementation of EIA follow-up to best practice standards and ensuring that real actions are taken adequately when needed
3.3.2. Providing the community with the opportunity to directly participate in the follow-up program design and implementation	
3.3.3. Project benefit from community involvement in the follow-up process	

4.2 Collection of data and selecting available case studies

All case studies were collected by contacting Environmental Assessment Practitioners (EAP), Environmental Control Officers (ECO) and proponents. Although the EIR, the EMPr, and the Environmental Authorisation (EA) are public documentation, the ECO reports were often difficult to obtain. Since the ECO reports are a critical part of evaluating the successful implementation of follow-up, the selecting of case studies used for this study were based on the availability of the documents, i.e. the EIR, EMPr, EA and the ECO reports. The available case studies that included the fundamental documentation listed in the previous chapter ranged from authorisations under ECA to authorisations under NEMA 2006 and 2010. Although the 2014 regulations (discussed briefly in Chapter 2) came into effect in December 2014, case studies falling within this regulatory regime are excluded due to the lack of completed available case studies.

Chapter 1 discusses the considerations for the selection of case studies (Figure 2). For the evaluation of the ECA and NEMA 2006 regulations, a total number of six projects under the ECA regulations and seven projects under the NEMA 2006 regulations, each with the completed set of documents, were selected. However, under NEMA 2010, only two projects that included a complete set of documents were selected (Table 6). In both the NEMA 2006 and the NEMA 2010 regulations listing notices, the activities would either require a Basic Assessment or a Scoping EIA process, and depending on the size or the borders of a project or activity, the competent authority may either be the Provincial department or the National department. Of the total available case studies, 11 of the case studies fell within the

provincial department's jurisdiction. The selected provincial case studies were limited to Mpumalanga, Limpopo, and the Eastern Cape Province.

The selected case studies could be grouped into the following sectors:

- Waste Management Activities;
- Housing, Recreation, and Tourism; and
- Infrastructure.

Table 6: Summary of available selected case studies comprising of all required documentation

Regulatory Regime	ECA	NEMA 2006	NEMA 2010
Number of selected case study(s)	6	7	2
Division of activities according to sectors	ECA	NEMA 2006	NEMA 2010
Waste Management Activities	1	2	0
Housing, Recreation & Tourism	3	2	0
Infrastructure	2	3	2
Applicable EIA process	ECA	NEMA 2006	NEMA 2010
"Beefed up" Scoping Report	5	0	0
BA	0	3	2
S&EIA	1	4	0
Competent Authority	ECA	NEMA2006	NEMA 2010
National	1	2	1
Provincial	⁹ 5	¹⁰ 5	¹¹ 1
Total Number of available completed case studies		15	

4.3 Review of available case studies

Each case study was reviewed according to the Lee and Colley review methodology using the IBPPFU review package and represented on a collation sheet (Appendix 3). The results of the review are summarized in Appendix 4, and are discussed in Chapter 4.

4.4 Conclusion

In this chapter the development of the IBPPFU review package is described, along with the selection of case studies and the application of the review package.

As highlighted in Chapter 1, there are a number of documentation that can be considered and be evaluated by the IBPPFU review package, i.e. minutes of meetings, internal/external audit report, communication with interested and affected parties, non-conformance/compliance reports, inspection reports, monitoring committee reports, and many more information generated during the implementation of a project phase. However

⁹ Provincial authorising agency: 4 Mpumalanga and 1 Limpopo

¹⁰ Provincial authorising agency: 5 Mpumalanga

¹¹ Provincial authorising agency: 1 Eastern Cape

due to time, resource and availability of information constraints, only the EIR, ROD/EA, the EMPr, and the ECO reports formed part of the case studies.

In the Chapters to follow, the performance of each regulatory regime is presented, discussed and compared in order to identify trends and patterns. In addition, the strengths and weaknesses which were identified in terms of the IBPPFU review package are discussed.

CHAPTER 4: RESULTS AND ANALYSIS

The available case studies, each with the available documents (EIR, ROD/EA, EMPr, and ECO reports), were reviewed according to the review topics of the IBPPFU (International Best Practice Principles for follow-up) review package. In this Chapter the results are presented and discussed.

As discussed in the methodology (Chapter 3), an assessment symbol indicating the performance of the case study is assigned to each review criterion and recorded on a collation sheet (Appendix 3). Assessment grades or scores are represented by an alphabetical letter rather by numbers to discourage the reviewer from crude aggregation to obtain assessment throughout the hierarchical levels (Lee *et al.*, 1999). The Lee and Colley method used a specific list of assessment symbols (Table 7). Each review sub-category, review category, review area, and overall assessment is then assigned an assessment symbol that is recorded on a collation sheet. The same assessment symbols are used for the IBPPFU review package.

Table 7: List of assessment symbols as defined by Lee et al (1999)

Symbol	Explanation
A	Relevant tasks well performed, no important tasks left incomplete.
B	Generally satisfactory and complete, only minor omissions and inadequacies.
C	Can be considered just satisfactory despite omissions and/or inadequacies.
D	Parts are well attempted but must, as a whole, be considered just unsatisfactory because of omissions or inadequacies.
E	Not satisfactory, significant omissions or inadequacies.
F	Very unsatisfactory, important task(s) poorly done or not attempted.
NA	Not applicable. The Review Topic is not applicable or it is irrelevant in the context of this Statement.

For interpretation of the results, the symbols are grouped as follows:

- **% symbols A – C:** This grouping of symbols indicates that the follow-up was performed to a satisfactory standard with regard to the IBPP for follow-up.
- **% symbols A – B:** This group indicates that follow-up was ‘well’ to ‘generally well’ performed with regard to the International Best Practice EIA follow-up principles (IBPP). This grouping can therefore be regarded as indicating strengths (good performance).
- **% symbols C - D:** This group reflects marginal performance. It indicates that the follow-up implementation is considered to be either just satisfactory (despite

omissions and/or inadequacies) or just not satisfactory (because of omissions and/or inadequacies). It, therefore, gives an indication of the potential for increase of performance from unsatisfactory to satisfactory, i.e. if D scores could become C scores, and in the same way gives an indication of the consequences if C scores become D scores.

- **% symbol E – F:** This grouping indicates poor performance and can be regarded as a weakness in follow-up.

In the sections to follow, the overall quality and quality of review areas of the selected case studies under the three different EIA regulatory regimes are presented and described. In the first section the overall assessment results of all three the regulatory regimes will be compared. Thereafter the performance of follow-up will be explored by interpreting the results of the four review areas (RA 1, RA 2, RA 3, and RA 4) firstly under the ECA regulations, then the NEMA 2006 regulations, then lastly the NEMA 2010 regulations. For example, RA 1 (Presenting the core values of follow-up) will be discussed firstly under the ECA regulations then NEMA 2006, and then NEMA 2010.

5.1 Overall Assessment results

The overall performance quality of EIA follow-up prepared under all three the EIA regulatory regimes is relatively high, with more than 80% graded C or higher.

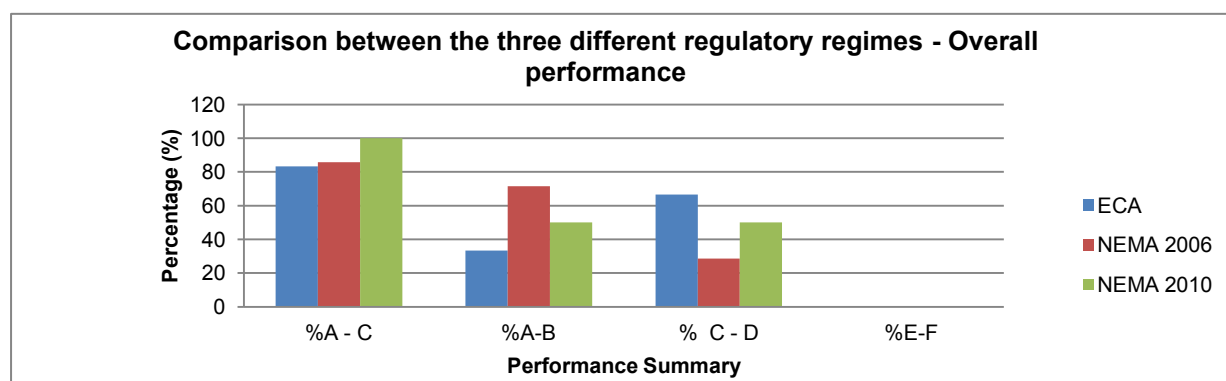


Figure 5: Comparing the overall performance between the ECA, NEMA 2006, and NEMA 2010 regulatory regime

The NEMA 2006 regulations showed an improved overall quality, with 71% of the case studies grading B or higher compared to the ECA regulatory regime that only graded 33% A-B and for NEMA 2010, only one of the case studies graded A-B, bearing in mind that only two case studies formed part of this study.

Progressively improving over the three regulatory regimes, the results indicate that review area 4 is the strongest performing area with regard to implementing the IBPP (Table 8). For review area 3, 33% of the cases studies under the ECA regime, 43% under NEMA 2006, and none under NEMA 2010 graded A-B, suggesting an area of weakness in terms of the IBPP. For both review area 1 and 2, 17% of the case studies under ECA were graded E-F.

Table 8: Summarizing results of review areas and categories across all three regulatory regimes

Evaluation Topics		ECA (%)				NEMA 2006 (%)				NEMA 2010 (%)			
		A - C	A- B	C - D	E- F	A - C	A- B	C - D	E- F	A - C	A-B	C - D	E- F
Overall Score		83	33	67	0	86	71	29	0	100	50	50	0
1.	Core values of EIA follow-up ('Why')	83	33	50	17	86	57	43	0	100	50	50	0
2.	Nature of EIA follow-up ('What')	83	33	50	17	100	57	43	0	100	0	100	0
3.	Designation of roles and responsibilities ('Who')	83	33	67	0	86	43	57	0	100	0	100	0
4.	Describing the method of EIA follow-up ('How')	83	50	50	0	100	86	14	0	100	100	0	0

A more detailed consideration of all four review areas, their strengths and weaknesses, and their results are presented for Review area 1 (RA) 1 under ECA, NEMA 2006 and NEMA 2010, followed by RA 2 for all three regulatory regimes, then RA 3 and RA 4 in the same manner.

5.2 Presentation of core values of EIA follow-up - Review area 1

In Chapter 3, the development of the review topics for the IBPPFU review package was described. RA 1 deals with the core values ("why") of EIA follow-up and the review categories (RC) under RA 1 address IBPP 1 – 3.

RA 1 (Presentation of core values of EIA follow-up) throughout all three the regulatory regimes was addressed to a satisfactory degree (Table 9). However for follow-up under the ECA regulatory regime, 17% of the case studies graded E-F.

Table 9: Results of RA1 indicating the performance of the NEMA 2010 regulatory regime

Evaluation Topics		ECA (%)				NEMA 2006 (%)				NEMA 2010 (%)			
		A-C	A-B	C-D	E-F	A-C	A-B	C-D	E-F	A-C	A-B	C-D	E-F
1.	Core values of EIA follow-up ("Why")	83	33	50	17	86	57	43	0	100	50	50	0
1.1.	Describing follow-up to determine EIA outcomes	83	83	17	0	100	100	0	0	100	100	0	0
1.1.1	Setting of Objectives and Targets	83	83	17	0	100	100	0	0	100	100	0	0
1.1.2	Development of action programme to reach the defined objectives and targets	83	83	17	0	100	86	14	0	100	100	0	0
1.2.	Transparency and openness in EIA follow-up	33	17	33	50	71	14	86	0	0	0	100	0
1.2.1	Identification of stakeholders and allowing feedback on the EIA process	50	17	50	33	71	29	71	0	50	50	50	0
1.2.2	Informing the stakeholders about the implications of the commencement of activities	50	33	33	33	100	86	14	0	100	50	50	0
1.2.3	Transparency and communication of actions and decisions resulting from EIA follow-up to stakeholders	33	17	17	67	43	14	86	0	0	0	50	50
1.2.4	Providing stakeholders with a genuine opportunity to engage in follow-up activities	17	17	17	67	29	14	57	29	0	0	50	50
1.3.	Inclusion of commitment to follow-up	83	83	0	17	86	71	29	0	100	100	0	0
1.3.1	Clear commitment to undertake EIA follow-up and accountability for actions for all parties	83	83	0	17	86	86	14	0	100	100	0	0
1.3.2	Provision of a follow-up program for in the pre-decision EIA process and implementation thereof for post decision	83	83	0	17	86	86	14	0	100	100	0	0
1.3.3	Follow-up commitments relate to program preparation and implementation of monitoring, evaluation, management and communication	83	50	33	17	86	57	43	0	100	50	50	0

In the sections to follow, the quality performance of RA 1 of the IBPPFU review package under all three the regulatory regimes, first dealing with ECA and followed by the NEMA regulations, will be presented and discussed.

5.2.1 Follow-up performance under ECA (RA 1)

Although the overall quality of the IBPP represented by of RA 1 (Presentation of core values of EIA follow-up) under the ECA regulations is considered to be generally well performed, only 33% of the case studies graded B and higher, while 83% graded A-C and 17% graded E-F.

For RC 1.1 (Describing follow-up to determine EIA outcomes) and 1.3 (Inclusion of commitment to follow-up), 83% graded A-B. For both sub-categories (SC) 1.1.1 and 1.1.2, 83% of the case studies the IBPP were addressed to a satisfactory standard. In RC 1.3, 17% of the case studies were graded E-F and 83% graded A-C. As the weakest performing sub-category, SC 1.3.3 83% graded A-C of which only 50% graded A-B and 33% graded C-D. In all three the sub-categories, 17% of the case studies graded E-F.

RC 1.2 (BPP 2: Transparency and openness in EIA follow-up) is the weakest performing category of RA1 where 50% of the case studies graded E-F, and only 33% of the case studies graded as satisfactory (A-C). SC 1.2.3 and 1.2.4 reveal the problematic areas contributing to the performance of category 1.2 with 67% of the case studies graded E-F. For sub-categories 1.2.1 and 1.2.2, 50% of the case studies were graded satisfactory (A-C).

The section to follow, interprets the performance of IBPP 1 – 3 in the form of strengths and weaknesses under the ECA regulatory regime.

5.2.2 Strengths and weaknesses RA 1 in the ECA regulatory regime

The performance of RA 1 indicates that although EIA follow-up was not specifically required by the ECA regulatory regime, the core values of EIA follow-up were represented to a satisfactory level in 83% of the case studies. The remaining 17% of the case studies suggest that the EAPs, proponents, ECOs, and competent authorities in these specific case studies did not realise the importance of EIA follow-up.

Under the ECA regime categories 1.1 (Describing Follow-up to determine EIA outcomes) and 1.3 (Inclusion of commitment to follow-up) suggest strengths with regards to addressing the IBPP.

The following are the areas of weakness for RA 1:

- Category 1.2 (IBPP 2: The importance of transparency and openness in EIA follow-up), as the lowest grading category, suggest the main area of weakness.
- Although the ECA regulations require the identification of I&AP (Interested and affected parties), the feedback process is an area of weakness (sub-category 1.2.1).
- The practice of the PPP (Public Participation Process) requires the notification of the decision, however the actual follow-up outcomes are not communicated to the I&AP (sub-categories 1.2.2 and 1.2.3).
- It appears that a major weakness with the ECA regulations was that although the I&APs were informed of the intent to commence with a certain activity, there is an apparent lack of providing the I&APs with the genuine opportunity to directly participate with follow-up activities.

Although EIA follow-up is not described in the ECA regulations, the results suggest that regardless of the weaknesses identified, the core values of follow-up were addressed in a manner that is regarded as satisfactory.

5.2.3 Follow-up performance under the NEMA 2006 regulatory regime (RA1)

Compared to the ECA regulatory regime, addressing the IBPP under NEMA 2006 improved considerably with 57% of the case studies graded A-B. With only 43% of graded as marginal and none of the case studies graded E-F, the performance quality of IBPP 1-3 are considered to be satisfactory.

For RC 1.1 (Describing Follow-up to determine EIA outcomes), all of the case studies graded A-B. For both SC 1.1.1 and 1.1.2, 100% of the case studies graded C and higher. In addition RC 1.3 (Inclusion of commitment to follow-up), with 71% of the case studies graded A-B, reveals the well performing areas under NEMA 2006. Under RC 1.3 SC 1.3.3 was the weakest, with only 57% graded A-B.

Despite an improved performance compared to ECA, RC 1.2 (BPP 2: Importance of transparency and openness in EIA follow-) under NEMA 2006 is still the weakest performing category of RA 1. However, compared to the ECA regulatory regime (33% of the case studies graded A-C), 86% of the case studies are graded marginal and 71% graded A-C. Sub-categories 1.2.3 and 1.2.4 reveal the problematic areas contributing to the overall performance of RC 1.2. For SC 1.2.4 29% graded E-F and only 29% graded A-C. For sub-category 1.2.3, 86% of the case studies are graded as marginal whereas only 14% graded A-B. SC 1.2.2 is the strongest performing area with 100% of the case studies graded A-C. For sub-category 1.2.3, 86% of the case studies are graded marginal and only 14% graded A-B.

The discussion in the section to follow now turns to strengths and weaknesses of RA1 (core values of follow-up) under NEMA 2006.

5.2.4 Strengths and weaknesses of RA 1 in the NEMA 2006 regulatory regime

RA 1 under the NEMA 2006 regulatory regime the IBPP performed generally well. However there is still room for improvement on the overall quality in relation to the IBPPFU review package.

Under the NEMA 2006 regime, the performance quality of categories 1.1 (Describing Follow-up to determine EIA outcomes) and 1.3 (Inclusion of commitment to follow-up) suggests strengths and includes the following:

- Well defined objectives and targets (SC 1.1.1).

- A development of an action orientated management plan addressing the defined objectives and targets (SC 1.1.2).
- Commitment and accountability to undertake follow-up (SC 1.3.1).
- Providing and implementing a follow-up programme in both the pre-decision and post-decision EIA phase (SC 1.3.2).
- Developed follow-up programmes address the monitoring, auditing, and management of environmental impacts of the case studies (SC 1.3.3).

The areas of weakness for RA 1 under NEMA 2006 are:

- Category 1.2 (BPP 2: Importance of transparency and openness in EIA follow-up are highlighted) is the weakest performing category with 86% of the case studies considered as marginal and only 14% grading B and higher.
- Although the description of the PPP has improved from the ECA regime, the results still suggest a lack of communicating follow-up outcomes as well as the providing the I&AP with a genuine opportunity to engage with follow-up activities (sub-categories 1.2.3 and 1.2.4).

It appears that under the NEMA 2006 regulations, despite the improvements regarding the description of the PPP, the reviewed case studies still lacked the active engagement of the I&AP with the follow-up process. These results also support the conclusion drawn in Chapter 2 that the PPP under the NEMA 2006 regime focused more on the pre-decision phase of the process than on the post decision phase.

An apparent improvement compared with the ECA regulatory regime is observed in the following IBPP sub-categories (with specific focus on the areas with weak performance):

- The identification of stakeholders (I&AP), although still lacking the feedback on follow-up activities (SC 1.2.1).
- Improved communication of the implication of the commencement of activities with the focus on informing but not genuinely engaging (SC 1.2.2).

With the follow-up requirements being described more clearly in the NEMA 2006 regulations, the results suggest that despite of the weaknesses identified the core values of follow-up are addressed in a manner that is regarded as satisfactory.

5.2.5 Follow-up performance of RA 1 under NEMA 2010

In the previous sections the performance of RA 1 (presenting the core values of follow-up) under the previous two regulatory regimes were presented and in turn strengths and weakness in terms of IBPP 1-3 were identified. The section to follow will explore the performance of these principles under the NEMA 2010 regulations.

Only two case studies under the NEMA 2010 regulations were available for review. Therefore the results to follow cannot be regarded statistically representative, but nevertheless are valid observations and provide tentative indications of follow-up quality.

Although both of the case studies were graded A-C, one case study graded marginal. Compared to the performance of the IBPP under the NEMA 2006 regulatory regime, these results suggest a decline in follow-up performance quality under NEMA 2010.

For both review categories (RC) 1.1 and 1.3 with all the case studies graded A-C, these RC performed strongest. All sub-categories under both these review areas are well performed where both graded A-B.

RC 1.2 (BPP 2: Transparency and openness) is exposed as the weakest category where all of the case studies were graded as marginal. This is a slight decrease in the quality of implementing the IBPP compared to NEMA 2006. In both sub-categories 1.2.3 and 1.2.4 one of the case studies graded E-F, the results support the apparent decrease in quality compared to the preceding regulatory regime. For SC 1.2.2 both of the case studies graded A-C performing better than SC 1.2.1 with only one case study graded as satisfactory (A-C).

5.2.6 Strengths and weaknesses of RA 1 under NEMA 2010

The results under NEMA 2010 suggest a slight decrease of quality on informing the stakeholders (or the I&AP) about the implications of the commencement of activities (SC 1.2.2). A decrease of the quality of addressing the genuine involvement of the I&AP in follow-up activities (SC 1.2.4) is observed compared with the performance under NEMA 2006.

The commitment to preparing a follow-up programme that includes monitoring, review, and management of activities has showed improvement throughout the regulatory regimes. However it is evident that the communication of the results to the I&AP is in need of improvement (SC 1.3.3). In most of the case studies the ECO reports were only communicated to the authorities and responsible persons within the proponent's organisation, this in turn excluding the transparent communication of results to the I&AP.

As discussed earlier, it would have been expected that the performance improved under the NEMA 2010 regulatory regime. However the results suggest the deterioration of performance. Nevertheless, the core values of follow-up are still addressed in a manner that is regarded as satisfactory.

5.2.7 Concluding remarks on the performance of RA 1

The quality results under all three the regulatory regimes suggest improvement on addressing IBPP 1-3 under the ECA regulations and NEMA 2010 compared to NEMA 2006 a decrease with regards to addressing the core values of EIA follow-up (Figure 6).

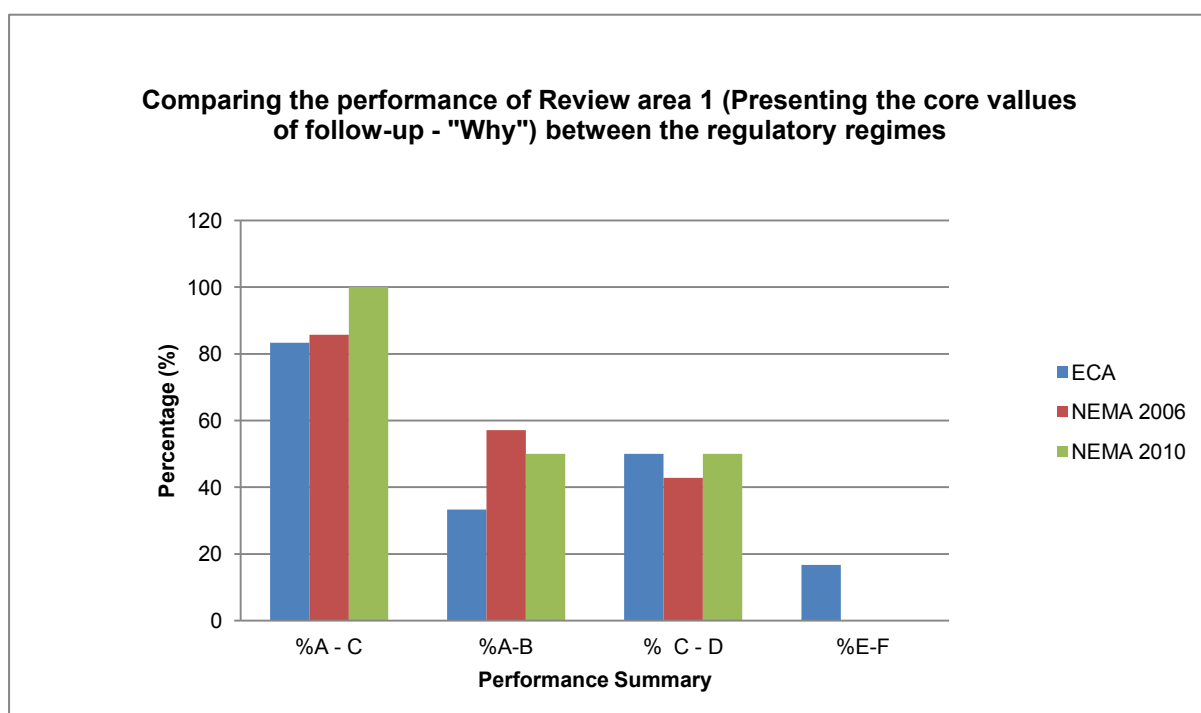


Figure 6: Comparing the performance of Review area 1 between the different three regulatory regimes

As indicated by the results discussed in the previous sections, there appear to be a recurring theme in terms of the weaknesses identified, namely:

- Feedback process of follow-up outcomes to the I&AP.
- Failure to communicate follow-up outcomes to the I&AP.
- Lack of providing the I&AP with the genuine opportunity to directly participate in follow-up activities.

In the sections to follow, RA 2 will now be discussed firstly under ECA, then under the NEMA regulatory regimes.

5.3 Addressing the nature of EIA follow-up – Review area 2

RA 2 of the IBPPFU review package deals with addressing the nature of EIA follow-up (“what”) and the review categories deal with IBPP 4-6.

The results revealed that RA 2 (Addressing the nature of EIA follow-up) was addressed to a satisfactory standard in all three regimes. Under NEMA 2006, 57% of the case studies graded A-B, whereas under NEMA 2010 all were graded as marginal. As the weakest performing regulatory regime, under ECA 17% graded E-F and only 33% graded A-B (Table 10).

Table 10: Performance of RA2 in all three regulatory regimes

Evaluation Topics		ECA (%)				NEMA 2006 (%)				NEMA 2010 (%)			
		A - C	A - B	C - D	E - F	A - C	A - B	C - D	E - F	A - C	A - B	C - D	E - F
2.	Addressing the nature ("What")	83	33	50	17	100	57	43	0	100	0	100	0
2.1.	<i>Culture and societal context appropriate</i>	83	33	50	17	86	57	43	0	100	0	100	0
2.1.1	Incorporation of EIA follow-up into the EMP	83	67	17	17	100	86	14	0	100	50	50	0
2.1.2	Incorporation of EIA follow-up elements in the Environmental Authorisation (ROD/EA)	67	33	50	17	86	71	14	14	100	50	50	0
2.1.3	Incorporation of other mechanisms of EIA follow-up	50	33	33	33	71	43	57	0	0	0	100	0
2.2.	<i>Consideration of cumulative effects and sustainability</i>	83	33	50	17	71	14	71	14	50	0	100	0
2.2.1	Dealing with cumulative effects of multiple developments and sustainability issues	67	0	83	17	71	29	57	14	50	0	100	0
2.2.2	Application of follow-up outcomes beyond the project level	50	33	50	17	57	29	43	29	0	0	100	0
2.3.	<i>Timely, adaptive and action orientated</i>	83	83	17	0	100	86	14	0	100	100	0	0
2.3.1	Tackling of environmental issues in an adaptive and pro-active way	100	83	17	0	100	71	29	0	100	100	0	0
2.3.2	Frequency of monitoring data collection and evaluation of	83	67	17	17	100	100	0	0	100	100	0	0
2.3.3	Actions taken to meet the defined goals of EIA follow-up programs	100	83	17	0	100	86	14	0	100	0	100	0

In the sections to follow, the follow-up performance quality of RA 2 (Table 3) of the IBPPFU review package under all three the regulatory regimes, first ECA and followed by the NEMA regulations, will be presented and discussed.

5.3.1 Follow-up performance under ECA (RA 2)

The overall follow-up performance quality of RA 2 is satisfactory. However, only 33% of the case studies were graded as A-B, 50% as marginal, and 17% graded E-F.

For RC 2.3 (BPP 6: EIA follow-up should be timely, adaptive and action orientated), 83% of the case studies graded A-C. For both sub-categories 2.3.1 and 2.3.3, all of the case

studies graded A-C with 83% graded A-B. For sub-category 2.3.2, 17% graded E-F indicating the weaker performing sub-category.

RC 2.1 (BPP 4: Follow-up should be appropriate for the EIA culture and societal context) and 2.2 (BPP 5: EIA follow-up should consider cumulative effects and sustainability) are considered as the weakest performing review categories with 17% of the case studies graded E-F and 50% graded marginal. SC 2.2.1 is the weakest performing sub-category with 17% graded as E-F and 83% graded marginal. For SC 2.1.2, 2.1.3 and 2.2.2, only 33% graded A-B, while 67% of the case studies in SC 2.1.1 were graded A-B.

5.3.2 Strengths and weaknesses of RA 2 under the ECA regulatory regime

For RA 2, IBPP 4-6 are considered to be addressed to a satisfactory level. However, the following weaknesses are identified:

- For RC 2.1 (BPP 4: EIA culture and societal context) and 2.2 (BPP 5: cumulative effects and sustainability), 50% of the case studies are considered to be marginal suggesting that these principles are partially addressed by either the EAPs (Environmental Assessment Practitioners), the ECO, or regulators.
- There appears to be a failure of using other mechanisms of EIA follow-up, such as EMS (Environmental Management Systems such as ISO 14001) or state of the environment reporting (SC 2.1.3).
- With 50% of the case studies graded as marginal and 17% graded E-F, SC 2.2.2 provides very little evidence that South Africa's national strategic plans or state of the environment reports are incorporated or considered during the ECA EIA regulatory process.
- As discussed in Chapter 2, the conditions of the authorisation may include measures to mitigate, control, or manage environmental impacts. However it is evident from the results that the inclusion of follow-up activities in the EA (Environmental Authorisation) relies on the competent authority (SC 2.1.2).

Under the ECA regime RC 2.3 (EIA follow-up should be timely, adaptive and action orientated) suggest a strength with regards addressing IBPP 6.

5.3.3 Follow-up performance under NEMA 2006 (RA 2)

Under the NEMA 2006 regulations the results improved considerably with 57% of the case studies graded A-B. With only 43% graded marginal and none graded E-F, IBPP 4-6 within the NEMA 2006 regulatory regime indicates that these principles were addressed well.

For RC 2.3 (BPP 6: EIA follow-up should be timely, adaptive and action orientated), 86% of the case studies graded A-B. For all sub-categories under this category, all case studies graded A-C revealing the strongest performing category

With an improved performance from ECA RC 2.1 (IBPP 4: Follow-up should be appropriate for the EIA culture and societal context) under NEMA 2006 57% were graded A-B. For SC 2.1.3, only 43% graded A-B whereas 57% graded marginal still indicating the weakest performing sub-category. Although 71% of the case studies under SC 2.1.2 graded A-B, 14% graded E-F indicating a weakness of follow-up under the NEMA 2006 regime. For sub-category 2.1.1, 100% graded C and higher, indicating a strength.

For RC 2.2 (BPP 5: EIA follow-up should consider cumulative effects and sustainability), 71% of the case studies graded A-B. With only 14% graded A-B, compared to the ECA (33%) the results indicate a slight decrease in the performance quality of addressing IBPP 5. For SC 2.2.2, only 57% graded A-C and 29% graded E-F indicating a weakness.

5.3.4 Strengths and weaknesses of RA 2 in the NEMA 2006 regulatory regime

In general RA 2 can be considered as addressing most of the 'Who' IBPPs to a satisfactory level despite omissions and or inadequacies.

The results suggest that the follow-up programs of the selected case studies are timely, adaptive and action orientated (RC 2.3) suggesting the main area of strength.

The following findings summarises the areas of weakness for RA 2:

- The main area of weakness seems to be that EIA follow-up does not adequately consider cumulative effects and sustainability (BPP 5) with only 14% of the case studies graded A-B in category 2.2
- Poor incorporation / consideration of the national strategic plan in terms of the state of environment reporting. However, although the NEMA (chapter 5 of NEMA) together with the other legislative sections of the act is progressing towards strategic planning, the decrease in quality performance suggests otherwise (SC 2.2.1 and 2.2.2).

The following results list the improved performance quality compared with the ECA regulatory regime (with specific focus on the area of weakest performance discussed above):

- More clearly incorporating EIA follow-up elements within the Environmental Authorisation (SC 2.1.2).
- The use of other mechanisms of EIA follow-up for especially the use of Environmental Management Systems (SC 2.1.3).

The sections to follow will explore the performance of RA 2 under the NEMA 2010 regulations.

5.3.5 Follow-up performance under NEMA 2010 (RA 2)

Under the NEMA 2010 regulatory regime, both of the case studies were graded A-C indicating that the performance of follow up with respect of IBPP 4-6 is be satisfactory. However, compared to the NEMA 2006 both the case studies were graded as marginal and none were graded as A-B.

For all but one review category, both of the case studies were graded A-B. For RC 2.1 (BPP 4: Follow-up should be appropriate for the EIA culture and societal context) and 2.2 (BPP 4: Follow-up should be appropriate for the EIA culture and societal context), both the case studies were graded marginal. For SC 2.1.1 and 2.1.2, one case study was graded A-B and the other was graded marginal. For SC 2.1.3 both of the case studies were graded marginal.

The performance quality of RC 2.2 (BPP 4: Follow-up should be appropriate for the EIA culture and societal context) throughout all three the regulatory regimes is an area of weakness. For both SC 2.2.1 and 2.2.2, both were graded as marginal. However for SC 2.2.1, only one was considered to be satisfactory.

5.3.6 Strengths and weaknesses under NEMA 2010 (RA 2)

In all three regulatory regimes IBPP 4 that follow-up should be appropriate for the EIA culture and societal context, performed poorly (category 2.2).

Although the first state of the environment report was published in October 1999 (DEA, 2007), there is no supporting evidence that reference was made to these reports in the NEMA 2010 case studies regulations. However the results under NEMA 2006 suggest improvement towards strategic planning (SC 2.2.1 and 2.2.2).

In the two case studies analysed under the NEMA 2010 regulations, there was little to no reference to the use of other mechanisms for EIA follow-up (such as the incorporation of an EMS into the EMP). Compared to the results under the NEMA 2006 regulations these results suggest the use of other mechanisms for follow-up is neglected.

In both the case studies, generally acceptable actions were taken to meet the defined goals of EIA follow-up. However in both of the case studies the follow-up actions implemented in order to effectively address concerns was questioned (due to recurring issues in the ECO reports). From the results it appears that the defining of effective actions is dependent on the proponent and appointed ECO.

The overall performance of RA 2 under the NEMA 2010 regulatory regime suggests a decreasing performance quality in terms of addressing the nature of follow-up. However, regardless of the declining performance quality, IBPP 4-6 are addressed to a satisfactory standard.

5.3.7 Concluding remarks on the performance of RA 2

The quality results under all three the regulatory regimes suggest improvement on the ECA regulations with regard to addressing review area 2 (Addressing the nature of EIA follow-up). The performance of the IBPP under the NEMA 2010 regulatory regime, however suggests a decrease in the performance quality (Figure 7).

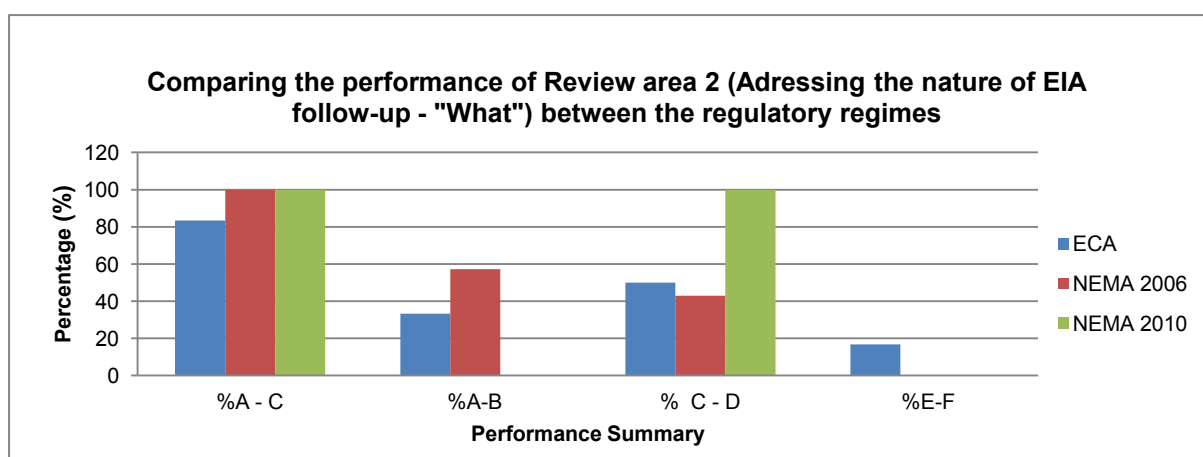


Figure 7: Comparing the performance of Review area 2 between the different three regulatory regimes

Under all three the regulatory regimes, RC 2.2 (BPP 4: Follow-up should be appropriate for the EIA culture and societal context) is identified as the weakest performing category. The results suggest the apparent failure to address sustainability issues beyond a project level. Although the importance of determining the cumulative effects of multiple projects is realised by NEMA, there appears to be a failure to address strategic issues on a project specific level.

5.4 Designation of roles and responsibilities – Review area 3

Review area 3 of the IBPPFU review package deals with the designation of roles and responsibilities ('who'), and the review categories address IBPP 7-11.

The performance quality of the IBPP under all three the regulatory regimes revealed that RA 3 (Designation of roles and responsibilities) are addressed to a satisfactory standard. Compared to the ECA and NEMA 2010 regulatory regime, NEMA 2006 performed best with 43% of the case studies graded A-B. The IBPP under the ECA regulations performed weaker, with 67% graded as marginal and only 33% graded as A-B. The NEMA 2010 results indicate that both of the case studies were graded as marginal (Table 11).

Table 11: Results of RA3 indicating the performance of the NEMA 2010 regulatory regime

Evaluation Topics		ECA (%)				NEMA 2006 (%)				NEMA 2010 (%)			
		A - C	A - B	C - D	E-F	A - C	A - B	C - D	E-F	A - C	A - B	C - D	E-F
3.	Designation of roles and responsibilities ("Who")	83	33	67	0	86	43	57	0	100	0	100	0
3.1.	Accepting accountability for implementing EIA follow-up by the proponent	100	67	33	0	71	43	57	0	100	100	0	0
3.1.1	Consideration of consequences by the proponent	100	83	17	0	86	71	29	0	100	100	0	0
3.1.2	Responsibility of the proponent for the mitigation of adverse effects and for the communication of follow-up results to stakeholders	100	83	17	0	71	43	57	0	100	100	0	0
3.1.3	Taking advantage of the benefits of EIA follow-up as a project management instrument	100	50	50	0	71	43	57	0	100	50	50	0
3.1.4	Consideration of cost benefit on mitigation measures throughout the life cycle of the activity	67	0	83	17	43	14	86	0	100	100	0	0
3.2.	Regulators should ensure that EIA is followed up	83	33	67	0	86	71	29	0	100	50	50	0
3.2.1	Determining and ensuring the need for EIA follow-up by the regulators	67	50	50	0	86	71	29	0	100	100	0	0
3.2.2	Regulating follow-up requirements	50	50	33	17	86	71	29	0	100	100	0	0
3.2.3	Securing a balance between the interest of both the proponent and community	50	33	67	0	100	57	43	0	50	0	100	0
3.2.4	Ensuring the proponent's compliance and promoting learning from the experience	100	33	67	0	100	71	29	0	100	50	50	0
3.2.5	Appointment of an ECO	83	83	0	17	100	100	0	0	100	100	0	0
3.2.6	Submission of ECO compliance reports to throughout the life cycle of the project	83	83	0	17	100	100	0	0	100	100	0	0
3.2.7	Distinguishing the competing roles of developer, funder, provider and decision-maker to avoid conflict	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3.3.	Community involvement	33	0	33	67	29	14	43	43	0	0	0	100
3.3.1	Informing the community about the EIA-follow-up outcomes	33	0	33	67	29	14	43	43	0	0	0	100
3.3.2	Providing the community with the opportunity to directly participate in the follow-up program design and implementation	17	0	50	50	29	0	57	43	0	0	0	100
3.3.3	Project benefit from community involvement in the follow-up process	17	0	83	17	57	0	100	0	0	0	100	0
3.4.	All parties should seek to co-operate openly and without prejudice in EIA follow-up	83	17	83	0	100	29	71	0	50	0	100	0
3.4.1	Participation of the proponent, regulator and community in initiating a practical and reasonable EIA follow-up programme	33	33	50	17	100	14	86	0	100	50	50	0
3.4.2	Shared sense of purpose to avoid, reduce, or remedy adverse environmental effects	83	17	83	0	100	43	57	0	100	50	50	0
3.4.3	Consensus of the procedural and methodological approach by all parties	83	33	50	17	100	57	43	0	100	50	50	0
3.4.4	Identification of the roles and task of parties identified in terms of EIA follow-up	83	67	33	0	100	86	14	0	100	50	50	0
3.4.5	Commitment to carry out required tasks and constructive response to the findings of EIA follow-up by all parties	83	33	67	0	100	43	57	0	100	100	0	0
3.5.	EIA follow-up should promote continuous learning from the experience to improve future practice	83	50	50	0	86	57	43	0	100	50	50	0
3.5.1	Addressing EIA follow-up throughout the activity as part of the management system implemented	83	50	50	0	86	86	14	0	100	100	0	0
3.5.2	Communication of lessons learned to stakeholders	67	50	33	17	57	29	71	0	50	0	100	0
3.5.3	Contribution of lesson learnt or certain non-conformances or incidents to changes in procedures or policies	67	33	50	17	71	57	43	0	100	50	50	0

In the sections to follow, the performance quality of RA 3 (Table 11) of the IBPPFU review package under all three the regulatory regimes, first dealing with ECA and followed by the NEMA regulations, will be presented and discussed.

5.4.1 Follow-up performance under ECA (RA 3)

RA 3 (Designation of roles and responsibilities) is considered to be addressed to a satisfactory standard. However, although 83% of the case studies were graded A-C, only 33% were graded A-B, and 67% were graded marginal.

For RC 3.1 (BPP 7: The proponent of change must accept accountability for implementing EIA follow-up), a 100% graded A-C, whereof 67% graded A-B ranking this category as performing the best. For SC 3.1.1, 3.1.2, and 3.1.3 a 100% graded A-C. For SC 3.1.4, only 67% graded A-C and 17% graded E-F.

For RC 3.5 (BPP 11: EIA follow-up should promote continuous learning from the experience to improve future practice), 83% graded A-C, whereof 50% graded A-B. SC 3.5.1 performed best with 83% of the case studies graded A-C and only 50% graded as marginal. However for both SC 3.5.2 and 3.5.3, 67% graded A-C. With a slight improved performance compared to SC 3.5.3 (50% graded marginal), for SC 3.5.2 33% graded as marginal and 17% graded E-F.

For RC 3.2 (BPP 8: Regulators should ensure that EIA is followed up), 83% of the case studies graded A-C whereof only 33% graded A-B and 67% graded marginal. For both SC 3.2.5 and 3.2.6, 83% graded A-C whereof 17% graded E-F. Although 50% graded A-C under SC 3.2.2, the remaining 50% graded D and below.

For RC 3.4 (BPP 10: All parties should seek to co-operate openly and without prejudice in EIA follow-up), 83% of the case studies graded A-C, whereof only 17% graded A-B and 83% graded marginal. The weakest performing sub-category is sub-category 3.4.1, with only 33% graded A-B, 17% graded E-F, and 50% graded marginal.

The weakest performing category under RA 3 is RC 3.3 (BPP 9: The community should be involved in EIA follow-up) with only 33% of the case studies graded A-C and 67% graded E-F. For both SC 3.3.2 and 3.3.3, only 17% graded A-C. For SC 3.3.2, 50% graded E-F and for SC 3.3.1 33% graded A-C and 67% graded E-F indicating a major area of weakness.

5.4.2 Strengths and weaknesses of the ECA regulatory regime (RA 3)

Overall, the performance of RA 3 under the ECA regulations is considered to be just satisfactory, indicating that there are some areas that need to be addressed, either in the regulations or by the proponents.

The results suggest that under the ECA regime, the proponent of change accepted the accountability for implementing EIA follow-up (RC 3.1). The performance of IBPP 7 indicated that the description of the responsibilities of the proponent was best defined.

From the results discussed above, the following findings summarise the areas of weakness for RA 3:

- For RC 3.3 representing IBPP 9 (The community should be involved in EIA follow-up), 67% graded E-F suggesting this IBPP as the weakest implemented principle under RA 3.
- As with the previously discussed sub-categories under the previous RA, the results suggest that there is poor communication with the I&AP on the EIA follow-up outcomes (SC 3.3.1).
- Although the I&AP are notified of the activity and provided with the opportunity to comment on the process, the evidence suggests that they are not provided with the opportunity to participate in the follow-up design and implementation (SC 3.3.2). The focus of the PPP under the ECA regime would seem only to be on addressing any concerns that may have been raised by the I&AP.
- From the results, it appears that only the PPP are only considered as part of the legislated EIA process, whereas the I&AP are allowed to comment or raise concerns. The results suggest that the benefits of genuine involvement in the follow-up process are not being utilised (SC 3.3.3).
- The ECA regulations requires the I&AP to be informed about activities and the decision made. However, in 50% of the case studies the regulator did not include communication of follow-up outcomes to the I&AP (SC 3.2.3). In some of the case studies¹², the authorisation included the requirement for establishing a monitoring committee, whereas the I&AP formed part of this committee. The communication of monitoring results was set as part of the requirements.

¹² Specific reference to the EA issued to the following projects:

- ORWRDP-2C; and
- Mbombela Multi-purpose Stadium.

- In the ECA regulations the requirement to review project specific procedures or policies due to certain non-conformances or incidents is not clearly set. The results, however, indicate that at the discretion of the competent authority and/or the EAP, it has been considered as an outcome (SC 3.5.3).

Despite of the failure to describe the function of the I&AP's in the follow-up process, the overall results suggest that the roles and responsibilities of both the proponent and regulator are well defined.

5.4.3 Follow-up performance under NEMA 2006 (RA 3)

The overall performance of RA 3 (Designation of roles and responsibilities) is considered to be addressed to a satisfactory standard, with 86% of the case studies graded A-C, and 43% graded A-B - indicating an improvement on the previous regulatory regime - and 57% graded marginal.

Out of all the review categories under RA 3, RC 3.2 (BPP 8: Regulators should ensure that EIA is followed up) performed best, with 86% graded A-C whereof 71% graded A-B. All sub-categories are considered as well performed.

The second highest performing review category under RA 3 is review category 3.5 (BPP 11: EIA follow-up should promote continuous learning from the experience to improve future practice), where 86% graded A-C, of which 57% graded A-B, and only 43% graded marginal. All but one sub-category showed improvement compared with the performance under the ECA regulatory regime. With a slight decrease in performance for RC 3.1 (BPP 7: The proponent of change must accept accountability for implementing EIA follow-up), 71% of the case studies graded A-C. The weakest performing SC was 3.1.4, where 43% graded A-C, only 14% graded A-B, and 86% graded marginal. For both sub-category 3.1.2 and 3.1.3, 71% graded A-C, of which 43% graded A-B. As the strongest performing sub-category, 71% graded A-B under sub-category 3.1.1.

For review category 3.4 (BPP 10: All parties should seek to co-operate openly and without prejudice in EIA follow-up), a 100% graded A-C. However, only 29% graded A-B and 71% graded marginal. As the poorest performing sub-category, only 14% of the case studies graded A-B under SC 3.4.1 and 86% graded marginal.

As the weakest performing review category, for RC 3.3 (BPP 9: The community should be involved in EIA follow-up), only 29% of the case studies graded A-C, 14% graded A-B, and 43% of graded E-F. For sub-category 3.3.3, 57% graded A-C and a 100% graded marginal.

For both sub-category 3.3.1 and 3.3.2, 43% graded E-F. For sub-category 3.3.1, only 14% graded A-B.

5.4.4 Strengths and weaknesses of RA 3 under the NEMA 2006 regulatory regime

Describing the roles and responsibilities for EIA follow-up under the NEMA 2006 is considered to be addressed to a satisfactory standard. The results, however, indicate that throughout all three the regulatory regimes, RA 3 was the weakest performing area.

Under the NEMA 2006 regime, review category 3.2 (BPP 8: Regulators should ensure that EIA is followed up) suggests the strengths with regard to the quality of addressing the IBPP.

The following findings summarise the areas of weakness under RA 3:

- For RC 3.3 (BPP 9: The community should be involved in EIA follow-up), 43% of the case studies graded E-F. The results suggest an improved performance compared to the results under ECA where 67% graded E-F. Although the description of PPP requirements improved, it appears that the actual implementation lacks the genuine involvement of the I&AP in follow-up activities.
- As highlighted in Chapter 2, the requirements for PPP within the NEMA 2006 regulations required that information be made available to the potential I&AP, and that they are provided with a reasonable opportunity to comment on the application. The active engagement in the follow-up process is not specified. The results suggest that the implementation of SC 3.3.1, 3.3.2, and 3.3.3 is reliant upon the EAP and the proponent as part of the EMP. Also, it suggests reliance on the competent authority to include these sub-categories as part of the EA.
- From investigating the ECO (environmental control officer) reports in more detail, a reactive approach regarding the cost benefits on mitigation measures appears to be taken.
- The results suggest a decline in learning from the experience and the communication thereof to all I&AP (SC 3.5.2).

The following findings summarise improved performance, specifically focusing on the areas of weakness:

- An overall improvement of RC 3.4 (BPP 10: All parties should seek to co-operate openly and without prejudice in EIA follow-up). However, the need for engaging with the I&AP more actively regarding follow-up outcomes is still apparent.

- The improved score of SC 3.3.3 suggests that the importance of the PPP has been realised and incorporated into the regulations. It is of concern that the involvement of the I&AP is not carried throughout the entire life cycle of an activity.
- The increased use of other follow-up mechanisms, specifically the use of EMS under the NEMA 2006 case studies (SC 3.5.4).

Compared to the ECA regulations, the roles and responsibilities are more clearly defined in the NEMA 2006 regulations, indicating that IBPP 7-11 is addressed to a satisfactory degree. The section to follow will now explore how NEMA 2010 addressed these principles.

5.4.5 Follow-up performance under NEMA 2010 (RA 3)

The overall performance of RA 3 (Designation of roles and responsibilities) is considered to be addressed to a satisfactory standard with both of the case studies graded marginal. However, the results suggest a decline in performance quality compared to the NEMA 2006 regulatory regime.

For RC 3.1 (BPP 7: The proponent of change must accept accountability for implementing EIA follow-up), all of the case studies graded A-B, indicating this category as the strongest performing. For SC 3.1.1, 3.1.2, and 3.1.4, all graded A-B. With one graded A-B and the other graded marginal, SC 3.1.3 performed the weakest for this RC.

For both RC 3.2 (BPP 8: Regulators should ensure that EIA is followed up) and 3.5 (BPP 11: EIA follow-up should promote continuous learning from the experience to improve future practice), one of the case studies graded A-B, and the other graded marginal. With all of the case studies graded as marginal, SC 3.2.3 performed the weakest under this category.

For RC 3.4 (BPP 10: All parties should seek to co-operate openly and without prejudice in EIA follow-up all graded marginal and for sub-category 3.4.5, both of the case studies graded A-B. Under the rest of the sub-categories the case studies equally graded A-B and marginal.

With all of the cases studies graded E-F, RC 3.3 (BPP 9: The community should be involved in EIA follow-up) was the weakest performing category. As the strongest performing sub-category, sub-category 3.3.3 all of the case studies graded marginal. For both sub-categories 3.3.1 and 3.3.2, all graded E-F.

5.4.6 Strengths and weaknesses of RA 3 under NEMA 2010

It is clear from the review of all the case studies, including the case studies under the ECA and NEMA 2006 regulations, that there was a lack of involvement of the I&AP in EIA follow-up activities. These results indicate that the focus of all three regulatory regimes was on informing the I&AP that an activity will commence. It does not, however, provide the opportunity for the genuine involvement in follow-up activities (RC 3.3), such as communication of outcomes, participating in the design and implementation of the follow-up program, and building trust and partnerships.

The results also indicate the following:

- An improvement in securing the balance between the interests of both the proponent and the community. The results, however, indicate that this requirement is reliant on the regulator and needs to be incorporated more clearly into the regulations or EA (SC 3.2.3).
- The lack of communicating “lessons learned from experience” to all participants and stakeholders is apparent.

The strongest performing category throughout all three the regulatory regimes appears to be 3.2, indicating that the competent authority realises the importance of EIA follow-up.

Despite the decrease in performance, the overall implementation of IBPP 7-11 was addressed to an acceptable standard. With these principles being explored under all three the relevant regulatory regimes, the following section concludes the main findings.

5.4.7 Concluding remarks on the performance of RA 3

The overall performance of RA 3 under all three the regulatory regimes suggests that the IBPP 7-11 was implemented to a satisfactory degree. However, it appears that there is a slight decrease in performance quality in the NEMA 2010 regulations, as none of the case studies graded A-B (Figure 4).

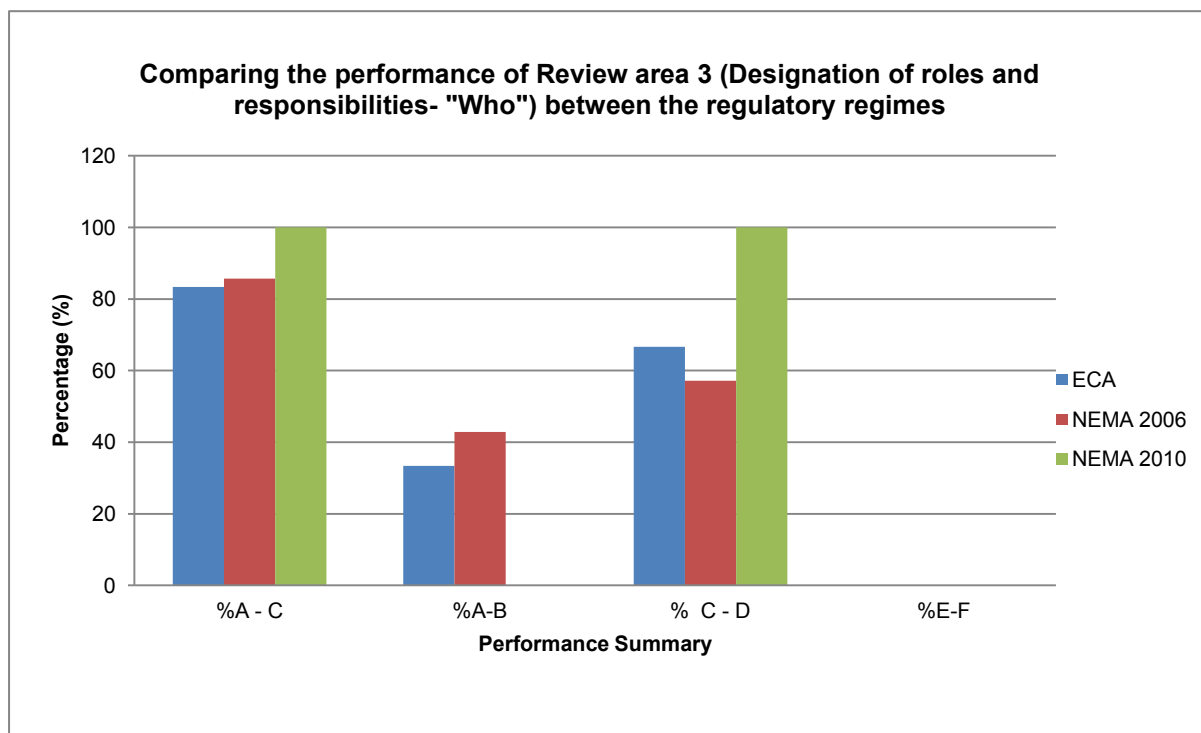


Figure 8: Comparing the performance of Review area 3 between the different three regulatory regimes

The recurring weakness appears to be the involvement of the I&AP in the EIA follow-up process, specifically with reference to the communication of follow-up outcomes.

5.5 Description of method on how EIA follow-up should be conducted – Review area 4

RA 4 of the IBPPFU review package describes the method by which EIA follow-up should be conducted ('who'), and the review categories addresses IBPP 12-17.

Under all three the regulatory regimes, RA 4 was the strongest performing area of the IBPPFU review package. Under both NEMA 2006 and 2010, 100% of the cases studies graded A-C and under ECA 83% graded A-C, and therefore, the IBPP are considered to be addressed to a satisfactory standard (Table 12). The results under the NEMA 2010

regulatory regime indicates an improvement with regard to describing the methods in which follow-up should be conducted.

Table 12: Results of RA4 indicating the performance of the NEMA 2010 regulatory regime

Evaluation Topics		ECA (%)				NEMA 2006 (%)				NEMA 2010 (%)			
		A - C	A - B	C - D	E - F	A - C	A - B	C - D	E - F	A - C	A - B	C - D	E - F
4.	Description of follow-up method	83	50	50	0	100	86	14	0	100	100	0	0
4.1.	Clear division of roles, tasks and responsibilities	67	67	33	0	100	100	0	0	100	100	0	0
4.1.1	Clear division of roles, tasks and responsibilities in all EIA documentation	67	67	17	17	100	100	0	0	100	100	0	0
4.1.2	Clear definition of tasks and responsibilities within and between the different parties	67	67	17	17	100	86	14	0	100	100	0	0
4.1.3	Competency of all practitioners	100	100	0	0	100	100	0	0	100	100	0	0
4.2.	Objective-led and goal orientated	83	33	67	0	100	100	0	0	100	0	100	0
4.2.1	Controlling of activities and their environmental impacts	83	83	17	0	100	100	0	0	100	100	0	0
4.2.2	Maintaining decision-making flexibility and promoting an adaptive management	83	83	17	0	100	100	0	0	100	100	0	0
4.2.3	Improving scientific and technical knowledge	83	50	50	0	100	100	0	0	100	50	50	0
4.2.4	Improving community awareness and acceptance of projects	17	0	33	67	57	14	57	29	0	0	0	100
4.2.5	Integrating with other information	50	50	33	17	86	14	86	0	50	0	100	0
4.3.	EIA follow-up should be "fit for purpose"	83	83	17	0	100	100	0	0	100	100	0	0
4.3.1	EIA follow-up requirements appropriate to the anticipated environmental effects	83	83	17	0	100	100	0	0	100	100	0	0
4.3.2	Designing the EIA follow-up program in terms of design, location and affected stakeholders	83	83	17	0	100	100	0	0	100	100	0	0
4.3.3	Tailoring the EIA follow-up program to be practicable and feasible	83	83	17	0	100	100	0	0	100	100	0	0
4.3.4	EIA follow-up should undergo ongoing scoping	83	83	0	17	100	100	0	0	100	100	0	0
4.4.	EIA follow-up should include the setting of clear performance criteria	83	83	17	0	100	100	0	0	100	100	0	0
4.4.1	Developing performance criteria reflecting best practice	83	83	0	17	100	100	0	0	100	100	0	0
4.4.2	Development of key Performance criteria	83	83	17	0	100	71	29	0	100	100	0	0
4.4.3	Producing useful information and outcomes through follow-up actions	83	83	17	0	100	100	0	0	100	100	0	0
4.4.4	Monitoring and auditing of significant impacts and aspects	100	83	17	0	100	100	0	0	100	100	0	0
4.4.5	Implementation and improvement of findings and recommendation follow-up audits	100	83	17	0	86	71	29	0	100	100	0	0
4.4.6	Communication of above results to all stakeholders	67	50	33	17	71	29	71	0	100	0	100	0
4.4.7	Review of Objectives and targets	83	50	33	17	71	57	43	0	100	50	50	0
4.5.	EIA follow-up should be sustained over the entire lifecycle of the activity	83	50	33	17	100	86	14	0	100	100	0	0
4.5.1	Determination of the need for and content of EIA follow-up during the screening and scoping phase	83	50	33	17	100	100	0	0	100	100	0	0
4.5.2	EIA follow-up actions or programs cover the entire lifecycle of the activity	50	17	67	17	71	43	57	0	100	100	0	0
4.5.3	Consideration of long term and short term environmental changes	83	50	33	17	100	100	0	0	100	100	0	0
4.6.	Adequate resources should be provided for EIA follow-up	83	67	33	0	86	71	29	0	100	100	0	0
4.6.1	Provisions for time, staff and capacity ensuring cost-effective, efficient and pragmatic EIA follow-up	83	67	33	0	88	75	25	0	100	100	0	0
4.6.2	Implementation of EIA follow-up to best practice standards and ensuring that real actions are taken adequately when needed	83	33	67	0	100	57	43	0	100	100	0	0

In the sections to follow, the performance quality of RA 4 (Table 12) of the IBPPFU review package under all three the regulatory regimes, first dealing with ECA and followed by the NEMA regulations, will be presented and discussed.

5.5.1 Follow-up performance under ECA (RA 4)

Overall, RA 4 (Description of method how EIA follow-up should be conducted) under the ECA regulatory regime performed well, as 83% of the case studies graded A-C, of which 50% graded A-B and 50% graded marginal.

For both RC 4.3 (BPP 14: EIA follow-up should be “fit for purpose” and 4.4 (BPP 15: EIA follow-up should include the setting of clear performance criteria), 83% graded A-B, indicating these two categories as the strongest performing. SC 4.3.4 performed weakest with 17% graded E-F. Both SC 4.4.4 and 4.4.5 performed best with 100% graded A-C, of which 83% graded A-B. With the second lowest results, SC 4.4.7, 83% graded A-C, whereof 50% graded A-B, 33% graded marginal, and 17% graded E-F. The weakest performing SC is SC 4.4.6, with 67% graded A-C, whereof 50% graded A-B, 33% graded marginal, and 17% graded E-F.

For RC 4.6 (BPP 17: Adequate resources should be provided for EIA follow-up), 83% graded A-C, of which 67% graded A-B. With 83% of the case studies graded A-C, whereof only 33% graded A-B and 67% graded marginal, SC 4.6.2 performed weakest.

For RC 4.1 (BPP 12: Clear division of roles, tasks and responsibilities), 67% graded A-B. For both sub-categories 4.1.1 and 4.1.2, 67% graded A-B and 17% graded E-F.

With only 33% of the case studies graded A-B and 67% graded marginal, RC 4.2 (BPP 13: EIA follow-up should be objective-led and goal orientated) performed second weakest. For both sub-categories 4.2.1 and 4.2.2, 83% graded A-B and only 17% graded marginal, indicating the strengths. With 67% of the case studies graded E-F and only 17% graded A-B, SC 4.2.4 performed weakest.

For RC 4.5 (BPP 16: EIA follow-up should be sustained over the entire lifecycle of the activity), 83% of the case studies graded A-C, whereof 50% graded A-B and 17% graded E-F, indicating the weakest performing category. With only 17% graded A-B, 50% graded A-C, 67% graded marginal, and 17% graded E-F, SC 4.5.2 performed weakest.

5.5.2 Strengths and weaknesses of RA 4 under the ECA regulatory regime

Compared to all the other review areas, RA 4 was the strongest performing area in terms of the IBPPFU review package. However, there are still a few areas that performed poorly.

The following findings summarise the areas of weakness for RA 4:

- RA 4.2 (BPP 13: EIA follow-up should be objective-led and goal orientated) was the weakest performing category, with 67% graded marginal, indicating that there are some areas that require clarification in the legislative requirements under the ECA regime.
- For RC 4.1 (BPP 12: EIA follow-up should have a clear division of roles, tasks and responsibilities), 67% graded A-B group and 33% graded marginal.
- Together with the results from the previous review categories and sub-categories, there was an apparent lack of improving community awareness and acceptance of projects (SC 4.2.4).
- There is uncertainty as to whether or not the ECA regime integrated the results of the specific follow-up outcomes into the state of environment reports or even required the outcomes to form part of an EMS (SC 4.2.5).
- EIA follow-up in 50% of the cases was not carried out throughout the entire lifecycle of an activity (SC 4.5.2). It was mostly only concerned with only the planning and construction phase.

The following areas suggest the strengths under the ECA regulatory regime:

- The results suggest that the proposed EIA follow-up requirements appropriately address the anticipated environmental effects as stated in the EIR (SC 4.3.1).
- The EIA follow-up program of the case studies appears to be designed specifically in terms of design, location and the affected stakeholders (SC 4.3.2)
- The EIA follow-up program appears to have been tailored in a practicable and feasible manner, allowing it to be “fit for purpose” (SC 4.3.3).
- The results indicated that 83% of the case studies underwent ongoing scoping (SC 4.3.4).
- The performance criteria measuring the impacts associated with the case studies were done in a manner that reflects best practice in terms of follow-up (SC 4.4.1).
- It appears that in 83% the case studies the key Performance criteria are enacted through well-defined methodologies or approaches to monitoring, evaluation, and management (SC 4.4.2).
- In 83% of the case studies the significant impacts and aspects identified in the EIR were monitoring and auditing (SC 4.4.4).
- It seems the findings and recommendations in the follow-up audits were implemented in 83% of the case studies (SC 4.4.5).

- It appears that the IBPP for EIA follow-up in terms of adequately implementing real actions when needed, were sufficiently addressed (SC 4.6.2).
- In 67% of the case studies, a clear division of roles, tasks and responsibilities in all EIA documentation was defined (SC 4.1.1)
- In 67% of the case studies, tasks and responsibilities within and between the different parties were clearly defined (SC 4.1.2).
- In 100% of the case studies it appears that the practitioners were competent at their tasks (SC 4.1.3).

It is evident that the results described under RA 4 support the conclusion drawn from Chapter 2 regarding the weaknesses of the ECA regulatory regime. The lack of including monitoring and auditing requirements within the regulations, however, did not affect the decision to include follow-up outcomes. It is suggested that follow-up IBPP for this review area relies on the voluntary or self-regulatory implementation by the EAP, the ECO, the proponent and/or the competent authority (setting of EA requirements).

5.5.3 Follow-up performance under NEMA 2006 (RA 4)

Overall, RA 4 (Description of method how EIA follow-up should be conducted) under the NEMA 2006 regulatory regime performed well, as 100% of the case studies were graded A-C, of which 86% were graded A-B, and only 14% marginal.

For RC 4.1 (BPP 12: EIA follow-up should have a clear division of roles, tasks and responsibilities), 4.2 (BPP 13: EIA follow-up should be objective-led and goal orientated), 4.3 (BPP 14: EIA follow-up should be "fit for purpose"), and 4.4 (BPP 15: EIA follow-up should include the setting of clear performance criteria), all were graded A-B. With only 14% of the case studies graded A-B, 57% graded marginal and 29% graded E-F, SC 4.2.4 performed weakest under RC 4.2. With only 29% graded A-B and 71% graded marginal, the results of SC 4.4.6 indicate an area of weakness.

For RC 4.5 (BPP 16: EIA follow-up should be sustained over the entire life of the activity), 86% were graded A-B. For both sub-categories 4.5.1 and 4.5.3, 100% of the case studies graded A-B. With only 43% of the case studies graded A-B and 57% graded marginal, sub-category 4.5.2 performed weakest.

From the results, it is apparent that RC 4.6 (BPP 17: Adequate resources should be provided for EIA follow-up) performed the weakest, with 71% graded A-B. For SC 4.6.1, 75% graded A-B, and for SC 4.6.1 only 57% graded A-B.

5.5.4 Strengths and weaknesses of RA 4 under the NEMA 2006 regulatory regime

RA 4 demonstrated the strongest performance in respect of the IBPP for EIA follow-up.

The following findings summarise the areas of weakness for RA 4:

- RC 4.6 performed weakest (BPP 17: Adequate resources should be provided for EIA follow-up), with 86% graded A-C, whereof 71% graded A-B and 29% graded marginal.
- It is clear from the results that the importance of improving the awareness of the I&AP of EIA follow-up was neglected throughout both the ECA and NEMA 2006 regulatory regimes (SC 4.2.4).
- The lack of reporting the results from the monitoring or auditing reports is still evident (SC 4.4.6).

A clear improvement compared with the ECA regulatory regime resulted in the following IBPP sub-categories (specifically focusing on the weakest area discussed above):

- RC 4.2 (BPP 13: EIA follow-up should be objective-led and goal orientated) improved vastly compared to the previous regulatory regime. It is clear from the results that there was an improving trend to integrate other information, specifically the use of an EMS (SC 4.2.5).
- The division of roles, tasks and responsibilities were clearly defined (RC 4.1).
- Follow-up activities in 43% of the cases have been carried out throughout the entire lifecycle of the activity. This result suggests that the regulation did not highlight it in a clear manner, or that the interpretation by the EAP thereof varies (SC 4.5.2).

Under both NEMA 2006 and NEMA 2010, the regulations required an EMP that addressed some of the IBPP as discussed in Chapter 2. From the results, it is clear that RA 4 under all three the regulatory regimes, comprising of the operational principles, was the highest performing area despite its weaknesses.

5.5.5 Follow-up performance under NEMA 2010 (RA 4)

For RA 4 under the NEMA 2010 regulatory regime there seems to have been an improvement on the performance quality compared to the preceding regulatory regimes, with all of the case studies graded A-B.

For RC 4.1(BPP 12: EIA follow-up should have a clear division of roles, tasks and responsibilities), 4.3 (BPP 14: EIA follow-up should be "fit for purpose"), 4.4(BPP 15: EIA

follow-up should include the setting of clear performance criteria), 4.5 (BPP 16: EIA follow-up should be sustained over the entire lifecycle of the activity), and 4.6 (BPP 17: Adequate resources should be provided for EIA follow-up), all of the case studies graded A-B.

For RC 4.2 (BPP 13: EIA follow-up should be objective-led and goal orientated), all of the case studies graded marginal. With all of the case studies graded E-F, SC 4.2.4 performed the weakest.

5.5.6 Strengths and weaknesses of RA 4 under NEMA 2010

RC 4.2 (BPP 14: EIA follow-up should be objective-led and goal orientated) was the weakest performing category. In all three the regulatory regimes there was an apparent failure to improve on community awareness and acceptance of projects (SC 4.2.4). As discussed previously, it is noted that the focus for these three regulatory regimes was to inform the community of the commencement of an activity. However, from the results it appears that the genuine engagement to participate in follow-up activities was neglected.

The following additional weaknesses were evident throughout the three regulatory regimes:

- The integration with other information, such as the use of an EMS or reference to the state of environment reporting, was neglected (SC 4.2.5).
- The lack of communicating the results of the monitoring and auditing reports to all stakeholders, specifically reporting to the I&AP, was a recurring theme (SC 4.4.6). Reports were submitted to the competent authority, however they were not made public to the I&AP. This in turn resulted in the community doubting the transparency of the entire follow-up process.
- The review of objectives and targets resulting from the monitoring and audit reports was neglected.

Under the NEMA 2010 regulatory regime RC 4.1 (BPP 12: EIA follow-up should have a clear division of roles, tasks and responsibilities), 4.3 (BPP 14: EIA follow-up should be "fit for purpose"), 4.4 (BPP 15: EIA follow-up should include the setting of clear performance criteria), 4.5 (BPP 16: EIA follow-up should be sustained over the entire lifespan of the activity), and 4.6 (BPP 17: Adequate resources should be provided for EIA follow-up) were the areas of strength in terms of follow-up.

From the results it appears that the operating principles for follow-up were implemented to a satisfactory standard. With very few areas of weakness under all three the regulatory regimes, it is suggested that the EIA follow-up methods were well defined.

5.5.7 Concluding remarks on the performance of RA 4

From the results, it appears that the implementation of IBPP under the NEMA 2010 regulations improved on the preceding regulatory regimes, with both of the case studies graded as A-B (Figure 9).

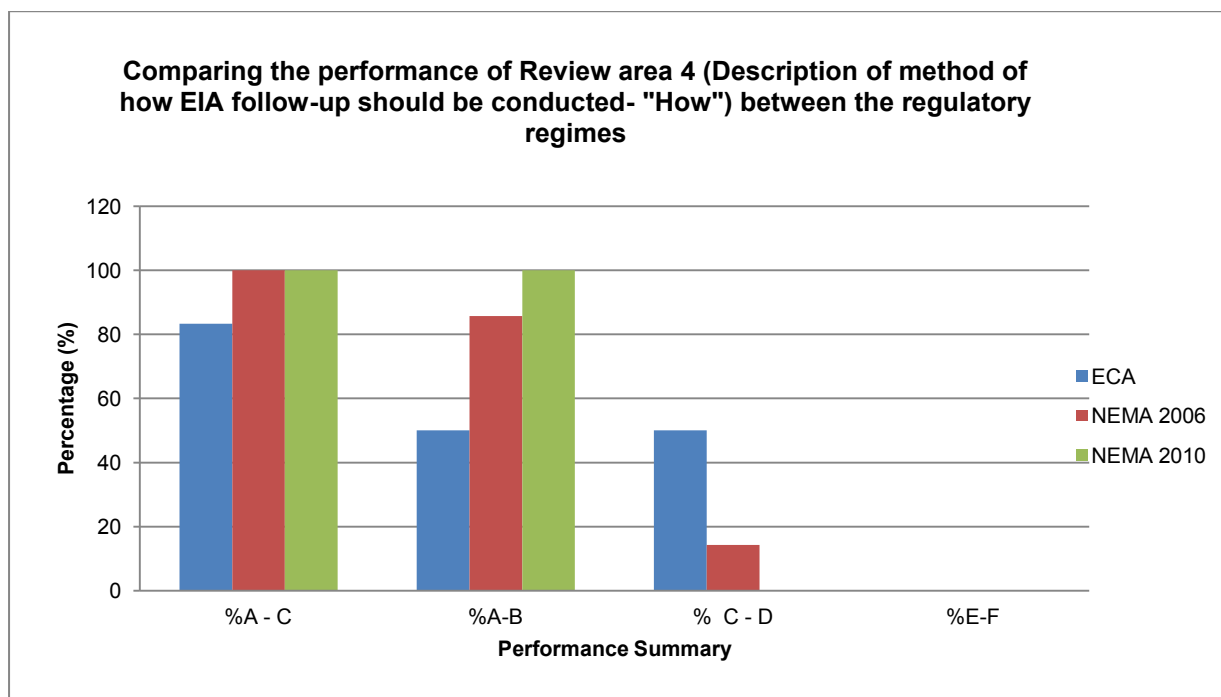


Figure 9: Comparing the performance of Review area 4 between the different three regulatory regimes

Under both the ECA and NEMA 2010 regulatory regimes it is suggested that RC 4.2 was the weakest performing category. The results under all the other review categories indicate that these IBPP were implemented to a satisfactory standard.

5.6 Concluding the follow-up performance quality under the three regulatory regimes

Regarding the implementation of the IBPP throughout the three regulatory regimes, the reviewed case studies suggest clear improvements. These results do support the weaknesses identified in Chapter 2 with regard to the mandatory requirements, regulations and guidelines. Although there are some principles that were being neglected throughout the three regulatory regimes, the overall implementation of principles appears to be addressed to an acceptable level. Therefore, the following follow-up approaches are suggested by the results:

- In the ECA regulations, as discussed in Chapter 2, the requirements to address the implementation of follow-up were not described. However, by including the IBPP into the EMP's by the EAP, it provided for the requirement of follow-up to be implemented.
- Improvement regarding the description of what is required to ensure follow-up under the NEMA 2006 regulations. Although their importance was realized, some IBPP's were still neglected. It appears that the roles of the EAP, the ECO and the competent authority regarding the follow-up process are important contributing factors to the successful implementation of IBPP follow-up.
- As discussed in Chapter 2, the only additional requirements to the NEMA 2006 regulations were the description of the EMP for the BA (Basic Assessment process), the inclusion of a rehabilitation and a closure plan, and an environmental awareness plan. As with the ECA and NEMA 2006 regulations, the description and implementation of the IBPP relied on both the requirements set in the regulations, and the discretion of the EAP, the ECO, and competent authority.

With the quality of follow-up under each of the regulatory regimes having been described, the section to follow explains what these results indicate in terms of the success of the follow-up in the South African context.

5.7 Concluding remarks on the success of EIA follow up in the selected case studies

In this chapter, the quality performance of follow-up in the selected case studies was reviewed according to the IBPPFU review package. These case studies were regulated under three different regimes, namely: the ECA, NEMA 2006, and NEMA 2010 EIA regulations. For each RA, RC, and SC, an assessment symbol was allocated and these assessment symbols were then grouped into four (4) different groups. Case studies in the A-C group indicated that the IBPP were addressed to a satisfactory standard. In appraising the success of follow-up, the quality of performance of each of the groups indicated to what extent each IBPP was implemented in the selected case studies. The % of case studies graded A-C would therefore be considered as an indicator of the level of successful implementation of IBPP, and hence of successful follow-up.

The second objective (*To use the developed EIA follow-up review package to evaluate the performance of implementing follow-up in a sample of EIA case studies*) was achieved. Regardless of the weaknesses discussed above, it would appear that overall performance in accordance with the IBPP of the selected case studies with the available fundamental

documentation was surprisingly satisfactory, in contrast with the fact that follow-up is widely neglected according to international literature.

As indicated in the previous chapters there are a number of limitations to be considered in qualifying the results. These limitations are as follow:

- A total number of 11 case studies (five under ECA, five under NEMA 2006, and one under NEMA 2010) were available where the provincial department was the authorizing agency (Table 6). Under both the ECA and NEMA 2006, these cases were limited to Mpumalanga and Limpopo provinces and did not explore the quality of the other seven provinces. Under NEMA 2010, the cases were limited to the Eastern Cape.
- The remainder of case studies fell under the national department's jurisdiction.
- The selected case studies were limited to the following sectors: infrastructure development; housing, tourism and recreation; and waste management.
- A relatively small sample of case studies was available (a total of 15 case studies).

The quality of the documentation is only the first step in the implementation of management measures, and this is not a guarantee of good performance in follow-up itself.

In the chapter to follow, the study is concluded with a discussion of how the two main objectives of this study were achieved, and of the significance of the results obtained.

CHAPTER 5: CONCLUSION

The International Best Practice principles (IBPP) for follow-up developed by Marshall *et al.* (2005) and Morrison-Saunders *et al.* (2007) were developed as a guiding tool to highlight what important follow-up principles should be implemented in order to achieve the overall success of follow-up. This “umbrella” term encompasses the monitoring, auditing, management, and communication of environmental outcomes identified in the Environmental Impact Report (EIR) and Environmental Management Plan/Programme (EMPr). However, research suggests that EIA follow-up is being neglected globally. The implementation of follow-up facilitates the shift from a merely theoretical perspective to include a practical perspective of managing environmental impacts. It moves away from a mere paper trail exercise to a more hands on approach in terms of the management of impacts.

Over the past 20 years South African environmental impact assessment has been a growing process, from the Environment Conservation Act (ECA) regime through to the National Environmental Management Act (NEMA). A limited amount of research has been done in terms of the success of follow-up in the South African context, but very little investigation has yet been done into measuring the performance of EIA follow up in South Africa. Therefore, the objectives of this study were:

- Objective 1: To evaluate the provisions for EIA follow-up in the South African mandatory requirements, regulations and guidelines in terms of IBPP, and to develop an EIA follow-up review package.
- Objective 2: To use the developed EIA follow-up review package to review the performance of implementing follow-up in a sample of EIA case studies.

In Chapter 3 these 17 IBPP's were developed into review topics to form part of the IBPPFU review package by following the same approach as that of the Lee-Colley review methodology. The developed IBPPFU review package was successful in evaluating to what extent the 17 IBPP's are addressed in the South African EIA regulations. This achieved objective 1.

Chapter 4 described how Objective 2 was achieved by evaluating the quality of EIA follow-up in a sample of case studies.

In this chapter, the study is concluded by highlighting the outcomes of each of the two objectives separately, and by providing recommendations for the improvement of EIA follow-up in the South African context.

6.1 Objective 1 – Appraising the provisions made for EIA follow-up in the South African mandatory requirements, regulations and guidelines

The first EIA regulations were promulgated under ECA in 1997 followed by the amendments under the NEMA 2006, 2010 and 2014 EIA regulations. However, this study only focuses on the ECA, NEMA 2006 and NEMA 2010 regulations, and a brief outcome of NEMA 2014 is described.

As discussed in Chapter 2, there are three principal groups of stakeholders in the EIA follow-up process, namely: the proponent, the regulators, and the community. In South Africa the proponent appoints an independent Environmental Assessment Practitioner (EAP) to implement the EIA process. After the competent authority approves the submitted EIR, which in the case of NEMA 2006 and NEMA 2010 includes the EMP_r, an ECO (Environmental Control Officer) is appointed to monitor and submit reports on the compliance of the proponent to the approved EIR and EMP_r, and the Environmental Authorisation (EA). The key role players, in terms of laying the foundation for EIA follow-up, would therefore seem to be the EAP, the competent authority, and the ECO.

In Chapter 2 the provisions for EIA follow-up in the South African mandatory requirements, regulations, and guidelines were explored, and some weaknesses in terms of the IBPP were identified. These weaknesses are:

- The Public Participation process focuses on the pre-decision phase and lacks the active engagement of the stakeholders in the follow-up process.
- The active involvement of the community is dependent on the Environmental Assessment Practitioner (EAP) and the proponent as part of the environmental management plan in the pre-decision phase.
- Although the roles and responsibilities for the proponent (holder of the authorisation), the regulator, and the public have been identified, the direct involvement of the public in follow-up activities depends on the EAP's management of the Public Participation process.
- There is no mention made of reporting environmental compliance to the I&AP.
- Though the requirements for the management, monitoring, and reporting of impacts of an activity should be clearly defined, the EAP is responsible for identifying performance criteria used to assess the follow-up actions. Therefore, the success of the current South African follow-up process is reliant on the competence of the EAP, as well as the competence of the authorizing agency.

In the legislative context, it appears that the importance of addressing the IBPP is generally realised. However, from the case studies explored in the South African literature it appears that the follow-up outcomes seem to be highly dependent on the role of the EAP in the pre-decision phase, as well as on the independent verifiers, such as the ECO's in the post-decision phase.

Regardless of the improvements to the preceding regulations, the NEMA 2014 regulations, as discussed in Chapter 2, also rely on the appointed EAP, the ECO, and the competent authority to define the follow-up requirements for management, monitoring, and reporting of impacts of the activity. However, as the auditing requirements are described more clearly, it would be interesting to review the quality of case studies under NEMA 2014 - based on the same method done in this study, specifically due to the fact that the audit reports are seen as public information.

6.2 Objective 2 – Appraising the success of follow-up in sampled case studies by the use of the IBPPFU review package

In Chapter 4, the performance of EIA follow-up in South Africa was evaluated by reviewing the quality of follow-up in the selected case studies (projects with available documents) under the three succeeding EIA regulatory regimes (namely ECA, NEMA 2006, and NEMA 2010) according to the developed IBPPFU (International Best Practice Principles for follow-up) review package. The selection of these case studies as described in Chapter 3 was reliant on the availability of the documents to be reviewed. For both ECA and NEMA 2006 a reasonably fair number of samples were available, and the results are considered to be a likely reflection of the overall performance of follow-up. However, for the NEMA 2010 regime only two case studies were available, and although the results may not reflect the true overall performance, it indicates a preliminary trend.

In Chapter 4 the results were represented by grouping the assessment symbols into four groups, namely: %A-C; % A-B; % C-D; and % E-F. The quality represented by these groups indicates the success of the implementation of the 17 IBPP for follow-up under each of the three regulatory regimes. The NEMA 2006 regulations showed an improved overall quality compared to the other two regulatory regimes. This improvement was evident in the results, those being 71% graded B or higher when the 17 IBPP's were addressed. Under the ECA regulatory regime only 33% graded A-B, and under NEMA 2010 only one of the case studies graded A-B. Although the results suggest that under all three the regulatory regimes the 17 IBPP for follow-up were addressed to a satisfactory standard, some principles were found to be neglected. The following recurring weaknesses were found under all three the regulatory regimes:

- For review area (RA) 1 there appears to be a lack of communicating and providing feedback on EIA follow-up outcomes, as well as the genuine opportunity to involve the community in follow-up activities.
- For RA 2 it appears that sustainability issues are not adequately addressed beyond a project level, regardless of the fact that determining the cumulative effects of multiple projects is realized.
- As with RA 1, RA 3 also suggests that the communicating of the follow-up outcomes to the affected communities is not effectively carried out.
- RA 4, although it is the strongest performing area, suggests that a weakness exists in terms of describing EIA follow-up objectives and goals.

Although the overall performance of EIA follow-up throughout all three of the regulatory regimes is considered to be satisfactory, it is clear from the weaknesses identified that the performance of follow-up in the reviewed case studies also relied on the competency of the EAP, the ECO, and the competent authority. These weaknesses also indicate areas within the mandatory requirements, regulations and guidelines where further investigation in terms of follow-up is required.

Apart from the weaknesses, there were also a number of strengths highlighted in Chapter 4. These strengths can be summarised as follows:

- For RA 1, the description of follow-up in order to determine the EIA outcomes, was clearly defined (review category 1.1). In most of the case studies it appears that there was a commitment to follow-up (RC 1.3). For RA 2, the results suggest that EIA follow-up was timely, adaptive and action orientated (RC 2.3).
- Although the communication of follow-up outcomes was found to be a weakness for RA 3 under the ECA regime, the proponent of change accepted responsibility for implementing EIA follow-up (RC 3.1). Under all three regulatory regimes, it appears that the regulators attempted to ensure that EIA follow-up is implemented to some extent (RC 3.2).
- RA 4 was identified as the strongest performing review area, with a number of strengths suggested by its review categories and sub-categories. These strengths include, but are not limited to: clear division of roles, tasks, and responsibilities (RC 4.1); EIA follow-up programme appeared to be “fit for purpose” (RC 4.3); the setting of clear performance criteria (RC 4.4); follow-up activities appeared to be sustained over the entire lifespan of the activity (RC 4.5); and adequate resources appeared to be provided for follow-up activities (RC 4.6).

By reviewing more case studies under NEMA 2010 and 2014 using the IBPPFU review package, additional strengths and weaknesses may be identified that will allow for an even broader overview of the quality of follow-up, the success of which is measured here by means of the scores.

6.3 Concluding remarks and recommendations

As pointed out in Chapter 2, there is no one way of implementing EIA follow-up. In the international context a number of case studies indicate the types of factors and approaches that contribute to the successful implementation of follow-up. The use of the developed IBPPFU review package provides, as a guiding tool, a good basis for the evaluation of the success of follow-up at legislative level or at project level.

Overall, the results from reviewing the mandatory requirements, regulations and guidelines, as well as the selected case studies, suggest that based on the developed IBPPFU review package, follow-up performed surprisingly well in the South African context. These results are in contradiction with the picture literature painted, which is global neglect of EIA follow-up. Considering the limitations listed in the Chapter 4, it would appear that the development of the follow-up review package was more valuable than the actual performance evaluation of the selected case studies.

It would, however, appear from the performance results of the selected case studies that the roles of the EAP, the ECO and the authorising agency are an important part of the successful implementation of the 17 IBPP for follow-up. Therefore, this study suggests that the roles of the EAP, the ECO, and the competent authority in terms of addressing follow-up should be defined more clearly. It may also be a good starting point to investigate their roles in terms of the 17 IBPP in future studies.

The following recommendations are made to improve the overall success of follow-up in the South African context:

- More clearly defining the PPP (Public participation process) to include the genuine involvement of the community in follow-up activities, i.e. consulting the community on follow-up methods or program designs.
- Improving the requirements for communicating follow-up outcomes, i.e. not only just releasing compliance reports to the public, but also establishing community forums where follow-up outcomes are explained and inputs from the community are considered.

- Addressing sustainability issues beyond project level by considering the outcomes of the National state of the environment report and incorporating these issues into the follow-up programme at project level.
- More clearly defining follow-up objectives and goals by including them into the EIA regulations.
- More clearly describing the role of the EAP, the ECO, and the competent authority with regards to addressing IBPP for follow-up in legislation, i.e. the continual monitoring, auditing, management, and communication of follow-up outcomes.

This study highlights the importance of follow-up in the EIA process. In the South African context, the EIA is the leading legislated environmental management tool, and therefore the success of the follow-up process is crucial to improving the overall environmental management of this developing country. In light of the strengths and weaknesses identified in this study, a growing success in terms of understanding and implementing follow-up in the South African context is anticipated. However, more research will be required and the results discussed in the previous sections may be considered as a good starting point for further investigation into the success of follow-up as well as for determining areas requiring improvement in the overall performance of environmental management.

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Appendices

Appendix 1 – International Best Practice Principles

Table 13: “International Best Practice” EIA follow-up Principles set out by Morrison-Saunders et al (2007) and Marshall et al (2005)

Guiding Principles	
“Why” Presentation of core values	1. Follow-up is essential to determine EIA (or SEA) outcomes Having the same outcome as EIA, follow-up's goal or objective is to minimize the negative environmental outcomes of development and to maximise the positive environmental outcomes. In follow-up, however, the emphasis is on the actions taken to achieve the goal or objective. Without follow-up, the EIA process remains incomplete, and the consequences of the planning and decision-making process will be left unknown. 2. Transparency and openness in EIA follow-up is important All stakeholders have a right to feedback on the EIA process. Actions and decisions resulting from EIA follow-up should be fair, transparent, and communicated directly to stakeholders. Beyond the informing role, active engagement of stakeholders in follow-up processes is preferable with genuine opportunities for involvement. 3. EIA should include a commitment to follow-up All parties involved in undertaking EIA follow-up should show a clear commitment to the development (during the pre-decision EIA process) and the implementation (post-decision) of a follow-up program. In turn, these parties should be held accountable for their actions. Therefore, the follow-up commitments include both program preparation and the implementation of monitoring, evaluation, management, and communication plan.
“What” Addressing the nature of EIA follow-up	4. Follow-up should be appropriate for the EIA culture and societal context EIA follow-up should be appropriate for the legislative and administrative, socio-economic and cultural circumstances; and fit together with existing planning, decision-making and project management activities. It may not require ‘reinventing the wheel’ as other existing mechanisms may suffice, for example, environmental management systems (EMS) or state of environment reporting. 5. EIA follow-up should consider cumulative effects and sustainability When dealing with the cumulative effects of multiple developments and sustainability issues, the application of follow-up should not only be limited to the individual project level. This in turn may require application beyond one single project, for example strategic level or are-orientated approaches. 6. EIA follow-up should be timely, adaptive and action oriented Adaptable and pro-active environmental management is key to maximising the benefits of EIA follow-up. Frequent monitoring ,data collection and evaluation activities should be carried out in order to generate information that is useful to stakeholders. However, the frequency should not be of such a nature as to burden those implementing the process. In order to meet the defined goals or objectives, effective actions need to be set in EIA follow-up programs.
Operating Principles	
“Who” Designation of roles and responsibilities	7. The proponent of change must accept accountability for implementing EIA follow-up Proponents are the responsible initiators and must carefully consider the consequences of their actions. As the polluter, the proponent will play the most important role in developing and implementing the follow-up program. Mitigation of adverse effects and the communication of follow-up results to stakeholders are some of a number of tasks that are required to be carried out by the proponent. Proponents should take advantage of the benefits of EIA follow-up as a project management instrument and to realize cost savings. 8. Regulators should ensure that EIA is followed up The need for EIA follow-up and its implementation should be determined by the Regulators. Some of the regulatory outcomes are: meeting regulatory requirements, securing a balance between the interests of both proponent and community, ensuring proponent compliance and promoting learning from experience. In instances where the regulator also acts as the proponent, the competing roles of developer, funder, provider and decision-maker should be clearly distinguished to avoid conflict of interests. 9. The community should be involved in EIA follow-up Direct community participation in follow-up design and implementation is desirable, but in instances where this is not practical or possible, at the very least the community should be informed of follow-up outcomes. Some of the benefits that may result from community involvement are: special local knowledge, focused program design, building trust and partnerships are 10. All parties should seek to co-operate openly and without prejudice in EIA follow-up Participants (proponent, regulator and the community) in the EIA follow-up process often have intertwined interests and

	should cumulatively initiate practicable and reasonable EIA follow-up programs. The success of follow-up will be reliant on a shared sense of purpose to avoid, reduce, or remedy adverse environmental effects. A consensus on procedural and methodological approaches, as well as a commitment to carry out required tasks in response of follow-up findings should be shared by all parties.
	11. EIA follow-up should promote continuous learning from experience to improve future practice Follow-up requires good communication in order to make it possible to maximise learning from the experience through active feedback, and to avoid a static outcome.
“How” Description of methods on how EIA follow-up should be conducted	12. EIA follow-up should have a clear division of roles, tasks and responsibilities During the pre-decision EIA documentation phase, a clear division of roles, tasks and responsibilities should be defined. Subsequently, a set of clearly defined tasks and responsibilities within and between the different parties should form part of EIA approvals and management systems. It is also required that practitioners involved in the process be competent for their tasks. 13. EIA follow-up should be objective-led and goal oriented In the quest to achieve defined objectives or goals as an integral task of scoping in EIA follow-up considerations may include: (i) Controlling of projects and their environmental impacts; (ii) Maintaining decision-making flexibility and promoting an adaptive management approach to EIA and project management; (iii) Improving scientific and technical knowledge; (iv) Improving community awareness and acceptance of projects; and (v) Integrating with other information (e.g., state of the environment reports or EMS). 14. EIA follow-up should be “fit-for-purpose” Each project is unique in terms of specific design, location and affected stakeholders. In turn, EIA follow-up programs requiring ongoing scoping should be designed in order to fit the proposed activity, its phases and ever changing context. There is also a need to keep EIA follow-up practicable and feasible, and to focus on the ‘art of the possible’. 15. EIA follow-up should include the setting of clear performance criteria Methodologies or approaches to monitoring, evaluation, management and communication should be well-defined and carried out. The performance criteria used to assess follow-up actions should be rigorous and reflect best practice. The outcome of follow-up actions taken should produce useful information which can be easily measured, and unambiguously appraised against set criteria. 16. EIA follow-up should be sustained over the entire lifecycle of the activity Throughout the screening and scoping processes, the need for and content of follow-up should be clearly defined. The developed follow-up actions or programs should cover the entire lifecycle of the development, not only during the design and construction phases, but also during the operation and decommissioning phase. EIA follow-up must also be responsive to long-term and short-term environmental changes. 17. Adequate resources should be provided for EIA follow-up Follow-up should be based on best practice standards, thereby ensuring adequate actual actions as the outcome. In order to achieve successful follow-up outcomes, follow-up must be cost-effective, efficient and pragmatic. Time, staff and capacity needs must be appropriately provided for in advance.

Appendix 2 – Review topics for EIA follow-up review package based on IBPP

Table 24: Complete set of review topics based on the IBPP

List of Evaluation topics	
1.	Presentation of core values of EIA follow-up ("Why")
1.1. (BPP.1)	Describing Follow-up to determine EIA (or SEA) outcomes.
1.1.1	Have Objectives and Targets been set to minimize the negative consequences of the development and to maximize the positive outcomes?
1.1.2	Has a programme, with the emphasis on action to be taken, been developed to reach the defined objectives and targets?
1.2. (BPP.2)	The importance of transparency and openness in EIA follow-up is highlighted
1.2.1	Have stakeholders been identified and allowed feedback on the EIA process?
1.2.2	Have the stakeholders been informed about the implications of the commencement of activities during the public participation process?
1.2.3	Have the actions and decisions resulting from EIA follow-up been fair, transparent and communicated directly to stakeholders?
1.2.4	Have Stakeholders been provided with the genuine opportunity to engage in follow-up activities?
1.3. (BPP.3)	Inclusion of commitment to follow-up
1.3.1	Has a clear commitment to undertake EIA follow-up been made, and are all parties held accountable for their actions?
1.3.2	Has a follow-up program been provided for in the pre-decision EIA process, and is it being carried out post decision?
1.3.3	Do the Follow-up commitments relate to program preparation and the implementation of monitoring, evaluation, management and communication?
2.	Addressing the nature of EIA follow-up ("What")
2.1. (BPP.4)	Follow-up should be appropriate for the EIA culture and societal context
2.1.1	Have EIA follow-up elements been incorporated into the EMP, i.e. development and implementation of a outcome based monitoring programme?
2.1.2	Have EIA follow-up elements been incorporated into the Environmental Authorisation (ROD/EA)?
2.1.3	Are any other mechanisms of EIA follow-up, for example environmental management systems (ISO 14001 based system) or state of environment reporting, incorporated into the specific case study?
2.2. (BPP.5)	EIA follow-up should consider cumulative effects and sustainability
2.2.1	Has the EIA follow-up application considered dealing with the cumulative effects of multiple developments and sustainability issues?
2.2.2	Have the follow-up outcomes been applied beyond the project level, i.e. on a strategic level assisting towards SEA and EMF's?
2.3. (BPP.6)	EIA follow-up should be timely, adaptive and action orientated
2.3.1	Have environmental issues been tackled in an adaptive and pro-active way?
2.3.2	Have monitoring data collection and evaluation activities been sufficiently frequent, so that the information generated is useful to stakeholders, but not so frequent as to be a burden to those implementing the process?
2.3.3	Have effective actions been taken to meet the defined goals of EIA follow-up programs?
3.	Designation of roles and responsibilities ("Who")
3.1. (BPP.7)	The proponent of change must accept accountability for implementing EIA follow-up
3.1.1	Has the proponent (as the polluter) been paying careful consideration to the consequences of their actions and the necessity of EIA follow-up?
3.1.2	Has the proponent been held responsible for the mitigation of adverse effects and for the communication of follow-up results to stakeholders?
3.1.3	Is there evidence that the proponents took advantage of the benefits of EIA follow-up as a project management instrument?
3.1.4	Has the proponent considered the cost benefit of mitigation measures throughout the life cycle of the activity?
3.2. (BPP.8)	Regulators should ensure that EIA is followed up
3.2.1	Have regulators determined the need for EIA follow-up and are they ready to ensure that it is implemented by incorporating requirements into the EA?
3.2.2	Is the regulator ensuring that regulatory requirements are met, i.e. references to legal requirements in the environmental authorisation?
3.2.3	Has the regulator ensured a secure balance between the interests of both the proponent and the community?
3.2.4	Has the regulator ensured the proponent's compliance and promoted learning from the experience?
3.2.5	Has the appointment of an ECO been set as a requirement in the environmental authorisation?
3.2.6	Has ECO compliance reports been submitted to the competent authority throughout the life cycle of the project?
3.2.7	Where the regulator is also the proponent, have the competing roles of developer, funder, provider and decision-maker been distinguished to avoid conflicting interests?
3.3. (BPP.9)	The community should be involved in EIA follow-up
3.3.1	Has the community been informed about the EIA-follow-up outcomes?
3.3.2	Has the community been provided with the opportunity to directly participate in the follow-up program design and implementation?
3.3.3	Has the project benefited from community involvement in the follow-up process, i.e. sharing of special local knowledge, focused program design, building trust and partnerships?
3.4. (BPP.10)	All parties should seek to co-operate openly and without prejudice in EIA follow-up
3.4.1	Have the proponent, regulator and community participated in initiating a practical and reasonable EIA follow-up programme?
3.4.2	Have all parties shared a sense of purpose to avoid, reduce, or remedy adverse environmental effects?
3.4.3	Has a consensus been reached by all participants on the procedural and methodological approach?

3.4.4	Have the roles and task of parties been identified in terms of EIA follow-up?
3.4.5	Has a commitment been made by parties to carry out their required tasks and to respond constructively to the findings of EIA follow-up?
3.5. (BPP.11)	EIA follow-up should promote continuous learning from the experience to improve future practice
3.5.1	Have EIA follow-up findings been actively addressed throughout the activity as part of the management system implemented?
3.5.2	Have lessons learned been communicated to stakeholders i.e. for example the consultant, the regulator and the I&AP?
3.5.3	Has the lesson learnt or certain non-conformances or incidents contributed to changes in procedures or policies?
4.	Description of method of how EIA follow-up should be conducted ("How")
4.1. (BPP.12)	EIA follow-up should have a clear division of roles, tasks and responsibilities
4.1.1	Has a set of clearly divided roles, tasks and responsibilities been identified in the pre-decision EIA documentation and subsequent EIA approvals and management systems?
4.1.2	Have the outlined tasks and responsibilities been clearly defined within and between the different parties?
4.1.3	Are all practitioners involved competent for their tasks?
4.2. (BPP.13)	EIA follow-up should be objective-led and goal orientated
	Have the following objectives or goals for EIA-follow-up been defined?
4.2.1	(i) Controlling of activities and their environmental impacts, i.e. has an impact aspect register highlighting management plans implemented for each aspect and impact been developed?
4.2.2	(ii) Maintaining decision-making flexibility and promoting an adaptive management approach to EIA and project management
4.2.3	(iii) Improving scientific and technical knowledge
4.2.4	(iv) Improving community awareness and acceptance of projects
4.2.5	(v) Integrating with other information, i.e. state of the environment reports or EMS
4.3. (BPP.14)	EIA follow-up should be "fit for purpose"
4.3.1	Has the EIA follow-up requirements been appropriate to the anticipated environmental effects?
4.3.2	Has the EIA follow-up program been designed specifically in terms of design, location and affected stakeholders?
4.3.3	Has the EIA follow-up program been tailored to be practicable and feasible, focusing on the "art of the possible"?
4.3.4	EIA follow up should undergo ongoing scoping
4.4. (BPP.15)	EIA follow-up should include the setting of clear performance criteria
4.4.1	Has performance criteria reflecting best practice been developed in the EIA follow-up actions or programs?
4.4.2	Has the key Performance criteria been enacted through well-defined methodologies or approaches to monitoring, evaluation, management and communication?
4.4.3	Have actions of EIA follow-up produced useful information and outcomes which were easily measured, and unambiguously appraised against clear criteria?
4.4.4	Have significant impacts and aspects been monitored and audited against the existing management plan?
4.4.5	Have findings and recommendations been implemented and shown improvement on follow-up audits?
4.4.6	Have the results of the monitoring reports and audit reports been communicated to all stakeholders?
4.4.7	Have Objectives and targets been reviewed as a result from monitoring and audit reports?
4.5. (BPP.16)	EIA follow-up should be sustained over the entire lifecycle of the activity
4.5.1	Has the need for and content of EIA follow-up been determined during the screening and scoping phase of the EIR preparation?
4.5.2	Have EIA follow-up actions or programs covered the entire life cycle of the activity (i.e. design, construction, operation and decommissioning)?
4.5.3	Has long term and short term environmental changes been considered for the EIA follow-up program?
4.6. (BPP.17)	Adequate resources should be provided for EIA follow-up
4.6.1	Have provisions been made to appropriately provide for time, staff and capacity, ensuring cost-effective, efficient and pragmatic EIA follow-up?
4.6.2	Has EIA follow-up been implemented to best practice standards, ensuring that real actions are taken adequately when needed?

Appendix 3 - Collation Sheet

Table 15: Collation sheet for ECA available data sets

Project(s)	Waste Management Activities	Housing, Recreation & Tourism			Infrastructure	
	Hoxane water purification works	Mbombela Multi-purpose Stadium	Riverside Park Extension 10	St. Michel's Leisure Estate Machadodorp	Schoemanskloof Filling Station Mbombela	ORWRDP - 2C
Overall Score	D	B	C	C	C	A
1.	E	B	C	C	C	B
1.1. (BPP.1)	D	A	B	B	B	A
1.1.1	D	A	B	B	B	A
1.1.2	D	A	A	B	B	A
1.2. (BPP.2)	F	B	E	D	E	C
1.2.1	F	B	E	D	C	C
1.2.2	F	B	E	C	D	B
1.2.3	F	C	E	E	E	B
1.2.4	F	B	E	E	E	D
1.3. (BPP.3)	E	B	B	B	B	A
1.3.1	F	A	B	B	B	A
1.3.2	F	A	B	B	B	A
1.3.3	E	B	B	C	C	B
2.	E	B	C	C	C	A
2.1. (BPP.4)	E	A	C	C	C	A
2.1.1	E	A	A	C	B	A
2.1.2	E	A	C	C	D	B
2.1.3	F	A	D	E	C	A
2.2. (BPP.5)	E	B	C	C	C	B
2.2.1	F	C	C	C	D	D
2.2.2	F	B	D	C	E	A
2.3. (BPP.6)	D	B	B	B	B	A
2.3.1	C	B	B	B	B	A
2.3.2	F	A	C	B	B	A
2.3.3	C	B	B	B	B	B
3.	D	B	C	C	C	B
3.1. (BPP.7)	C	B	B	C	B	B
3.1.1	C	B	B	B	B	A
3.1.2	C	B	B	B	B	A
3.1.3	C	B	C	C	B	A
3.1.4	F	C	C	D	C	C
3.2. (BPP.8)	C	A	C	D	C	A
3.2.1	E	A	D	C	D	B
3.2.2	E	A	D	B	D	B
3.2.3	C	B	B	D	D	D

3.2.4	C	A	A	C	C	C
3.2.5	A	A	A	F	A	A
3.2.6	A	A	A	F	A	A
3.2.7	N/A	N/A	N/A	N/A	N/A	A
3.3. (BPP.9)	E	C	F	E	F	C
3.3.1	F	C	F	F	F	C
3.3.2	F	C	F	D	F	D
3.3.3	D	C	E	D	D	D
3.4. (BPP.10)	D	C	C	C	C	B
3.4.1	E	B	D	D	D	B
3.4.2	D	C	C	C	C	B
3.4.3	E	B	C	C	C	B
3.4.4	D	A	B	C	B	A
3.4.5	D	C	C	C	B	A
3.5. (BPP.11)	D	B	C	C	B	A
3.5.1	D	B	C	C	B	A
3.5.2	D	A	C	E	B	A
3.5.3	E	B	C	D	C	A
4.	D	B	C	C	B	A
4.1. (BPP.12)	D	A	B	D	B	A
4.1.1	E	A	B	D	B	A
4.1.2	E	A	B	D	B	A
4.1.3	B	A	A	B	A	A
4.2. (BPP.13)	D	B	C	C	C	B
4.2.1	D	B	B	B	A	A
4.2.2	D	A	B	B	B	A
4.2.3	D	A	C	B	C	A
4.2.4	F	C	F	F	F	D
4.2.5	F	B	D	D	B	A
4.3. (BPP.14)	D	A	A	B	B	A
4.3.1	D	A	A	B	B	A
4.3.2	D	A	A	B	B	A
4.3.3	D	A	A	B	B	A
4.3.4	E	A	A	B	B	A
4.4. (BPP.15)	D	A	B	B	B	A
4.4.1	E	A	B	B	B	A
4.4.2	C	A	C	B	B	A
4.4.3	D	A	B	B	B	A
4.4.4	C	A	B	A	B	A
4.4.5	C	B	B	B	B	A
4.4.6	E	B	E	D	D	B
4.4.7	E	B	C	C	B	A
4.5. (BPP.16)	F	B	C	C	B	B
4.5.1	E	A	C	C	B	A
4.5.2	F	C	D	D	B	C
4.5.3	F	A	C	C	B	B
4.6. (BPP.17)	D	B	B	C	B	A
4.6.1	D	B	B	C	B	A
4.6.2	D	B	C	C	C	B

Table 16: Collation Sheet for NEMA 2006 available data sets

Project	Waste Management Activities		Housing, Recreation & Tourism	Infrastructure			
	Rocky Drift Waste Water treatment works	Upgrade of White River Waste water treatment works	Mataffin Construction of School	Riverside Park Extension 22, Portion 28 of the farm Boschrand 283 JT	Northern Ring Road	Hoxane Water Pipeline, Bushbuck ridge	Uppington Solar Thermal Plant and associated Infrastructure
Overall Score	D	B	C	B	B	B	B
1.	D	B	C	C	B	B	B
1.1. (BPP.1)	B	A	B	A	A	A	A
1.1.1	A	A	B	A	A	A	A
1.1.2	C	A	B	A	A	A	A
1.2. (BPP.2)	D	C	C	D	B	C	C
1.2.1	D	C	C	D	B	C	B
1.2.2	B	A	C	B	A	B	B
1.2.3	D	C	D	D	B	C	D
1.2.4	E	D	E	D	B	D	C
1.3. (BPP.3)	D	A	C	B	B	B	B
1.3.1	D	A	B	A	A	B	B
1.3.2	D	A	B	A	B	A	A
1.3.3	C	B	D	B	B	C	B
2.	C	B	C	B	B	C	B
2.1. (BPP.4)	D	B	C	B	A	C	B
2.1.1	A	A	C	B	A	A	A
2.1.2	F	B	C	A	B	B	B
2.1.3	C	B	D	B	A	D	C
2.2. (BPP.5)	C	B	E	C	C	D	C
2.2.1	C	B	E	C	C	D	B
2.2.2	B	B	E	C	E	D	C
2.3. (BPP.6)	C	A	B	B	B	B	A
2.3.1	C	A	C	B	B	B	A
2.3.2	A	A	B	B	A	A	A
2.3.3	C	B	B	B	B	B	A
3.	D	C	C	B	B	C	B
3.1. (BPP.7)	D	C	D	B	B	C	B
3.1.1	D	B	C	A	A	B	B
3.1.2	D	C	D	A	A	B	C
3.1.3	D	B	D	C	B	C	B
3.1.4	D	C	D	C	D	D	B
3.2. (BPP.8)	D	B	C	A	B	B	B
3.2.1	D	B	C	A	B	B	B
3.2.2	D	B	C	A	B	B	A
3.2.3	C	B	C	B	B	B	C
3.2.4	C	B	C	A	B	B	B
3.2.5	A	A	A	A	A	A	A

3.2.6	A	A	A	A	A	B	A
3.2.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3.3. (BPP.9)	F	D	F	F	B	C	D
3.3.1	F	D	F	F	B	C	D
3.3.2	F	D	F	F	C	C	D
3.3.3	D	C	D	D	C	C	C
3.4. (BPP.10)	C	B	C	C	B	C	C
3.4.1	C	C	C	C	B	C	C
3.4.2	C	B	C	C	B	B	C
3.4.3	B	B	C	C	B	C	B
3.4.4	B	A	C	A	B	B	A
3.4.5	C	A	C	C	B	B	C
3.5. (BPP.11)	D	B	C	B	B	C	B
3.5.1	D	B	B	B	B	B	B
3.5.2	D	C	D	B	A	C	D
3.5.3	C	B	D	B	B	D	B
4.	B	A	C	B	B	B	A
4.1. (BPP.12)	A	A	B	A	A	A	A
4.1.1	A	A	B	A	A	B	A
4.1.2	A	B	C	A	B	A	A
4.1.3	A	A	B	A	A	A	A
4.2. (BPP.13)	B	B	B	B	A	B	B
4.2.1	A	A	A	A	A	A	A
4.2.2	A	A	B	A	A	A	A
4.2.3	A	A	B	A	B	B	A
4.2.4	C	C	D	F	B	C	F
4.2.5	C	C	D	C	A	C	C
4.3. (BPP.14)	B	A	B	A	A	A	A
4.3.1	A	A	A	A	A	A	A
4.3.2	B	A	A	A	A	B	A
4.3.3	A	A	B	A	A	A	A
4.3.4	A	A	B	A	B	A	A
4.4. (BPP.15)	A	B	B	A	B	B	B
4.4.1	A	B	A	A	B	B	A
4.4.2	C	B	B	B	B	C	A
4.4.3	A	B	B	A	A	B	A
4.4.4	A	A	A	A	A	A	A
4.4.5	D	A	A	B	B	B	C
4.4.6	D	C	D	B	B	C	C
4.4.7	D	B	D	B	B	B	C
4.5. (BPP.16)	B	A	C	B	B	B	A
4.5.1	A	A	B	A	B	B	A
4.5.2	C	B	D	D	C	B	A
4.5.3	A	A	B	A	B	B	A
4.6. (BPP.17)	C	A	D	B	B	B	A
4.6.1	C	A	D	B	B	B	A
4.6.2	C	B	C	C	B	B	B

Table 17: Collation Sheet for NEMA 2010 available data sets

Project	Infrastructure	
	Improvements on R 23 (Standerton & Greylingstad)	Nojoli Windfarm
Overall Score	B	C
1.	B	C
1.1. (BPP.1)	B	A
1.1.1	A	A
1.1.2	B	A
1.2. (BPP.2)	D	D
1.2.1	A	D
1.2.2	B	C
1.2.3	E	D
1.2.4	E	D
1.3. (BPP.3)	B	B
1.3.1	B	A
1.3.2	B	A
1.3.3	B	C
2.	C	C
2.1. (BPP.4)	C	C
2.1.1	C	A
2.1.2	C	B
2.1.3	D	D
2.2. (BPP.5)	C	D
2.2.1	C	D
2.2.2	D	D
2.3. (BPP.6)	B	B
2.3.1	A	B
2.3.2	A	A
2.3.3	C	C
3.	C	C
3.1. (BPP.7)	B	B
3.1.1	B	B
3.1.2	A	A
3.1.3	C	B
3.1.4	B	B
3.2. (BPP.8)	B	C
3.2.1	B	B
3.2.2	A	A
3.2.3	C	D
3.2.4	C	B
3.2.5	A	A
3.2.6	A	A
3.2.7	N/A	N/A
3.3. (BPP.9)	E	E
3.3.1	E	E
3.3.2	E	E

3.3.3	D	D
3.4. (BPP.10)	C	B
3.4.1	C	B
3.4.2	C	B
3.4.3	B	C
3.4.4	C	A
3.4.5	B	B
3.5. (BPP.11)	C	B
3.5.1	B	A
3.5.2	D	C
3.5.3	C	B
4.	B	B
4.1. (BPP.12)	A	A
4.1.1	A	A
4.1.2	A	A
4.1.3	A	A
4.2. (BPP.13)	C	C
4.2.1	B	A
4.2.2	A	A
4.2.3	B	C
4.2.4	F	F
4.2.5	D	C
4.3. (BPP.14)	A	A
4.3.1	A	A
4.3.2	A	A
4.3.3	A	A
4.3.4	B	A
4.4. (BPP.15)	B	B
4.4.1	A	A
4.4.2	A	A
4.4.3	A	A
4.4.4	A	A
4.4.5	B	A
4.4.6	C	C
4.4.7	C	B
4.5. (BPP.16)	B	B
4.5.1	B	A
4.5.2	B	B
4.5.3	B	B
4.6. (BPP.17)	B	B
4.6.1	B	A
4.6.2	B	B

Appendix 4 - Summary of grouped scores

Table 18: Summary of grouped scores under ECA, NEMA 2006, and NEMA 2010

Evaluation Topics	ECA (%)				NEMA 2006 (%)				NEMA 2010 (%)			
	A - C	A-B	C - D	E-F	A - C	A-B	C - D	E-F	A - C	A-B	C - D	E-F
Overall Score	83	33	67	0	86	71	29	0	100	50	50	0
1.	83	33	50	17	86	57	43	0	100	50	50	0
1.1. (BPP.1)	83	83	17	0	100	100	0	0	100	100	0	0
1.1.1	83	83	17	0	100	100	0	0	100	100	0	0
1.1.2	83	83	17	0	100	86	14	0	100	100	0	0
1.2. (BPP.2)	33	17	33	50	71	14	86	0	0	0	100	0
1.2.1	50	17	50	33	71	29	71	0	50	50	50	0
1.2.2	50	33	33	33	100	86	14	0	100	50	50	0
1.2.3	33	17	17	67	43	14	86	0	0	0	50	50
1.2.4	17	17	17	67	29	14	57	29	0	0	50	50
1.3. (BPP.3)	83	83	0	17	86	71	29	0	100	100	0	0
1.3.1	83	83	0	17	86	86	14	0	100	100	0	0
1.3.2	83	83	0	17	86	86	14	0	100	100	0	0
1.3.3	83	50	33	17	86	57	43	0	100	50	50	0
2.	83	33	50	17	100	57	43	0	100	0	100	0
2.1. (BPP.4)	83	33	50	17	86	57	43	0	100	0	100	0
2.1.1	83	67	17	17	100	86	14	0	100	50	50	0
2.1.2	67	33	50	17	86	71	14	14	100	50	50	0
2.1.3	50	33	33	33	71	43	57	0	0	0	100	0
2.2. (BPP.5)	83	33	50	17	71	14	71	14	50	0	100	0
2.2.1	67	0	83	17	71	29	57	14	50	0	100	0
2.2.2	50	33	50	17	57	29	43	29	0	0	100	0
2.3. (BPP.6)	83	83	17	0	100	86	14	0	100	100	0	0
2.3.1	100	83	17	0	100	71	29	0	100	100	0	0
2.3.2	83	67	17	17	100	100	0	0	100	100	0	0
2.3.3	100	83	17	0	100	86	14	0	100	0	100	0
3.	83	33	67	0	86	43	57	0	100	0	100	0
3.1. (BPP.7)	100	67	33	0	71	43	57	0	100	100	0	0
3.1.1	100	83	17	0	86	71	29	0	100	100	0	0
3.1.2	100	83	17	0	71	43	57	0	100	100	0	0
3.1.3	100	50	50	0	71	43	57	0	100	50	50	0
3.1.4	67	0	83	17	43	14	86	0	100	100	0	0
3.2. (BPP.8)	83	33	67	0	86	71	29	0	100	50	50	0
3.2.1	67	50	50	0	86	71	29	0	100	100	0	0
3.2.2	50	50	33	17	86	71	29	0	100	100	0	0
3.2.3	50	33	67	0	100	57	43	0	50	0	100	0
3.2.4	100	33	67	0	100	71	29	0	100	50	50	0
3.2.5	83	83	0	17	100	100	0	0	100	100	0	0
3.2.6	83	83	0	17	100	100	0	0	100	100	0	0
3.2.7	100	100	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3.3. (BPP.9)	33	0	33	67	29	14	43	43	0	0	0	100
3.3.1	33	0	33	67	29	14	43	43	0	0	0	100
3.3.2	17	0	50	50	29	0	57	43	0	0	0	100
3.3.3	17	0	83	17	57	0	100	0	0	0	100	0
3.4. (BPP.10)	83	17	83	0	100	29	71	0	50	0	100	0
3.4.1	33	33	50	17	100	14	86	0	100	50	50	0
3.4.2	83	17	83	0	100	43	57	0	100	50	50	0
3.4.3	83	33	50	17	100	57	43	0	100	50	50	0
3.4.4	83	67	33	0	100	86	14	0	100	50	50	0
3.4.5	83	33	67	0	100	43	57	0	100	100	0	0
3.5. (BPP.11)	83	50	50	0	86	57	43	0	100	50	50	0
3.5.1	83	50	50	0	86	86	14	0	100	100	0	0

3.5.2	67	50	33	17	57	29	71	0	50	0	100	0
3.5.3	67	33	50	17	71	57	43	0	100	50	50	0
4.	83	50	50	0	100	86	14	0	100	100	0	0
4.1. (BPP.12)	67	67	33	0	100	100	0	0	100	100	0	0
4.1.1	67	67	17	17	100	100	0	0	100	100	0	0
4.1.2	67	67	17	17	100	86	14	0	100	100	0	0
4.1.3	100	100	0	0	100	100	0	0	100	100	0	0
4.2. (BPP.13)	83	33	67	0	100	100	0	0	100	0	100	0
4.2.1	83	83	17	0	100	100	0	0	100	100	0	0
4.2.2	83	83	17	0	100	100	0	0	100	100	0	0
4.2.3	83	50	50	0	100	100	0	0	100	50	50	0
4.2.4	17	0	33	67	57	14	57	29	0	0	0	100
4.2.5	50	50	33	17	86	14	86	0	50	0	100	0
4.3. (BPP.14)	83	83	17	0	100	100	0	0	100	100	0	0
4.3.1	83	83	17	0	100	100	0	0	100	100	0	0
4.3.2	83	83	17	0	100	100	0	0	100	100	0	0
4.3.3	83	83	17	0	100	100	0	0	100	100	0	0
4.3.4	83	83	0	17	100	100	0	0	100	100	0	0
4.4. (BPP.15)	83	83	17	0	100	100	0	0	100	100	0	0
4.4.1	83	83	0	17	100	100	0	0	100	100	0	0
4.4.2	83	83	17	0	100	71	29	0	100	100	0	0
4.4.3	83	83	17	0	100	100	0	0	100	100	0	0
4.4.4	100	83	17	0	100	100	0	0	100	100	0	0
4.4.5	100	83	17	0	86	71	29	0	100	100	0	0
4.4.6	67	50	33	17	71	29	71	0	100	0	100	0
4.4.7	83	50	33	17	71	57	43	0	100	50	50	0
4.5. (BPP.16)	83	50	33	17	100	86	14	0	100	100	0	0
4.5.1	83	50	33	17	100	100	0	0	100	100	0	0
4.5.2	50	17	67	17	71	43	57	0	100	100	0	0
4.5.3	83	50	33	17	100	100	0	0	100	100	0	0
4.6. (BPP.17)	83	67	33	0	86	71	29	0	100	100	0	0
4.6.1	83	67	33	0	88	75	25	0	100	100	0	0
4.6.2	83	33	67	0	100	57	43	0	100	100	0	0

Appendix 5 – Relevant legislative sections

Under the Environment Conservation Act, Act no. 73 of 1989 (ECA), the scope and content requirements for the EIR read as follows (as referred to in **section 2.5.2.1**):

“S26 Regulations regarding environmental impact reports – The minister or competent authority, as the case may be, may make regulations with regard to any activity identified in terms of S21 (1) or prohibited in terms of S 23 (2), concerning –

- (a) The scope and content of environmental impact reports, which may include, but are not limited to –
 - (i) A description of the activity in question and of alternative activities;
 - (ii) The identification of the physical environment which may be affected by the activity in question and by alternative activities;
 - (iii) An estimation of the nature and extend of the effect of the activity in question, and of the alternative activities on the land, air, water, biota and other elements or features of the natural and manmade environments
 - (iv) The identification of the economic and social interests which may be affected by the activity in question and by the alternative activities;
 - (v) An estimation of the nature and extent of the effect of the activity and the alternative on the social and economic interests;
 - (vi) A description of the design or management principles proposed for the reduction of adverse environmental effects; and
 - (vii) A concise summary of the findings of the environmental impact report
- (b) The drafting and evaluation of environmental impact reports and of the effect of the activity in question, and of the alternative activities on the environment; and
- (c) ¹³The procedure to be followed in the course of and after the performance of the activity in question or the alternative activities in order to substantiate the estimations of the environmental impact report, and to provide for preventative or additional actions if deemed necessary or desirable”

The following section lists the National Environmental Management Act, Act no. 107 of 1998 (NEMA) principles as referred to in **section 2.5.2.2**:

“Section 2 –

¹³ Note this section to the act is open to interpretation, therefore the important role of the EAP at the time.

(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably...

(4)(a)(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

(4)(a)(ii) That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

(4)(a)(vii) That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions;

(4)(a)(viii) That negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied;...

(4)(b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental options;...

(4)(d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued, and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination;

(4)(e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle;

(4)(f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured;...

(4)(g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge;

(4)(h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means;

(4)(i) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment;...

- (4)(k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law;
- (4)(l) There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment;
- (4)(m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures;...
- (4)(p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment;...”

The objectives of an integrated environmental management system are defined in NEMA as follows (referred to in **section 2.5.2.2**):

“S23 (2) –

- (a) promote the integration of the principles of environmental management set out in section 2 into the making of all decisions which may have a significant effect on the environment;
- (b) identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2;
- (c) ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;
- (d) ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;
- (e) ensure the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and
- (f) identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2.”

Section 33 of GNR 543 GG 33306 of June 2010 stipulates the following (as referred to in **section 2.5.2.3**):

“S33. A draft environmental management programme must comply with section 24N of the Act and include –

(a) details of –

(i) the person who prepared the environmental management programme; and

(ii) the expertise of that person to prepare an environmental management programme;

¹⁴(b) information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in a report contemplated by these Regulations, including environmental impacts or objectives in respect of:

(i) planning and design;

(ii) pre-construction and construction activities;

(iii) operation or undertaking of the activity;

(iv) rehabilitation of the environment; and

(v) closure, where relevant.

(c) a detailed description of the aspects of the activity that are covered by the draft environmental management programme;

(d) an identification of the persons who will be responsible for the implementation of the measures contemplated in paragraph (b);

(e) proposed mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon;

¹⁵(f) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of any listed activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development, including, where appropriate, concurrent or progressive rehabilitation measures;

(g) a description of the manner in which it intends to—

(i) modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;

(ii) remedy the cause of pollution or degradation and migration of pollutants;

(iii) comply with any prescribed environmental management standards or practices;

(iv) comply with any applicable provisions of the Act regarding closure, where applicable;

(v) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;

¹⁴ The management mitigation measures now have to cover the entire life cycle of the activity including the rehabilitation and closure phase.

¹⁵ A description of the rehabilitation measure to form part of the EMP.

- (h) time periods within which the measures contemplated in the environmental management programme must be implemented;
- (i) the process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of undertaking a listed activity;
- ¹⁶(j) an environmental awareness plan describing the manner in which—
 - (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and
 - (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment;
- ¹⁷(k) where appropriate, closure plans, including closure objectives.”

The following sections set out in GNR 982 GG 38282, as considered in **section 2.5.2.4**:

“S26. (h) a requirement that the environmental authorisation, EMPr, any independent assessments of financial provision for rehabilitation and environmental liability, closure plans, where applicable, audit reports including the environmental audit report contemplated by regulation 34, and all compliance monitoring reports be made available for inspection and copying-

- (i) at the site of the authorised activity;
- (ii) to anyone on request; and
- (iii) where the holder of the environmental authorisation has a website, on such publicly accessible website”

“S34. (1) The holder of an environmental authorisation must, for the period during which the environmental authorisation and EMPr, and where applicable the closure plan, remain valid-

- (a) ensure compliance with the conditions of the environmental authorisation and the EMPr, and where applicable the closure plan, is audited; and
- (b) submit an environmental audit report to the relevant competent authority.
- (2) The environmental audit report contemplated in sub-regulation (1) must-
 - (a) be prepared by an independent person with the relevant environmental auditing expertise;
 - (b) provide verifiable findings, in a structured and systematic manner, on-

¹⁶ The training of personnel appointed by the proponent must now form part of the management plan.

¹⁷ A closure plan to form part of the EMP.

- (i) the level of performance against and compliance of an organization or project with the provisions of the requisite environmental authorisation or EMPr and, where applicable, the closure plan; and
 - (ii) the ability of the measures contained in the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity;
 - (c) contain the information set out in Appendix 7; and
 - (d) be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation.
- (3) The environmental audit report contemplated in subregulation (1) must determine-
- (a) the ability of the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an ongoing basis and to sufficiently provide for the , avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and
 - (b) the level of compliance with the provisions of environmental authorisation, EMPr and where applicable the closure plan.
- (4) Where the findings of the environmental audit report contemplated in subregulation (1) indicate-
- (a) insufficient mitigation of environmental impacts associated with the undertaking of the activity; or
 - (b) insufficient levels of compliance with the environmental authorisation or EMPr and, where applicable, the closure plan;
- the holder must, when submitting the environmental audit report to the competent authority in terms of sub-regulation (1), submit recommendations to amend the EMPr or closure plan in order to rectify the shortcomings identified in the environmental audit report.
- (5) When submitting recommendation in terms of sub-regulation (4), such recommendations must have been subjected to a public participation process, which process has been agreed to by the competent authority and was appropriate to bring the proposed amendment of the EMPr and, where applicable the closure plan, to the attention of potential and registered interested and affected parties, including organs of state which have jurisdiction in respect of any aspect of the relevant activity and the competent authority, for approval by the competent authority.
- (6) Within 7 days of the date of submission of an environmental audit report to the competent authority, the holder of an environmental authorisation must notify all potential and registered interested and affected parties of the submission of that report, and make such report immediately available-

- (a) to anyone on request; and
- (b) on a publicly accessible website, where the holder has such a website. (7) An environmental audit report must contain all information set out in Appendix 7 to these Regulations.”

“S 37. (2) The holder of the environmental authorisation must invite comments on the proposed amendments to the impact management outcomes or objectives of the EMPr or amendments to the closure objectives of the closure plan from potentially interested and affected parties, including the competent authority, by using any of the methods provided for in the Act for a period of at least 30 days.

(3) Reasonable alternative methods, as agreed to by the competent authority, to invite comments as contemplated in sub-regulation (2), may be used in those instances where a person desires but is unable to participate in the process due to-

- (a) illiteracy;
- (b) disability; or
- (c) any other disadvantage.”

“Appendix 7 S2. The objective of the environmental audit report is to-

(a) report on-

(i) the level of compliance with the conditions of the environmental authorisation and the EMPr , and where applicable, the closure plan; and

(ii) the extent to which the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan achieve the objectives and outcomes of the EMPr, and closure plan.

(b) identify and assess any new impacts and risks as a result of undertaking the activity;

(c) evaluate the effectiveness of the EMPr, and where applicable, the closure plan;

(d) identify shortcomings in the EMPr, and where applicable, the closure plan; and

(e) identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan.”