



**AFRICAN DEVELOPMENT  
BANK GROUP**

**PROJECT: ESKOM POWER GENERATION & TRANSMISSION  
PROJECT**

**COUNTRY: REPUBLIC OF SOUTH AFRICA**

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**ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN SUMMARY**

*Date: November 2015*

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# ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

## SUMMARY

**Project Title: Eskom Power Generation and Transmission Project**

**Project Number: P-ZA-FA0-002**

**Country: South Africa**

**Department: ONEC**

**Division: ONEC.2**

**Project Category: Category 1**

### 1. Introduction

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Eskom Holdings Limited (Eskom) provides energy and related services, including the generation, transmission, distribution and supply of electricity. Eskom currently generates approximately 95% of the electricity used in South Africa. The reliable provision of electricity by Eskom is thus critical for industrial development, related employment and sustainable development in South Africa.

In order to be able to adequately provide for the growing electricity demand, Eskom have identified various technologies in different locations in South Africa. As part of its capacity expansion programme, Eskom Holdings Limited is constructing a 4800 MW coal-fired power station, named Medupi, in the Lephalale area in the vicinity of the existing Matimba Power Station. A positive Record of Decision (RoD) was received on the 21st of September 2006. The Environmental Management Programme (EMP) pertains to the construction phase of the Medupi Power Station, being constructed on the farm Naauwontkome 509 LQ (station centre line co-ordinates: X: +2 622 675 and Y: -57 470) with the ash dump potentially on the farm Eenzaamheid 687 LQ.

The Construction EMP (CEMP) provides management principles for the construction phase of the Medupi project. Environmental actions, procedures and responsibilities as required within the construction phase are specified. These specifications (and any revisions made to the CEMP) form part of the contract documentation and, therefore, the Contractor(s) are required to comply with the specifications to the satisfaction of the Project Manager, Site Director and Environmental Control Officer, in terms of the construction contract.

In accordance with Condition 3.2.3.4 of the RoD, Eskom was required to submit an operational phase EMP (OEMP) to the Department of Environmental Affairs (DEA) and other relevant provincial and local authorities for acceptance, prior to the completion of the construction phase and the inception of the operational phase of the development. The OEMP was approved by the DEA on 4th July 2014 and subsequently approval of the amendments to OEMP on 6th of March 2015. The OEMP provides specific environmental guidance for the operation and maintenance phase of the Medupi Power Station, and is intended to manage and mitigate operation and maintenance activities so that unnecessary or preventable environmental impacts do not result. Unit 6 of Medupi Power Plant has been commissioned in 2015 and will comply with the DEA approved operational phase EMP.

This ESMP summary which addresses both the construction phase EMP (CEMP) and operational phase EMP (OEMP) is prepared in compliance with the AfDB's Integrated Safeguards System for disclosure on the Bank's website. Since the CEMP and OEMP are

dynamic documents which are constantly being updated, successive versions shall be disclosed on Eskom's website after approval by DEA.

## **2. Brief project description and key components**

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The Medupi Plant is currently under construction in Lephalale in Limpopo province, South Africa. When completed, the power station will have six boilers each powering a 764 MW turbine, producing 4,764 MW of power and incorporating the appropriate pollution abatement technologies. The power plant and associated plant (terrace area) are being constructed on an area of 700 ha, and an additional 1000 ha for ancillary services, including on-surface ashing facilities.

Medupi Power Station is constructed as a super-critical, pulverised fuel power station, utilising direct dry-cooled technology. The power station will utilize electrostatic bagfilters as its primary pollution abatement technology (for particulate emissions, anticipated to be less than 50mg/Sm<sup>3</sup>), and will have low NO<sub>x</sub> burners inherently built into the boiler for efficient combustion and thus lower NO<sub>x</sub> emissions. In terms of sulphur oxide emissions, the power station is being constructed to be FGD (flue gas desulphurisation) ready, i.e. physical space will be allowed for the FGD plant and the smokestacks lined with FGD compatible materials. When fully operational, the power station would strive towards a zero liquid effluent discharge philosophy.

Coal for Medupi Power Station is from the Exxaro's adjacent Grootegeluk Colliery, and is delivered to the power station via conveyor belts. The Grootegeluk Colliery, which also services the existing power station, is located to the immediate west of Matimba Power Station. An estimated 7.3 million tonnes per year of coal (measured on a dry basis) is required for the first three units at the Medupi Power Station. The Power Station is being constructed and commissioned in phases in order to meet the growing demand of electricity.

Direct-cooling technology will be applied, with only a small open evaporative system for critical auxiliaries that cannot be accommodated by the main cooling system. No cooling towers will be constructed for the main cooling system. Other related infrastructure would include an HV yard, coal stockpile (with a terrace footprint of approximately 61 hectares and a storage capacity of approximately 2 million tonnes) and associated conveyor belts, and a potential ash dump, with infrastructure such as transmission lines being planned to integrate the station into the national electricity grid.

The Medupi project has engaged 26 Contract packages (boiler, turbine, civil, smokestacks, etc) on-site. There have been approximately 13,000 contractor staff daily on site in 2015. Every Contract that employs more than 500 staff is required to designate an Environmental Health and Safety Officer on site.

## **3. Major environmental and social impacts and climate change risk**

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The ESIA and associated specialist studies for Medupi Project were undertaken in 2006. The major environmental impacts associated with the proposed project as discussed in the ESIA include: (i) Potential impacts on air quality and human health as a result of emissions from the facility. (ii) Potential impacts on surface and groundwater resources as a result of the proposed project. (iii) Potential visual impacts associated with the proposed project and associated impacts on tourism potential. (iv) Potential noise impacts. (v) Potential impacts on heritage sites. (vi) Potential impacts associated with the transportation of components during construction and fuel during operation. (vii) Potential impacts on flora, fauna and ecology. (viii) Potential impacts on soils and agricultural potential. (ix) Potential social impacts.

The CEMP provides management principles for the construction phase of the project. Environmental actions, procedures and responsibilities as required within the construction phase are specified. These specifications form part of the contract documentation and, therefore, the Contractor is required to comply with the specifications to the satisfaction of the Project Manager, Site Director and Environmental Control Officer, in terms of the construction contract.

The Contractor is required to comply with the relevant legislation for the construction phase of the project. The list of legislation is included as an Annex to the CEMP and is intended to serve as a guideline only for the Contractor and is not exhaustive. According to RoD condition 3.2.3.2, the CEMP is seen as a dynamic document which will be updated as required on a continuous basis. Any amendments/changes must and will be submitted to the DEA for approval before such changes could be affected. In addition, such submission for consideration by the DEA must be accompanied by recommendations of the EMC.

The OEMP sets out the procedures necessary for Eskom to ensure environmental compliance during the operation and maintenance of the Medupi Power Station. In order to ensure site-specific compliance associated with the power station operation and maintenance, the OEMP includes the statement of an over-arching environmental goal, as well as lists a number of objectives in order to meet this goal. The OEMP is structured in table format in order to show the links between the goals for each phase and their associated objectives, activities/risk sources, mitigation actions monitoring requirements and performance indicators. A specific environmental management plan table has been established for each environmental objective.

A number of potential operational impacts requiring management and mitigation were identified during the EIA. These include: (i) Impacts on air quality and human health as a result of emissions to air from the facility; (ii) Impacts on surface and groundwater resources as a result of the operation of the power station (iii) Visual impacts; (iv) Noise impacts; (v) Social impacts.

#### **4. Policy, Legal and Administrative Framework**

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The following is a summary of the applicable environmental legislation for the establishment of the new Coal-fired Power Station and associated infrastructure. The Constitution of South Africa (Act No. 108 of 1996); Environment Conservation Act (Act No. 73 of 1989); National Environmental Management Act (Act No. 107 of 1998); National Heritage Resources Act (Act No. 25 of 1999); Hazardous Substances Act (Act No. 15 of 1973); Occupational Health and Safety Act (Act No. 85 of 1993); National Road Traffic Act (Act No. 93 of 1996); Atmospheric

Pollution Prevention Act (Act No. 45 of 1965); National Water Act (Act No. 36 of 1998); Conservation of Agricultural Resources Act (act No. 43 of 1983); National Veld and Forest Fire Act (Act No. 101 1998); Health Act (Act No. 63 of 1977); National Environmental Management: Air Quality act (Act No. 39 of 2004); National Environmental Management: Biodiversity Act (Act No. 10 of 2004); National Environmental Management: Waste Act (Act No. 59 of 2008); National Forest Act (act No. 84 of 1998); Protection Act (Act 71 of 1962); Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act (No 36 of 1947); Explosives Regulations, 2002 as published in Government Gazette No. 24272 Explosives Regulations, 2002 as published in Government Gazette No. 24272.

All applicable environmental standards contained within environmental legislation are adhered to. Where there is no applicable local standard, international best practice are followed, in consultation with the ECO and Environmental Manager. All conditions contained in any permit/licence issued under the Atmospheric Pollution Prevention Act (Act No. 45 of 1965) and the National Environmental Management: Air Quality act (Act No. 39 of 2004 with regard to air quality is adhered to.

Wherever blasting activity is required on the site, the Contractor adheres to the relevant statutes and regulations that control the use of explosives. These regulations include inter alia the regulations as laid out in the Explosives Regulations, 2002 as published in Government Gazette No. 24272 on 17 January 2003. As far as possible, waste should be avoided, reduced, re-used and/or recycled. Where this is not feasible, all waste (general and hazardous) generated during the construction of the power station may only be disposed of at appropriately licensed waste disposal sites (in terms of Section 20 of the Environment Conservation Act, No 73 of 1989 and in accordance with the new waste act: National Environmental Waste Management Act 2008). The National Noise Control Regulations (NCR) of the Environment Conservation Act (No 73 of 1989), Government Notice No. R55 of 14 January 1994, apply for this project.

## **5. Enhancement/mitigation measures and complementary initiatives**

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Mitigation measures required to be implemented in order to minimise the identified impacts were detailed within the EIA Report (Bohlweki Environmental, May 2006). Environmental specifications (i.e. principles of environmental management for the operation and maintenance of the Medupi Power Station) and procedures necessary for Eskom to achieve environmental compliance during the operation and maintenance of the Medupi Power Station are detailed within the OEMP.

*Complimentary Initiatives:* Eskom runs Corporate Social Investment (CSI) programs through Eskom Development Foundation whose mandate is to contribute to the improvement of the quality of life in communities where Eskom operates. A social intervention with a developmental intent uplifts, improves, enhances, and empowers communities. During the 2014/15 financial year, Eskom committed R115.5 million in funding for the benefit of 323,882 people throughout the country. Over the past 4 years, the Eskom Development Foundation has invested over R500m in CSI initiatives across the country, touching the lives of over 2 million people.

As part of the CSI, the Medupi Project has been running its own legacy programs to the benefit of the local people in the region. Achievements made so far through the CSI program, by sector, include:

- (i) Education sector received an allocation of R36.7 million for school construction, running the Ambassador Program, and the whole school development concept. Results achieved, so far have been increased access to education for 12,600 children, construction and refurbishment of 11 schools and crèches; extensive training at 31 schools with a total of 620 staff members; 10 highly motivated graduates placed in schools to improve English, Mathematics and Science knowledge.
- (ii) The Health sector was allocated R13.6 million for operations of the pediatric mobile clinic; and supporting operations at Marapong Clinic. From this program, approximately 6,000 children were treated per annum by the pediatric mobile clinic. Six clinics were expanded and provided with medical equipment benefitting over 80 000 people. The program also supported the Department of Health in developing a Needs Analysis which would enable prioritization of investments.
- (iii) The Agricultural sector was provided with R16.6 million for the development of an Integrated Agriculture Master Plan; and creation of off-farm jobs. Resulting from this was the realization an Integrated Agriculture Business Plan which will enable local subsistence farmers to produce for viable markets.
- (iv) Community Support: An amount of R12.0 million was allocated for construction of Mokuruanyane Hall and Shongoane Hall. Community Halls and Traditional Offices have been constructed, using local contractor and local labor, in each of the main villages to enable communities to gather for key events and social functions.

## **6. Environmental and social monitoring program**

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It is a requirement in the Record of Decision (RoD) issued by DEA for the Medupi Power Project, that Eskom and the independent Environment Compliance Officers (ECO), composed of a team of five (5) environmental practitioners who are on site full-time on behalf of the Department of Environmental Affairs (DEA), continue to monitor compliance to various elements of the conditions of the RoD. This includes monitoring of the Construction Phase Environmental Management Plan CEMP compliance, water quality and ambient air quality in and around the Marapong environs near Medupi and Matimba power stations.

Monitoring programs for specifically water quality, noise and dust (in accordance with specifications detailed in relevant permits and standards) have been put in place, not only to ensure conformance with the CEMP, but also to monitor any environmental issues and impacts which have not been accounted for in the CEMP that are, or could result in significant environmental impacts for which corrective action is required. These monitoring programmes reflect the relevant variables to be monitored, as well as the frequency, into which the ECO gives inputs. The monitoring programme has been determined in consultation with relevant stakeholders and authorities. The Site Director ensures that the monitoring is carried out.

The Medupi Power Project also monitors drinking water quality and surface water quality through commissioning Aquatico to analyze and evaluate the physical, chemical and bacteriological quality of drinking water locations in and around the Medupi power plant on a monthly basis, as well as surface water quality. The drinking water quality results generated from the analysis are compared against the Regulations under the Mine Health and Safety

guidelines for potable water and the SANS 241:2011 Potable water guideline, thus providing the project with baseline potable water quality before the project becomes operational, as well as provide real time data that can inform any actions required in case water quality above the required standard is detected. Tests conducted in August 2014 from 22 different locations within the Medupi power plant indicated no health risks or aesthetic effects. All water samples are of ideal water quality and all the potable water localities are compliant with the recommended operational limits under the Mine Health and Safety guidelines for potable water and (SANS 241:2011).

The assessment of surface water quality is compared against standards stipulated in the Integrated Water Use Licence (IWUL) for Medupi surface water issued under the South African Water Quality Guidelines (SAWQG) for Agricultural Use and irrigation. In August 2014 samples were taken from the locations that will be the main recipients of surface water, including the Storm Water Attenuation dam, the dam next to the Ash Dump, the Ash Pollution Control Dam, Ash Dump, Clean Water Dam, Dirty Water Dam and the Coal stockyard pollution control dam.

Overall, monitoring continues for key parameters, notably air quality, ground and potable water quality, noise and dust fallout. Over the period January to March 2015, data recorded at the Marapong monitoring station indicated that there was only one exceedance of the SO<sub>2</sub> national hourly limit of 134ppb during the period, while no exceedances were recorded for PM<sub>2.5</sub>, SO<sub>2</sub> daily limits, or of the NO<sub>2</sub> hourly limit, as well as no exceedances of National Dust Control Regulations (GG No. 36974, 2013). The lenders were also presented with updates on Eskom's efforts on the Medupi Air Quality Mitigation Plan that seeks to contribute to improvement of ambient air quality in the Marapong and surrounding areas through other mitigating options, such as reduction of indoor sources of pollution, among others. Also noted the ongoing concrete laying over the liner at the coal stock yards to provide additional protection against the possibility of ground water contamination due to leachate in the future.

Groundwater Monitoring: A groundwater monitoring system has been established on-site by the Site Environmental Manager. The project continues to monitor ground water quality at six pairs of boreholes at the Medupi site, which are located mostly on the periphery of the site with average groundwater levels between 5-23 meters below ground level. Whereas the main groundwater impact sources are mostly construction related (cement runoff, hydrocarbons, silt transportation) and operational mostly due to acid mine drainage, there is no indication that construction of Medupi is impacting the groundwater quality, which is generally poor (particularly in MBH04S) due to natural causes, and especially considering that all these are controllable sources, according to the Eskom environment team on the project site.

The ground water quality results from sampling in 2014 monitoring period indicated no change from previous baseline results which showed marginal to poor water quality not suitable for human consumption. During the October 2014 monitoring run, hydrocarbon scans were below the detection limit, indicating that no oil, petroleum or gasolines were in the water samples.

In order to further enhance ground water monitoring, a proposal for expansion of the groundwater monitoring network has been submitted and accepted by government (Department of Water and Sanitation), and drilling of more monitoring boreholes is expected to commence soon.

Compliance with new Air Emission Standards: Eskom submitted a request to DEA for the postponement of the application to the current environmental emission limits for SO<sub>2</sub> of 3500 mg/Nm<sup>3</sup> (expiring in 2015) which would bring in new requirements (SO<sub>2</sub>: 500 mg/Nm<sup>3</sup>) in effect from 2020-2025. This application was granted by DEA on February 13, 2015. This application for postponement of the time frame for meeting the SO<sub>2</sub> emission standards was in order to accommodate the FGD retrofit time schedule 6 years after commissioning of each unit, and which the Medupi Power Plant would need to meet only by 2020 as Medupi is classified by DEA as an “existing plant”, the DEA has granted a five year postponement from 2020 to 2025 for the 500mg/Nm<sup>3</sup> standard. However, for PM and NO<sub>x</sub>, the Medupi Power station will already meet the new plant standards even though Medupi is classed by DEA as an “existing plant” as the environmental authorization was issued 3 years prior to the Minimum Emission Standards (MES) being promulgated. For SO<sub>2</sub>, Eskom is confident that the new April 2015 standard for existing plants (3500 mg/Nm<sup>3</sup>) can be achievable by the plant as of April 2015 based on the average Sulphur content of the coal.

As an integral part of the air quality management system, Eskom provided in September 2015 updates on the FGD retrofit timelines and the commitment to the retrofitting of the flue gas desulphurization (FGD) technology on Medupi Power Station in order to bring the plant into compliance with the Minimum Emission Standards which came into effect from 1<sup>st</sup> April 2015, and 1<sup>st</sup> April 2020 for the more stringent emission limits. Eskom reaffirmed its commitment and plan to install the FGD system for abatement of SO<sub>2</sub> emissions from the Medupi power Plant sequentially from six years after the commissioning of each generating unit which would be from 2021 to 2025.

To this effect, it was reported that Eskom engineering has partnered with external Engineering Consultants to perform preliminary engineering and design studies to support the following: complete project scope definition, definitive project capital cost estimates, constructability analysis, engineering design training and skills transfer, environmental permitting and development of an integrated implementation schedule. The schedule also includes the conduct of the project Environmental Impact Assessment (EIA) and related water licensing activities. All indications therefore are that arrangements and plans for future installation of the FGD system are still on course and will be a major component in addressing concerns related to air emissions once the plant becomes operational. The detailed FDG schedule as of September 2015 is as follows:

***Scope and Schedule: Milestone Progress towards FGD***

<b>S/No</b>	<b>Milestone Objective</b>	<b>Status</b>	<b>Descriptive Information on status</b>
1.	CRA milestone	Complete	CRA approved in June 2011
2.	DRA milestone	Complete	DRA approved in July 2012
3.	Engineering URS and Basic Design	In-progress	Planned completion November 2015
4.	ERA milestone	Future	ERA approval planned for 2018 Q4
5.	EIA environment (FGD)	Commenced	Issuance of RoD April 2018
6.	Construction	Future	Planned for 2019 Q1
7.	Commissioning U6	Future	Planned for 2021 Q2
8.	Commissioning U5	Future	Planned for 2023 Q3
9.	Commissioning U4	Future	Planned for 2023 Q4



10.	Commissioning U3	Future	Planned for 2024 Q3
11.	Commissioning U2	Future	Planned for 2024 Q4
12.	Commissioning U1	Future	Planned for 2025 Q2

With respect to air quality monitoring, the project continued to monitor air quality in and around the Medupi and the Matimba Power Stations where Eskom has two (2) Air Quality monitoring stations – one (1) in Marapong and one (1) downwind from the Medupi Construction Site. These stations are complimented by other monitoring stations operated by the Waterberg District Municipality (declared as a high-priority area in terms of Air Quality by the DEA) and which, in addition to the existing Lephhalale and Thabazimbi monitoring stations, has also recently added another new Waterberg Monitoring Station which has been operating since November 2014 and will therefore be able to record emissions both before and after Medupi’s becomes operational.

The latest information available indicates that the ambient air quality standard allows 88 exceedances of the one hour NO<sub>2</sub> and SO<sub>2</sub> limit values, and four exceedances of 24-hour SO<sub>2</sub> limit value in a year, these allowed frequency of exceedances have so far not been exceeded in any year. However, PM10<sup>1</sup> exceedances were recorded frequently, and especially during drier months, partly on account of numerous possible sources of particulate matter (PM) emissions, including vehicles on dirt roads as well as burning of fuel and/or wood.

As part of its commitment to contribute to improving air quality, Eskom is also in the process of investigating possibilities for air quality offsets that could be implemented to achieve a greater improvement in ambient air quality, at a fraction of the cost, than could be achieved through emission abatement retrofits and targeting mostly domestic sources of pollution such as household emissions. To-date Eskom has completed a pre-feasibility study which identified the most promising offsets, which included, among others; clean burning coal stove, electricity subsidy, full thermal insulation retrofit, energy efficient RDP housing and LPG heater and subsidy. Key activities in this program include development of an offset methodology, undertaking ambient air quality monitoring, indoor monitoring and exposure monitoring, atmospheric dispersion modelling and household surveys, focusing on energy usage patterns, quality of life and economic activities. With the pilot phase for this initiative expected to be completed by 2015/16, it is also anticipated that initially the program could be implemented around stations that receive a postponement from the timeframes from the 2015 and 2020 Minimum Emission Standards.

## **7. Public consultations and disclosure requirements**

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Eskom has established Medupi Central Information Office (MCIO) which is instrumental in facilitating recruitment of local workforce and serves as the centre where grievances can be reported. The Centre has five Community Liaison Officers (CLO’s) that represent all areas of Lephhalale, including the three traditional areas, namely, Seleka, Abbotspoort and Shongoane. The other two are based in Marapong and Thabo Mbeki in Witpoort. This decision was based on the discussions led by the Planning Unit of the Office of the Premier at the then Medupi Stakeholder Forum.

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<sup>1</sup> The “10” in PM10 refers to the size of the particles – PM10 will thus consist of particles that are 10 micrometres or less. The smaller/finer the particle, the more dangerous it is to human health as it can easily be inhaled.

Expanding the functions of the Medupi Central Information Office (MCIO) to also serve as a center where grievances can be reported and where Eskom can gain feedback from communities on the project activities, has been the objective. Consistent with the reports from project implementation, the functions of the Medupi MCIO and the five satellite offices (Seleka, Marapong, Thabo Mbeki Area, Abbotspoort and Shongoane) have continued to provide community liaison and handling of community related issues and procurement information. The MCIO continues to serve as the first point of contact and for dissemination of project information to various stakeholders including but not limited to, suppliers, local media and the public in general, including providing regular responses to general queries, and facilitation of local labor recruitment, and receiving complaints on various issues such as dismissals, which are recorded in the issues logs. These centers also continue to provide Eskom with the opportunity to get feedback from communities on the project activities through community meetings, notice boards, popular public platforms, and bulk SMS facility.

There is interrelatedness in the activities of the various Medupi outreach initiatives (MCIO, EMC, CSI, and Medupi Leadership Initiative (MLI) on Employment/Training programs) and the lenders recommended that these various teams working at Medupi (EMC, CSI, and Employment/Training) take stock of how they can provide information to the community in an integrated manner and make use of the various avenues established. In this regard, and considering the importance of these outreach initiatives in creating awareness about project activities, it was recommended by lenders that the CSI team should make a presentation at the EMC meetings, particularly on the issues of health monitoring; job creation and other social investments currently underway.

As an independent organ set up to guide and monitor environmental management for the Medupi project, the EMC continues to explore appropriate ways to ensure effective participation of local community representatives and Councilors in its activities. As standard practice now, the EMC continues to hold regular public meetings as an integral part of its regular EMC meetings and in locations within reach of community representatives. Further examples include the following EMC public meetings:

- 30 September 2014 at the Traditional Council Offices, at Shongoane, which discussed the progress of the investigations on sand mining.
- 09 December 2014 at Ditheku Primary School, Marapong, Lephalale, which discussed, among others, the state of state of air quality in the Waterberg Region.
- 3<sup>rd</sup> March 2015 at Marapong during which feedback was provided on progress of the HIA.

The Medupi project continues to employ a number of mechanisms to ensure that communities are informed and engaged on project related issues that may affect them.

## **8. Institutional arrangements and capacity building requirements**

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According to RoD condition 3.2.2.1, the project development was authorized “on condition that the developer establishes an EMC with clear terms of reference”. Formal responsibilities are necessary to ensure that key procedures are executed. Specific responsibilities of the Project Manager: Site Manager: Medupi Power Station and Environmental Control Officer for the construction phase of this project are documented and communicated with all employees. The

Environmental Control Officer is independent and reports to an Environmental Management Committee. The Environmental Management Committee consists of representatives of local communities, local municipality and an ecologist. There is a team of environmental managers on site some accountable for the overall project while others are appointed by contractors to ensure compliance with the CEMP. The Environmental Control Officer completes monthly compliance reports which are submitted directly to DEAT. Further audits are carried out every six months by an external independent auditor. These audit reports are submitted to DEAT.

For the OEMP, the Power Station Management comprise of a Power Station Manager and relevant heads of technical groups and support departments. This team represents Eskom Generation on site and is committed to comply with ISO 14001 environmental practices. Each technical group head is responsible and accountable for environmental management within his/her area of responsibility, and ensure that his/her department ensures compliance with the established procedures that address environmental aspects and adherence to these will minimise environmental impacts.

An Environmental Monitoring Committee (EMC) is required by Condition 3.2.2 of the RoD and has been established for the construction phase of the project (known as the Medupi EMC). The terms of reference detailing the roles, responsibilities and constitution of the EMC for the operation phase shall be founded upon those established by the EMC terms of reference for the construction phase in consultation with the DEA.

For the operational phase of the project, the EMC membership will consist of: (i) A chairperson; (ii) The ecologist that participated in the EIA process, or any other suitably qualified and experienced ecologist approved for this purpose by the Department; (iii) Two representatives of the public, one community member from Maropong and one from Lephalale; (iv) Eskom Medupi Senior Environmental Advisor and subordinates; (v) The EMC has the following roles and responsibilities during the operation of the Medupi Power Station: (vi) The EMC must appoint an independent chairperson who has appropriate people and project management skills; (vii) The EMC must meet on a bi-monthly basis from the inception of the project; (viii) The EMC must report to the Director-General of the DDEA on a bi-monthly basis.

### **Capacity Building**

*Eskom Contractor Academy:* A support program for local small and medium enterprises has been running with financing from Eskom's Medupi project. The program has equipped SMEs with essential business and technical skills to enable growth. Over 600 graduates to date have gone through this program which runs for over 8 months being in class for one week per month. Some 156 business owners have undergone training across all 9 provinces during 2014/15. Eskom Contractor Academy training modules cover the fundamentals of business management: including project management; business skills and finance; people management; supply chain management; SHERQ (Safety, Health, Environment, Risk & Quality); New Engineering Contract (NEC); and Practical line building for contractors.

*Sustainable Enterprise Development:* Under this program, Medupi has supported entrepreneurs whose activities have grown to creating more local jobs; Medupi has established Young Entrepreneur Development Initiatives such as the youth owned Lephalale security company which started its operations in 2010 and is currently employing 135 (40 Women and 95 Men) people. Medupi Project also supported an Adapt a Youth Entrepreneur Campaign organized by

Limpopo Economic Development Agency in Lephalale that was attended by 27 young entrepreneurs from all over Limpopo. Another program which Medupi has supported is the “women employing their husbands”. An example of this a company which commenced operations in 2014 with 99 (10 Men, 89 Women, out of which were 45 Youth) owned by a graduate of Eskom’s Contractors’ Training’s Academy. Medupi also supported Makalane Plant that started in 2009 with 1 employee and 2 minibuses. Currently it employees 20 people (5 women and 15 men) among which 19 are youth and has a fleet of 19 minibuses. Program facilitating local suppliers to Medupi has so far worked very well. The program has benefited 28 Suppliers from Lephalale Municipality.

## **9. Estimated costs**

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The Costs for CEMP implementation are split between Eskom and the Contractors whereas the costs for OEMP are under Eskom’s annual management budget.

## **10. Implementation schedule and reporting**

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The project continues to submit quarterly progress reports on schedule, with the last submission being for the fourth quarter April-June 2015. In addition to the quarterly progress reports, the ECO continues to submit regular monthly Environmental Compliance Reports (latest September, 2015) detailing compliance actions taken and issues for follow up by relevant contractors on the project. Management has continued to conduct routine supervision missions of the project on schedule, with the last one conducted over the period 21 -25th September, 2015 and which informed the preparation of this report. The supervision missions have continued to provide useful opportunity for Management to provide timely oversight and advice to the project on various issues, including those relevant to the IRM Action Plan.

## **11. Conclusion**

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The ESIA studies for Medupi Project met both the Bank’s Environmental and Social Assessment Procedures 2001 and the requirements of South Africa’s Department of Environmental Affairs (DEA). Furthermore the project implementation complies with the requirements of the Bank’s new Integrated Safeguards System.

To mitigate the negative impacts of construction, operation and maintenance, Environmental and Social Management Plans (ESMPs) for both Construction (CEMP) and Operation & Maintenance (OEMP) were prepared as part of the studies and approved by DEA. There have been two revisions to the CEMP and the latest third revision is on-going to accommodate (i) changes in waste legislation; (ii) clearer allocation of roles and responsibilities for the actors (Eskom, Environmental Control Officer, Contractor and the Environmental Management Committee); (iii) responsibilities for the Contractors and sub-contractors have been made stricter; (iv) Amendments have been made to the aspects and impacts register as the construction progresses; (v) all ESMP activities have been aligned to new legislation (vi) Training, awareness and education of all staff and workers has increased and full induction of staff and workers done; (vii) identification and

translocation of impalas and snakes that graze within the project precincts. The ESMPs include monitoring of various parameters that are on-going on site. These include monitoring for; Air Quality, Noise, Dust fall out, visual dust, groundwater, potable water, Health and Safety issues, contractors environmental non-compliances and impacts on fauna.

The CEMP and OEMP are dynamic documents which are undergoing routine updates and approval by DEA. Future updates of the CEMP and OEMP shall be published on the Eskom website.