THE INDEPENDENT REVIEW MECHANISM (IRM)
THIRD MONITORING REPORT

MEDUPI POWER PROJECT: INDEPENDENT REVIEW MECHANISM THIRD MONITORING REPORT ON THE IMPLEMENTATION OF THE UPDATED MANAGEMENT ACTION PLAN IN SOUTH AFRICA

BCRM Department
February 2019
TABLE OF CONTENTS

LIST OF ABBREVIATIONS i

1. INTRODUCTION 1

   The Project .................................................................................................................. 2
   The Complaint and the Compliance Review ............................................................... 2

2. KEY FINDINGS AND RECOMMENDATIONS OF THE THIRD IRM MONITORING 4

   Completed Action Items .............................................................................................. 4
   Outstanding Action Items ............................................................................................ 5

3. MANAGEMENT UPDATES: IMPLEMENTATION OF THE REMEDIAL ACTION PLAN 9

4. FINDINGS OF THE IRM MONITORING TEAM 10

   4.1. Monitoring of the CEMP Implementation ............................................................ 10
       1) Monitoring of Air Quality ................................................................................... 10
       2) Flue-Gas Desulphurization (FGD) Units Installation ........................................ 11

   4.2. Project Supervision ............................................................................................. 12

   4.3. Regional Impact Assessments ........................................................................... 13

   4.4. Compliance with the Integrated Water Resources Management Policy ............ 13

   4.5. Inadequate Public Consultation with the Communities ...................................... 16

   4.6. Desecration of Graves and Other Heritage Issues .............................................. 18

5. SUMMARY OF FINDINGS ................................................................................. 20

6. CONCLUSION AND RECOMMENDATIONS .............................................. 20

ANNEX 1: COMBINED 8TH AND 9TH MANAGEMENT MONITORING REPORT ON IMPLEMENTATION OF THE ACTION PLAN OF THE MEDUPI POWER PROJECT, SOUTH AFRICA - 1 -
# List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADB</td>
<td>African Development Bank</td>
</tr>
<tr>
<td>AfDB</td>
<td>African Development Bank Group</td>
</tr>
<tr>
<td>BCRM</td>
<td>Compliance Review and Mediation Unit</td>
</tr>
<tr>
<td>CEMP</td>
<td>Construction Phase Environmental Management Plan</td>
</tr>
<tr>
<td>DAFF</td>
<td>Department of Agriculture, Forestry, and Fisheries</td>
</tr>
<tr>
<td>DEA</td>
<td>Department of Environmental Affairs</td>
</tr>
<tr>
<td>DMR</td>
<td>Department of Mineral Resources</td>
</tr>
<tr>
<td>DPE</td>
<td>Department of Public Enterprises</td>
</tr>
<tr>
<td>DWS</td>
<td>Department of Water and Sanitation</td>
</tr>
<tr>
<td>EIR</td>
<td>Environmental Impact Report</td>
</tr>
<tr>
<td>EMC</td>
<td>Environmental Monitoring Committee</td>
</tr>
<tr>
<td>FGD</td>
<td>Flue-Gas Desulphurization</td>
</tr>
<tr>
<td>IRM</td>
<td>Independent Review Mechanism</td>
</tr>
<tr>
<td>LEDET</td>
<td>Limpopo Department of Economic Development, Environment, and Tourism</td>
</tr>
<tr>
<td>MCIO</td>
<td>Medupi Central Information Office</td>
</tr>
<tr>
<td>MCWAP-2A</td>
<td>Mokolo-Crocodile Water Augmentation Project 2</td>
</tr>
<tr>
<td>OEMP</td>
<td>Operational Phase Environmental Management Plan</td>
</tr>
<tr>
<td>PM</td>
<td>Particulate Matter</td>
</tr>
<tr>
<td>RESA</td>
<td>Regional Environmental and Social Assessment</td>
</tr>
<tr>
<td>TCTA</td>
<td>Trans-Caledon Tunnel Authority</td>
</tr>
</tbody>
</table>
1. INTRODUCTION

The Third Monitoring Report on the implementation of the Updated Management Action Plan for the Medupi Power Project prepared by the Independent Review Mechanism (IRM) is submitted to the Boards of Directors of the African Development Bank Group (AfDB) for consideration and approval.

The objective of this third IRM monitoring exercise was to assess the progress made in the implementation of the Updated Management Action Plan of the Medupi Power Project, which was approved by the Boards of Directors on 13 February 2013.¹ The Updated Management Action Plan was designed to bring the Medupi Power Project into compliance with the applicable Bank policies and procedures, as a response to the IRM Compliance Review Report, which was submitted to the Boards of Directors of the AfDB on 24 January 2012. The Compliance Review Report noted a number of instances of non-compliance with Bank policies and the related harm caused to people and the environment.² The Boards authorized the IRM to conduct annual monitoring of the Management Remedial Action Plan on 13 February 2013, including the scope of the annual monitoring by the IRM. The Boards of Directors approved the findings of both the First IRM Monitoring Report³ on 26 November 2015 and the Second IRM Monitoring Report⁴ on 6 September 2017.

The Third IRM Monitoring Report is based on the findings of the IRM Monitoring Team field visit to South Africa from 15 to 20 October 2018 which was conducted by Mr. Sekou Toure, Director of the Compliance Review and Mediation Unit (BCRM), and Ms. Michele de Nevers, IRM Expert. It is further based on desk reviews of relevant documents provided by the Bank Management, including project supervision reports and comments made by selected Bank staff during interviews.

The IRM Monitoring Team noted the serious and substantial effort made by the Bank Management to engage Eskom Holdings SOC Ltd (Eskom) on environmental issues of concern during their supervision missions. This effort has led to the successful improvement and achievement of compliance with Bank policies on several of the issues noted in the Compliance Review Report. The staff in their most recent Aide Mémoire and Back-to-Office Report, following a joint-lenders supervision mission conducted from 19 to 24 July 2018, have noted the remaining issues, outlined in the Report below. These are the same issues that the IRM Monitoring Team has concerns about and encourages the Bank staff and Management to continue to pursue a solution to these concerns.

The Project

The Medupi Power Project consists of the construction of a 4,764 MW coal-fired power plant in Lephalale, Limpopo Province, South Africa. When fully operational, each of the six units of the plant will generate about 800 MW. The plant is designed to use coal from a nearby coal mine; and operates with supercritical boiler technology and a closed cooling system. The plant is not yet equipped with Flue-Gas Desulphurization (FGD) equipment, but assurances have been given that the units will be retrofitted with FGD equipment no later than six years after each unit has become fully operational. On 25 November 2009, the Board of Directors of the Africa Development Bank (ADB) approved a loan not exceeding EUR 930 million for the supply and installation of six boilers and turbo-generators in the Medupi Power Project. The Project is also co-financed by the World Bank. At the time of the Boards’ approval, the total project cost was estimated at EUR 11.2 billion.

Currently, the Project is in transition from the construction to the operational phase. As of July 2018, the overall total plant completion was 93%. Three units are presently under commercial operation while the remaining three units are either under construction or in the testing and commissioning phase. After significant delays, the first unit came into commercial operation in August 2015, the second unit in March 2017, and the third unit is in the final commissioning and pre-optimization phase. The fourth unit is scheduled to start operation in January 2019, the fifth in December 2019, and the sixth by May 2020.

For the Project to comply with the National Environmental Management Policy: Air Quality Act 39 of 2004, listed activities and associated minimum emission standards identified in terms of Section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 Of 2004) retrofitting of the units with FGD equipment will need to start in 2021, six years after the first unit had become operational. This Report outlines the current status and remaining actions needed to accomplish this besides other components to bring the Medupi Project into compliance with the AfDB policies and procedures.

The Complaint and the Compliance Review

Two South African nationals submitted the complaint relating to the Medupi Power Project to the Director of CRMU (at present BCRM) on 28 September 2010. They asked the Director to keep their identities confidential. The IRM submitted the Project Compliance Review Report to the Boards of Directors in January 2012. The Report established several instances of non-compliance with the applicable Bank policies and procedures and their related harm. These instances are summarized in the following paragraphs.

(i) **Climate Change and Related Environmental Issues**: The Requestors’ concern related to: (i) the Bank’s compliance with the promotion of a “clean sustainable energy sector;” (ii) the adequacy of social and environmental studies conducted regarding the assessment of cumulative impacts; and (iii) the linkage between this Project and the Bank’s and the Borrower’s approaches to climate change. The Panel of IRM Experts determined that the Bank’s policies on energy and environmental assessments were applicable. The Appraisal
Report presented to the Boards of Directors of AfDB in November 2009 noted that South Africa was already the 11th largest emitter of greenhouse gases in the world, and was likely to rise in this global ranking as a result of Medupi and other planned coal-fired power stations. Nonetheless, the Appraisal Report and its Annexes did not describe any steps that the Bank had taken to ensure that this large coal-fired project was compliant with the full range of applicable Bank policies.

(ii) **Local Environmental Issues Related to Air and Water**: The Requestors complained that “communities living near the Medupi plant will have negative impacts on their health from air pollution, elevated sulfur-dioxide (SO2) levels, and mercury residues in their water, air and land; constrained access to water; and negative impacts on livelihoods from degradation of land and water in their largely agrarian area” Management noted that FGD equipment would be installed six years after the first unit had become operational (2021-2026). The IRM Review Panel identified uncertainties regarding the timely installation of the FGD equipment (see below). In terms of water access, the concerns of the Requestors were about stresses from the construction and operation of the Medupi Power Plant in an area where demand for water is high and water supply is inadequate. Land and water degradation can take many forms in such a project. While the waste ash is designed to be minimally liquid and a lining will be installed between the Medupi ash dump and the soil, there remains the risk that the ash dump could leak into the ground, contaminate the local ground water supply, and dry toxins on the surface could be carried away as air pollutants. The FGD technology, if installed, would generate two major waste streams: (i) wastewater that can only be partially recycled; and (ii) massive quantities of gypsum.

Furthermore, the Compliance Review Report found non-compliance with the AfDB Policy on the Environment (2004) and the Integrate Water Resources Management Policy (2000) since the Medupi Project sand mining in the Mokolo River was done without rehabilitation of the River to remediate the resulting damages to the River’s banks and bed.

(iii) **Desecration of Graves and Land Claims**: The Compliance Review Report found non-compliance with the Bank Group’s Involuntary Resettlement Policy (2003) as communities were inadequately consulted about the location of graves on the project site. The Requestors stated that “the Bank failed to consider community consultations and participation processes in the assessment of the project, and that local communities, who live close to the power plant, were subjected to removals and desecration of ancestral graves.” The Involuntary Resettlement Policy requires the Bank staff to pay careful attention to the needs of disadvantaged groups who may not have formal titles to the land but may have special sentimental attachment to particular pieces of the land. The Requestors voiced concern that there was no evidence to indicate that the Borrower engaged in consultations with the local community before the Project started on either the existence of unmarked or symbolic graves or land claims.
(iv) **Public Consultations**: The Compliance Review found non-compliance with the consultation requirements of the Bank Group’s Involuntary Resettlement Policy.

2. **KEY FINDINGS AND RECOMMENDATIONS OF THE THIRD IRM MONITORING**

**Completed Action Items**

1) **Graves and Heritage Issues**: As noted in the Second IRM Monitoring Report, significant efforts were made to implement the Management Action Plan item no. 5.1 (i.e. “Desecration of Graves and other Heritage Issues”) and this matter has now been fully addressed. In consultation with the aggrieved families and with their consent, Eskom has established a shrine located at the periphery of the project site. The solution was reached through hiring a heritage consultant. Graves that were identified have been “transferred” to a site where the shrine was built. The remaining issue was access to the site by the aggrieved families. A protocol has now been agreed upon to facilitate the access of the families. The issue has therefore been satisfactorily resolved. Eskom has put in place a regular engagement process with the families.

2) **Regional Environmental and Social Assessment**: The Second IRM Monitoring Report also noted that Action Plan item no. 2, i.e. the Regional Environmental and Social Assessment (RESA), was completed.

3) **Communication**: In terms of Action Plan items nos. 4 (i) and 4 (ii), Eskom has made efforts to improve communications with communities. It meets regularly with the Mayor of Lephalale and with Ward Councilors. The Councilors have been invited to the Environmental Monitoring Committee (EMC) meetings, though they rarely attend. The EMC meetings will continue to be held as the Project moves from the construction phase to the operational phase.

4) **Sand Mining**: The need to resolve Action Plan item no. 3 (ii), the sand mining issues, has been brought to the attention of the relevant Government Departments that have committed to addressing it. The IRM was given assurances that the competent Departments and their local counterparts are working towards addressing the issue of the impacts of sand mining on the Mokolo River. Eskom has modified its contracts with the contractors and suppliers to include conditions requiring that they obtain and/or comply fully with all required environmental permits, licenses, and authorizations. Eskom has committed to carrying out due diligence on contractors to ensure that the environmental authorizations are in place. The Department of Public Enterprises (DPE) will provide a report to the AfDB on the status of the planned rehabilitation of the Mokolo River. It is noted that the holder of a mining permit is required to ensure there is ongoing rehabilitation and that such rehabilitation is completed at the end of the mining operation. In addition, financial provision is made to the Department of Mineral Resources in the event that the mining operation does not have its own provision at end of the mining operation. This therefore ensures that rehabilitation is undertaken. This will be important to confirm that the Government is fulfilling its responsibility. Continued close monitoring by the AfDB will be needed to ensure that the rehabilitation is satisfactory.
The IRM notes and welcomes the fact that the AfDB has continued to supervise the Project on a six-monthly basis with adequate attention given to the implementation of the Updated Management Action Plan.

Outstanding Action Items

1) **Compliance with Air Quality Minimum Emission Standards and Spikes in Emissions:**
The IRM Monitoring Team noted the important efforts made by Eskom to monitor air quality and water quality impacts. In respect to air quality monitoring, the IRM is concerned about occasional exceedances of the standard and the need to seek postponement and/or alternative standards from the Department of Environmental Affairs (DEA) through existing legislative mechanisms. This has resulted in Eskom applying for a postponement against the time frames in terms of the Minimum Emission Standards from the national Sulphur Dioxide (SO₂) minimum emission standards for this existing plant. Eskom has been given a postponement of the timeframe to meet the SO₂ emission standards. In summary DEA has given a limit of 3,500 mg/Nm³ monthly limit as indicated below:

There is now no daily limit but a monthly limit. The limit has not changed and remains at 3500 mg/Nm³ up until end March 2025 but now based on a monthly average and not a daily average.

<table>
<thead>
<tr>
<th></th>
<th>10 Sept – 31 March 2020</th>
<th>1 April 2020 – 31 March 2025</th>
<th>1 April 2025 - onwards</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medupi</strong></td>
<td>3500 mg/Nm³ (monthly)</td>
<td>3500 mg/Nm³ (monthly)</td>
<td>500 mg/Nm³</td>
</tr>
</tbody>
</table>

As of 1st April 2015, the FGD units need be in place or Eskom will be out of compliance with the air quality standard of 500 mg/Nm³. In the meantime, Eskom has outlined various proposals to deal with these occasional spikes in SO₂ emissions above 3,500 mg/Nm³. These include checking if the large existing stockpile of coal already onsite contains lower-sulphur coal, installing an online analyser and stacker to mix coal of varying sulphur content and reopening the coal supply contract to increase the supply of low-sulphur coal. Eskom has not yet decided on an effective short-term solution to the spikes. The Bank’s Team should continue to closely observe the situation.

2) **Flue-Gas Desulphurization (FGD):** While both Eskom and the Bank Management remain committed to installing the FGD units to abate the SO₂ emissions, two key issues pose a risk to the installation of the FGD units on time (see below). As was the case with the Second IRM Monitoring Report, the IRM Monitoring Team remains concerned about possible delays in the installation of the FGD equipment particularly retrofitting of the first unit with FGD equipment is expected to take place in 2021.

The key outstanding issues relate to: (i) securing financing for the FGD units; and (ii) securing sufficient water to operate the last three FGD units. Although the IRM Monitoring Team received strong verbal assurances from Eskom and the concerned Government Departments that these key issues were in the process of being resolved, as of October 2018, the IRM Monitoring Team did not have any written evidence that this was the case. It is
noted that, by ESKOM’s account, the Final EIA Report for the MCWAP 2A project was submitted to the DEA on 10 December 2018 (http://nemai.co.za/documents.html). In addition, payment of R69M to TCTA in 2018 for the Social contribution for FY2018/19 took place now at end January 2019. This was required for TCTA to be able to appoint the Project Engineer. If the FGD equipment is not installed on time in accordance with the agreed schedule, the Project will exceed the SO2 emissions standard and will remain in non-compliance with AfDB policies. The timely implementation of the FGD equipment is of the highest priority.

(i) Financing for the FGD Units: The IRM Monitoring Team was assured by Government officials that the National Treasury had authorized the guarantee that would enable Eskom to secure loans for the FGD equipment and installation. Once the guarantee is in place, Eskom can begin to pursue the remaining financing needed for the FGD units. This may include a request for lending from the AfDB. It will be important for the Bank’s Team to continue to supervise and follow up on the progress in securing the entire amount of funding needed for the FGD units; confirm that the necessary licenses, permits, and authorizations are in place; and ensure that the procurement process is initiated as soon as possible.

(ii) Access to Water for the FGD units: The second issue of concern is the delays in securing the full investment for the Mokolo-Crocodile Water Augmentation Project 2 (MCWAP-2A), which would bring water to the Lephalale area both for the operation of three of the FGD units and for the population living in this area (see Action Plan item no. 3.1). As the Medupi Power Project is located in a highly water-constrained area, without the MCWAP-2A, the water available would only be sufficient to operate the first three FGD units. The present schedule for the implementation of the MCWAP-2A project is already extremely tight to meet the required deadlines. The IRM Monitoring Team was informed by Eskom that the earliest the water from MCWAP-2A could be available would be August 2024. According to ESKOM, the payment of R69M to TCTA in 2018 for the Social contribution for FY2018/19 has only taken place now at end January 2019. This was required for TCTA to be able to appoint the Project Engineer by August 2018. Each month delay results in a month delay in the water delivery date, and based on current progress, it has moved from August 2024 to around April 2025 (our estimate).

(iii) Given that the fourth and fifth units are scheduled to begin operating in 2019, and the FGD is meant to be installed within six years after operation, the schedule is tight. Any further delays in the implementation of the MCWAP-2A will delay the installation of the FGD units 4, 5, and 6, as sufficient water would not be available to operate all six FGD units. This would perpetuate the non-compliance status of the Medupi Power Project.
Table 1: Summary of the Key Findings of the Third IRM Monitoring on the Status of Implementation of the Updated Management Action Plan for the Medupi Power Project

<table>
<thead>
<tr>
<th>No.</th>
<th>Issue</th>
<th>Updated Management Action Plan</th>
<th>Findings of the Monitoring Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Risk to Public Health due to Emissions</td>
<td><em>Action Plan 1.1:</em> Continuous monitoring of the Construction Phase Environmental Management Plan (CEMP), including air quality monitoring, and compliance with the requirements of the various licenses to be issued under the CEMP.</td>
<td>Air quality monitoring is being conducted. Timely operation of FGD equipment (starting 2021 for first unit) is a key concern and essential for ensuring control of air quality standards and compliance with AfDB policies and national law requirements.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Action Plan 1.2:</em> Reporting on the status of implementation of the Project as follows:</td>
<td>-Eskom submits regular quarterly progress reports to the Bank as well as to the DEA.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2.1 Project quarterly progress reports submitted to the Bank;</td>
<td>-Project supervision has been conducted on a six-monthly basis and this should be continued.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2.2 Frequency of Bank supervision missions;</td>
<td>-The OEMP guidelines have been completed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2.3 Update of the Operational Phase Environmental Management Plan (OEMP).</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>No Regional Environmental and Social Assessment (RESA)</td>
<td>Conduct further RESA of coal-based energy projects between South Africa and Botswana to build on the work already done.</td>
<td>The RESA study has been completed.</td>
</tr>
<tr>
<td>3.</td>
<td>Compliance with the Policy for Integrated Water Resource Management (2000)</td>
<td><em>Action Plan 3.1:</em> Follow up with the DWA on the status of the MCWAP-2A and the development of effluent reuse and groundwater use.</td>
<td>Significant work has gone into the planning and the technical design for the MCWAP-2A. However, the MCWAP-2A is more than two years behind schedule, which means it would only provide water for the last three FGD units by 2024 or 2025. Timely implementation of MCWAP-2A is now of utmost importance as operation of three out of the six units with FGD equipment will depend on water provided under the MCWAP-2A.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Action Plan 3.2:</em> Follow up on the DEA, DWA, the Department of Mineral Resources (DMR), and the Department of Agriculture, Forestry, and Fisheries (DAFF) Task Team’s decision on the sand mining issues.</td>
<td>An environmental assessment has been conducted. Eskom has modified its contracts to require its contractors and suppliers to comply with environmental licenses, permits, and authorizations. Eskom has agreed to conduct due diligence to ensure that this is the case. The IRM was informed that the Department of Mineral Resources has investigated</td>
</tr>
<tr>
<td>No.</td>
<td>Issue</td>
<td>Updated Management Action Plan</td>
<td>Findings of the Monitoring Mission</td>
</tr>
<tr>
<td>-----</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4.</td>
<td>Inadequate Public Consultation with the Communities</td>
<td><em>Action Plan 4.1:</em> Expand 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 project activities.</td>
<td>MCIO performs the function of a grievance mechanism but the population seems reluctant to use it as a grievance center since its main function has become a labor recruitment center for Eskom. Environmental concerns are expressed through the EMC. The IRM Monitoring Team was informed by Eskom that the EMC will continue to operate during the operational phase of the project.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Action Plan 4.2:</em> Enhance participation of Ward Councilors in EMC meetings by assisting them with transportation to the meetings.</td>
<td>The IRM recognizes efforts made by Eskom and the EMC to involved Ward Councilors. Not all Ward Councilors are interested in attending Eskom meetings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Action Plan 4.3:</em> Develop a mechanism for Councilors to report back to communities and vice versa.</td>
<td>The original design of this measure has not been successful, but alternative approaches have been adopted by Eskom. For instance, it has invested significantly in improving the relationship with the municipality. In addition, a corporate social responsibility program with communities has been launched to improve relationships with communities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Action Plan 4.4:</em> The EMC to finalize and implement its Communications Strategy to create awareness about its functions and activities.</td>
<td>The EMC has improved its communication with the communities. Eskom has a stakeholder engagement officer as part of the environmental management team. It will continue its outreach among local communities.</td>
</tr>
<tr>
<td>5.</td>
<td>Desecration of Graves and other Heritage Issues</td>
<td><em>Action Plan 5.1:</em> Engage Marapong community to reach an understanding and closure on the issue.</td>
<td>This item has been completed.</td>
</tr>
</tbody>
</table>
The IRM recommends the following:

(i) The IRM will prepare a monitoring report on the progress of implementation of the Updated Management Action Plan every year as already authorized by the Boards of Directors in February 2013. The monitoring will continue until the key outstanding issues of the installation of the FGD equipment and the implementation of the MCWAP-2A are completed, and the rehabilitation of the damaged sections of the Mokolo River is done. ESKOM was of the view that as reported by DMR at the engagement, as long as there is mining there is activity within the river. Rehabilitation is required by the entity undertaking the mining as per their mining permit and final rehabilitation is undertaken by the mining entity at end of mining operations. This action can therefore not remain open until all rehabilitation is done, as this may only be in many years’ time as mining continues and is not dependent or linked to Medupi.

(ii) The Fourth IRM Monitoring Mission to South Africa to assess the status of the implementation of the Updated Management Action Plan for the Medupi Power Project will take place in 2019.

(iii) In the meantime, the Bank Management should continue with its current semi-annual supervision missions of the Medupi Project. Copies of the semi-annual supervision reports on the progress of the implementation of the Updated Management Action Plan should be sent to the BCRM, after which they will be reviewed by the IRM.

3. MANAGEMENT UPDATES: IMPLEMENTATION OF THE ACTION PLAN

A Management Action Plan was approved by the Boards in February 2013 to bring the Medupi Power Project into compliance with the applicable Bank Group policies and procedures. The Bank Management supports the implementation of this Action Plan and submits regular reports to the IRM to share the progress made in the implementation of the agreed actions. Since the completion of the First IRM Monitoring Report in 2015, the Bank Management has submitted four Progress Reports.5 A fifth report is in draft form following a supervision mission in July 2018. In the combined Eighth and Ninth Management Monitoring Reports on the Implementation of the Action Plan for the Medupi Power Project (June 2018; Annex 1), the Bank Management notes “that it is satisfied that both Eskom and the relevant regulatory authorities of the Government of the Republic of South Africa continue to play their part in monitoring and enforcing compliance with regulatory requirements and conditions on various aspects of air emissions, water quality, as well as Occupational Health and Safety.”6

The Bank Management is of the view that three of the action items are now in full compliance with the Bank’s policies and procedures. These action items are as follows: (i) the finalization and approval of the Operations Phase Environmental Management Plan (OEMP); (ii) the finalization

---

5 Fifth Update on the Progress in Implementing the Action Plan approved by the Boards in November 2015. The Sixth Update on the Progress in Implementing the Action Plan was approved by the Boards in July 2016. The Seventh Update on the Progress in Implementing the Action Plan was approved by the Boards in February 2017; and the Combined 8th and 9th Management Monitoring Report on Implementation of the Action Plan for the Medupi Power Project was issue in June 2018.

of the Regional Environmental and Social Assessment (RESA) study; and (iii) the engagement with the affected communities to reach closure on the alleged desecration of graves. It also commended Eskom on the efforts made to ensure the occupational health and safety of the workers.

However, the Bank Management expressed concerns about high SO₂ and particulate matter (PM) emissions spikes above the national air quality limits. It has urged Eskom to speed up the work to install a coal analyzer, which will enable mixing high- and low-sulphur coal and to renegotiate the sulphur content of coal delivered from the mine. The Bank Management also remains concerned about the funding for the planned FGD units and the execution schedule of the Mokolo-Crocodile water Augmentation Project (MCWAP-2A which, if delayed, would affect the FGD installation in units 4, 5 and 6, as sufficient water would not be available to operate all the six FGDs. The Bank Management recognizes that the installation of the FGD equipment for the six units requires careful monitoring and has requested a more detailed schedule for the outstanding milestones in order to be able to track the progress. Given the delays in the preparation of the FGD investment program, there continues to be serious concerns that the FGD installation cannot be completed within the committed deadlines.

4. FINDINGS OF THEIRMONITORTING TEAM

The IRM Monitoring Team spent five days in South Africa (15-19 October 2018) with their time divided between consultations in Pretoria with government representatives and civil society, and in the Lephalale/Marapong area in Limpopo Province, where the Medupi Power Project is under construction. The visit in Lephalale involved extensive consultations with Eskom officials, community leaders, and other local stakeholders. The Monitoring Team reviewed the implementation of the various remedial actions prepared by the Bank Management. The action items and the respective IRM assessments are presented below.

4.1. Monitoring of the Construction Phase Environmental Management Plan (CEMP) Implementation

1) Monitoring of Air Quality

   **Key Issue:** Risk to public health due to emissions.

   **Management Action Plan item no. 2.1.1:** Continuous monitoring of CEMP and compliance with the requirements of the various licenses to be issued under the CEMP.

**Findings of the Third IRM Monitoring Mission**

Meeting air quality standards requires the installation of FGD equipment to reduce emissions from the power plant and the careful ongoing monitoring of the air quality. Eskom reaffirmed its commitment to install the FGD equipment to the IRM Monitoring Team. However, given the delays in investment preparation, the timely installation of the FGD equipment in the generating units continues to pose a risk to the Project’s compliance with the AfDB Policy on the Environment

---

7 Ibid., p. 8.
(2004). Without the FGD equipment, the National Ambient Air Quality Standards (2009) cannot be met and the Medupi Project is likely to remain non-compliant with the applicable policies of the AfDB.

**Monitoring of the CEMP implementation: Air quality monitoring and occasional spikes above permit limits**

Management relies on Eskom reports for the monitoring of emissions from the Medupi Power Plant. So far, three of the six units are in full commercial operation and the others are in the testing and commissioning phase or under construction. The full impact of the plant on air quality can only be assessed once all the units are operational.

AfDB’s most recent update on implementing the Action Plan\(^8\) states:

**“Particulate emission (PM) spikes:** PM spikes have occurred ... Eskom has a re-design solution to upgrade the Pulse Jet Fabric Filter (PJFF) and plans to have the modifications completed on Unit #6 by the end of January 2019. Eskom continues to control the PM spikes by de-rating the boilers as required.

**“High SO\(_2\) and PM emissions spikes from higher Sulphur coal combustion (Action Plan 2.1a) Most SO\(_2\) emissions were just below the current permit limit of 3500 mg/Nm\(^3\). Exceedances were not very frequent and were limited to about 1-3 occurrences per unit per month to values just above 3500 but under 4000 mg/Nm\(^3\). Only unit #4 had one exceedance up to 4200 mg/NM\(^3\) in April 2018. Eskom ... applied for a new SO\(_x\) limit of 4000 mg/Nm\(^3\). The request for an increase was rejected but the mandatory requirement is now based on monthly and not daily averages. The Lenders continue to encourage Eskom to pursue both short and medium-term solutions to limit SO\(_x\) spikes until the (FGD) wet scrubbers are in operation.”**

The increasing sulphur content of the coal used in the Medupi Power Plant is clearly a concern. Eskom has been granted an extension of the deadline for complying with the 3,500 mg/Nm\(^3\) standard to 31\(^{st}\) March 2025; i.e. from 1\(^{st}\) April 2025, Eskom will have to meet the 500 mg/Nm\(^3\) standard. The IRM Monitoring Team was informed that Eskom is in the process of purchasing an on-line coal analyzer that is expected to be in operation by March 2019. This will allow for more accurate mixing of high- and low-sulphur coal to enable the units to control emissions in staying below the permitted limit. Eskom is also engaging with Exxaro to explore the possibility of purchasing lower- sulphur coal. The higher than expected SO\(_2\) emissions underline the importance of the timely installation of the FGD equipment.

2) **Flue-Gas Desulphurization (FGD) Units Installation**

The Treasury Department, Eskom, and the Bank Management briefed the IRM Monitoring Team that Eskom remains committed to install the FGD equipment six years after the operation of each

---

unit. As the first unit (#6) came into commercial operation in August 2015, the first retrofitting with the FGD equipment would take place in 2021. However, there are serious concerns about the delays in the preparation of the FGD investment program. The total funding for this large investment remains to be identified, and securing adequate funding will be a key priority. Even with the current schedule, the construction of the first FGD unit would only start by April 2020. This would leave only one-and-a-half year for the final construction and commissioning, which is an exceptionally tight schedule. It is essential that no further delays are incurred as only with the FGD installation can the Medupi Power Project be brought into compliance with the applicable AfDB policies and national standards.

A second key concern for the operation of the FGD equipment is the supply of adequate water. For all of the six units to operate with the FGD equipment, additional water will be needed from the MCWAP-2A, which has experienced serious delays in its implementation. It is to be noted that the existing Water Use Licence (WUL) covers 10.9 million m³/year from Mokolo Dam through pipeline developed by MCWP 1 – this covers water for all six generating units and three FGD units. The WUL application made in June 2018 to increase the volume from 10.9 million m³/year to 15.4 million m³/year - water delivery of MCWAP 2A. The WUL is expected to be issued in June 2019. Based on current (January 2019) information, water delivery of MCWAP 2A will be in April 2025, while the fourth FGD unit (requiring this additional water supply) is expected to be in operation in August 2024 – DWS are looking at contingencies (water during commissioning of pipeline, water from Mokolo dam, ground water).

As long as adequate financing for the FGD installation, water availability, and related environmental mitigation measures have not been resolved, the FGD installation remains at risk and the Medupi Power Project will remain non-compliant with the National Environmental Management: Air Quality Act 39 of 2004 Listed Activities and Associated Minimum Emission Standards Identified in terms of Section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 Of 2004) and AfDB’s environmental policies. The Bank Management is keen and aware of this risk. It is closely monitoring the situation in its semi-annual supervision missions. The most recent mission encouraged Eskom to reach a decision on the way forward on the FGD issue as soon as possible.

4.2. Project Supervision

<table>
<thead>
<tr>
<th>Key Issue:</th>
<th>Track mitigation of non-compliance issues resulting to risk to public health.</th>
</tr>
</thead>
</table>

**Management Action Plan item no. 1.2:** Reporting on the status of implementation of the Project as follows:

1.2.1: Project’s quarterly progress reports to be submitted to the Bank.
1.2.2: Frequency of Bank’s supervision missions.
1.2.3: Update of the OEMP.
Findings of the Third IRM Monitoring Mission

The AfDB staff and Management continue to closely supervise the Project. The last two supervision missions were February 2018 and July 2018. The ongoing six-monthly supervision schedule should be continued, paying particular attention to the installation of the FGD equipment and the development of adequate water resources.

The Bank Management receives regular reports from the DEA, as required by the project loan agreement. In its most recent report, the Bank Management noted an improvement in the Project’s compliance, specifically on water quality monitoring, hazardous substance management, flora and fauna management, and others. The Bank mission was satisfied that the project continues to comply with the regulatory requirements and conditions of authorization by government authorities, other than the non-compliance due to incidents of spiking of SO₂ emissions above the current standard. The arrangement for onsite monitoring and semi-annual Bank Management supervision missions should continue to at least the end of the construction phase, expected to be completed by 2020.

4.3. Regional Impact Assessments

| Key Issue: Lack of sufficient regional assessments on environmental and social impacts |
| Management Action Plan item no. 2: Conduct further regional assessments of coal-based energy projects between South Africa and Botswana to build on the work already done. |

Findings of the Third IRM Monitoring Mission

This action was delayed by several years but it was reported as completed by the Second IRM Monitoring Review. Thus, the remedial action item no. 2 in the Updated Management Action Plan has reached compliance status.

4.4. Compliance with the Integrated Water Resources Management Policy

| Key Issue: The delayed status of the Mokolo–Crocodile Water Augmentation Project (MCWAP-2A) |
| Management Action Plan item no. 3.1: Follow up with DWA on the status of MCWAP-2A and development of the effluent reuse and groundwater use. |

Findings of the Third IRM Monitoring Mission

The IRM Monitoring Team met with representatives from the National Treasury, the Department of Water and Sanitation (DWS), the Department of Public Enterprises (DPE), the Department of Mineral Resources (DMR, Eskom, the Department of Environment and the Trans-Caledon Tunnel Authority (TCTA),⁹ which is the project manager contracted to develop the MCWAP-2A pipeline. The Monitoring Team was assured that the issue of financing MCWAP-2A had been resolved, the

---

⁹ The TCTA falls under the DWS in managing national water resources and financing required water-associated infrastructural projects.
National Treasury had transferred funding and guaranteed power to the DWS to commence the project, and that the DWS had transferred funds to TCTA and authorized TCTA to put out a request for proposals to possible lenders to seek funding for the project\textsuperscript{10}. Assurances were given that the DWS had received the budget for the so-called "social component"—funding for water that would go to the local community and farmers, in addition to the water for Eskom. The Team was assured that the DWS had provided TCTA funding for the pre-construction work and that TCTA will put together the implementation plan, the Environmental Impact Assessment, the resettlement plan, etc\textsuperscript{11}. The representative from TCTA indicated that they have already contracted consultants to do the detailed design work. The Guarantee Framework Agreement needs signatures from the DSA, the Treasury, and the TCTA. The IRM Monitoring Team was assured that the Government of South Africa is taking the project and its commitments very seriously. It will be important for the AfDB team to follow up with Eskom and the MCWAP-2A parties to seek written evidence that the Guarantee Framework Agreement is signed, that funding for the FGD units is secured, and that the Government guarantee for Eskom’s borrowing is in place as promised. The AfDB will need to keep the pressure on Eskom to stick to the ambitious timetable in order to avoid emissions rising above the permitted limit.

The MCWAP consists of several phases. Phase 1 of the MCWAP-1 has been designed to meet the growing water requirements of the Lephalale area and to supply more water until a transfer pipeline from the Crocodile River (West) is implemented. Phase 2A of the MCWAP-2 entails the transfer of water from Vliepepoort, near Thabazimbi on the Crocodile River (West) to the Steenbokpan and Lephalale areas. The engineering services started in September 2009. The construction of the MCWAP-1 was scheduled to start in July 2011 to enable water delivery by July 2013. The initial estimated completion date for the MCWAP-2A was 2016. Phase 3 and Phase 4 of the project were to be completed between 2017 and 2018. The first phase of the MCWAP-1 was initially expected to start operating in September 2013 but was finally ready in October 2016.

Phase 1 of the MCWAP is now fully operational to deliver 30.5 m$^3$/year, which is sufficient to meet the requirements of at least three of the Medupi Power Plant’s FGD units. For the remaining three units, MCWAP-2A is required to be in operation. There are serious concerns about continuous delays in the implementation of the MCWAP-2A phase, which is by now more than two years behind schedule and would deliver water only in April 2025. The IRM Monitoring Team was assured that funding for the project has been sorted out. This, however, needs to be confirmed. The revised schedule for the implementation, if adhered to, would still allow for the provision of water to operate the FGD equipment. However, further delays will jeopardize the timely operation of the last three units with FGD. Given the importance of water availability for FGD operations and for the supply of water to the population in this area, which is already suffering from constrained water access, the timely implementation of the MCWAP-2A is of high importance.

\textsuperscript{10} ESKOM informed the IRM after the mission that the payment of R69M to TCTA in 2018 for the Social contribution for FY2018/19 has only taken place now at end January 2019. This was required for TCTA to be able to appoint the Project Engineer.

\textsuperscript{11} ESKOM informed the IRM after the mission that the final EIA Report for the MCWAP 2A project was submitted to the DEA on 10 December 2018 (http://nemai.co.za/documents.html)
The contribution for the 2015/19 period will only take place at the end of January 2019. It was important that TCTA appoint the project Engineer.

**Key Issue: The management of non-compliance due to sand mining operations**

Management Action Plan item no. 3.2: Follow up on the DEA, DMR, DWA and DAFF Task Team decision on the sand mining issues.

**Findings of the Third IRM Monitoring Mission**

The sand-mining issue (Action Plan item no. 3 (ii)) has been brought to the attention of the relevant Government Departments that have committed to addressing it. During the Third Monitoring Mission, assurances were given to the IRM that the relevant departments (Mineral Resources (DMR), Water Affairs (DWS), Environmental Affairs (DEA), and so on) and the local counterparts are working towards addressing the issue of the impacts of sand mining in the Mokolo River.

During the Second Monitoring Mission, the IRM had noted that no independent assessments of damage caused to the Mokolo River and rehabilitation requirements of sand mining operations had been conducted. Rather, Eskom had cited the conclusions of an environmental assessment conducted in the Mokolo River at the time. The IRM received a copy of this report prepared by an independent environmental consultant on behalf of a mining company in the context of their application to the LEDET for a rectification of an environmental authorisation, which encompassed a stretch of approximately 20 km (10 km south and 10 km north of Lephalale) of the Mokolo River; and, hence, the required studies were conducted. The prescribed processes were followed and this Environmental Impact Report (EIR) and associated documents were submitted to the Limpopo Department of Economic Development, Environment, and Tourism (LEDET). The LEDET was the appropriate environmental authority with regards to sand extraction activities that have occurred and are still planned at the Mokolo River in the Lephalale area of the Waterberg District Municipality in the Limpopo Province. The EIR pointed to the river being continuously impacted by such activities, making the establishment of a baseline environment extremely challenging as this baseline is continuously altered by human intervention. The EIR also noted that past sand extraction activities from the Mokolo River were conducted by various separate legal entities under mining permits and approved environmental management programs issued by the DMR. The report noted then that in previous years, some thirteen miners had been actively abstracting sand from the Mokolo River. These entities also operated under the authorization from the DWS in terms of a general authorization issued in this regard. In addition, illegal mining activities were reported.

The EIR concluded that numerous specialists have been involved in conducting impact assessments relevant to their respective fields in terms of past and proposed mining activities. None of the independent scientific specialist studies showed that the proposed sand mining activities would be unacceptable from an environmental impact management point of view. In fact, the specialist studies show that, given the implementation of appropriate management and mitigation measures as detailed in this report, the proposed project has the potential to be associated with significant
positive impacts on the river system. Additionally, the independent scientific specialist studies showed that past mining activities of related entities have not caused a decrease in sand levels below the historic river channel bottom level, and that past mining activities have, in fact, improved the ecological integrity of the aquatic habitat of this section of the Mokolo River.

Eskom has modified its contracts with contractors and suppliers to include conditions requiring that contractors comply fully with all required environmental permits, licenses, and authorizations; and that they require suppliers to obtain the same. Eskom has committed to carrying out due diligence on contractors to ensure that the environmental authorizations are in place. The representatives from DMR gave the IRM mission an overview of mechanisms in place and indicated they have investigated and closed out the issue and that rehabilitation is on an ongoing requirement as part of the mining permit issued as well as that final rehabilitation takes place at end of mining. He also also noted that financial provision is made by the mining entity to the DMR so that in the event that at mine closure the entity is unable to fulfil its legal obligations. He mentioned that funds have been made available to DMR to undertake this. The DPE will be invited to provide a final account to the IRM at the next monitoring and the matter will then be closed. This final step will be important to confirm that the government is fulfilling its responsibility.

| Key Issue: Monitoring of water quality |
| Management Action Plan item no. 3.3: Develop a monitoring program of surface water and groundwater for the operation phase based on the conditions of water use licenses and include it in the OEMP. |

**Findings of the Third IRM Monitoring Mission**

The Third IRM Monitoring Mission confirmed that water quality appears not to have been affected by the construction of the Medupi Power Plant and that water quality is being adequately monitored by Eskom.

4.5. Inadequate Public Consultation with the Communities

| Key Issue: Development of an appropriate grievance mechanism |
| Management Action Plan item no. 4.1: Expand the functions of the MCIO to also serve as a center where grievances can be reported and where Eskom can gain feedback from communities on the project activities. |

**Findings of the Third IRM Monitoring Mission**

Eskom has made efforts to establish MCIOs as grievance redress centers where grievances can be filed. At the time of the Second Monitoring Report, the population used the MCIO centers, and the EMC continued to meet quarterly. During the Third Monitoring Mission, the IRM Monitoring Team got the impression that the local population uses any possible avenue of interaction with Eskom to air their various complaints. These mostly relate to employment and supply contract issues. While the MCIO is meant to be a general grievance mechanism and the EMC to focus on environmental issues, in practice the local population raises whatever issues they are concerned about in either venue.
As relationships between communities and Eskom continue to be strained, it is important that Eskom continue to provide opportunities for local populations to handle grievances relating to employment and procurement, as well as environmental concerns. The IRM Monitoring Team was informed that, going forward, the EMC will be continued but that Eskom is rethinking the form it would take. Consideration is being given to combining the EMC with other broader stakeholder consultation processes. It will be important that the chair of the EMC continue to be independent of Eskom.

| Key Issue: Better engagement with Ward Councilors and associated communities |
| Management Action Plan item no. 4.2: Enhance participation of Ward Councilors in Environment Monitoring Committee (EMC) meetings by assisting them with transportation to the meetings. |
| Management Action Plan item no. 4.3: Develop a mechanism for Councilors to report back to communities and vice versa. |

Findings of the Third IRM Monitoring Mission

The EMC continues to play a useful role as a mechanism where environmental concerns can be raised, addressed, and where feedback can be provided. The leadership of the EMC has made special efforts to engage Ward Councilors in its meetings. In spite of these efforts, ward councilors have rarely participated. The IRM Monitoring Team recognizes that the EMC has made genuine efforts to seek the engagement of Ward Councilors and notes that it will be important for Eskom to continue to pursue avenues to supplement the ongoing dialogue with communities. This will become even more important as the construction phase draws to a close and employment of members of the local community is substantially reduced. Eskom has discussed its “exit strategy” with the city council. Continuing dialogue on this strategy will be essential.

Eskom’s educational outreach, conducted by Medupi staff in schools and various forums in nearby towns to increase interest in improved practices for the environment and its corporate responsibility program should be continued to help support communities, raise environmental awareness, and potentially help establish closer relationships between Eskom and the communities.

| Key Issue: Improvement in community outreach activities |
| Management Action Plan item no. 4.4: The EMC to finalize and implement its Communications Strategy to create awareness about its functions and activities. |

Findings of the Third IRM Monitoring Mission

The EMC has improved its communication with the communities. Eskom has a full-time stakeholder engagement officer who is clearly very closely in touch with local communities. Communication with communities will be particularly important as existing construction phase employment opportunities are curtailed and new jobs open up during the construction of the FGD units. Bank staff need to follow up with Eskom so that they continue to pursue a systematic communications strategy with the community, including communicating to all parties the dates and
times of EMC meetings, published reports of the meetings, and the list of attendees. This will be particularly useful once decisions on FGD implementation schedules have been taken.

4.6. Desecration of Graves and Other Heritage Issues

| Key Issue: Mitigate non-compliance resulting from heritage issues |
| Management Action Plan item no. 6.1: Engage the Marapong community to reach an understanding and closure on the issue. |

Findings of the Third IRM Monitoring Mission

The IRM Monitoring Team in the Second IRM Monitoring Report commended Escom and the Bank Management on the progress made in conducting a heritage assessment, identifying graves on the Medupi site, conducting cleansing and appeasement ceremonies with the affected families, and constructing a memorial site. The heritage assessment was agreed upon in response to the complaint levelled against the Medupi Power Project. It is to be recalled that during the Medupi site preparation, with the excavation of soil, some families living in the Marapong area complained that several graves had been destroyed and desecrated. Escom argued that, before the construction of the Medupi Power Plant began in 2006, a Phase I Heritage Impact Assessment had been done. This was a Level-One scoping survey published with a disclaimer that some heritage resources, in particular those buried underground, might not be seen or guessed to exist. The issue of the grave became a crisis of trust between Escom and the local community. The affected families claimed that Escom ignored their claims. However, Escom may have failed to respond promptly and to engage proactively with the aggrieved families.

As part of the Bank Management’s Action Plan to address the issue of the graves, all the stakeholders concurred that a Phase II Heritage Impact Assessment was necessary to put the matter to rest once and for all. Escom engaged the services of a heritage consultant, who undertook comprehensive documentation of grievances of families affiliated to the graves at the Medupi Power Station—including those that were disturbed—and other heritage resources within and in the precinct of the Medupi Power Station, and propose appropriate remedial measures. The investigations by the heritage consultant confirmed the reports of graves and—because the construction of the Medupi Power Plant was already underway—some graves had been disturbed or desecrated. The heritage consultant prepared a short-term plan for the rehabilitation of graves within and in the precinct of the Medupi Power Station to be implemented by Escom. Escom rolled out a comprehensive program for counselling, healing, and closure for all those affected by the treatment of graves at the Medupi Power Station. The heritage consultant also prepared a long-term plan for the co-management of the shrine, graves, and other heritage resources within and in the precinct of the Medupi Power Station with the involvement of the local communities.
In addition, after a mediated settlement with aggrieved families through their representatives and civic groups, Eskom built a commemorative monument or shrine in the precinct (Eskom owned land adjacent to the Medupi power station) of the Medupi Power Station in 2016. It was dedicated to those whose graves were inadvertently destroyed and the remains misplaced during the construction of Medupi Power Plant, so that their spirits could be made to rest again. An existing burial ground next to the shrine was furnished with modern granite dressing and a ritual cleansing program was rolled out in accordance with local customs.

The shrine was unveiled at a plenary ceremony in the same year, which was officiated by the Deputy Minister of Public Enterprises. Both initiatives formed the package of remedial measures recommended under the Phase II Heritage Impact Assessment in order to bring about healing and closure. The program, in large part, has been successful in its objectives to appease the disturbed spirits and to mend the broken trust between Eskom and the host communities. Throughout this process, Eskom has demonstrated its commitment to cultivate good relations with host communities through its corporate social investment program and its deep-founded respect of public sensibilities regarding the sanctity of graves.

The Second IRM Monitoring Report commended Eskom and the AfDB Management on how the process has been handled, citing it as an example of “best practice,” and the Third Monitoring Team reiterated it. Genuine efforts were made to reach out to the community, listen to aggrieved families, identify additional graves, perform rituals, and commemorate the deceased through a memorial site.

At the time of the Second Monitoring Mission to South Africa, the remaining issue was the question of access by the families to the memorial site, which is on Eskom property. It is fenced off because of naturally occurring wildlife. The Third Monitoring Mission was satisfied that this issue has now been resolved. All family members have been registered with Eskom security and thus are able to access the site without prior notice during daytime hours. If access is needed at night or by family members from other locations who have not yet been registered, they would need to provide prior notice (72 hours) to Eskom.

Eskom has in place a regular engagement process with the families. With this genuine commitment, it is reasonable to expect this framework to serve as a platform to address any other relevant heritage issues that may arise. However, given that the grave transfer has been addressed, aggrieved families have begun to complain about inadequate job opportunities for their children within the Medupi Power Project and have begun to request “compensation” for the turmoil entailed in the movement of the graves. This will present an ongoing challenge for Eskom to manage expectations in the local community.
5. SUMMARY OF FINDINGS

The IRM Monitoring Team noted that important progress has been made on most of the action items listed in the Management Action Plan.

The IRM Monitoring Team remains concerned about the lack of progress in finalizing the detailed design for the FGD units, securing adequate financing for the units, and implementing the MCWAP-2A. The IRM Monitoring Team was assured verbally by government officials and Eskom that there is continued commitment by all parties to install the FGD equipment six years after each unit has become fully operational. In addition, the IRM Team was assured that the guarantee to enable Eskom to secure financing for the FGD has been approved and that the necessary funding and guarantees are in place for DWS’s contractor, TCTA, to move forward with the contracts for MCWAP-2A. The IRM Team urges the AfDB Management to seek written confirmation that the financing arrangements for the FGD units and MCWAP-2A are in place and that all necessary permits, licenses, and authorizations have been secured. The installation of the FGD equipment to enable the Medupi Power Project to comply with the National Environmental Management: Air Quality Act 39 of 2004 Listed Activities and Associated Minimum Emission Standards Identified in terms of Section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 Of 2004) and the AfDB Policy on the Environment (2004), the related water constraints and waste issues, as well as the rehabilitation of the damaged areas of the Mokolo River will require continuous attention by Eskom and the AfDB Management.

6. CONCLUSION AND RECOMMENDATIONS

This Third IRM Monitoring Report is being submitted to the Board of Directors of the ADB for consideration. As stated in the Operating Rules and Procedures of the IRM, monitoring the progress made in the implementation of the Updated Management Action Plan is essential in ensuring that the Medupi Power Project complies with the applicable policies and procedures of the Bank Group, and providing the affected stakeholders with the assurance that the Bank takes its social and environmental commitments seriously.

The decision of the Boards of Directors in February 2013 stated that “the IRM monitoring mission to South Africa will take place within 12 months following Management’s submission of the Report on the implementation of the Updated Management Action Plan to the Boards.” The IRM considers the monitoring mission a useful practice, which should be continued, especially as the Medupi Power Project compliance status can only be fully established until the FGD units are installed and become operational. The next IRM monitoring mission is planned for 2019. By this time, the preparation of the program for the FGD installation and the implementation of the Phase 2A of the Mokolo-Crocodile Water Augmentation Project (MCWAP-2A) should have advanced significantly so that the progress can be monitored. Moreover, an assessment will be made whether the installation of the FGD units will be done on time and whether the investment preparation of the MCWAP-2A has sufficiently advanced to allow for the operation of all FGD units as currently planned.
It is recommended that the AfDB Management continues to supervise implementation of the remaining action items on a six-monthly basis and that progress reports continue to be submitted to the BCRM. The IRM will continue to review the progress reports and may seek additional clarifications from the Bank Management. The IRM Monitoring Team requests that the Bank Management continues to provide updates, which the IRM will review. In particular, the IRM Team looks forward to an update with written evidence that the remaining issues related to the installation of the FGD units have been resolved.

The IRM Monitoring Team looks forward to assisting the Bank to ensure that the Medupi Power Project becomes compliant with the applicable Bank Group policies and procedures to enable the Medupi Power Project to become a model for responsible power development in Africa.
ANNEX 1

COMBINED 8TH AND 9TH MANAGEMENT MONITORING REPORT ON IMPLEMENTATION OF THE ACTION PLAN OF THE MEDUPI POWER PROJECT, SOUTH AFRICA
AFRICAN DEVELOPMENT BANK GROUP

COMBINED 8TH AND 9TH MANAGEMENT MONITORING REPORT ON IMPLEMENTATION OF THE ACTION PLAN OF THE MEDUPI POWER PROJECT, SOUTH AFRICA

JUNE 2018

* Questions on this report should be referred to:

Mr. M. DIOP  Officer-In-Charge  RDGN.4  Extension 3831
Ms. A. R. MUJA  Principal Social Development Officer  SNSC/RDGS4  Extension 8462
ABBREVIATIONS

AfDB  African Development Bank Group
BCRM  Bank’s Compliance Review and Mediation
CDM  Clean Development Mechanism
CEIF  Clean Energy Investment Framework
CO  Commercial Operation
CRMA  Climate Risk Management and Adaptation (strategy)
CRMU  Compliance Review and Mediation Unit
CTF  Clean Technology Fund
DEA  Department of Environmental Affairs
DWA  Department of Water Affairs
ECSIA  Environment, Climate, and Social Impact Assessment
EIA  Environmental Impact Assessment
ESA  Environmental and Social Assessment
ESIA  Environmental and Social Impact Assessment
EMC  Environment Monitoring Committee
EMP  Environmental Management Plan
EUR  Euros
FGD  Flue Gas Desulfurization
GHG  Greenhouse Gas
Hg  Mercury
IPCC  Inter-Governmental Panel on Climate Change
IRM  Independent Review Mechanism
IWRMP  Integrated Water Resource Management Policy
MCWAP  Mokolo-Crocodile Water Augmentation Project
MCIO  Medupi Central Information Office
MYPD  Multi Year Price Determination
NERSA  National Energy Regulator of South Africa
NOx  Nitrous Oxide/Nitrogen Dioxide
RISP  Regional Integration Strategy Paper
RMC  Regional Member Country
SO₂  Sulphur Dioxide
PAR  Project Appraisal Report
PM10  Particulate matter including Dust
ZAR  South African Rand
## TABLE OF CONTENTS

### LIST OF ABBREVIATIONS

1. Introduction
   1.1. The project ................................................................. - 6 -
   1.2. The Complaint and Compliance Review .................................. - 6 -
   1.2.1. Climate Change and Related Environmental Issues ............. - 6 -
   1.2.2. Local Environmental Issues Related to Air and Water .......... - 7 -
   1.2.3. Desecration of Graves and Land Claims .......................... - 7 -

2. Summary of Action Plan Update
   2.1. Key issue: Risk to Public Health due to Emissions ................. - 9 -
   2.1.1 Required Action (i): Continuous monitoring of Construction Phase Environmental Management Plan (CEMP) and compliance with the requirements of the various licenses to be issued under the CEMP ......................................................... - 9 -
   2.1.1.1 Monitoring of the CEMP implementation .......................... - 9 -
   2.1.1.2 Noise ........................................................................ - 9 -
   2.1.1.3 Air emissions monitoring, including dust and particulate matter emissions ................. - 9 -
   2.1.1.4 Occupational Health and Safety (OHS) ................................ - 11 -
   2.1.1.5 Update on FGD ................................................................ - 11 -
   2.1.1.6 Ground water monitoring ................................................... - 12 -
   2.1.2 Required Action (ii): Reporting on the status of implementation of the project ..... - 12 -
   2.1.2.1 Project Quarterly Progress Reports submitted to the Bank ............................................ - 12 -
   2.1.2.2 Frequency of Bank supervision missions ............................. - 12 -
   2.2 Key issue: No Regional Impact Assessment .................................. - 13 -
   2.3 Key issue: Compliance with Integrated Water Resources Management Policy .......... - 13 -
   2.3.1 Required Action (i): Follow up with DWS on status of the Mokolo-Crocodile Water Augmentation Project Phase 2 (MCWAP-2A) and development of the effluent re-use and groundwater use ...................................................................... - 13 -
   2.3.2 Required Action (ii): Follow up on the DEA, DMR, DWS and DAFF Task Team decision on the sand mining issues ..................................................................... - 13 -
   2.3.3 Required Action (iii): Develop a monitoring program of surface and groundwater for the operation phase based on the conditions of the water use licenses and include it in the OEMG ................................................................. - 14 -
   2.4 Key issue: Inadequate Public Consultation with Communities .......... - 14 -
   2.4.1 Required Action (i): Expand 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 .......................... - 14 -
2.4.2 Required Action (ii): Enhance participation of Ward Councilors in Environment Monitoring Committee (EMC) meetings by assisting them with transportation to the meetings.

2.5 Key issue: Desecration of Graves and Land Claims

3. Conclusion

Annex 1: List of People Met (during the Joint Supervision Missions)
Annex: 2 Mission Team Members
1. **Introduction**

1.1. **The project**

The Medupi Power Project consists of the construction of a 4,764 MW coal-fired base load power plant in Lephalale, Limpopo Province, South Africa. The Boards of Directors of the Bank Group approved a loan, not to exceed the aggregate sum of EUR 930 million and ZAR 10.63 billion, for the supply and installation of six boilers and turbo-generators for the project on 25 November 2009. According to the Project Appraisal Report (PAR), the total cost of the project was estimated at EUR 11.19 billion (UA 10.18 billion).

The overall total plant completion is now 89% and all units are now closed in with the following achievements: Units 6, 5, and 4 are now in commercial operation realized between March 2015 and May 2017. Unit 3 is successfully synchronized and commercial operation is expected by June 2018. Unit 2 successfully went through chemical cleaning in April 2018 and 1st synchronization is scheduled for June 2019 and commercial operation in December 2019. The last, unit 1 is scheduled for 1st synchronization in November 2019 and commercial operation in May 2020 (now only 3 months behind the P-50 schedule). For the project to comply with National Air Quality Standards, retrofitting of the units with FGD equipment will start in 2021.

1.2. **The Complaint and Compliance Review**

The complaint relating to Medupi project was filed on 28 September 2010 by two South African nationals who asked the Director of the Compliance Review and Mediation Unit (CRMU) (now referred to as the BCRM) to keep their identities confidential. The IRM submitted the project Compliance Review Report to the Board of Directors in January 2012. The Report established several instances of non-compliance with the applicable Bank policies and procedures and their related harm.

A Management Action Plan was approved by the Boards in February 2013 to bring the project into compliance with the applicable Bank Group policies and procedures. Management supports the implementation of this Action Plan and submits regular reports to the IRM to report on the progress made in the implementation of agreed actions. Therefore the objective of this update is to report on progress made by Management in achieving compliance with Bank policies and procedures in the Medupi Power Project since July 2017. The section below presents a brief summary of the findings of the compliance review and retains the same text as a reminder of the context in which the Management Action Plan was proposed and adopted.

1.2.1. **Climate Change and Related Environmental Issues**

The Requestors’ concern related to (i) The Bank’s compliance with the promotion of a “clean sustainable energy sector”, (ii) the adequacy of social and environmental studies conducted regarding the assessment of cumulative impacts, and (iii) the linkage between this project and the
Bank’s and Borrower’s approaches to climate change. The Panel of the IRM Experts determined that the Bank’s policies on energy and environmental assessments were applicable. The Appraisal Report presented to the Board of Directors of ADB in November 2009 noted that South Africa was already the 11th largest emitter of greenhouse gases in the world, and was likely to rise in this global ranking as a result of Medupi and other planned coal fired power stations. But the appraisal report and its annexes did not describe any steps that the Bank had taken to ensure that this large coal-fired project was compliant with the full range of applicable Bank policies.

1.2.2. Local Environmental Issues Related to Air and Water

The Requestors complained that “communities living near the Medupi plant will have negative impacts on their health from air pollution, elevated sulfur-dioxide (SO₂) levels, and mercury residues in their water, air and land; constrained access to water, and negative impacts on livelihoods from degradation of land and water in their largely agrarian area.”. Management noted that FGD equipment would be installed six years after each unit has become operational. The IRM Panel identified the uncertainties regarding installation of FGD due to the: (i) inadequacy of water supply for the water intensive FGD technology, and (ii) inadequate management of the waste, primarily gypsum, produced by this technology. In terms of water access, the concerns of the Requestors were about stresses from the construction and operation of the Medupi power plant in an area where demand for water is high and water supply inadequate. Land and water degradation can take many forms in such a project. While the waste ash is designed to be minimally liquid and a lining will be installed between the Medupi ash dump and the soil, there remains the risk that the ash dump could leak into the ground and contaminate the local ground water supply, and dry toxins on the surface could be carried away as air pollutants. The FGD technology, if installed, would generate two major waste streams: (i) it generates waste water that can only be partially recycled, and (ii) it will produce massive quantities of gypsum. Furthermore, the Compliance Review Report found non-compliance with AfDB environmental policies resulting from sand mining in the Mokolo River which was done without rehabilitation for sand utilized in the construction of the Medupi plant.

1.2.3. Desecration of Graves and Land Claims

The compliance review found non-compliance with the Bank Group’s Policy on Involuntary Resettlement Policy, 2003 as communities were inadequately consulted about the location of graves on the project site. The Requestors stated that “the Bank failed to consider community consultations and participation processes in the assessment of the project, and that local communities, who live close to the power plant were subjected to removals and desecration of ancestral graves.” The issue of inadequate consultation of the traditional population on location of graves was inflammatory for the community. The project developer identified only two “formal” grave sites, but the Requestors and community members insisted that unmarked graves were scattered throughout the project area. The Involuntary Resettlement Policy requires the Bank staff to pay careful attention to the needs of disadvantaged groups who may not have formal title to land but may have special sentimental attachment to particular pieces of land. There was no evidence to indicate that the borrower engaged in consultations with the local community about either the existence of unmarked or symbolic graves or land claims.
The Compliance Review found non-compliance with the consultations requirements of the Bank Group’s Policy on Involuntary Resettlement.

2. **Summary of Action Plan Update**

In the 5th and 6th Updates, Management recommended that on the basis of satisfactory progress on some of the IRM Action Plan items, at least 3 of the items which had largely been completed, could be considered achieved and could be removed from further progress reporting. These items include; the requirement for Eskom to engage with the affected communities to reach closure on their concerns on the issue of graves, finalization of the Operations Phase Environmental Management Plan (OEMP) and finalization of the Regional Environmental and Social Assessment (RESA) Study. However, these items subsequently featured in the 7th update with additional action requirements. It is significant to note that in the seventh update, management highlighted that any progress reported on these particular items should be viewed as being over and above the attainment of the specific action plan items as was phrased in the Board approval. This should still be the case in this eighth update. For instance, Eskom successfully engaged with communities to reach an understanding on the issue of graves, facilitated in part by the comprehensive Heritage Impact Assessment (HIA) and traditional rituals conducted to the satisfaction of the affected families. Eskom continues to engage with the affected families/communities and other relevant agencies of the GoRSA on any other ongoing issues in the Heritage Action Plan (HAP) and reports on these engagement to the Bank through the normal project reporting channels. This has remained an integral part of these updates.

Another instance is that even though Management has continued to report on surface and groundwater monitoring, i.e. a fourth item achieved is the requirement that the “development of a monitoring program on surface and groundwater for the operation phase based on the conditions of the water use licenses be included in the OEMP”.

This 9th update by Management has been informed by the discussions and field visit by Bank’s supervision mission conducted by staff during the period 17 to 29 July 2017 and the mid-term review/supervision mission conducted 05 – 12 February 2018; and the March 2018 Quarterly Progress Report. In addition information and clarifications on various issues were sought during missions, meetings held with different stakeholders involved in implementing the Action Plan, such as National Treasury (NT), Department of Public Enterprises (DPE), Department of Environmental Affairs (DEA), Department of Water Affairs (DWA), and Eskom. The supervision missions visited Lephalale and the project site, during which the mission also met with Lephalale Municipality officials, members of the community as well as with Eskom senior managers and the Environment, Health and Safety (EHS) team of the Project.

Management’s supervision program followed the general approach laid out in the Environmental Management Plan (EMP) for construction, operation and maintenance. As has been the case in the previous seven supervision missions, Eskom gave updates on various aspects of project implementation on all components and activities both directly and indirectly linked to the power
plant. Eskom provided information on implementation of the Construction Environmental Management Plan (CEMP) and the Operations Environmental Management Plan (OEMP).

Overall, Management is satisfied that both Eskom and the relevant regulatory authorities of the Government of the Republic South Africa (GoRSA) continue to play their part in monitoring and enforcing compliance with the regulatory requirements and conditions of authorization on various aspects of air emissions, water quality, as well as Occupational Health and Safety (OHS).

Below is an overall summary of Management’s assessment on the implementation of the Action Plan as well as performance on cross-cutting aspects. Management concluded that “it is satisfied with the progress being made in implementing various elements of the Action Plan”. Some of the key Management findings are:

2.1 Key issue: Risk to Public Health due to Emissions

2.1.1 Required Action (i): Continuous monitoring of Construction Phase Environmental Management Plan (CEMP) and compliance with the requirements of the various licenses to be issued under the CEMP.

2.1.1.1 Monitoring of the CEMP implementation

Management is satisfied that the project continues to comply with the regulatory requirements and conditions of authorization by the relevant Government of South Africa authorities. However, it expressed concern over the areas of non-compliance (spiking of daily SO2 emissions above the current standard) for which Eskom was following the prescribed procedure to get a temporary exemption to be in compliance. The Bank would like Eskom to find ways of maintaining the spikes within the current standard.

2.1.1.2 Noise

Noise monitoring is on-going and all the nine monitoring stations are functional. The contractors continue own monitoring and reporting as required. No exceedances were recorded, nor were any noise-related complaints received during the period under review.

2.1.1.3 Air emissions monitoring, including dust and particulate matter emissions

Reporting on Air emissions monitoring, including dust and particulate matter emissions remains an integral part of the Environmental Control Officer’s Monthly Environmental Report. The latest report received by the Bank is dated April 2018.

Medupi site emission monitoring

The latest quarterly ambient air quality monitoring report dated March 2018, indicates that there were four exceedances recorded of the SO2 national ambient air quality 10 minute limit and five exceedances of the SO2 national ambient air quality hourly limit. The SO2 National Ambient Air Quality daily limit was not exceeded during the period under review. The PM2.5 National Ambient Air Quality daily limit was exceeded three times and PM10 limit was not exceeded. There were
twenty four exceedances of the ozone 8-hourly limit of 61ppb. All the other parameters monitored at the site during the monitoring period under review were well below their respective national ambient air quality limits. Ambient CO and NO2 concentrations at Marapong monitoring site show influence of emissions from low level sources in the area, while ambient SO2 concentrations indicate influence from tall stack emitters. Ambient PM10 and PM2.5 concentrations show influence from both low level sources and tall stack emitters.”). The report for the Medupi ambient air quality station downwind of the plant is still outstanding and will be shared as soon as it is received.

High SO2 and PM emissions spikes from higher sulphur coal combustion and design deficiencies in the Fabric Filter Plant: SO2 peaks continue to occur a few times per week up to 16 exceedances/month) beyond the current limit of 3,500mg/Nm³. Particulate emission (PM) spikes have also occurred due to continuing fabric filter bag tears and other pulsing problems. Higher sulphur coal deliveries are still the trend. Eskom continues to control the PM spikes by de-rating the boiler (up to 17% at times). Eskom's application for an increased SO2 emission limit to 4,000 mg/Nm³ is at an advanced stage with a final environmental decision expected in late Feb/18. During the mission, the lenders again expressed concern that this is not a desired approach and requested Eskom to seriously pursue measures that will ensure that the current standard is met.

An encouraging development is that Eskom is making good progress on the intended installation of an on-line coal analyzer (to be operational in September 2018) which is to be integrated into its future coal blending goal to reduce average coal sulphur content to reduce SO2 emissions and spikes. The remaining coal lay down area (north/south leg of the stacker/reclaimer path) is also on schedule. In addition, as suggested by the lenders, Eskom agreed to do coal sampling of the large coal stockpiles (from the take or pay supplies) to determine if these reserves contain lower Sulphur coal. If all this is successful, it has the potential to eventually reduce SO2 emissions and spikes as an interim measure before the wet FGD project is operational. The mission urged Eskom to speed up this work to urgently resolve the issue.

**Waterberg-Bojanala Priority Area Air Quality Management Plan (WBPA-AQMP)**

The latest quarterly report received by the Bank covers the ambient air quality data as monitored at Marapong monitoring site for the period January to March 2018. Therefore this update on the ambient air quality is based on the data as monitored at Marapong monitoring site for this period.

The monitoring site is located in Marapong at co-ordinates: S23° 39' 21.8"; E27° 37' 41.3" and was commissioned in September 2006. The Marapong site is equipped for continuous monitoring of ambient concentrations of sulphur dioxide (SO2), nitrogen dioxide (NO2), ozone (O3), mercury (Hg) and fine particulate matter (FPM) of particulate sizes <10μm (PM10) and <2.5μm (PM2.5) in diameter. In addition, meteorological parameters of wind velocity (WVL), wind direction (WDR) and ambient temperature (TMP) were also recorded.

There were four exceedances recorded of the SO2 national ambient air quality 10 minute limit and five exceedances of the SO2 national ambient air quality hourly limit. The SO2 National Ambient Air Quality daily limit was not exceeded during the period under review. The PM2.5 National Ambient Air Quality daily limit was exceeded three times and PM10 limit was not exceeded. There were twenty four exceedances of the ozone 8- hourly limit of 61ppb. All the other parameters monitored at the site during the monitoring period under review were well below their respective
national ambient air quality limits. Ambient CO and NO2 concentrations at Marapong monitoring site show influence of emissions from low level sources in the area, while ambient SO2 concentrations indicate influence from tall stack emitters. Ambient PM10 and PM2.5 concentrations show influence from both low level sources and tall stack emitters.

Management requested to be availed with the most recent AQMP implementation report during the next Bank mission schedule June 2018.

2.1.1.4 Occupational Health and Safety (OHS)

The Bank also noted the importance Eskom gives to Occupational Health and Safety in its operations and its commitment to the implementation of a sound Occupational Health and Safety (OHS) Management System. The Bank was informed about a recent fatality that occurred in December 2017 and urged Eskom to provide a full report on this unfortunate fatality. Planned actions to improve occupational Health and safety include, among others, continuous training of all supervisors of Eskom and Contractors on safety. The Bank reiterated the importance of the timely reporting of work site accidents and need to urgently address the underlying issues. The Lenders requested Eskom to in future communicate and report any fatalities when they occur and include the information in quarterly reporting.

2.1.1.5 Update on FGD

Since last update, Eskom have accelerated their various studies and investigations, especially to improve the FGD schedule. They have carefully considered the various Lender's suggestions and concerns. The main concerns were related to an increase in the projected schedules for the FGD CO (which were not meeting the 6 year requirement after each Medupi unit CO), the desired Eskom PM approach employing limited EPC multi-packaging with Eskom overall management (similar to the main Medupi contracts which experienced certain execution problems), Eskom’s desire to be involved in the detailed design of the main scrubber reactor and issue a detailed specification for tender with a sole sourced engineering designer for the main scrubber reactor scope (IHI/Steinmuller, whose experience lists were neither recent nor evident of the latest technology advancements in the industry), and the overall project cost which appeared to be beyond international experience.

Eskom remains committed to the retrofit installation of wet Flue Gas Desulphurization (FGD) technology at Medupi Power Station and is actively pursuing schedule acceleration to meet committed dates for four of the units with potential for the remaining two units. There is slippage in completion of the water augmentation project with the water availability for the operation of the FGD. Considering the identified risks (further approvals, availability of financing, etc.) it is likely that water may not be available on time. The delays will exacerbate the situation whereby Eskom (Medupi) will not be able to meet the Minimum Emissions Standards six years after the commercial operation of Units 3, 2 and 1, and hence perpetuate the concerns raised by communities about the perceived health risks due to air pollution by SO2 emissions. Eskom is moving forward with its coal blending plans to mitigate SO2 emissions until FGD is operational.
**FGD Schedule**

Eskom have analyzed the schedule in some detail to "recover" the extra time they were projecting from earlier studies. Since Nov/17, Eskom have held weekly "recovery" meetings. Eskom's engineering efforts are nearing an end and are slated to conclude in May/17. In March/18, Eskom plan to go out for public comments on their intended project approach. The waste management license is targeted for July/18 and the water license for Jan/19 (excluding any appeal delays).

Eskom have been studying various optimized construction approaches to reduce the schedule. Parallel construction with a 6-month completion between units is one approach along with optimized sequencing to avoid access limitations.

Eskom has made further progress in developing the FGD design and two financiers have indicated interest in financing the project. Although Eskom’s preferred contracting strategy is for several packages, they are considering alternatives. Eskom is also actively looking forward financing by the Bank of the Medupi PS Flue Gas Desulphurisation Retrofit Project.

2.1.1.6 Ground water monitoring

Surface water monitoring remains on-going, however at the time of compilation of this report no detailed report was available, and only the surface water data for March 2018 was made available.

Data from the majority of the ground water monitoring wells continued to indicate water quality within allowable limits. The Ground Water assessment monitoring concluded that groundwater quality conditions varied significantly within relatively short distances, as a result of compartmentalization caused by groundwater flow barriers (geological structures) as well as varying aquifer host rock. Eskom continues to investigate this to ascertain cause.

2.1.2 Required Action (ii): Reporting on the status of implementation of the project

2.1.2.1 Project Quarterly Progress Reports submitted to the Bank.

The project continues to submit quarterly progress reports on schedule as required. In addition, the ECO has continued to submit monthly Environmental Compliance Reports detailing compliance actions taken and issues for follow up by respective Contractors on the project. All the ECO monthly monitoring reports for the period January – April 2018 have already been submitted to Management for information.

2.1.2.2 Frequency of Bank supervision missions

Management conducted its supervision mission during the period 17 to 29 July 2017 and the mid-term review/supervision mission conducted 05 – 12 February 2018. Both missions were conducted jointly by the African Development Bank (AfDB) and World Bank (WB).
2.2 **Key issue: No Regional Impact Assessment**

Required Action: Conduct further Regional Assessment of Coal Based Energy Projects between South Africa and Botswana to build on the work already done.

The Regional Environmental and Social Assessments (RESA) Study was fully completed. Currently the Department of Environmental Affairs (DEA) is conducting an analysis to determine if the scenarios under which the study was undertaken are still valid and relevant under the country’s current and medium term energy planning strategy. This will assist to inform on how best to take the RESA outcomes and recommendations forward by the DEA. The study is also expected to inform the revision of the Integrated Resource Plan (IRP) and well as inform energy planning in South Africa and Botswana.

The issue was raised by the Bank’s supervision mission and Eskom will provide status updates on the integration of RESA findings in IRP review during the next supervision mission scheduled in June 2018.

2.3 **Key issue: Compliance with Integrated Water Resources Management Policy**

2.3.1 **Required Action (i): Follow up with DWS on status of the Mokolo-Crocodile Water Augmentation Project Phase 2 (MCWAP-2A) and development of the effluent re-use and groundwater use.**

DWS and TCTA provided an update of the project, which is required to deliver sufficient water for the last three Medupi units. They informed the lenders that DWS has committed funding for the social component of the water supply (R30 million) and the developer has commenced preliminary activities. The updated schedule shows availability of water one month ahead of installation – down from four months. The lenders requested documentary evidence from DWS/DPE that DWS had provided funding for the social component, and National Treasury committed to follow up and provide the evidence.

2.3.2 **Required Action (ii): Follow up on the DEA, DMR, DWS and DAFF Task Team decision on the sand mining issues.**

**Sand mining in the Mokolo River**

During the just concluded mission, updates were received on the status of the legislative actions that have been undertaken following suspension of the sand mining operations in the Mokolo River.

Management understands that the concerned firm has mining rights along the Mokolo river and that it secured the necessary permits and approvals for the EMP. When mining permits and/or rights are issued by Department of Mineral Resources (DMR), there is a requirement for the respective entity to establish a rehabilitation fund. Eskom’s role is to ensure it procures from sources that meet the relevant legislative requirements and to ensure that Eskom contractors conduct due diligence and inspections at the suppliers in question. Rehabilitation is not Eskom’s responsibility. Eskom will continue to monitor to ensure that contractors source materials from
approved sources and that environmental obligations imposed on the suppliers through authorizations, permits and licenses are adhered to.

2.3.3 Required Action (iii): Develop a monitoring program of surface and groundwater for the operation phase based on the conditions of the water use licenses and include it in the OEMP.

Surface water monitoring remains on going. However at the time of compilation of this report no detailed report was available, and only the surface water data for March 2018 was made available

2.4 Key issue: Inadequate Public Consultation with Communities

2.4.1 Required Action (i): Expand 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.

The account given on the MCIO activities in update 6 still provides an up-to-date description addressing this action point.

2.4.2 Required Action (ii): Enhance participation of Ward Councilors in Environment Monitoring Committee (EMC) meetings by assisting them with transportation to the meetings.

Management received an update on the last three EMC meetings, which discussed important issues relevant to the project, including feedback on heritage matters at Medupi. Two Environmental Monitoring Committee (EMC) meetings have taken place since the previous mission (July, November 2017) with 19 and 23 attendees respectively. The next meeting was due to take place during the third week of February 2018. The labor unrest concerns of the general population have started to overshadow the EMC meetings, therefore a decision was taken to close these meetings to the public since EMC is not mandated, or capable, of handling discussions about job losses. Interest in the EMC has waned of late and the meetings have had to grapple with the issue of how to increase their appeal and representativeness. One solution has been to involve the members of the Waterberg Environmental Justice Forum (“WEJF”), the main CSO in the area. The presence of WEJF provides community involvement and oversight of the EMC process.

Eskom also reported that it had made deliberate effort to reach out to the local councilors to be part of the Environmental Monitoring Committee (EMC) in order to strengthen their engagement with the local communities and provide feedback. However, this has not been fruitful because the local councilors have not been responsive to the invitations by Eskom to participate.
2.5 Key issue: Desecration of Graves and Land Claims

Required Action: Engage Marapong community to reach an understanding and closure on the issue

This being an important issue still being monitored under the Independent Review Mechanism of the AfDB, the Management requested Eskom to continue reporting on the implementation of any ongoing activities of the HAP since the conclusion of the traditional rituals last year. The project has stayed engaged with the original families whose graves were impacted and in the last few months additional cases have been brought forward. In addition to a longstanding legacy issue (relating to the need to hire a traditional health practitioner (THP) to complete key healing and reunion rites) four additional cases have come to light in the last few months. These 4 cases relate to the presence of gravesites on Eskom land (but not in the critical path of the project, and therefore not requiring relocation) as well as rumored graves of MK soldiers (uMkhonto weSizwe) from Botswana and Zimbabwe, dating back to the apartheid era.

The project has re-hired the independent heritage consultants, who worked with the project in the past, since they know the community dynamics well and have established a good rapport with them. However, since a single source contract was submitted, the National Treasury has only approved a 6-month contract. An additional request has been submitted to the National Treasury for a full 24-month contract period. A detailed schedule of activities, relating to the management of these gravesites on Eskom land by the heritage consultants, was shared with the mission.

3. Conclusion

Management commends Eskom and all the various departments of the GoRSA that continue to oversee various aspects of implementation of the CEMP and OEMP, conditions of authorization and the IRM Action Plan for the Medupi Power Project.

Management also applauds and acknowledges Eskom’s efforts to continue stakeholder engagement not only with project affected communities on issues of interest to them, such as the efforts to follow up on the outstanding action areas on the Heritage Action Plan but also with others directly or indirectly affected by the project. Eskom’s community programs which are part of its socio-economic development initiatives are equally commended as they have extended the benefits of the project to many beneficiaries in the project impact zone in line with the Bank’s gender and inclusive growth strategies.
Annex 1: List of People Met (during the Joint Supervision Missions)

A. Department of Public Enterprises

1. Ms. Makgola Mokololo Acting Deputy Director General
2. Mr. Donald Nkadimeng Chief Director
3. Mr. Clive Selwadi Director
4. Mr. Bhavik Diar Director

B. Department of Environmental Affairs

5. Mr. Vumile Senene
6. Ms. Minky Chauke

C. Department of Water and Sanitation

7. Mr. Ockie van den Berg
8. Mr. Gillmer Ronald

D. TCTA

9. Ms. Alicia Keyser

E. National Treasury

10. Mr. Simon Z. Qobo Chief Director
11. Mr. Jeffrey Quvane Director
12. Ms. Nandi Mkunqwana Director

F. Eskom (Head office)

13. Mr. Kobus Steyn Acting Group Executive: Group Capital
14. Ms. Judy Raphael Eskom Treasury
15. Ms. Gertrude Molokoane Eskom Treasury
16. Mr. Vasanie Pather Senior Engineering Manager
17. Mr. Prince Khumalo Engineering Manager
18. Mr. Darlene Adams Senior Advisor Loan Management
19. Mr. Dave Lucas Environmental Specialist, Corporate
20. Mr. Barry Janse van Rensburg Senior Manager (Construction)
21. Ms. Grietjie Doubell Manager, Supply Chain
22. Mr. Poobie Govender Executive Manager, Project Development
23. Mr. Vincent Chauke Chief Advisor
24. Mr. Kevin Chetty Battery Storage Project Lead
25. Mr. Theuns Blom FGD Project Lead
26. Mr. Carl Meerholz Eskom Finance
27. Mr. Hasha Tlhotlhalemaje Senior Regulatory Manager
28. Ms. Jainthree Sankar Contract Management Executive
29. Ms. Priscilla Jezi Manager, Project Accounting
30. Mr. Mohil Sigh Group Capital Environmental Manager

G. Eskom (Transmission)

31. Mr. Theo Meveni Project Manager
32. Mr. Sebenzile Vilakazi Senior Advisor, Environmental Management

H. Medupi Power Station Project

33. Mr. Phillip Dukashe Project Director
34. Ms. Zandi Shange Senior Manager, Construction
35. Mr. Binesh Singh Employers Representative
36. Mr. Gabriel Mkhonza, Manager Supplier Development & Localization
37. Mr Elvis Modise Deputy Employers’ Representative
38. Mr Emile Marell Environmental Manager, Construction
39. Mr. Shonisani Ndou, Middle Manager Project Controls
40. Mr. Motsumi Moeketsane, Middle Manager Project Accountant
41. Ms. Nthabiseng Malebo Middle Manager, Project Management

I. Medupi Power Station

42. Mr. Johan Prinsloo Power Station Manager
43. Mr. Prince Khumalo Engineering Manager
Annex 2: Mission Team Members

A. AFRICAN DEVELOPMENT BANK

1. Mr. Farai Kanonda, Mission Leader
2. Ms. Elizabeth Muguti, Principal Power Engineer
3. Ms. Mose Mabe-Koofhethile, Principal Procurement Specialist
4. Mr. Devinder Goyal, Chief Regional Financial Management Coordinator
5. Ms. Annah Rutebuka Muja, Senior Development Officer
6. Mr Mukul Kumar – Chief Regional Procurement Coordinator
7. Ms. Evelyne Change, Chief Governance Officer

B. WORLD BANK

8. Ms. Wendy Hughes, Practice Manager (wrap-up only)
9. Mr. Reynold Duncan, Team Leader
10. Mr. Gert Van Der Linde, Lead Financial Management Specialist
11. Mr. Abdelaziz Lagnaoui, Lead Environmental Specialist
12. Mr. Bruce Paley, Engineering Consultant
13. Mr. James Moose, Financial Consultant
14. Mr. Arsh Sharma, Financial Analyst
15. Ms. M. Yaa Pokua Afriyie Oppong, Senior Social Development Specialist
16. Ms. Tandile Gugu Msiwa, Senior Financial Management Specialist
17. Ms. Zandile Ratshitanga, Senior Communications Officer Specialist