

**MENCO**

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**INTEGRATED WATER  
AND  
WASTE MANAGEMENT PLAN**

**FOR**

**THE PROPOSED  
IPP THABAMETSI POWER PLANT**

**WITHIN THE  
LEPHALALE MUNICIPALITY  
LIMPOPO PROVINCE**

**JULY 2016**





**TITLE:**

Integrated Water and Waste Management Plan for the Proposed Coal Fired IPP Thabametsi Power Plant Project located within the Lephalale Local Municipality, Waterberg District Municipality, Limpopo Province

**REPORT NO:**

IWWMP/SE/2015/04/V2

**DATE:**

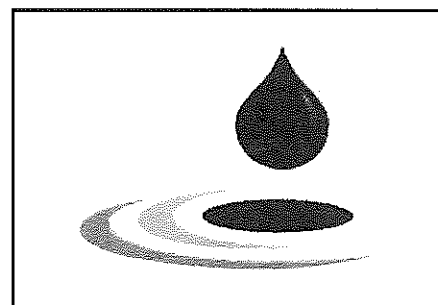
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Report Compiled for:

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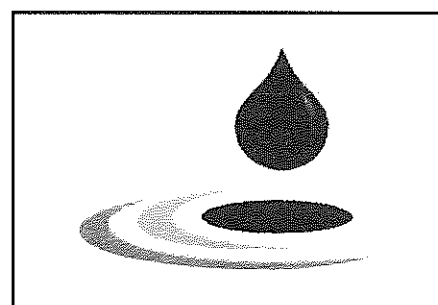


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Component	Description/Dimensions
	contractor for disposal at a licensed landfill site; <ul style="list-style-type: none"> <li>• Sanitation entails the construction of a Waste Water Treatment Works with daily throughput capacity of 600 m<sup>3</sup>;</li> <li>• Potable water treatment plant with daily treatment capacity of 4800m<sup>3</sup></li> </ul>
Pipeline for water supply	<ul style="list-style-type: none"> <li>• 18 km in length with tie-in booster pump station from tie-in point at Matimba Power Station to Raw Water Storage Reservoir on site</li> </ul>

## 2.5 KEY WATER USES AND WASTE STREAMS

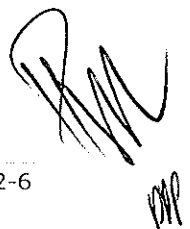
The key water use associated with power generation is to obtain sustainable raw water supply from a reliable resource that adheres to the water quality specifications for the power generation sector. This water use constitutes a section 21(a) water use authorisation as contemplated in section 40 of the National Water Act, 1998. Securing the source of water entails an application in terms of section 25(2) of the NWA in which Exxaro Resources Limited has agreed to surrender 720,000 m<sup>3</sup> of water.

In addition several waste related water uses are identified that triggers the requirement for the compilation of an IWWMP as a technical supporting document. The waste related water uses are:

- Section 21(f) – Discharging of water containing waste from the Waste Water Treatment Works; and
- Section 21(g) - Disposing of waste in a manner which may detrimentally impact on water resource inclusive of the Pollution Control Dams, Ash Dam, Coal stock Yard, Storm water and station drain infrastructure.

An Integrated Environmental Authorisation dated 25 February 2015 under reference 14/12/16/3/3/40 was issued in terms of the National Environmental Management Act as well as National Environmental Management: Waste Act and Government Notice 921 of 2013. In terms of these authorisations approval was granted for the construction of following waste related facilities:

- Two coal stockpiles
- Pollution control dams (>50,000 m<sup>3</sup>)
- Waste water treatment works with a capacity of 600 m<sup>3</sup> per day
- Storage of dangerous substances
- Operation of an Ash Dump





**Table 9-3: Details of the life activity of the IPP Thabametsi Power Project**

Component	Description/Dimensions
Electricity generating capacity	Approval granted by NERSA for 1200 MW to be developed in two phases of 600 MW each
Technology to be implemented in the power generation process	Coal fired power station with Circulating Fluidised Bed technology, dry cooled and zero effluent discharge plant
Extend of the development	<ul style="list-style-type: none"> <li>• Power Station consisting of production units, boilers, furnaces, turbines, generators, condensers, office, maintenance and ash dam area – 50 hectare footprint;</li> <li>• Ash dam on footprint area of 500 hectares with a life span of 40 years;</li> <li>• Coal Stock Yard of 100 hectares providing coal for a 30 day period;</li> <li>• Raw water dam with storage capacity of 120,000 m<sup>3</sup> on footprint of 2 hectare</li> </ul>
Ash Dam and associated infrastructure	<ul style="list-style-type: none"> <li>• Area of 500 hectares in extent;</li> <li>• Height up to 50 meters;</li> <li>• Storage volume of 200 million m<sup>3</sup> of ash;</li> <li>• Overland ash conveyors at rate of 660 ton/hour;</li> <li>• Proposed to operate three PCD's linked to the rate of development of the ash dam;</li> <li>• Capacity of three PCD's given as 75,000m<sup>3</sup>, 54,000 m<sup>3</sup> and 33,000 m<sup>3</sup> respectively;</li> <li>• Expected life span of power station set at 40 years</li> </ul>
Supporting services required for the duration of the power station	<ul style="list-style-type: none"> <li>• Raw water supply at rate of 750,000 m<sup>3</sup>/annum for Phase 1 and 1.5 Mm<sup>3</sup> per annum for Phase 2;</li> <li>• Refuse material disposal to be removed by a contractor for disposal at a licensed landfill site;</li> <li>• Sanitation entails the construction of a Waste Water Treatment Works with daily throughput capacity of 600m<sup>3</sup>;</li> <li>• Potable water treatment plant with daily treatment capacity of 4800m<sup>3</sup></li> </ul>
Pipeline for water supply	<ul style="list-style-type: none"> <li>• 18 km in length with tie-in booster pump station from tie-in point at Matimba Power Station to Raw Water Storage Reservoir on site</li> </ul>

