

REPORT

**Draft Basic Assessment Report for the
Decommissioning and Demolition of the Kelvin Power
A-Station Power Plant Infrastructure.**

Kelvin Power Pty (Ltd)

GDARD REFERENCE NUMBER: GAUT 002/22-23/E3386

Submitted to:

Gauteng Department of Agriculture and Rural Development (GDARD)

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20360049-354943-9

November 2022



Photo courtesy of A Pelsier

Distribution List

- 1 Electronic Copy to Kelvin Power Pty (Ltd)
- 1 Electronic Copy to GDARD
- 1 Electronic Copy to the WSP Golder SharePoint site for 20360049
- 1 Electronic Copy to projectreports@golder.co.za

Purpose of this Document

The Kelvin Power Station is a 13-unit coal-fired power plant with a total installed capacity of 600 MW, operated by Kelvin Power (Pty) Ltd (Kelvin Power) and is situated in the City of Ekurhuleni in the Gauteng Province. The plant was completed between 1957 and 1969. It was developed and operated by the City of Johannesburg until 2001 when it was sold to an independent private company. Kelvin Power is one of only a few coal-fired power stations in South Africa not owned by Eskom. Kelvin Power consists of two independent stations, A Station and B Station. The Kelvin Power A-Station was commissioned and started generating commercial power on 27 March 1957; it has six 30MW generators and 11 chain grate boilers. The newer Kelvin Power B-Station has seven 60MW generators and seven pulverised fuel-firing (PF-type) boilers.

The Kelvin Power Station is located west of the Zuurfontein Road and is approximately 5 km north-west of the O.R. Tambo International Airport. The total extent of the plant is 226.18 ha and is located on the farm Zuurfontein 33 IR, in a wider area classified as mixed industrial and residential.

The technology used in the A-Station has become very outdated and the last unit was placed on extended care and maintenance in November 2012. The newer B-Station is still operational. The associated infrastructure for each of the stations include a common High Voltage Yard (now replaced by the new Sebenza sub-station), a control room and workshop facilities.

A decision was made to decommission and demolish the A-Station infrastructure, making the site available for future development.

WSP Group Africa (Pty) Ltd (WSP), an independent environmental assessment practitioner (EA), was appointed by Kelvin Power to conduct the required environmental authorisations for the proposed project.

In terms of the Environmental Impact Assessment (EIA) Regulations (2014, as amended) GN R.324 – GN R.327, Kelvin Power must submit an application for Environmental Authorisation (EA) to the Gauteng Department of Agriculture and Rural Development (GDARD), supported by a Basic Assessment process, which entails the compilation of a Basic Assessment Report (BAR) and an Environmental Management Programme (EMPr), which describes how the environmental impacts of the proposed decommissioning and demolition activities will be managed and mitigated.

The draft BAR is available for public review, to provide interested and affected parties (I&APs) with an opportunity to comment on the proposed project.

The due date for comment on the draft BAR and EMPr is **Wednesday, 18 January 2023**. Comments received during the public review period will be acknowledged and recorded in the final BAR and EMPr, that will be submitted to the competent authority, the GDARD, for decision-making.

PUBLIC REVIEW OF THE DRAFT BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME

The draft Basic Assessment Report and EMPr are available for comment from **Monday, 28 November 2022** until **Wednesday, 18 January 2023** at the public places listed in the table below. The reports are also available for downloaded from the following websites: WSP website - <https://www.wsp.com/en-za/services/public-documents> or a data free website - <https://wsp-engage.com/>.

PUBLIC PLACE	TOWN
Kelvin Power Station, 3 Zuurfontein Road	Kempton Park
Kempton Park Library, Cnr CR Swart & Pretoria Road	Kempton Park
Kelvin Power Estate Club House, Cnr Starling & Cape Wagtail Street, Kelvin Power Estate, Spartan	Kempton Park

OPPORTUNITIES FOR PUBLIC REVIEW AND COMMENT

Stakeholders who wish to comment on the draft BAR and EMPr could do so in any of the following ways:

- Completing the Registration and Comment Sheet and return it to the WSP Public Participation (PP) Office by post or email (can be downloaded from the above websites).
- Providing comments on the proposed project, draft BAR and EMPr by contacting the WSP PP Office telephonically, by email or post, or
- Attending an open house as follows:

Date: 07 December 2022

Time: Anytime between 16:00 and 19:00

Venue: Kelvin Estate Club House, Cnr Starling & Cape Wagtail Street, Kelvin Estate, Spartan

THE DUE DATE FOR COMMENT ON THE DRAFT BASIC ASSESSMENT REPORT AND EMPR IS **WEDNESDAY, 18 January 2023**.

Comments could be submitted to the WSP Public Participation Office for the duration of the Basic Assessment process:

WSP Group Africa (Pty) Ltd

P O Box 6001, HALFWAY HOUSE, 1685

Tel: (011) 254 4800

Fax: 086 582 1561

Email: gld.pp@wsp.com

ABBREVIATIONS AND ACRONYMS

Abbreviation/ Acronym	Explanation
AEL	Atmospheric Emission Licence
BA	Basic Assessment
BAR	Basic Assessment Report
BIL	Background Information Letter
CRR	Comments and Responses Report
DEFF	Department of Environment, Forestry and Fisheries
DEA	Department of Environmental Affairs
dBAR	Draft Basic Assessment Report
dEMPr	Draft Environmental Management Programme
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
fBAR	Final Basic Assessment Report
fEMPr	Final Environmental Management Programme
GDP	Gross Domestic Product
GN	Government Notice
I&APs	Interested and affected parties
IWWMP	Integrated Water and Waste Management Plan
LSA	Late Stone Age
MAR	Mean Annual Runoff
MSA	Middle Stone Age
NAAQS	National Ambient Air Quality Standards
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended
NEM:AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), as amended
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended

Abbreviation/ Acronym	Explanation
NWA	National Water Act, 1998 (Act No. 36 of 1998), as amended
SAHRA	South African Heritage Resources Agency
SANRAL	South African National Roads Agency
SAWQ	South African Water Quality
WML	Waste Management Licence
WUL	Water Use Licence

UNIT MEASUREMENT

Unit	Explanation
°C	Degrees Celsius
Cm	Centimetre
ha	Hectares
km	Kilometres
m	Metre
m/s	Metres per second
m ³ /d	Metres cubed per day
mamsl	Metres above mean sea level
mbgl	Meters below ground level
ML	Million litres
mm	Millimetre

1.0 EXECUTIVE SUMMARY

1.1 Introduction

The Kelvin Power Station is a 13-unit coal-fired power plant with a total capacity of 600 MW, operated by Kelvin Power (Pty) Ltd (Kelvin Power) and is situated in the City of Ekurhuleni (CoE) in the Gauteng Province. The plant was completed between 1957 and 1969. It was developed and operated by the City of Johannesburg until 2001 when it was sold to an independent private company. Kelvin Power is one of only a few coal-fired power stations in South Africa not owned by Eskom. Kelvin Power consists of two independent stations, A-station and B-Station. The Kelvin Power A-Station was commissioned and started generating commercial power on 27 March 1957; it has six 30MW generators and 11 chain grate boilers. The newer Kelvin Power B-Station has seven 60MW generators and seven PF-type boilers.

The Kelvin Power Station is located west of the Zuurfontein Road and is approximately 5 km north-west of the O.R. Tambo International Airport (Figure 1). The total extent of the plant is 226.18 ha and is located on the farm Zuurfontein 33 IR, in a wider area classified as a mixed industrial and residential area.

The technology used in the A-Station has become very outdated and the last unit was placed on extended care and maintenance in November 2012. The newer B-Station is still operational. The associated infrastructure for each of the stations include a common High Voltage Yard (now replaced by the new Sebenza sub-station), a control room and workshop facilities.

A decision was made to decommission and demolish the A-Station infrastructure, making the site available for future development.

1.1.1 Kelvin Power A-Station Process Description

The A-Station has an installed capacity of 180 MW comprising of six 30 MW turbo-alternators and eleven 85 ton/hr Babcock and Wilcox boilers. The steam conditions at the turbine stop valve are 454 °C and 41.3 bar.

During its operational period, coal was transported to the site by rail. The coal was fed by conveyors either directly to the A-Station or tipped onto the coal storage areas. The coal that was elevated to the A-Station by the conveyors was discharged into the coalbunkers from where it was fed to the chain grate system of the A-Station boilers. Figure 2 provides an overview of the process flow for the A-Station while Figure 3 provides a schematic representation of the electricity production process.

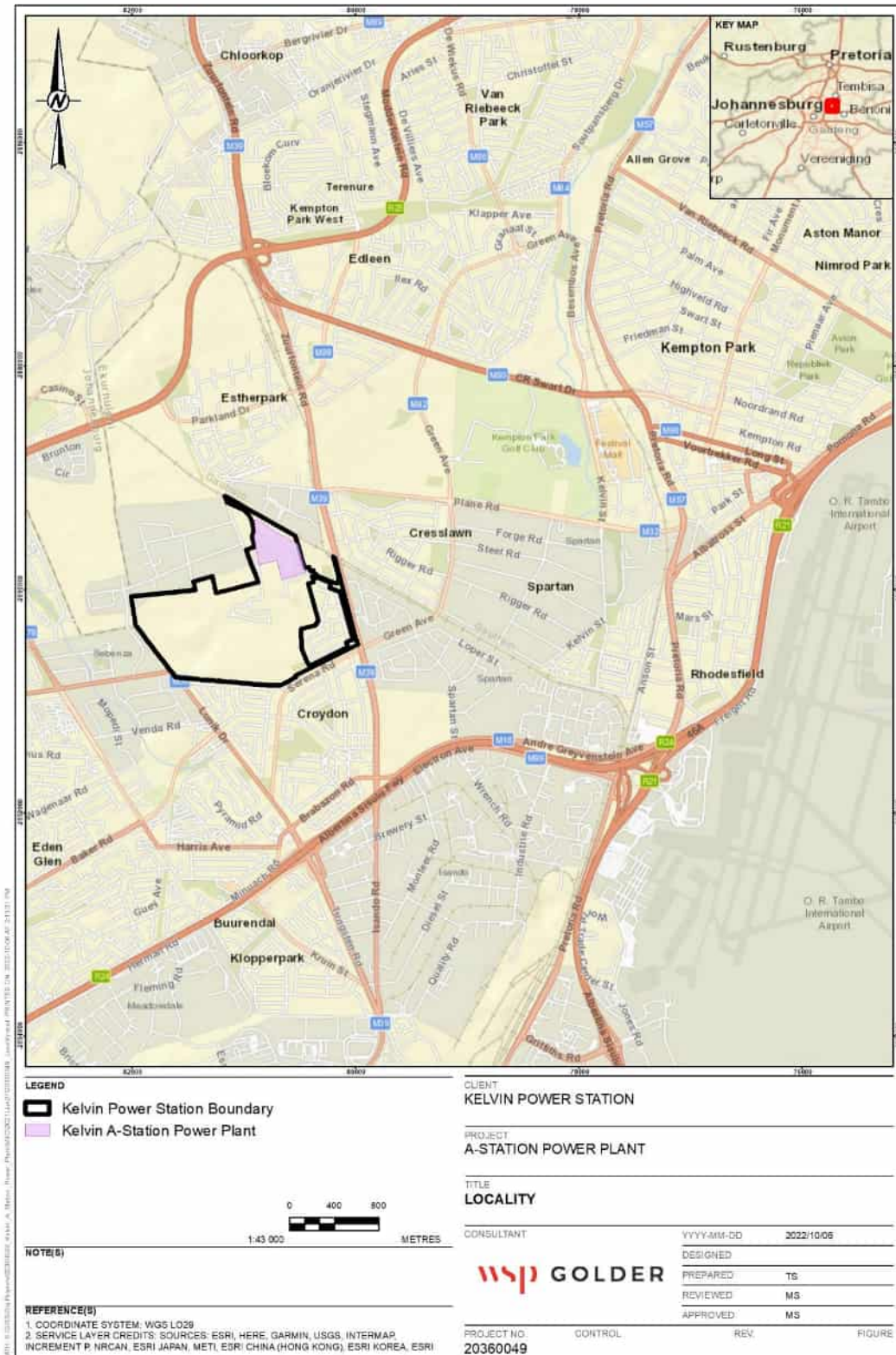


Figure 1: Locality of the Kelvin Power Station

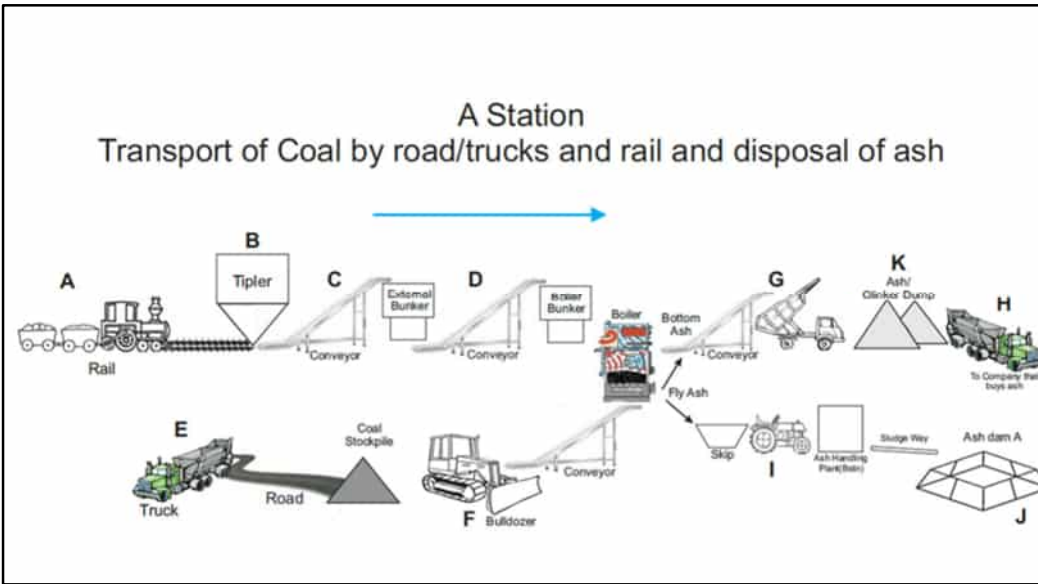


Figure 2: Process flow illustrating the inputs and outputs for the A-Station.

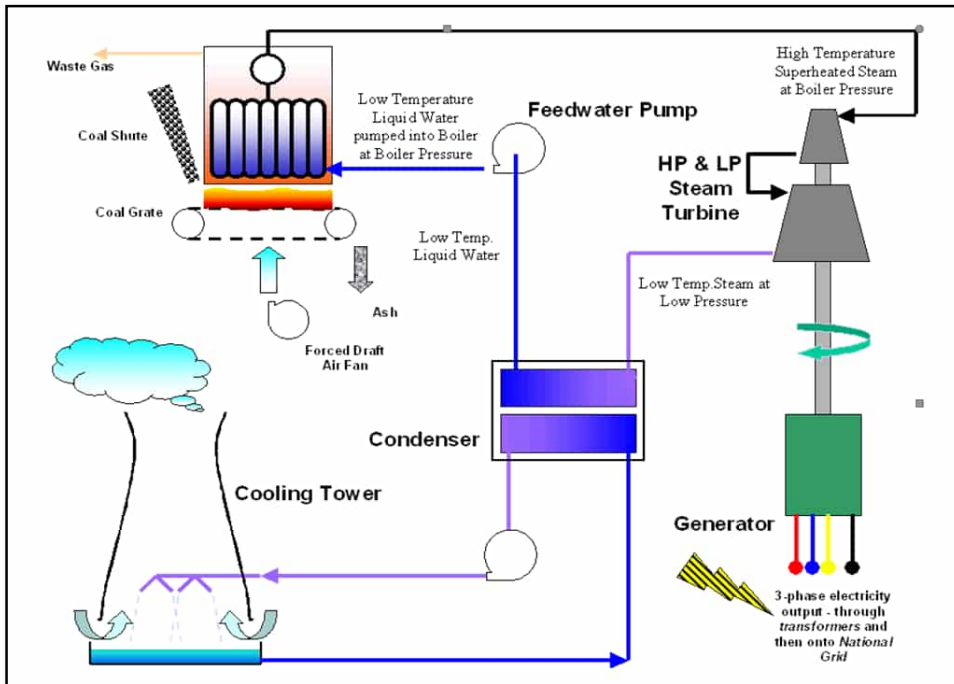


Figure 3: Schematic diagram of electricity production process

1.1.1.1 A-Station Infrastructure

The infrastructure associated with the A-Station occupies an area of approximately 13.75 ha and includes the following infrastructure as illustrated in Figure 4:

- A-Station building, including stacks.
- A-Station Cooling towers (3).

- Workshops.
- A-Station coal stockpile.
- A-Station Coal dry-store.
- A-Station Overland Ash Conveyor (removed).
- A-Station Wagon Tipplers.

1.1.2 Phases of the Project

Kelvin Power is proposing to appoint a demolition contractor to dismantle and demolish the redundant infrastructure associated with the A-Station Power Plant and leave behind land of undeveloped industrial quality on a stabilised and free draining site.

Kelvin Power intends on approaching the decommissioning and demolition of the A-Station infrastructure in three distinctive phases i.e., decommissioning, demolition and site clean-up.

During the decommissioning phase, usable assets such as machinery and equipment will be identified, dismantled and stored for either reuse at the B-Station or will be sold. It is anticipated that these items will be cleaned and decontaminated before removal from the A-Station site, if required.

Demolition will progress in a controlled manner, as determined by an appointed demolition contractor. Laydown areas to be demarcated in consultation with the demolition contractor and Environmental Control Officer (ECO), will be utilised for the storage of waste skips, recyclables, inert concrete for crushing, offices and vehicle parking.

Waste, generated as part of the demolition process, will be separated, handled, recycled and disposed of in accordance with applicable waste management legislation to various licenced waste management facilities in the vicinity of the site.

Hydrocarbon contamination and soil saturated by wastes or waste which cannot be suitably cleaned by routine high pressure cleaning will be identified visually and isolated for full removal and disposal. Site clean-up will be followed by confirmation through soil sampling and analysis.

It is anticipated that the demolition of the A-Station Power Plant will take approximately 12 months.

1.1.3 Authorisation Process

In terms of the Environmental Impact Assessment (EIA) Regulations (2014, as amended) GN R.983 – GN R.985, Kelvin Power must submit an application for Environmental Authorisation (EA) to the Gauteng Department of Agriculture and Rural Development (GDARD), supported by a Basic Assessment process, which entails the compilation of a Basic Assessment Report (BAR) and an Environmental Management Programme (EMPr), which describes how the environmental impacts of the proposed decommissioning and demolition activities will be managed and mitigated.

Kelvin Power is also required to submit a written notification and AEL amendment application to the Atmospheric Emission License (AEL) licensing authority regarding the proposed decommissioning and demolition of the A-Station Power Plant infrastructure.

WSP Group Africa (Pty) Ltd (WSP), an independent environmental assessment practitioner (EAP), is appointed by Kelvin Power to conduct the required environmental authorisations for the proposed project.

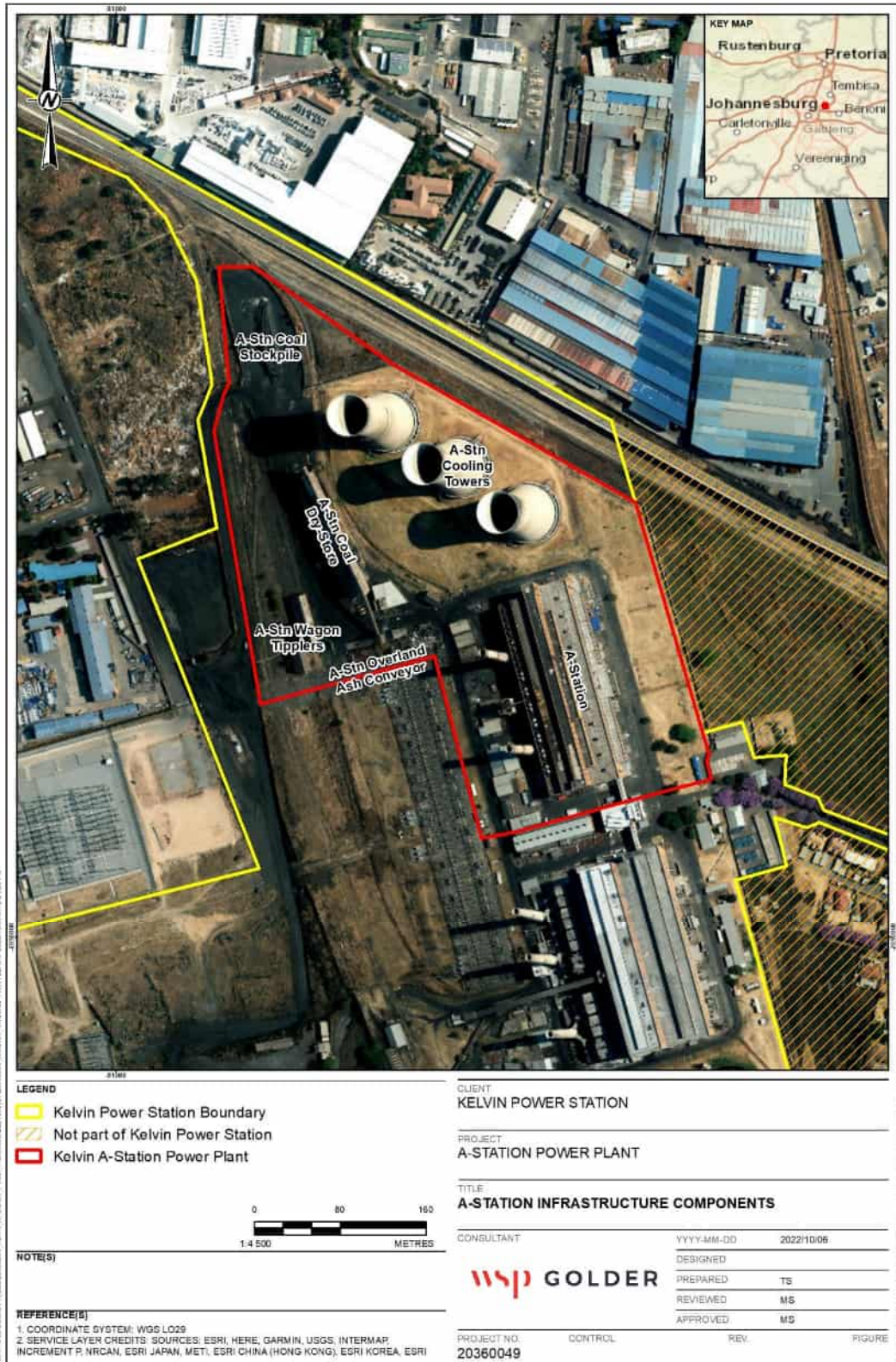


Figure 4: Kelvin Power A-Station infrastructure

1.1.4 Summary of key findings of the Environmental Impact Assessment Groundwater Assessment

Baseline

The groundwater baseline conditions at the Kelvin Power Station can be summarized as follows:

- The Kelvin Power A-Station investigation area is underlain by Halfway House granites.
- The aquifer associated with the Kelvin Power A-Station is classified as minor aquifer system and comprises mainly of an intergranular and fractured aquifer zone with an average borehole yield between 0.5l/s and 2.0l/s.
- Two aquifer systems are distinguished (SRK 2016, as cited by (Golder, 2022a)), namely:
 - Shallow weathered unconfined aquifer zone; and
 - Fractured semi-confined aquifer zone below the weathered zone.
- The groundwater contours mimic the surface topography with groundwater flow, west towards the Modderfontein Spruit.
- Two of the Kelvin Power monitoring boreholes (KPS-MON09 and KPS-MON10) have ideal (Class 0) water quality (Figure 5). These two (2) boreholes are located on the eastern side of Kelvin Power Station and represent the upgradient/baseline groundwater quality of the site.
- Most of the monitoring boreholes are of good water quality (Class 1), and marginal water quality (Class 2) with slightly elevated EC, TDS, Mg, Cl, nitrate and sulphate concentrations.
- Monitoring boreholes KPS-BH01, KPS-MON07, KPS-MON16 are of poor water quality (Class 3) and KPS-MON13 is unacceptable water quality Class 4. These boreholes have elevated TDS, Mg and sulphate concentrations and are probably impacted by on site activities.
- The following constituents of the groundwater samples are of concern; EC, TDS, Mg, Cl, nitrate and sulphate.
- The baseline water quality at Kelvin Power site is represented by KPS-MON03, KPS-MON09, KPS-MON10, and KPS-BH-05 represent calcium magnesium bicarbonate type of water (Ca,Mg)(HCO₃)₂.

Key Impacts

During the demolition phase, the main activities that could impact on groundwater is the demolition of existing infrastructure and clearing of the site for future development. The demolition phase of the Kelvin Power A-Station infrastructure, poses the following potential impacts on the groundwater:

- A change in the groundwater quality.
- A change in the volume or recharge of groundwater, previously covered areas will be exposed with associated change in water level.
- Possible change in the groundwater flow regime (building excavation).
- A change on the quality of the surface water (receptor).
- Possible spills from construction vehicles.

The proposed decommissioning, and demolition of the A-Station, will have a **low** environmental significance impact on the groundwater regime.

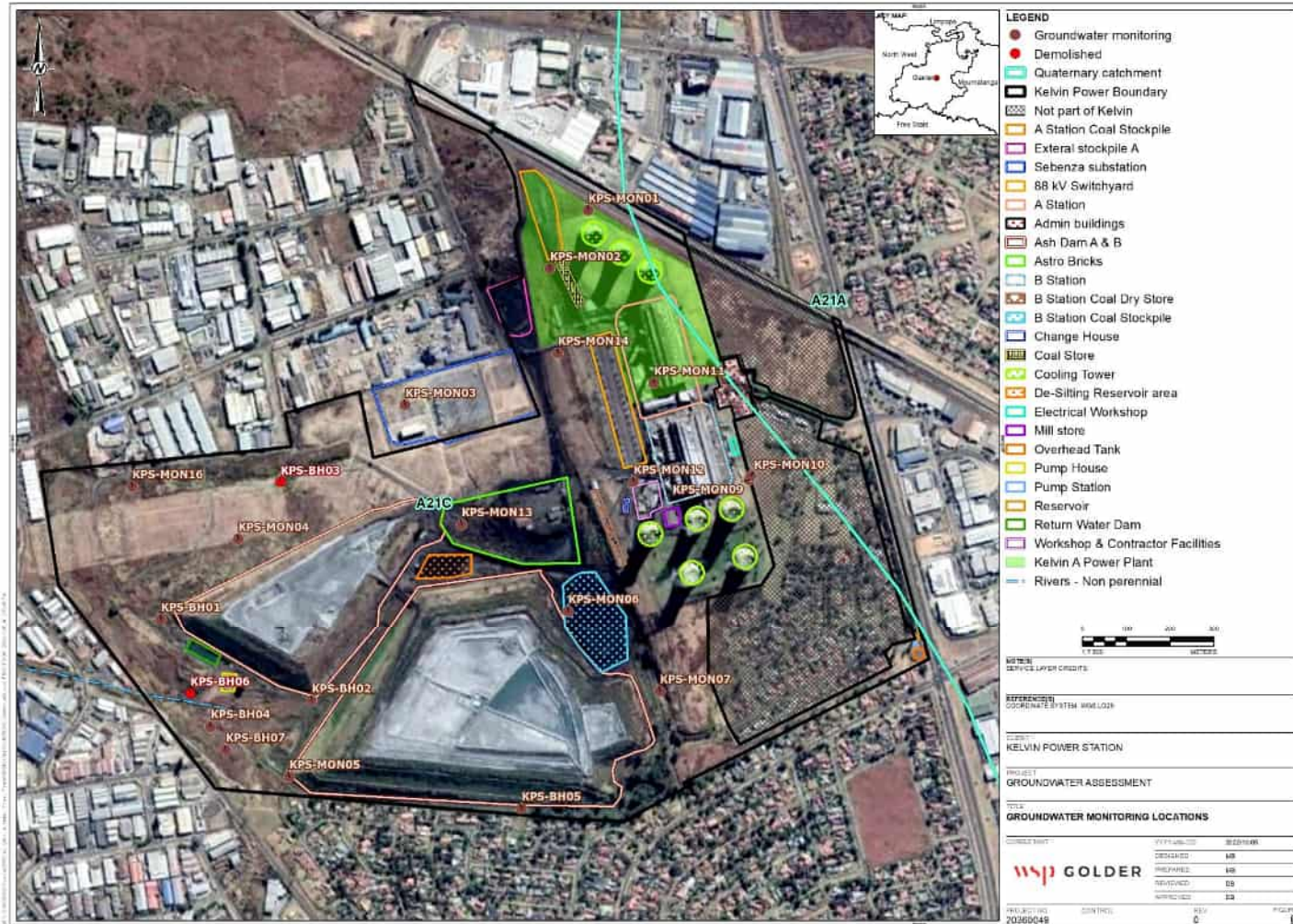


Figure 5: Existing Monitoring Borehole and Infrastructure (Golder, 2022a)

Surface Water Assessment

Baseline

The Kelvin Power site is situated on the boundary of two quaternary catchments, A21C and A21A, with 97% of the site in quaternary catchment A21C, the Jukskei River catchment (Figure 6). An unnamed tributary drain north-west for approximately 1.1km to confluence with the Modderfonteinspruit from the catchment of the ash dams where effluent is discharged. The Modderfonteinspruit confluences with the Jukskei River which drains in a north westerly direction and confluences with the Crocodile River approximately 35 km downstream. The station is situated within an industrial area, however it is also close to a number of residential areas. In addition, there are large areas of Alexandra, located downstream, where it is understood that informal use of water from the Jukskei River occurs.

A-station is located in an area where there are no water resources that would be directly affected by runoff from the area that is to be decommissioned. Drainage from this section is currently via stormwater drains that drain directly to Main Channel which ultimately discharges to Modderfonteinspruit. Kelvin Power has implemented a surface water monitoring programme that includes daily monitoring of the effluent and weekly monitoring at the effluent discharge point into the unnamed tributary as well as at points up and downstream of this in the Modderfonteinspruit. The 95th percentile data from weekly sampling for 2020/ 2021 indicate that the pH is compliant for all samples, and electrical conductivity, chloride, sodium, magnesium, calcium, nitrate and fluoride are elevated.

Key Impacts

Decommissioning and removal of infrastructure may lead to release of additional contaminants. This may lead to changes to the chemical make-up of the stormwater run-off with higher concentrations of metals, hydrocarbons and salts from workshops, storage areas, A-stockpile and other dirty areas being decommissioned.

Considering the locality of the Kelvin Power A-station infrastructure within the two quaternary catchments, A21C and A21A, and specifically A21C, the impact significance on the Modderfonteinspruit and the Jukskei River has been rated as **low** and will require limited mitigation to reduce any residual risk.

Noise

Baseline

Noise monitoring was undertaken for the period January to March 2021 at fifteen locations (representative of the prevailing ambient noise levels on the boundaries of the property), with points 14, 15 and 16 consolidated in one measuring point, 340m direct south of MP16. Measurement procedures were undertaken according to the SANS 10103:2008 standards with a Larsen Davis Integrated Sound Level Meter Type 1 and environmental monitoring kit.

During the day, noise levels were below the 70 dB(A) day-time guideline rating level, with the exception of location 8 (above the day-time guideline rating level during January, February and March 2021) and location 9 (above the day-time guideline rating level during March 2021). These exceedances were only slightly above the guideline rating level with a maximum of 1.3 dB(A) in January 2021.

During the night-time, noise levels were below the 70 dB(A) night-time guideline rating level, with the exception of location 8, which was above the night-time guideline rating level during January, February and March 2021. Although above the night-time level, these exceedances were only slightly above the guideline rating level with a maximum of 1.1 dB(A) in March 2021.



Figure 6: Kelvin Power in relation to the main water resources in the area (Golder, 2022b)

Elevated levels of noise at monitoring point 8 and 9 can be attributed to the boilers and cooling towers at the power station, operating under normal circumstances.

It must be noted that the background noise such as traffic noise, aircraft noise in the vicinity of the power station, Gautrain noise, and industrial activities in the vicinity of the power station was excluded from the noise results to assess the noise impact from the power station only.

Key Impacts

During the decommissioning and demolition phase, the impact is predicted to be **moderate** at receptors 1, 2, 4, 6, 7 and 8 (Figure 7), given their proximity in location to the decommissioning and demolition activities, whilst the impact is predicted to be **low** at the remaining receptors.

Air Quality

Baseline

The main industrial source of emissions includes the zones on the southern, northern and western boundaries of the property namely, Isando, Spartan Extensions and Sebenza, which are likely to contribute to both gaseous and particulate air pollutants in the area.

Dust fallout monitoring for Kelvin Power is undertaken by Exito Environmental Projects cc using the approved American Society for Testing and Materials (ASTM) standard method for collection and analyses of dustfall – ASTM D1739:1970. The dust fallout network consists of ten single bucket monitoring locations. Out of the ten sites, six of the locations are classified as non-residential and the remaining four locations (K001, K002, K007 and K008) are classified as residential. The following was noted from the most recent January to December 2020 monitoring period.

- Over the monitoring period for 2020, one exceedance of the National Residential Dust Control Regulations was recorded at the K008 monitoring location during the July/August 2020 monthly period.
- The remaining dust fallout monitoring locations were compliant with the National Dust Control Regulations.
- The average residential and non-residential dust fallout for the monitoring period was 166 mg/m²/day and 199 mg/m²/day, respectively, below the National Dust Control Residential and Non-Residential Regulations.

Key Impacts

PM₁₀ Concentrations:

- From approximately 800 m from the proposed decommissioning and demolition activities, 24-hour PM₁₀ concentrations will drop below the 24-hour PM₁₀ NAAQS of 75 µg/m³. As such, sensitive receptors 1, 6 and 8 (Figure 7) are likely to have concentrations above the 24-hour PM₁₀ NAAQS; and
- From approximately 400 m from the proposed decommissioning and demolition activities, annual PM₁₀ concentrations will drop below the annual PM₁₀ NAAQS of 40 µg/m³. However, no receptors are located within 400 m.

PM_{2.5} Concentrations:

- Predicted 24-hour and annual PM_{2.5} concentrations are below their relevant NAAQSS. As such all sensitive receptor concentrations are below the relevant NAAQSSs.

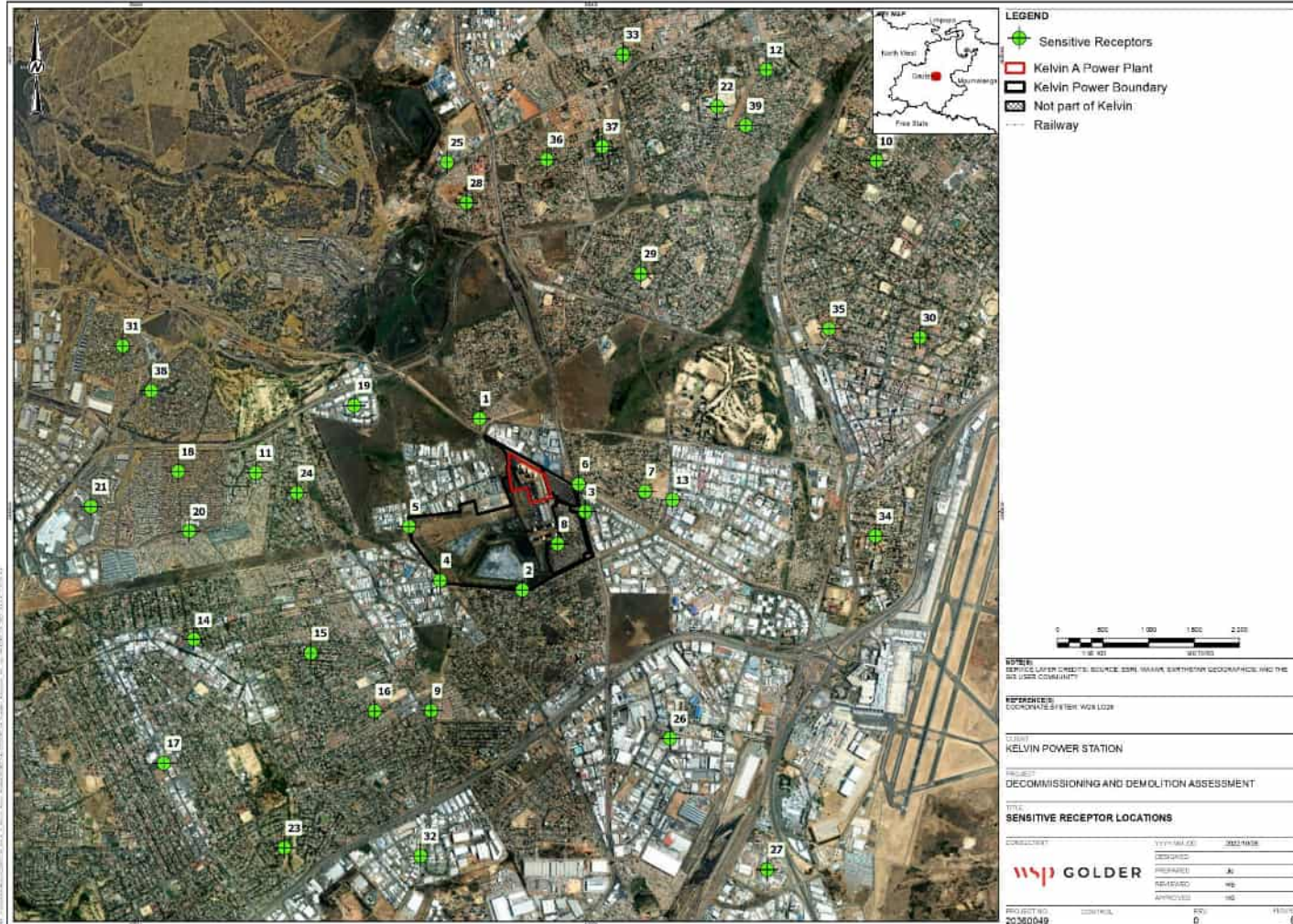


Figure 7: Sensitive receptor locations

During the proposed decommissioning and demolition phase, the impact is predicted to be **moderate** at receptors 1, 6, and 8, given their proximity in location to the proposed decommissioning and demolition activities, whilst the impact is predicted to be **low** at the remaining receptors, with mitigation in place.

Traffic

Baseline

The Kelvin Power Station is served by the Zuurfontein Rd / Isando Rd (M39) with primary access via Shrike Road on the southern side of the railway line that crosses over Zuurfontein Road / Isando Road (M39) with a secondary access via Lovato Rd on the northern side of the railway line (Figure 8).

The Zuurfontein Road / Isando Road is a Class 2 divided four lane major arterial road with local lane widening at signalized intersections along the route. This road provides regional accessibility to the site via the R24 and the N12 in the south and Modderfontein Road (R25) in the north. Shrike Rd and Lovato Rd are Class 5 two-lane undivided local roads.

The proposed routing report prepared by Kelvin Power indicates three routes which will be used to transport demolished waste to a hazardous waste landfill site (EnviroServ Holfontein Landfill, Breswol AH, Breswol), a scrap recycler (New Deal Scrap Metal, Spartan, Kempton Park, 1619) and a general rubble yard (Simmer & Jack Landfill, Meade Crescent, Elandsfontein 90-LR, Germiston) via the secondary access of the Kelvin Power Station on Lovato Rd.

The existing traffic demand in the study area was determined by means of 12-hour (06:00 to 18:00) manual classified turning counts at pre-identified intersections. The weekday morning peak hour occurred between 06:45 and 07:45 while the weekday afternoon peak hour occurred between 15:45 and 16:45.

The existing two-way peak hour traffic volumes on Zuurfontein – Isando Road north and south of Spartan Road – Shrike Road varies between 1000 to 1100 vehicles/hour during the morning peak period and between 900 to 1000 vehicles/hour during the afternoon peak period.

An additional peak period manual classified count was also conducted at the intersection of Cape Wagtail Street / Shrike Road, which included a pedestrian count west of Cape Wagtail Street on Shrike Road to capture the egressing pedestrian movements to and from the power plant.

The existing peak hour traffic demand on Lovato Road is about 850 and 600 vehicles/hour compared with about 170 and 120 vehicles/hour on Shrike Road with two-way pedestrian flows of about 170 and 80 pedestrians/hour to and from the power station during the morning and afternoon peak hours respectively.

Key Impacts

The planned demolishing and removal work for the A-Station infrastructure is only expected to generate about 53 additional peak hour trips during the weekday peak hours. Capacity and operational analyses shows that these trips can be accommodated by the existing road network and no mitigation is necessary from a capacity and operational point of view.

Additional expected traffic on the road network will have a **negligible** impact on the service levels in the study area.



Figure 8: Road access to Kelvin Power Station (TechWorld, 2022)

Heritage Resources

Baseline

A number of known cultural heritage (archaeological and historical) sites exist in the larger geographical area within which the study area falls. The only site of cultural heritage (archaeological and/or historical) origin or significance identified during the assessment in the study area is the Kelvin Power Station and related infrastructure itself.

Although the A-Station building itself as well as the related structures including the cooling towers and workshops, is not of very high significance from a historical-architectural perspective, the significance of the site lies in the fact that Kelvin Power Station is the only power station of its kind in the larger City of Ekurhuleni area. As such it has also become part of the industrial landscape of the area and demolishing it would remove part of the recent history of the City and region.

Much of the machinery and technology associated with A-Station, even if out of date and obsolete, forms part of this history and the way electrical power was generated in the past. This needs to be preserved in some form after the A-Station has been finally decommissioned and demolished.

Key Impacts

The proposed removal of machinery and equipment, which forms part of the history and the way electrical power was generated in the past, could have a **moderate** impact on the cultural heritage of the area. By preserving a selection of the old machinery, equipment and tools associated with the A-Station, this impact can be mitigated to one of **low** significance.

Social

Baseline

The City of Ekurhuleni (CoE) is a metropolitan municipality that forms the local government of the East Rand Region of Gauteng, South Africa. The municipality is a large suburban area to the east of Johannesburg.

Demography

According to the 2016 figures, the CoE demographic information indicated:

- A population of 3,379,104. There has been an influx of people due to industrialisation.
- A relatively young population, with only 6% of the population older than 65.
- A large percentage of working-age people (66%).
- A slightly larger male population (51% of the population), except for Kempton Park, Edenvale, and Alberton, where women constitute 51-53% of the population ((CoGTA¹, 2020) as cited by (Golder, 2022c).
- Ethnic distribution of 82% Black African, 14% White, 3% Coloured, and 2 % Indian.²
- The most spoken languages are Isizulu at some 34%, followed by Sepedi (12%), Sesotho (11%), English (10%), Afrikaans (9%), IsiXhosa (8%), and others at 16%.
- The population live in 1,299,490 households. Of these:

¹ Department of Cooperative Governance and Traditional Affairs

² Rounded figures

- Women-headed households in the city account for 32.8% of the households.
- Children under the age of 18 head some 3 737 households.
- The poverty headcount ratio³ was 6.6%, with an intensity of poverty⁴ of 44.7% in 2016.
- Some 14% of the CoE's population has matriculated, 33% has completed some secondary education. About 7% have some primary education, and 3% completed primary school. About 4% of the population has no schooling. There are 671 schools in the City of Ekurhuleni, of which 137 are independent.

Service delivery

The 2016 CoE service delivery statistics are as follows:

- Some 66% of the CoE population have prepaid electricity metres, 21% have conventional electrification, 1% with free electricity and 10% have no access to electricity. About 1% of the population uses alternative methods to generate electricity.

Based on the status quo, Region B does have the installed capacity to support development in future, but the security of supply cannot be confirmed. The CoE had installed about 10 MW of rooftop PV by 2020. The CoE also owns 1 MW of landfill gas electricity generation. These initiatives are insignificant compared to the total CoE demand, which exceeds 2000 MW.

Kelvin Power Station is the only privately owned coal-fired plant in the country, owned by the Public Investment Corporation and Anergi. Kelvin Power Station has a high generating capacity compared to other independent power producers developing renewable energy projects throughout the country. Approximately 10% of Johannesburg City Power's requirements are met by Kelvin Power Power Station's current output of 180MW. As a result of the closure of the A-Power Station, this output has been reduced from 600 MW.

- Sixty per cent of the population has access to water in the house, some 30% have yard connections, 4% get water from communal stands, and a further 4% get water from communal taps.
- In 2017/18, there were 761,065 sewer connections. Some 89% of the population had flushing toilets, 4% used pit latrines, and 3% still used bucket systems.
- Almost 90% of the CoE population had access to refuse removal services. About 87% of the people had their refuse removed regularly.
- There are 11, 24-hour clinics in the City of Ekurhuleni managed by the Gauteng Department of Health. The clinics offer the same essential services provided by hospitals. In addition, 21 chronic medication pick-up points are located within communities. By mid-2017, the CoE had opened three clinics serving no less than 300 000 people and constructed six health facilities.
- On March 10, 2020, the first COVID-19 case was discovered in the city. Vulnerability areas included Tembisa, Katlehong, and Daveyton/Etwata, mostly due to poverty, unemployment, healthcare, and population density. The central district of the City of Ekurhuleni, around Kempton Park, O.R. Tambo International Airport also displayed vulnerability.

³ The percentage of the population living below the national poverty line.

⁴ An indicator of the average percentage of dimensions in which the poor are disadvantaged, where the three dimensions of poverty are health, education, and standard of living.

Economy

- Due to its industrial characteristics and contribution to the national economy, the CoE is a significant economic player in South Africa. It is estimated that the CoE generates 32% of the national manufacturing output. The refinery and smelting complex in the City of Ekurhuleni is the largest in the world.
- The average 2016 annual household income for the City of Ekurhuleni was R24,000, similar to that of Gauteng and South Africa. About 18% have no income, 4% have under R4,800, and 5% have between R5,000 and R10,000.
- Regarding household goods, about 93% of households had a cell phone, 82% had a television, but only 37% had a car.
- The 2018 General Household Survey reported that 30.8% of households receive a social grant ((CoGTA, 2020) as cited by (Golder , 2022c)).

Key Impacts

The following social impacts are anticipated during the decommissioning and demolition of the A-Station infrastructure:

- Potential health, safety and security impacts, of **low** significance, as a result of external contractors arriving to work in the local area.
- Formation of negative attitudes toward the proposed project resulting.

In addition to the above mention negative impacts, the project will open up a portion of land to be developed in the future. The type and nature of such a development could hold significant economic benefits.

Contaminated Land

A contaminated land assessment (CLA) (Golder, 2022d) was conducted in support of the environmental authorisation process for the decommissioning and demolition of the A-Station Power Plant. The CLA is based on the results of a CLA conducted in 2015/16 (Golder, 2016 as cited by (Golder, 2022d)), the groundwater assessment report (Golder, 2021) and a visual assessment of the areas of potential concern (AOPC) to confirm the validity of the CLA conducted in 2015/16 for the exposed areas of the plant and identify additional AOPC.

The objective of the CLA is to develop the scope of work for the assessment of contaminated land and infrastructure to be undertaken during the demolition phase as footprints becomes available.

Practical measures to be included in the pre-demolition (site preparation) and demolition phase is recommended where sufficient information was available to do so. In addition, the report also provides guidance on clean-up actions that should be undertaken during the demolition phase and provides valuable information on waste types that could be generated as a result of the decommissioning and demolition activities.

Reasoned Opinion as to whether the Proposed Activity Should or Should not be Authorised

Provided that all the environmental management measures, described in the EMP are applied diligently, it is expected that the proposed decommissioning and demolition will not result in any significant environmental impacts that cannot be mitigated to acceptable levels.

An impact assessment was undertaken, supported by relevant specialist studies, to determine the impact of the proposed decommissioning and demolition activities on the environment. These studies have not identified any

fatal flows associated with the proposed project. Neither have any critical factors been identified which would warrant the proposed activities not to proceed.

Not granting this authorisation will impact on Kelvin Power's ability to remove the existing outdated A-Station Power Plant infrastructure and making the site available for future use.

Accordingly, it is the opinion of the environmental assessment practitioner that the application for environmental authorisation, for the decommissioning and demolition of the A-Station Power Plant infrastructure, as described in this BAR and EMPr report, should be granted, on the premise that:

- The project details, as detailed in the BAR remain unchanged.
- The commitments in this BAR and EMPr report are implemented, adhered to and audited.

Aspects for Inclusion as Conditions of Authorisation

General Conditions

Kelvin Power must:

- Implement and comply with the management and mitigation measures outlined in the EMPr.
- Comply with all relevant legislation at all times, including applicable By-Laws, policies and requirements of the City of Ekurhuleni.
- Appoint a qualified Environmental Control Officer (ECO) to oversee the implementation of the mitigation measures as detailed in the EMPr.
- Undertake six-monthly internal auditing of environmental performance and annual reporting to the Competent Authority during the decommissioning and demolition period.

Site Specific Conditions

The following conditions must be complied with as per the EA:

- During demolition activities, demolition equipment may only operate between the hours of 08h00 and 17h00 on weekdays, 08h00 and 13h00 on Saturdays, with operation being prohibited on Sundays and Public Holidays.
- An alien invasive management plan must be compiled and implemented to prevent further encroachment of alien plant species into the disturbed areas caused by demolition and rehabilitation activities.
- Areas that are cleared during demolition or where alien plant species are removed, should be revegetated with appropriate, indigenous plant species.

**2.0 BASIC ASSESSMENT REPORT AND ENVIRONMENTAL
MANAGEMENT PROGRAMME**



Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1/2022)

Kindly note that:

- This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.
- This template is current as of April 2022. It is the responsibility of the EAP to ascertain whether subsequent versions of the template have been published or produced by the competent authority.
- A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.
- **A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority (uploaded to the EIA online system) empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application. The EIA online system can be accessed at <https://eia.gauteng.gov.za>.**
- **A copy (PDF) of the final report and attachments must be uploaded to the EIA online system. The EIA online system can be accessed at <https://eia.gauteng.gov.za>.**
- **Draft and final reports submitted in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) must be emailed to environmentsue@gauteng.gov.za.**
- The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
- Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
- An incomplete report may lead to an application for environmental authorisation or Waste Management License being refused.
- Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation or Waste Management License being refused.
- The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation or Waste Management License being refused.
- The applicant must fill in all relevant sections of this form. Incomplete applications will not be processed. The applicant will be notified of the missing information in the acknowledgement letter that will be sent within 10 days of receipt of the application.
- Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
- Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch
P.O. Box 8769
Johannesburg
2000

Ground floor, Umnotho House, 56 Eloff Street, Johannesburg

Administrative Unit telephone number: (011) 240 3051/3052
Department central telephone number: (011) 240 2500

(For official use only)

NEAS Reference Number:						
File Reference Number:						
Application Number:						
Date Received:						

If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

[Redacted]

Is a closure plan applicable for this application and has it been included in this report?

No

if not, state reasons for not including the closure plan.

The Kelvin Power Station B-Station remains operational. After decommissioning and demolition of the A-Station infrastructure, the area will be available for redevelopment.

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity?

Yes

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person?

Yes

Refer to Appendix I

If no, state reasons for not attaching the list.

[Redacted]

Have State Departments, including the competent authority commented?

N/A

If no, why?

The current version of the report is the draft Basic Assessment Report which has been distributed for comment.

Comments from the commenting authorities will be included in the final Basic Assessment Report.

[Empty box]

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

Project title (must be the same name as per application form):

PROJECT TITLE

Application for Environmental Authorisation for the proposed decommissioning and demolition of the Kelvin Power A-Station Power Plant in the City of Ekurhuleni, Gauteng.

PROJECT DESCRIPTION

The Kelvin Power Station is a 13-unit coal-fired power plant with a total installed capacity of 600 MW, operated by Kelvin Power (Pty) Ltd (Kelvin) and is situated in the City of Ekurhuleni (CoE) in the Gauteng Province. The plant was completed between 1957 and 1969. It was developed and operated by the City of Johannesburg. Kelvin is one of only a few power stations in South Africa not owned by Eskom. Kelvin consists of two independent stations, A-Station and B-Station. The Kelvin A-Station was commissioned and started generating commercial power on 27 March 1957; it has six 30MW generators and 11 chain grate boilers. The newer Kelvin B-Station has seven 60MW generators and seven PF-type boilers.

The Kelvin Power Station is located west of the Zuurfontein Road and is approximately 5 km north-west of the O.R. Tambo International Airport. The total extent of the plant is 226.18 ha and is located on the farm Zuurfontein 33 IR, in a wider area classified as mixed industrial and residential.

The technology used in the A-Station has become very outdated and the last unit was placed on extended care and maintenance in November 2012. The newer B-Station is still operational. The associated infrastructure for each of the stations include a common High Voltage Yard (now replaced by the new Sebenza sub-station), a control room and workshop facilities.

A decision was made to decommission and demolish the A-Station infrastructure, making the site available for future development.

Kelvin Power A-Station Process Description

The A-Station has an installed capacity of 180 MW comprising of six 30 MW turbo-alternators and eleven 85 ton/hr Babcock and Wilcox boilers. The steam conditions at the turbine stop valve are 454 °C and 41.3 bar.

During its operational period, coal was transported to the site by rail. The coal was fed by conveyors either directly to the A-Station or tipped onto the coal storage areas. The coal that was elevated to the A-Station by the conveyors was discharged into the coal bunkers from where it was fed to the chain grate system of the A-Station boilers. Figure 1 provides an overview of the process flow for the A-Station while Figure 2 provides a schematic representation of the electricity production process.

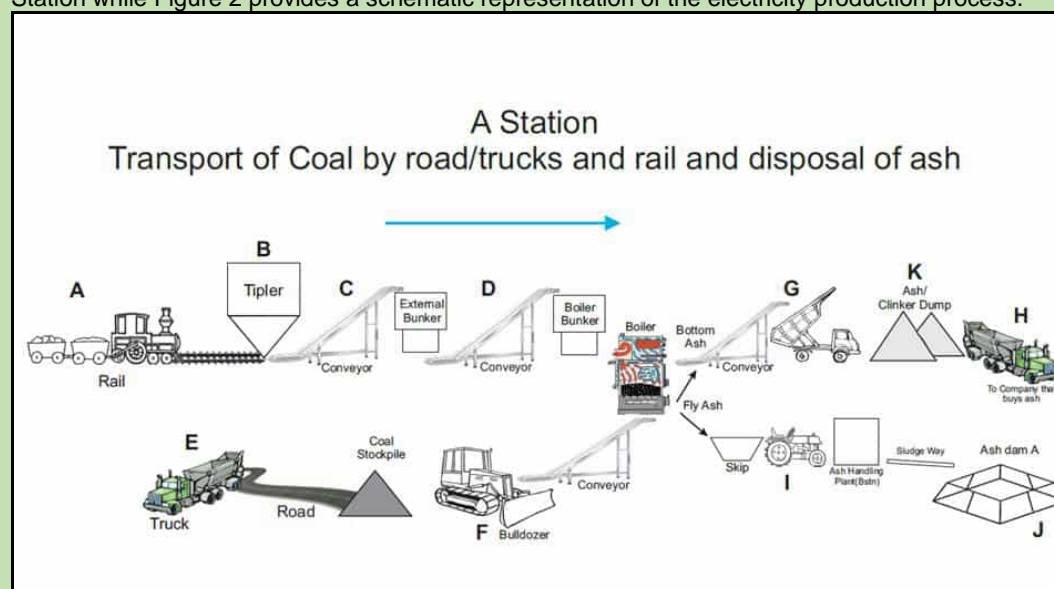


Figure 1: Process flow illustrating the inputs and outputs for the A-Station.

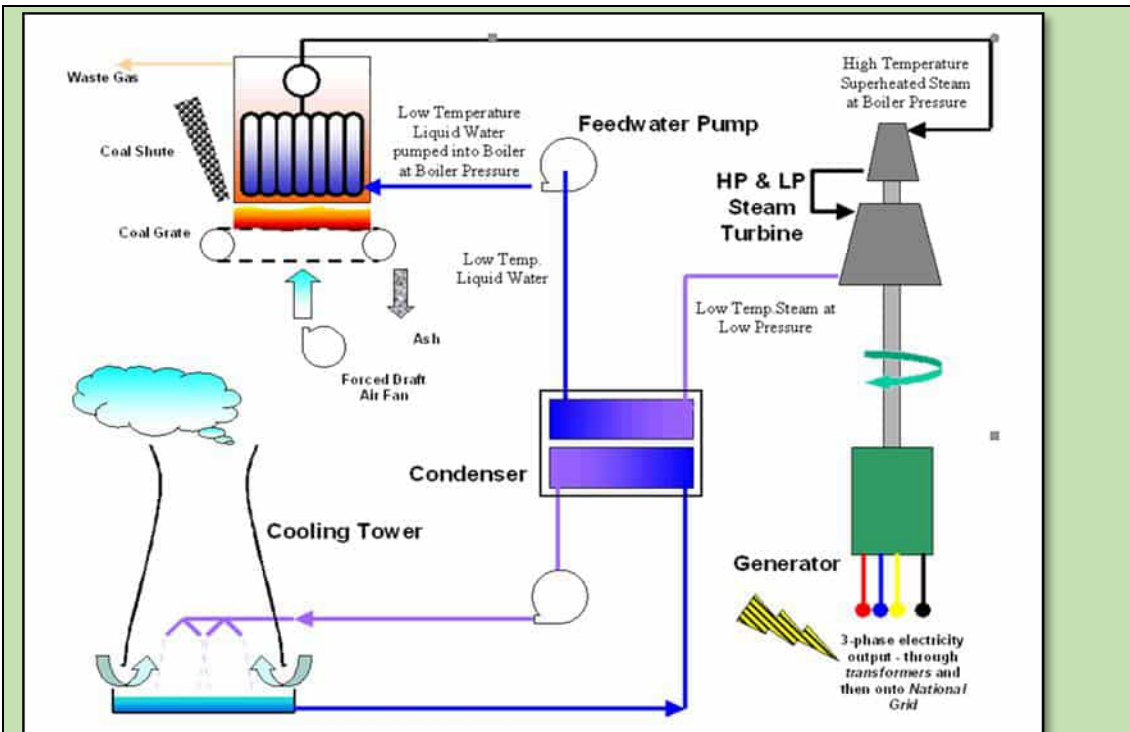


Figure 2: Schematic diagram of electricity production process

A-Station Infrastructure

The infrastructure associated with the A-Station occupies an area of approximately 13.75 ha and includes the following infrastructure:

- A-Station building, including stacks.
- A-Station Cooling towers (3).
- Workshops.
- A-Station coal stockpile.
- A-Station Coal dry-store.
- A-Station Overland Ash Conveyor (removed).
- A-Station Wagon Tipplers.

Phases of the Project

Kelvin Power is proposing to appoint a demolition contractor to dismantle and demolish the redundant infrastructure associated with the A-Station Power Plant and leave behind land of undeveloped industrial quality on a stabilised and free draining site.

Kelvin Power intends on approaching the decommissioning and demolition of the A-Station infrastructure in three distinctive sub-phases i.e., decommissioning, demolition and site clean-up.

During the decommissioning sub-phase, usable assets such as machinery and equipment will be identified, dismantled and stored for either reuse at the B-Station or will be sold. It is anticipated that these items will be cleaned and decontaminated before removal from the A-Station site, if required.

Demolition will progress in a controlled manner, as determined by an appointed demolition contractor. Laydown areas, to be demarcated in consultation with the demolition contractor, Environmental Officer and Environmental Control Officer (ECO), will be utilised for the storage of waste skips, recyclables, inert concrete for crushing, offices and vehicle parking.

Waste, generated as part of the demolition process, will be separated, handled, recycled and disposed of in accordance with applicable waste management legislation to various licensed waste management facilities in the vicinity of the site.

Hydrocarbon contamination and soil saturated by wastes, or waste which cannot be suitably cleaned by routine high-pressure cleaning will be identified visually and isolated for full removal and disposal. Site clean-up will be followed by confirmation through soil sampling and analysis.

It is anticipated that the demolition of the A-Station Power Plant will take approximately 12 months.

Select the appropriate box

The application is for an upgrade of an existing development

The application is for a new development

Other, specify

The application is for decommissioning and demolition of a facility.

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES NO

If yes, describe the legislation and the Competent Authority administering such legislation

National Environmental Management: Air Quality Act, Act 39 of 2004

The decommissioning and demolition phase of the A-station power plant will trigger the following, as stipulated by the National Environment Air Quality Act (NEMA:QA):

- "Any changes in processes or production increases, by the licence holder, will require prior approval by the licensing authority".
- "Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the licensing authority"; and
- "The licence holder must immediately on cessation or decommissioning of the listed activity inform, in writing, the licensing authority".

As such, written notification as well as an AEL amendment application will be required. The competent authority is the City of Ekurhuleni Metropolitan Municipality.

National Heritage Resources Act, Act 25 of 1998

The National Heritage Resources Act 25 of 1999 was enacted to lay down general principles for governing heritage resources management. Section 34(1) of the Act states that "no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority".

The competent authority is the South African Heritage Resources Agency.

If yes, have you applied for the authorisation(s)?

YES NO

If yes, have you received approval(s)? (attach in appropriate appendix)

2. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations:

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
Constitution of the Republic of South Africa (Act No. 108 of 1996)	Department of Justice and Constitutional Development	4 February 1997
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended)	Department of Forestry Fisheries and Environment (DFFE) and the GDARD	27 November 1998
EIA Regulations, 2014		4 December 2014
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	Ekurhuleni Metropolitan Municipality	24 February 2005
National Water Act, 1998 (Act No. 36 of 1998)	Department of Water and Sanitation (DWS)	1 October 1998
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	Department of Forestry Fisheries and Environment (DFFE) and the GDARD	10 March 2009
National Norms and Standards for the Storage of Waste,		29 November 2013

2013		
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	South African Heritage Resources Agency (SAHRA), Provincial Heritage Resources Agency-Gauteng (PHRA-G)	1 April 2000

Description of compliance with the relevant legislation, policy or guideline:

Legislation, policy of guideline	Description of compliance
National Environmental Management Act, 1998 (Act No. 107 of 1998 as amended)	This Basic Assessment Report and Environmental Management Programme is compiled in accordance with the NEMA as well as the Regulations thereunder.
EIA Regulations, 2014 (as amended)	<p>The listed and triggered activities that are included in the application is listed below:</p> <p>GNR 983: Listing Notice 1 of the EIA Regulations (2014, as amended) – Activity 31 - <i>The closure of existing facilities, structures, or infrastructure for-</i></p> <p>(i) any development and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014;</p> <p>(ii) any expansion and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014;</p> <p>(iii) ...</p> <p>(iv) any phased activity or activities for development and related operation activity or expansion or related operation activities listed in this Notice or Listing Notice 3 of 2014; or</p> <p>(v) any activity regardless the time the activity was commenced with, where such activity:</p> <p>(a) is similarly listed to an activity in (i) or (ii) above; and</p> <p>(b) is still in operation or development is in progress;</p> <p>excluding where-</p> <p>(aa) ...</p> <p>(bb) the closure is covered by part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) as decommissioning, in which case the National Environmental Management: Waste Act, 2008 applies; or</p> <p>(cc) such closure forms part of a mining application, in which case the requirements of the Financial Provisioning Regulations apply."</p> <p>Description: The proposed project entails the decommissioning and demolition of the Kelvin Power A-Station and associated infrastructure.</p>
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	<p>The proposed decommissioning and demolition of the A-Station Power Plant will require notification to the AEL licensing authority as well as the amendment of Kelvin Power Station's AEL.</p> <p>The notification and AEL Amendment application will be submitted to the City of Ekurhuleni Metropolitan Municipality.</p>
National Water Act, 1998 (Act No. 36 of 1998)	<p>The proposed decommissioning and demolition of the A-Station power plant does not require an application for, or amendment of the site's WUL.</p> <p>However, it is stipulated in the WUL, issued for the site (WUL: 03/A21C/FGH/1110), that the IWWMP and the RSIP must be amended 180 days prior to the intended closure of any facility or a portion thereof. The IWWMP and RSIP will be amended and submitted to the Department of Water and Sanitation 180 days prior to the intended decommissioning and demolition of the A-Station power plant.</p>
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	<p>The proposed decommissioning and demolition of the A-Station Power Plant will not require a Waste Management License.</p> <p>However, the handling of the demolition waste must be conducted in accordance with the National Norms and Standards for the Storage of Waste, 2013.</p>
National Norms and Standards for the Storage of Waste, 2018	
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	Some of the buildings associated with the A-Station Power Plant is older than 60 years and will therefore require a demolition permit from the provincial heritage resources authority.

3. ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not include the no go option into the alternative table below.**

Note: After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Please describe the process followed to reach (decide on) the list of alternatives below

Identified Project Alternatives	
<p><u>Alternatives to Closure Considered</u></p> <p>Electricity generation at the A-Station commenced in March 1957. The technology used at the A-Station has become very outdated and the last unit was placed on extended care and maintenance in November 2012. Taking into consideration the age and dated electricity generating infrastructure, the Kelvin Power management team was tasked to decide on the future of the A-Station Power Plant.</p> <p>Prior to taking the final decision to decommission and demolish the A-Station infrastructure, a strategic review was undertaken by the Kelvin Power management team to assess the possible operational options for the A-Station Power Plant.</p> <p>The assessment considered the following options:</p> <ul style="list-style-type: none"> • Bring the A-Station Power Plant out of extended care and maintenance and continue as a coal fired power station with the currently dated technology, as is. • Undertake an extensive refurbishment of the coal fired power plant using best available technology. <p>The assessment by the Kelvin Power management team concluded that firstly the current technology is too outdated to bring the A-Station back into operation, as is, and secondly that a refurbishment exercise will be too costly and potentially unacceptable to stakeholders due to the continuous drive away from coal fired power stations and towards renewable and cleaner energy sources.</p> <p><u>Activity Alternatives</u></p> <p>The proposed end land use objective is to retain the current land use zoning (public service infrastructure – power station) which currently allows for power generation operations and associated infrastructure.</p> <p>As Kelvin Power still operates the B-Station Power Plant, owns the properties associated with both the A-Station and B-Station Power Plants and has no further use for the redundant A-Station Power Plant infrastructure and buildings, it is the most viable option to demolish all A-Station infrastructure, making the site available for future industrial development.</p> <p>Furthermore, no site location alternatives were considered due to the nature of the proposed decommissioning and demolition project.</p>	

Provide a description of the alternatives considered

No.	Alternative type, either alternative: site on property, properties, activity, design, technology, energy, operational or other(provide details of "other")	Description
1	Proposal	Kelvin Power is proposing to decommission and demolish the infrastructure associated with the A-Station power plant in order to clear the footprint for future industrial redevelopment.
2	Alternative 1	Bring the A-Station Power Plant out of extended care and maintenance and continue as a coal fired power station. The current technology is too outdated to bring the A-Station back into operation. For this reason, this alternative will not be considered further in this BAR.
3	Alternative 2	Undertake an extensive refurbishment of the power plant using best available technology. A refurbishment exercise will be too costly and potentially unacceptable to stakeholders due to the continuous drive away from coal fired power stations and towards renewable and cleaner energy sources. For this reason, this alternative will not be considered further in this BAR.
4	Alternative 3	

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

N/A

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

Proposed activity (**Total environmental (landscaping, parking, etc.) and the building footprint**)

Size of the activity:

13.75 ha

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Alternative 3 (if any)

Ha/ m²

or, for linear activities:

Proposed activity

Length of the activity:

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

m/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

Proposed activity

Size of the site/servitude:

13.75 ha

Alternatives:

Alternative 1 (if any)

Alternative 2 (if any)

Alternative 3 (if any)

Ha/m²

5. SITE ACCESS

Proposal

Does ready access to the site exist, or is access directly from an existing road?

YES

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

The Kelvin Power Station is served by the Zuurfontein Rd / Isando Rd (M39) with primary access via Shrike Rd on the southern side of the railway line that crosses over Zuurfontein Rd / Isando Rd (M39) with a secondary access via Lovato Rd on the northern side of the railway line.

Existing internal roads will be used.

Refer to the Locality Map in Appendix A for the position of the access roads.

Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 1

Does ready access to the site exist, or is access directly from an existing road?

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 2

Does ready access to the site exist, or is access directly from an existing road?

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated

0

Number of times

(Only complete when applicable)

All alternatives considered for this project relate to the same project infrastructure and project area.

Therefore, this section has not been duplicated.

6. LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
 - layout plan is of acceptable paper size and scale, e.g.
 - A4 size for activities with development footprint of 10sqm to 5 hectares;
 - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
 - A2 size for activities with development footprint of >20 hectares to 50 hectares);
 - A1 size for activities with development footprint of >50 hectares);
1. The following should serve as a guide for scale issues on the layout plan:
 - A0 = 1: 500
 - A1 = 1: 1000
 - A2 = 1: 2000
 - A3 = 1: 4000
 - A4 = 1: 8000 (±10 000)
 2. shapefiles of the activity must be included in the electronic submission on the CD's;
 3. the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
 4. the exact position of each element of the activity as well as any other structures on the site;
 5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
 6. servitudes indicating the purpose of the servitude;
 7. sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
 - Rivers and wetlands;
 - the 1:100 and 1:50 year flood line;
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation (even if it is degraded or infested with alien species);
 - Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

A layout map, with additional site sensitivity maps, have been included in Appendix A.

FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)

- the scale of locality map must be at least 1:50 000. For linear activities of more than 25 kilometers, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map;
- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

A locality map has been provided in Appendix A.

7. SITE PHOTOGRAPHS

Colour photographs from the center of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix. It should be supplemented with additional photographs of relevant features on the site, where applicable.

Site specific photographs are provided in Appendix B.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity to be attached in the appropriate Appendix.

The location of the A-Station Power Plant surface infrastructure is included in Appendix C.

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)

Please note: The description of the receiving environment is the same for all project alternatives considered.

Instructions for completion of Section B for linear activities

- 1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
- 2) Indicate on a plan(s) the different environments identified
- 3) Complete Section B for each of the above areas identified
- 4) Attach to this form in a chronological order
- 5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route times

Instructions for completion of Section B for location/route alternatives

- 1) For each location/route alternative identified the entire Section B needs to be completed
- 2) Each alternative location/route needs to be clearly indicated at the top of the next page
- 3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives times (complete only when appropriate)

Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route (complete only when appropriate for above)

Section B – Location/route Alternative No. (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description:
(Including Physical Address and Farm name, portion etc.)

Farm name:	Farm Zuurfontein 33 IR, Remainder of Portion 391
Application area (Ha):	13.75 ha
Magisterial District:	City of Ekurhuleni Metropolitan Municipality
Distance and direction to nearest town	Located in the City of Ekurhuleni
SG Codes	T01R00000000003300391

2. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:	Latitude (S): 26° 6' 48.237"	Longitude (E): 28° 11' 36.080"
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In the case of linear activities:

Alternative:

- Starting point of the activity
- Middle point of the activity
- End point of the activity

Latitude (S):	Longitude (E):

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached



The 21 digit Surveyor General code of each cadastral land parcel

PROPOSAL	T	0	I	R	0	0	0	0	0	0	0	0	0	0	3	3	0	0	3	9	1
ALT. 1																					
ALT. 2																					
etc.																					

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
------	-------------	-------------	-------------	--------------	-------------	------------------

4. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site.

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain	Undulating plain/low hills	River front
-----------	---------	--------------------------	--------	-------	----------------------------	-------------

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

- Shallow water table (less than 1.5m deep)
- Dolomite, sinkhole or doline areas
- Seasonally wet soils (often close to water bodies)
- Unstable rocky slopes or steep slopes with loose soil
- Dispersive soils (soils that dissolve in water)
- Soils with high clay content (clay fraction more than 40%)
- Any other unstable soil or geological feature
- An area sensitive to erosion

	NO
	NO
	NO
	NO
	NO
	NO
	NO
	NO

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)

	NO
--	----

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	Longitude (E):

c) are any caves located within a 300m radius of the site(s)

	NO
--	----

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S): Longitude (E):

d) are any sinkholes located within a 300m radius of the site(s)

NO

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S): Longitude (E):

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

The Kelvin Power A-Station has been under care and maintenance since 2012 with minimal if any additional impacts expected on the groundwater system during the final decommissioning phase.

During the decommissioning phase, the main activities that could impact on groundwater is the demolition of existing infrastructure and clearing of the site for future development. The demolition phase of the Kelvin Power A-Station infrastructure, poses the following potential impacts on the groundwater:

- A change in the groundwater quality.
- A change in the volume or recharge of groundwater, previously covered areas will be exposed with associated change in water level.
- Changes in land use.
- Possible change in the groundwater flow regime (building excavation).
- A change on the quality of the surface water (receptor).
- Possible spills from construction vehicles.

A Groundwater Impact Assessment was conducted to document the current groundwater baseline and assessment of impacts that the proposed decommissioning and demolition activities could have on the groundwater regime. The report concluded the following:

- The Kelvin Power A-Station investigation area is underlain by Halfway House granites.
- The aquifer associated with the Kelvin Power A-Station is classified as minor aquifer system and comprises mainly of an intergranular and fractured aquifer zone with an average borehole yield between 0.5l/s and 2.0l/s.
- Two aquifer systems are distinguished (SRK 2016), namely:
 - Shallow weathered unconfined aquifer zone; and
 - Fractured semi-confined aquifer zone below the weathered zone.
- The groundwater contours mimic the surface topography with groundwater flow, west towards the Modderfontein Spruit.
- Two of the Kelvin Power monitoring boreholes (KPS-MON09 and KPS-MON10) have ideal (Class 0) water quality. These two (2) boreholes are located on the eastern side of Kelvin Power Station (Figure 10) and represent the upgradient/baseline groundwater quality of the site (Table 2).
- Most of the monitoring boreholes are of good water quality (Class 1), and marginal water quality (Class 2) with slightly elevated EC, TDS, Mg, Cl, nitrate and sulphate concentrations (Table 2).
- Monitoring boreholes KPS-BH01, KPS-MON07, KPS-MON16 are of poor water quality (Class 3) and KPS-MON13 is unacceptable water quality Class 4 (Table 3). These boreholes have elevated TDS, Mg and sulphate concentrations and are probably impacted by on site activities.
- The following constituents of the groundwater samples are of concern; EC, TDS, Mg, Cl, nitrate and sulphate.
- The baseline water quality at Kelvin Power site is represented by KPS-MON03, KPS-MON09, KPS-MON10, and KPS-BH-05 represent calcium magnesium bicarbonate type of water (Ca,Mg)(HCO₃)₂.

The groundwater specialist assessment concluded that the proposed decommissioning, and demolition of the A-Station will have a low environmental significance impact on the groundwater regime.

Refer to **Appendix G1** for the Groundwater Baseline and Impact Assessment.

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)?

NO

Please note: The Department may request specialist input/studies in respect of the above.

7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % =	Natural veld with scattered aliens % = 5	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % = 40
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % = 5	Building or other structure % = 40	Bare soil % = 10

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site

	NO
--	----

If YES, specify and explain:

--

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.

	NO
--	----

If YES, specify and explain:

--

Are there any special or sensitive habitats or other natural features present on the site?

	NO
--	----

If YES, specify and explain:

--

Was a specialist consulted to assist with completing this section

	NO
--	----

If yes complete specialist details

Name of the specialist:

Qualification(s) of the specialist:

Postal address:

Postal code:

Telephone:

E-mail:

Cell:

Fax:

Are any further specialist studies recommended by the specialist?

YES

NO

If YES, specify:

If YES, is such a report(s) attached?

YES

NO

If YES list the specialist reports attached below

--

Signature of specialist: _____ Date: _____

Please note: If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial ^{AN}	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport ^N	23. Train station or shunting yard ^N	24. Railway line	25. Major road (4 lanes or more) ^N
26. Sewage treatment plant ^A	27. Landfill or waste treatment site ^A	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33. Spoil heap or slimes dam ^A	34. Small Holdings	
Other land uses (describe):				

NOTE: Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

NORTH					
	1	9	9	15	1
	1	14 \ 24	14 / 24	14 / 24	14
WEST	14	14	14 / 24	34	9
	16	16	16	9	15
	16	16	9	9	15
SOUTH					
	EAST				

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached – **Attached in Appendix G1 to G8**

YES	NO
-----	----

If yes indicate the type of reports below

Groundwater Assessment (Appendix G1)
Noise Impact Assessment (Appendix G2)
Contaminate Land Assessment (Appendix G3)
Traffic Management Plan (Appendix G4)
Air Quality Impact Assessment (Appendix G5)
Heritage Assessment (Appendix G6)
Social Assessment (Appendix G7)
Surface Water Assessment (Appendix G8)

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

The CoE is a metropolitan municipality that forms the local government of the East Rand Region of Gauteng, South Africa. The municipality is a large suburban area to the east of Johannesburg.

Demography

According to the 2016 figures, the CoE demographic information indicated:

- A population of 3,379,104. There has been an influx of people due to industrialisation.
- A relatively young population, with only 6% of the population older than 65.
- A large percentage of working-age people (66%).
- A slightly larger male population (51% of the population), except for Kempton Park, Edenvale, and Alberton, where women constitute 51-53% of the population ((CoGTA, 2020) as cited by (Golder, 2022c).
- Ethnic distribution of 82% Black African, 14% White, 3% Coloured, and 2 % Indian.¹
- The most spoken languages are Isizulu at some 34%, followed by Sepedi (12%), Sesotho (11%), English (10%), Afrikaans (9%), IsiXhosa (8%), and others at 16%.
- The population live in 1,299,490 households. Of these:
 - Women-headed households in the city account for 32.8% of the households.
 - Children under the age of 18 head some 3 737 households.
- The poverty headcount ratio² was 6.6%, with an intensity of poverty³ of 44.7% in 2016.
- Some 14% of the CoE's population has matriculated, 33% has completed some secondary education. About 7% have some primary education, and 3% completed primary school. About 4% of the population has no schooling. There are 671 schools in Ekurhuleni, of which 137 are independent.

Service Delivery

The 2016 CoE service delivery statistics are as follows:

- Some 66% of the CoE population have prepaid electricity metres, 21% have conventional electrification, 1% with free electricity and 10% have no access to electricity. About 1% of the population uses alternative methods to generate electricity.

Based on the status quo, Region B does have the installed capacity to support development in future, but the security of supply cannot be confirmed. The CoE had installed about 10 MW of rooftop PV by 2020. The CoE also owns 1 MW of landfill gas electricity generation. These initiatives are insignificant compared to the total CoE demand, which exceeds 2000 MW.

Kelvin Power Station is the only privately owned coal-fired plant in the country, owned by the Public Investment Corporation and Anergi. Kelvin Power Station has a high generating capacity compared to other independent power producers developing renewable energy projects throughout the country. Approximately 10% of Johannesburg City Power's requirements are met by Kelvin Power Station's current output of 180MW. As a result of the closure of the A-Power Station, this output has been reduced from 600 MW.
- Sixty per cent of the population has access to water in the house, some 30% have yard connections, 4% get water from communal stands, and a further 4% get water from communal taps.
- In 2017/18, there were 761,065 sewer connections. Some 89% of the population had flushing toilets, 4% used pit latrines, and 3% still used bucket systems.
- Almost 90% of the CoE population had access to refuse removal services. About 87% of the people had their refuse removed regularly.
- There are 11, 24-hour clinics in the City of Ekurhuleni managed by the Gauteng Department of Health. The clinics offer the same essential services provided by hospitals. In addition, 21 chronic medication pick-up points are located within communities. By mid-2017, the CoE had opened three clinics serving no less than 300 000 people and constructed six health facilities.
- On March 10, 2020, the first COVID-19 case was discovered in the city. Vulnerability areas included Tembisa, Katlehong, and Daveyton/Etwata, mostly due to poverty, unemployment, healthcare, and population density. The central district of the City of Ekurhuleni, around Kempton Park, O.R. Tambo International Airport also displayed vulnerability.

Economy

- Due to its industrial characteristics and contribution to the national economy, the CoE is a significant economic player in South Africa. It is estimated that the CoE generates 32% of the national manufacturing output. The refinery and smelting complex in the City of Ekurhuleni is the largest in the world.
- The average 2016 annual household income for the City of Ekurhuleni was R24,000, similar to that of Gauteng and South Africa. About 18% have no income, 4% have under R4,800, and 5% have between R5,000 and R10,000.
- Regarding household goods, about 93% of households had a cell phone, 82% had a television, but only 37% had a car.
- The 2018 General Household Survey reported that 30.8% of households receive a social grant ((CoGTA, 2020) as cited by (Golder, 2022c)).

¹ Rounded figures

² The percentage of the population living below the national poverty line.

³ An indicator of the average percentage of dimensions in which the poor are disadvantaged, where the three dimensions of poverty are health, education, and standard of living.

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure – To be attached after 30-day comment period.

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50m in length;
- (c) any development or other activity which will change the character of a site-
 - (i) exceeding 5 000 m2 in extent; or
 - (ii) involving three or more existing erven or subdivisions thereof; or
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m2 in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?

YES

If YES, explain:

A number of known cultural heritage (archaeological and historical) sites exist in the larger geographical area within which the study area falls.

The only site of cultural heritage (archaeological and/or historical) origin or significance identified during the assessment in the study area is the Kelvin Power Station and related infrastructure itself.

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

A Pelser Archaeological Consulting (APAC) was appointed to conduct a Phase 1 Heritage Impact Assessment (HIA) as part of the Environmental Authorization Application Process for the Decommissioning and Demolition of the A-Station at Kelvin Power Station.

The only site of cultural heritage (archaeological and/or historical) origin or significance identified during the assessment in the study area is the Power Station and related electricity generating infrastructure itself.

Although the A-Station building itself as well as the related structures, including the cooling towers and workshops, is not of very high significance from a historical-architectural perspective, the significance of the site lies in the fact that Kelvin Power Station is the only power station of its kind in the larger area. As such it has also become part of the industrial landscape of the area and demolishing it would remove part of the recent history of the city and region.

Much of the machinery and technology associated with the A-Station, even if out of date and obsolete, forms part of this history and the way electrical power was generated in the past. This needs to be preserved in some form after the A-Station has been finally decommissioned and demolished. It however has to be noted here that although the B-Station is slightly younger than A-Station, a large part of the original Kelvin Power Station will be left intact and therefore be preserved as part of the landscape.

In order to preserve the history of Kelvin Power Station and mitigate the impacts of the decommissioning and proposed demolition of A-Station, the following is recommended:

- A selection of the old machinery, equipment and tools associated with the A-Station to be preserved and displayed at the Kelvin Power Station as part of the preservation of its history.
- The provision and use of the original drawings and plans of A-Station as part of a display on the history of Kelvin Power Station at the site.
- The erection of a display panel or panels describing the history of Kelvin Power Station and its function and role in the generation and supply of electricity to the greater Johannesburg region.
- The application for and obtaining a Demolition Permit from the Gauteng Provincial Heritage Resources Authority (Gauteng-PHRA) for the demolition of the A-Station at Kelvin Power Station.

From a Cultural Heritage point of view, it is recommended that the proposed decommissioning and demolition of the A-Station at Kelvin Power Station be allowed to continue once the recommended mitigation measures have been accepted and implemented and a Demolition Permit has been applied for and issued by SAHRA.

A Chance Finds Procedure should also be included in the Environmental Management Program.

Will any building or structure older than 60 years be affected in any way?

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

If yes, please attached the comments from SAHRA in the appropriate Appendix

YES	
YES	

The draft Basic Assessment Report and EMPr will be submitted to SAHRA and the Gauteng Provincial Heritage Resources Authority (Gauteng-PHRA) for comment. Comments will be included in the final Basic Assessment Report and EMPr. The application for a permit to relocate some of the historic equipment and to demolish the remainder of the A-Station infrastructure, will be submitted to SAHRA.

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

- The Environmental Assessment Practitioner must conduct public participation process in accordance with the requirement of the EIA Regulations, 2014.

2. LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?

YES NO

If yes, has any comments been received from the local authority?

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

This section will be completed after the 30-day public review period.

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.

3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least **thirty (30) calendar days** before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

If "NO" briefly explain why no comments have been received

This section will be completed after the 30-day public review period.

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed.

The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

5. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice

Appendix 2 – Written notices issued as required in terms of the regulations

Appendix 3 – Proof of newspaper advertisements

Appendix 4 – Communications to and from interested and affected parties

Appendix 5 – Minutes of any public and/or stakeholder meetings

Appendix 6 - Comments and Responses Report

Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report

Appendix 8 –Comments from I&APs on amendments to the BA Report

Appendix 9 – Copy of the register of I&APs

SECTION D: RESOURCE USE AND PROCESS DETAILS

Note: Section D is to be completed for the proposal and alternative(s) (if necessary)

Instructions for completion of Section D for alternatives

- 1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
- 4) Each alternative needs to be clearly indicated in the box below
- 5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives times

(complete only when appropriate)

Section D Alternative No. (complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

This section has been completed to provide the information on waste, effluent and emission management during the decommissioning and demolition process as the project will not have a typical construction and/or operational phase.

Solid waste management

Will the activity produce solid ~~construction~~ demolition waste during the construction/initiation phase?

YES	NO
<input checked="" type="checkbox"/>	<input type="checkbox"/>

If yes, what estimated quantity will be produced per month?

How will the ~~construction~~ demolition solid waste be disposed of (describe)?

During the decommissioning phase, usable assets such as machinery and equipment will be identified, dismantled and stored for either reuse at the B-Station or will be sold. The waste that arises from this phase will be largely as a result of dismantling of various items prior to removal offsite. Any residual process related waste will be disposed of at an appropriately licensed hazardous facility such as the Holfontein Landfill site, operated by EnviroServ.

Once the buildings are decontaminated and demolished, the steel can be sold off as scrap metal. Any demolished concrete from low level walls will be used on site for infilling or disposed at the Simmer and Jack General Waste Landfill, belonging to the City of Johannesburg, for use as capping material.

Laydown areas, to be demarcated in consultation with the demolition contractor and Environmental Control Officer (ECO), will be utilised for the storage of waste skips, recyclables, inert concrete for crushing, offices and vehicle parking. Labelled waste skips, stored in the allocated laydown areas, will be used for general and hazardous waste skips.

Refer to the *Waste Inventory and Management Plan for the Decommissioning and Demolition of the Kelvin Power A-Station Power Plant, Ekurhuleni, Gauteng, Golder, September 2022*, included in Appendix G9.

Where will the ~~construction~~ demolition solid waste be disposed of (describe)?

Simmer and Jack Landfill Site

The Simmer and Jack Waste Disposal Site (Simmer and Jack) G:L:B⁻ belonging to the City of Johannesburg has been permitted in terms of the of the Environment Conservation Act (No 73 of 1989) in March 1996 (B33/2/0322/494/P223).

Simmer and Jack may be used for the disposal of all waste types, excluding those listed in Annexure 1 of the Waste Management Licence and excluding those where specific control has been established in terms of the Nuclear Energy Act, 1996 (Act 131 of 1993).

Simmer and Jack is the closest general waste disposal facility and is 15.3 km from Kelvin Power.

Holfontein Landfill Site

Holfontein is a Class A (hazardous) disposal facility, belonging to EnviroServ. This facility is at a distance of 45.3km from Kelvin Power.

Holfontein received an amended permit in terms of the NEMWA in March 2010, with reference number 16/2/7/C212/Y121/P3. This permit allows EnviroServ to treat and dispose of any hazardous wastes up to Level 1 (Excluding level 0 and any radioactive wastes).

Will the activity produce solid waste during its operational phase?
If yes, what estimated quantity will be produced per month?

m³

How will the solid waste be disposed of (describe)?

[Redacted]

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?

[Redacted]

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

[Redacted]

Note: If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

[Redacted]

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

[Redacted]

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

[Redacted]

Liquid effluent (other than domestic sewage)

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

[Redacted]

If yes, what estimated quantity will be produced per month?

m³

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?

[Redacted]

Will the activity produce any effluent that will be treated and/or disposed of on site?

[Redacted]

If yes, what estimated quantity will be produced per month?

m³

If yes describe the nature of the effluent and how it will be disposed.

[Redacted]

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?

[Redacted]

If yes, provide the particulars of the facility:

Facility name:

[Redacted]

Contact person:

Postal address:

Postal code:

Telephone:

Cell:

E-mail:

Fax:

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

The water required for the proposed activities will be minimal, however, the following will be implemented to promote water efficiency:

- Drive awareness on water conservation to ensure that all involved understand the importance of reducing the project's water footprint. This will be achieved through induction and toolbox talks to ensure that contractors are aware of their individual roles in attaining water efficiency.
- Use of water-efficient temporary sanitation facilities during demolition activities.
- Recycled grey water will be considered as an alternative source for daily onsite activities including dust suppression during the demolition activities.
- Consider implementation of water-wise dust suppression techniques such as misting or atomizing systems that use minimal water.

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?

NO
m ³

If yes, what estimated quantity will be produced per month?

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?

Will the activity produce any effluent that will be treated and/or disposed of on site?

NO

If yes describe how it will be treated and disposed off.

Portable chemical toilets will be used during the decommissioning and demolition phase.

Emissions into the atmosphere

Will the activity release emissions into the atmosphere?

YES	NO
-----	----

If yes, is it controlled by any legislation of any sphere of government?

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

The main pollutants of concern for the proposed decommissioning and demolition activities are dust and particulate matter (PM₁₀ and PM_{2.5}).

A description of the key pollutants identified in this assessment, as well as the associated health effects is provided in Table 1.

Table 1: Key pollutants and associate health effects

Pollutant	Description	Health effects
Particulate matter (Dust fallout, PM ₁₀ and PM _{2.5})	Can be classified by their aerodynamic properties into coarse particles e.g. Total suspended particulate (TSP), PM ₁₀ and PM _{2.5} . The fine particles contain the secondarily formed aerosols such as combustion particles, sulphates, nitrates, and re-condensed organic and metal vapours. The coarse particles contain earth crust materials and fugitive dusts from roads and industries (Fenger, 2002)	Dust fallout is a nuisance and is unlikely to result in health effects. PM ₁₀ and PM _{2.5} are associated with: - airway allergic inflammatory reactions & a wide range of respiratory problems, increase in medication usage related to asthma, nasal congestion and sinuses problems, and adverse effects on the cardiovascular system

The screening assessment indicated that:

- PM₁₀ Concentrations:
 - From approximately 800 m from the proposed decommissioning and demolition activities, 24-hour PM₁₀ concentrations will drop below the 24-hour PM₁₀ NAAQS of 75 µg/m³. As such, sensitive receptors 1, 6 and 8 (**Figure 3**) are likely to have concentrations above the 24-hour PM10 NAAQS; and
 - From approximately 400 m from the proposed decommissioning and demolition activities, annual PM₁₀ concentrations will drop below the annual PM₁₀ NAAQS of 40 µg/m³. However, no receptors are located within 400 m.
- PM_{2.5} Concentrations:
 - Predicted 24-hour and annual PM_{2.5} concentrations are below their relevant NAAQSs. As such all sensitive receptor concentrations are below the relevant NAAQSs.

Refer to **Appendix G5** for the Air Quality Screening Assessment for the A-Station Decommissioning and Demolition Project (Golder, 2022).

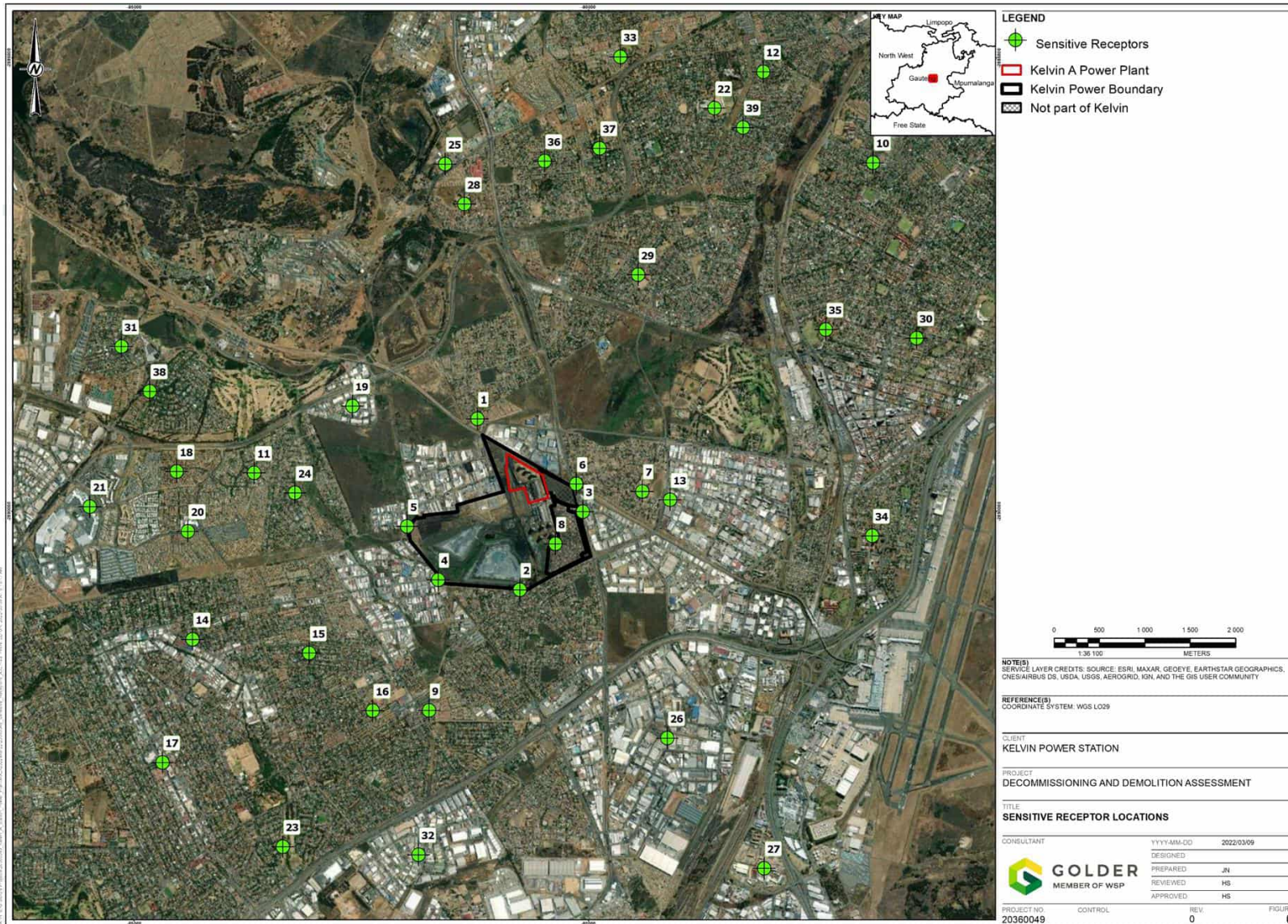


Figure 3: Sensitive receptor locations

2. WATER USE

Indicate the source(s) of water that will be used for the activity

<input checked="" type="checkbox"/> municipal	<input type="checkbox"/> Directly from water board	<input type="checkbox"/> Groundwater	<input type="checkbox"/> river, stream, dam or lake	<input type="checkbox"/> other	<input type="checkbox"/> the activity will not use water
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month: _____ liters

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs? YES NO

If yes, list the permits required

If yes, have you applied for the water use permit(s)? YES NO

If yes, have you received approval(s)? (attached in appropriate appendix) YES NO

3. POWER SUPPLY

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

The facility will use the municipal electricity supply, supplied by Kelvin Power itself, from an off take from the existing supply.

Alternatively, the demolition contractor will use generators, if required.

If power supply is not available, where will power be sourced from?

4. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The following will be implemented to promote energy efficiency:

- Demolition activities will optimise daylight hours to reduce the need for lighting.
- Encourage the use of energy-efficient tools and equipment throughout the demolition activities.
- In the pursuit of promoting employment, labour intensive activities will be considered as preferred over mechanical demolition where practical and possible.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts as well as the impacts of not implementing the activity (Section 24(4)(b)(i)).

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

This section will be updated after the 30-day public consultation period.

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)

(A full response must be provided in the Comments and Response Report that must be attached to this report):

A Comments and Response Report will be appended to the final Basic Assessment Report that will contain responses to the issues raised by interested and affected parties.

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Proposal

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

Alternative 1

(REPEAT THIS TABLE FOR EACH ALTERNATIVE)

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

No Go

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

[Redacted]

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

[Redacted]

3. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Proposal

Potential impacts:	Magnitude	Duration	Scale	Probability	Significance rating of impacts (positive or negative):	Proposed mitigation:	Magnitude	Duration	Scale	Probability	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
Decommissioning Phase												
Groundwater												
A change in the groundwater quality	2	1	1	1	4	No noticeable impact change expected during the decommissioning phase (Kelvin Power A-Station was under care and maintenance since 2012), no mitigation required during Decommissioning Phase. Groundwater monitoring (water levels and quality) should be used to confirm that the groundwater quality remains unchanged.	2	1	1	1	4	Low
A change in the volume or recharge of groundwater/change in water level	2	1	1	1	4		2	1	1	1	4	
Changes in land use	2	1	0	0	0		2	1	0	0	0	
Possible change in the groundwater flow regime	2	1	0	0	3		2	1	0	0	3	
A change on the quality of the surface water (receptor).	2	1	1	1	4		2	1	1	1	4	
Cultural Heritage												
Removal of machinery and equipment which forms part of the history, and the way electrical power was generated in the past.	6	5	1	5	60	<ul style="list-style-type: none"> A selection of the old machinery, equipment and tools associated with the A-Station to be preserved and displayed at the Kelvin Power Station as part of the preservation of its history. The provision & use of the non-sensitive and non-confidential original drawings and plans of the A-Station as part of a display on the history of Kelvin Power Station at the site. The erection of a display panel or panels describing the history of Kelvin Power Station and its function and role in the generation and supply of electricity to the greater Johannesburg region. The application for and obtaining a Demolition Permit from the Gauteng Provincial Heritage Resources Authority (Gauteng-PHRA) for the demolition of the A-Station at Kelvin Power Station. The selection of old machinery, equipment, tools, drawings and plans will be determined in consultation with the heritage specialist and the Gauteng Provincial Heritage Resources Authority (Gauteng-PHRA). 	2	5	1	2	16	Medium
Traffic												

Additional traffic on the road network during the decommissioning activities.	2	1	2	1	5	Additional expected traffic on the road network will have a negligible impact on the service levels in the study area. No mitigation of the road network, from a capacity point of view, is thus required to support the demolition and removal works.	2	1	2	1	5	Low
Demolition Phase												
Groundwater												
A change in the groundwater quality	6	3	1	3	30	<ul style="list-style-type: none"> Groundwater monitoring (water levels and quality). Monitor for changes in water quality down gradient from Kelvin Power A-Station (KPS-MON03, KPS-BH-03, KPS-MON16 and KPS-MON04). All vehicles and machinery to be kept in good working order and inspected on a regular basis for possible leaks and shall be repaired as soon as possible if required. Vehicle repairs to be carried out in a dedicated repair area only, unless in-situ repairs are required. Drip trays shall always be placed under vehicles that require in-situ repairs. Drip trays to be emptied at designated containers and be disposed at licensed hazardous material disposal facility. Soil spills will be treated in-situ using sand, soil, or cold coal-ash as absorption medium. The contaminated material must be disposed of in accordance with the specifications prescribed by the Waste Management Plan. 	4	1	1	1	6	Low
A change in the volume or recharge of groundwater, previously covered areas will be exposed with associated change in water level	4	2	1	3	21		4	2	1	3	21	
Changes in land use	2	1	1	4	16		2	1	1	4	16	
Possible change in the groundwater flow regime (building excavation)	4	1	1	2	12		4	1	1	2	12	
A change on the quality of the surface water (receptor).	4	3	1	3	24		2	1	1	1	4	
Possible spills from construction vehicles	4	1	1	3	18		2	1	1	1	4	
Surface Water												

<p>Disturbance of soil during infrastructure removal may release chemicals leading to run-off (and erosion) from disturbed areas to the existing stormwater system containing increased concentrations of total dissolved solids and metals and additional sediment.</p>	4	2	2	3	24	<ul style="list-style-type: none"> • Avoid clearing during heavy rainfall periods if possible (December, January, and February); try to do clearing during winter so that run-off will be limited. • Only clear working areas and within the targeted footprint. • Procedures on land clearance, soils handling and rehabilitation plan to be adhered to, including removal of contaminated material to a licenced waste disposal site. • Maintain, and develop if needed, adequate berms and stormwater collection facilities to capture sediment before it enters the existing stormwater system and the Modderfonteinspruit. • Remove and dispose of soils within areas that have been subjected to high concentrations of contaminants over the years with as little exposure to rainfall as possible to limit contaminated run-off, after assessing level of contaminants and potential for reuse elsewhere. • Maintain Main Channel and clear any sediment should it be noted, ensuring that the sediment is removed and responsibly disposed to a licenced waste disposal site if it is found to be contaminated. • Ensure spill kits are on site with staff adequately trained to use them, if needed. • Drainage channels and sedimentation ponds (even temporary) must be maintained and developed if necessary. • Contaminated water, generated during the decommissioning and demolition activities, must be managed in accordance with the existing water management procedures and infrastructure at Kelvin Power to prevent any contaminated water from leaving the site. • Continue the surface water monitoring programme, however, undertake the following additional sampling: before decommissioning starts, and monthly during decommissioning, undertake a full spectrum of metals analyses and hydrocarbons at sampling points K1 and K2. 	4	2	2	2	16	Low
Cultural Heritage												
<p>No impacts expected, but chance finds with potentially moderate impacts could occur</p>	8	5	1	3	42	<ul style="list-style-type: none"> • Chance find procedure to be implemented immediately should any heritage resources be unearthed: <ul style="list-style-type: none"> ○ Cease all work in the immediate vicinity of the find. ○ Demarcate the area with barrier tape or other highly visible means. ○ Notify the South African Heritage Resources Agency (SAHRA) immediately. ○ Commission an archaeologist accredited with the Association for Southern African Professional Archaeologists (ASAPA) to assess the find and determine appropriate mitigation measures. ○ Prevent access to the find by unqualified persons until the assessment and mitigation process have been completed. 	4	1	1	2	12	Medium

Paleontology												
No impacts expected, but chance finds with potentially moderate impacts could occur	8	5	1	3	42	<ul style="list-style-type: none"> • Chance find procedure to be implemented immediately should any heritage resources be unearthed: <ul style="list-style-type: none"> ○ Cease all work in the immediate vicinity of the find. ○ Demarcate the area with barrier tape or other highly visible means. ○ Notify the South African Heritage Resources Agency (SAHRA) immediately. ○ Commission an archaeologist accredited with the Association for Southern African Professional Archaeologists (ASAPA) to assess the find and determine appropriate mitigation measures. ○ Prevent access to the find by unqualified persons until the assessment and mitigation process have been completed. 	4	1	1	2	12	Medium
Air Quality												
Demolition of infrastructure, creating dust emission that will impact on receptors 1, 6 and 8 ⁴	8	2	2	4	48	Truck loading and unloading activities: <ul style="list-style-type: none"> • Modify or cease loading activities during dry and windy conditions. • Avoid double handling of material where possible. 	6	2	2	3	30	Medium

⁴ Refer to Figure 3

Demolition of infrastructure, creating dust emissions that could impact on all remaining receptors.	6	2	2	3	30	<ul style="list-style-type: none"> • Minimising the drop height of the material from truck loads/transfer points: <ul style="list-style-type: none"> ○ A drop height policy should be maintained on-site and all equipment operators should be trained in the policy such that drop height reduction is implemented during materials handling activities. • Using water carts with boom sprayers or wet suppression systems. <p>Wind Erosion:</p> <ul style="list-style-type: none"> • Windbreaks in the form of shade cloth screens should be erected at exposed areas, and as such reduces the wind speed across the surface of the ground (higher wind speeds tend to scour the surface, leading to dust entrainment and subsequent transportation) and therefore reducing the impact of dust emissions on the surrounding environment. • To decrease the erosion potential of stockpiles during the proposed decommissioning and demolition activities, the following mitigation techniques are recommended: <ul style="list-style-type: none"> ○ Water hose spray/ wet suppression system as required. ○ Temporary stockpiles be enclosed by porous walls. ○ Small, temporary stockpiles can be covered with a porous sheet (preferably hessian). ○ Maintaining the stockpile moisture level to avoid further entrainment of particles. 	4	2	2	3	24	Low
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					<p>Vehicle Entrainment on Roads and Exhaust Emissions:</p> <ul style="list-style-type: none"> • To adequately mitigate emissions of dust associated with vehicle entrainment and exhaust emissions, the following key recommendations are suggested: <ul style="list-style-type: none"> ○ The use of water as a dust suppressant on unpaved roads, which can reduce emissions by approximately 75%. ○ Paved areas within the decommissioning and demolition area must be washed down twice a week. ○ Implement vehicle speed and access restrictions within the site (approximately 10 – 20 km/h) and try to limit the amount of traffic using the roads. ○ Plan routes to be away from residents and other sensitive receptors. ○ Prioritising source reduction measures through the use of the most direct travel routes on site and using larger capacity trucks to minimise the amount of trips. ○ Vehicles carrying loose aggregate should be covered with tarpaulins or sheets at all times. ○ Prevention of material deposition onto haul roads by avoiding overloading of truck loads resulting in spillages on the roads and ensure adequate storm water drainage to prevent water erosion of the roads. ○ Vehicles need to be clean. Washing facilities, such as hose-pipes and ample water supply should be provided at site exits, including mechanical wheel spinners where practicable. If necessary, all vehicles should be washed down before exiting the site. ○ Vehicles and equipment should not emit black smoke from exhaust systems except during ignition at start-up. ○ Engines and exhaust systems should be maintained so that exhaust emissions do not breach statutory emission limits set for the vehicle/equipment type and mode of operation. <p>Crushing and Screening:</p> <ul style="list-style-type: none"> • To adequately mitigate emissions of dust associated with crushing and screening of material wet suppression systems should be utilised as required. <p>Complaints:</p> <ul style="list-style-type: none"> • Dust related complaints should be directed to the site management and any actions arising from a complaint should be recorded in a complaint register to be maintained by site management. 					
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Noise

Demolition of infrastructure, creating noise levels that will impact on receptors 1, 2, 4, 6, 7 and 8	8	2	2	4	48	<ul style="list-style-type: none"> • Planning decommissioning activities in consultation with local communities so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance. Information regarding construction activities should be provided to all local communities. Such information includes: <ul style="list-style-type: none"> ○ Proposed working times. ○ Anticipated duration of activities. ○ Explanations on activities to take place and reasons for activities. ○ Contact details of a responsible person on site should complaints arise. • When working near (within 100 m) a potential sensitive receptor, limit the number of simultaneous activities to a minimum as far as possible. • Avoiding or minimising Project transportation through community areas. • Using noise control devices, such as temporary noise barriers and deflectors for high impact activities. • Strict enforcement of speed limits such as a limit of 20 km/hr, will aid in limiting any additional noise along internal and public roads. • Selecting equipment with the lowest possible sound power levels. • All equipment used on the site should be equipped with effective mufflers that are maintained in good condition. 	6	2	2	3	30	Moderate
Demolition of infrastructure, creating noise levels that could impact on all remaining receptors	4	2	2	3	24		2	2	2	2	12	Low

						<ul style="list-style-type: none"> • Direct principal noise sources (e.g. exhausts) away from noise-sensitive places as far as possible. • Fitting of equipment with effective and properly maintained noise suppression equipment consistent with the requirements of the activity, where possible. • Ensure equipment utilised is maintained and operated as per manufacturers' specifications. • The noise level of audible warning devices should be kept to the minimum necessary for the health and safety of employees. • Establishing noise deflection walls such as berms. • Decommissioning, demolition and site clean-up activities will only take place between 07:00 and 17:00 on Mondays to Fridays, 07:00 to 13:00 on Saturdays, excluding Sundays and Public Holidays. • A notice will be placed in a conspicuous position, informing stakeholders of the agreed hours of work and prior to any activities taking place that could cause a disturbance or risk. 						
Socio-economic												
Potential health, safety and security impacts as a result of external contractors arriving to work in the local area.	4	1	2	4	13	<ul style="list-style-type: none"> • To prevent any potential impacts from this variable on proximate residential areas, construction workers should limit their movement to the work site. • The movement of unknown individuals through projected sites should be avoided at all costs. • Discuss safety and security issues and the construction schedule with the Ward Councillor, the local community policing forum, and the SAPS. • It is recommended that the demolition area be fenced. • There should be control over access to the demolition area. • The workers must possess identity cards and be distinguishable, for example, by wearing company apparel. • Health, safety and security training must be provided to all project personnel and contractors. 	3	1	2	4	12	Low

Formation of negative attitudes toward the proposed project.	6	1	2	4	36	<ul style="list-style-type: none"> Establish a dedicated grievance and consultation procedure for the project. The appointment of a community liaison officer (CLO) is recommended. The CLO will interact with stakeholders, address grievances, provide information, and consult with them regularly. Engage with communities in a transparent manner using the grievance management and consultation procedure. Inform the recipient communities of project events, expected loud noises and so forth. The CLO can play a significant role in this process. Closely supervise the contractor workforce to prevent them from leaving the demolition site, minimise social interaction with the recipient communities, and avoid social ills such as drunkenness, substance abuse, or trade. 	3	1	2	3	21	Moderate
The project is that it will create a portion of land to be developed in the future. The type and nature of such a development could hold significant economic benefits.					Positive	None required					Positive	Positive
Traffic												
Additional traffic on the road network during the decommissioning activities.	2	1	2	1	5	Additional expected traffic on the road network will have a negligible impact on the service levels in the study area. No mitigation of the road network, from a capacity point of view, is thus required to support the demolition and removal works.	2	1	2	1	5	Low
The unavailability of adequate public transport facilities and pedestrian sidewalks for contractors commuting to the project site.	2	2	2	3	18	A minimum 2.0-meter-wide paved sidewalk is recommended on the northern side of Shrike Road between Zuurfontein Road and the Kelvin Power Station to segregate pedestrians and vehicles. This will not only benefit pedestrians during the project phase but also during the future operational phase of the Kelvin Power Station.	2	1	2	1	5	Low
Topography												

Impact on topography as a result of the decommissioning and demolition of the site.	6	5	1	2	24	<ul style="list-style-type: none"> • Backfill excavations with approved and decontaminated crushed concrete or graded and compacted fill material. • Cover backfilled area with 300mm clean soil sourced on site (if possible) or alternatively affected soils that have been treated to rectify the pH to above 5.5. • Shape and profile the disturbed surface areas to match surrounding topography and to be free draining. • Protect the exposed surface from erosion by placing a graded fill cover or cladding with ballast or gravel. 	2	2	1	2	10	Low
Soils												
Impact on soils due to potential spillage of chemicals, incorrect waste handling and storage, storm water or decontamination water carrying colloidal contamination off site and windblown disturbance of stockpiled or bagged product / waste during the decommissioning phase.	8	4	2	3	42	<ul style="list-style-type: none"> • Ensure spills caused as a result of equipment dismantling is remediated in situ and/or removed in accordance with the project's spill response procedure. • Ensure all general rubble, fugitive waste and hazardous waste is removed in accordance with the Waste Management Plan. • All hazardous substance storage areas must be inspected weekly by a Supervisor to monitor leaks or spills and an inspection register must be kept. • Ensure that spill kits are available at all hazardous waste storage areas and that clean up procedures are followed at all times. 	4	1	1	2	12	Moderate

Impact on soils due to the incorrect handling and storage of demolition material and waste during the demolition phase.	6	3	2	3	33	<ul style="list-style-type: none"> • All readily identifiable waste streams to be classified and waste disposal requirements to be verified prior to disposal. • All assets that are removed and infrastructure that is dismantled must be stored in the respective lay-down areas in such a manner that it will not impact on the surrounding area. • Ensure that all demolished infrastructure and screened wastes are stored in the designated laydown areas. • Demolition, removal and handling of infrastructure and waste must be conducted as per the specifications prescribed by the Waste Management Plan and should include the following: <ul style="list-style-type: none"> ○ Compile a Safety Data Sheet (SDS) for each hazardous waste stream not already pre-classified in accordance with SANS 10234; ○ Classify and labelling waste in accordance with SANS 10234:2008 (Global Harmonised System); and ○ Adhere to Sections 16, 17, 18 and 38, 47 and 48 of the City of Ekurhuleni Metropolitan Municipality Integrated Waste Management By-laws, dated 25 March 2021. • Ensure buildings / infrastructure are demolished in a phased manner, whilst sorting and screening of wastes are done as close as possible to the footprint area of the building being demolished. • Ensure that all concrete, bricks and steel are decontaminated, where applicable. • Ensure that the transport and disposal of general and hazardous waste streams is undertaken as per the Waste Management Plan. 	4	1	1	2	12	Moderate
Terrestrial Biodiversity												
Impact on off-site flora as a result of the decommissioning and demolition activities.	6	2	2	3	30	<ul style="list-style-type: none"> • Regularly inspect cleared areas for alien and invasive species. • Implement eradication and control programmes as necessary. 	2	2	2	2	12	Moderate

Alternative 1

Potential impacts:					Significance rating of impacts (positive or negative):					Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

Alternative 2

Potential impacts:					Significance rating of impacts (positive or negative):					Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

1. Groundwater Baseline and Impact Assessment of the Proposed Decommissioning and Demolition of Kelvin Power A-Station, Golder, Report Number: 20360049-3408661-1, April 2022 (**Appendix G1**).
2. Noise Screening Assessment for the A-Station Decommissioning and Demolition Project, Golder, Report Number: 20360049-351015-7, August 2022 (**Appendix G2**).
3. Contaminated Land Assessment for A-Station, Golder, Report Number: 20360049-347277-3, August 2022 (**Appendix G3**).
4. Traffic Impact Assessment & Traffic Management Plan for EA: In support of Demolition and Removal Works at Kelvin Power Station, TechWorld Consulting Engineers, Report Number: REP01/TW1254/09May22, May 2022 (**Appendix G4**).
5. Air Quality Screening Assessment for the A-Station Decommissioning and Demolition Project, Golder, Report Number: 20360049-351014-6, August 2022 (**Appendix G5**).
6. Phase 1 HIA Report as part of the Environmental Authorisation Application Process for the decommissioning and Demolition of the Kelvin A-Station Power Plant, City of Ekurhuleni, Gauteng, APelser Archaeological Consulting, May 2021 (**Appendix G6**).
7. Social Impact Assessment for the Decommissioning of the Kelvin Power A-Station Power Plant, Golder, Report Number: 20360049-350733-5, August 2022 (**Appendix G7**).
8. Surface Water Baseline and Impact Assessment of the Proposed Decommissioning and Demolition of Kelvin Power A-Station, Golder, Report Number: 20360049-342046-2, August 2022 (**Appendix G8**).
9. Waste Inventory and Management Plan (**Appendix G9**)

Where applicable, indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

Kelvin appointed Golder Associates Africa (Pty) Ltd (Golder), now a member of WSP Group Africa (Pty) Ltd (WSP), to review and update its restoration and decommissioning costs for the scenarios related to the "Realistic case" and the "Lower case".

The realistic case involves complete site demolition/dismantling/rehabilitation with disturbed footprints rehabilitated for the next land use that would most likely not be power generation. The lower-case entails that the next land use is most likely again power generation, with sell-off and transfer of the existing infrastructure at the end of operations.

The decommissioning and restoration costs as at December 2021 for the realistic and lower-case scenarios will be included in the final Basic Assessment Report, when submitted to the Department for decision-making.

4. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

Groundwater

The cumulative impacts of the decommissioning and demolition of the A-Station on the groundwater regime (quality and quantity), if no mitigation is implemented, may potentially be low to moderate. However, with mitigation and good management practices during decommissioning no negative change is expected in the groundwater regime.

Surface Water

The current situation is that the Jukskei catchment is already highly developed with water resources bearing the brunt of urban (formal and informal) and industrial contamination. Considering the existing impacts to the Modderfonteinspruit and Jukskei River, quaternary catchment (A21C), and the desilting dam with oil booms already in place, the cumulative impact of contamination (hydrocarbons, metals and sediments) to surface water resources is not expected to adversely affect the surface water resources any further. With good management practices during decommissioning no further impacts are expected in the water resources.

Air Quality

The cumulative impacts of the decommissioning and demolition of the A-Station infrastructure on the air quality in the local area may potentially have a moderate impact on nearby receptors if no mitigation is implemented. With mitigation and monitoring, the impact could be mitigation during these activities. The impact will cease after the completion of the demolition process.

Noise

The cumulative noise impacts of the decommissioning and demolition of the A-Station infrastructure in the local area may potentially have a low to moderate impact on nearby receptors if no mitigation is implemented. With mitigation and monitoring, the impact could be mitigation during these activities. The impact will cease after the completion of

the demolition process.

5. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Proposal

Following the impact assessment by respective specialists, it is the opinion of the EAP and the specialists that the potential impacts that could result from the proposed decommissioning and demolition of the A-Station infrastructure, can be reduced to an acceptable level.

An impact assessment was undertaken, supported by relevant specialist studies to determine the impact of the proposed decommissioning and demolition activities on the environment. These studies have not identified any fatal flows associated with the proposed project. Neither have any critical factors been identified which would warrant the proposed activities not to proceed.

Air Quality:

During the proposed decommissioning and demolition phase, the impact is predicted to be moderate at receptors 1, 6, and 8, given their proximity in location to the proposed decommissioning and demolition activities, whilst the impact is predicted to be low at the remaining receptors, with mitigation in place.

Noise:

During the decommissioning and demolition phase, the impact is predicted to be moderate at receptors 1, 2, 4, 6, 7 and 8, given their proximity in location to the decommissioning and demolition activities, whilst the impact is predicted to be "low" at the remaining receptors.

Groundwater:

The proposed decommissioning and demolition of the A-Station infrastructure will have a low environmental significance impact on the groundwater regime. Future redevelopments on site would also implement best available technology and measures to limit any on-site and off-site impacts.

Surface Water:

Decommissioning and removal of infrastructure may lead to release of additional contaminants. This may lead to changes to the chemical make-up of the stormwater run-off with higher concentrations of metals, hydrocarbons and salts from workshops, storage areas, A-stockpile and other dirty areas being decommissioned.

Considering the locality of Kelvin Station-A within the two quaternary catchments, A21C and A21A, and specifically A21C, the impact significance on the Modderfonteinspruit and the Jukskei River has been rated as low and will require limited mitigation in the form of good practices to reduce the risk.

Traffic:

The planned demolishing and removal works of the A-station at the Kelvin Power Station is only expected to generate about 53 additional peak hour trips during the weekday peak hours. Capacity and operational analyses shows that these trips can be accommodated by the existing road network and no mitigation is necessary from a capacity and operational point of view.

Heritage Resources:

The only site of cultural heritage (archaeological and/or historical) origin or significance identified during the assessment in the study area is the Power Station and related infrastructure itself.

Although the A-Station building itself as well as the related structures including the Cooling Towers and workshops, is not of very high significance from a historical-architectural perspective, the significance of the site lies in the fact that Kelvin Power Station is the only Power Station of its kind in the larger City of Ekurhuleni area. As such it has also become part of the industrial landscape of the area and demolishing it would remove part of the recent history of the City and region.

Much of the machinery and technology associated with A-Station, even if out of date and obsolete, forms part of this history and the way electrical power was generated in the past. This needs to be preserved in some form after the A-Station has been finally decommissioned and demolished.

Social:

The proposed decommissioning and demolition of the A-Station Power Plant infrastructure could result in typical intrusion impact such as dust, noise, light pollution, and an increase in traffic load. Community health, safety and security issues and the formation of negative attitudes toward the project could have a low to moderate environmental significance impact on the local communities.

Provided that all the environmental management measures, described in the EMPr are applied diligently, it is expected that the proposed decommissioning and demolition of the A-Station infrastructure will not result in any significant environmental impacts that cannot be mitigated to acceptable levels.

Provided that all the environmental management measures, described in the EMPr are applied diligently, it is expected that the proposed decommissioning and demolition will not result in any significant environmental impacts that cannot be mitigated to acceptable levels.

An impact assessment was undertaken, supported by relevant specialist studies, to determine the impact of the proposed decommissioning and demolition activities on the environment. These studies have not identified any fatal flows associated with the proposed project. Neither have any critical factors been identified which would warrant the proposed activities not to proceed.

Not granting this authorisation will impact on Kelvin Power's ability to remove the existing outdated A-Station Power Plant infrastructure and making the site available for future use.

Accordingly, it is the opinion of the environmental assessment practitioner that the application for environmental authorisation, for the decommissioning and demolition of the A-Station Power Plant infrastructure, as described in this BAR and EMPr report, should be granted, on the premise that:

- The project details, as detailed in the BAR remain unchanged.
- The commitments in this BAR and EMPr report are implemented, adhered to and audited.

Alternative 1

Alternative 2

No-go (compulsory)

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
None as status quo remains. The no-go alternative will mean that the existing A-Station infrastructure will remain as is and none of the negative and positive impacts described above will come into effect.				

6. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

This section summarises the potential impacts of the proposed decommissioning and demolition project on various environmental aspects together with the appropriate mitigation measures to manage the identified impacts.

No.	Aspect and Associated Impact	Impact Rating before Mitigation	Impact Rating after Mitigation
Decommissioning			
Groundwater			
1.1	A change in the groundwater quality	4	4
1.2	A change in the volume or recharge of groundwater/change in water level	4	4
1.3	Changes in land use	0	0
1.4	Possible change in the groundwater flow regime	3	3
1.5	A change on the quality of the surface water (receptor).	4	4
Cultural Heritage			

1.6	Removal of machinery and equipment which forms part of the history, and the way electrical power was generated in the past.	60	16
Traffic			
1.7	Additional traffic on the road network during the decommissioning activities.	5	5
Demolition			
Groundwater			
2.1	A change in the groundwater quality	30	6
2.2	A change in the volume or recharge of groundwater, previously covered areas will be exposed with associated change in water level	21	21
2.3	Changes in land use	16	16
2.4	Possible change in the groundwater flow regime (building excavation)	12	12
2.5	A change on the quality of the surface water (receptor).	24	4
2.6	Possible spills from construction vehicles	18	4
Surface Water			
2.7	Disturbance of soil during infrastructure removal may release chemicals leading to run-off (and erosion) from disturbed areas to the existing stormwater system containing increased concentrations of total dissolved solids and metals and additional sediment.	24	16
Cultural Heritage			
2.8	No impacts expected, but chance finds with potentially moderate impacts could occur	42	12
Palaeontology			
2.9	No impacts expected, but chance finds with potentially moderate impacts could occur.	42	12
Air Quality			
2.10	Demolition of infrastructure, creating dust emission that will impact on receptors 1, 6 and 8.	48	30
2.11	Demolition of infrastructure, creating dust emissions that could impact on all remaining receptors.	30	24
Noise			
2.12	Demolition of infrastructure, creating noise levels that will impact on receptors 1, 2, 4, 6, 7 and 8.	48	30
2.13	Demolition of infrastructure, creating noise levels that could impact on all remaining receptors.	24	12

Socio-economic			
2.14	Potential health, safety and security impacts as a result of external contractors arriving to work in the local area.	13	12
2.15	Formation of negative attitudes toward the proposed project.	36	21
2.16	Temporary job creation for qualifying companies during the decommissioning and demolition of the A-Station infrastructure.	Positive	Positive
Traffic			
2.17	Additional traffic on the road network during the demolition activities.	5	5
2.18	The unavailability of adequate public transport facilities and pedestrian sidewalks for contractors commuting to the project site.	18	5
Topography			
2.19	Impact on topography as a result of the decommissioning and demolition of the site.	24	10
Soils			
2.20	Impact on soils due to potential spillage of chemicals, incorrect waste handling and storage, storm water or decontamination water carrying colloidal contamination off site and windblown disturbance of stockpiled or bagged product / waste during the decommissioning phase.	42	12
2.21	Impact on soils due to the incorrect handling and storage of demolition material and waste during the demolition phase.	33	12
Terrestrial Biodiversity			
2.21	Impact on off-site flora as a result of the decommissioning and demolition activities.	30	12

For alternative:

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

Electricity generation at the A-Station commenced in March 1957. The technology used at the A-Station has become very outdated and the last unit was placed on extended care and maintenance in November 2012. Taking into consideration the age and dated electricity generating infrastructure, the Kelvin Power management team was tasked to decide on the future of the A-Station Power Plant.

The Kelvin Power management team concluded that firstly the current technology is too outdated to bring the A-Station back into operation, as is, and secondly that a refurbishment exercise will be too costly and potentially unacceptable to stakeholders due to the continuous drive away from coal fired power stations and towards renewable and cleaner energy sources.

The proposed end land use objective is to retain the current land use zoning (public service infrastructure – power station) which currently allows for power generation operations and associated infrastructure.

As Kelvin Power still operates the B-Station Power Plant, owns the properties associated with both the A-Station and B-Station Power Plants and has no further use for the redundant A-Station Power Plant infrastructure and buildings, it is the most viable option to demolish all A-Station infrastructure, making the site available for future industrial development.

Furthermore, no site location alternatives were considered due to the nature of the proposed decommissioning and demolition project.

Therefore, the only proposal is to decommission and demolish the A-Station infrastructure to make the section of the site available for future redevelopment.

7. SPATIAL DEVELOPMENT TOOLS

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

National Spatial Development Framework 2050

The National Spatial Development Framework (NSDF) is a strategic long-term spatial plan towards 2050. The NSDF is legally mandated by the Spatial Planning and Land Use Management Act, 2013 (SPLUMA), and has to be aligned with the 2030-National Development Plan (NDP).

The NSDF identifies the most urgent short-term, strategic spatial development catalysts in the form of National Spatial Action Areas. These national spatial development priorities are informed by:

- The challenges and trends most likely to impact our country;
- The stated development objectives in national and provincial development and sector plans; and
- The gap between our national spatial development vision and the status quo.

These national spatial development priorities seek to:

Identify urgently required interventions in national space and priority spatial development enablers for accelerated development impact in this space; and

- Ensure the restoration, management and sustainable utilization of our country's rich natural resource foundation and ecological infrastructure.

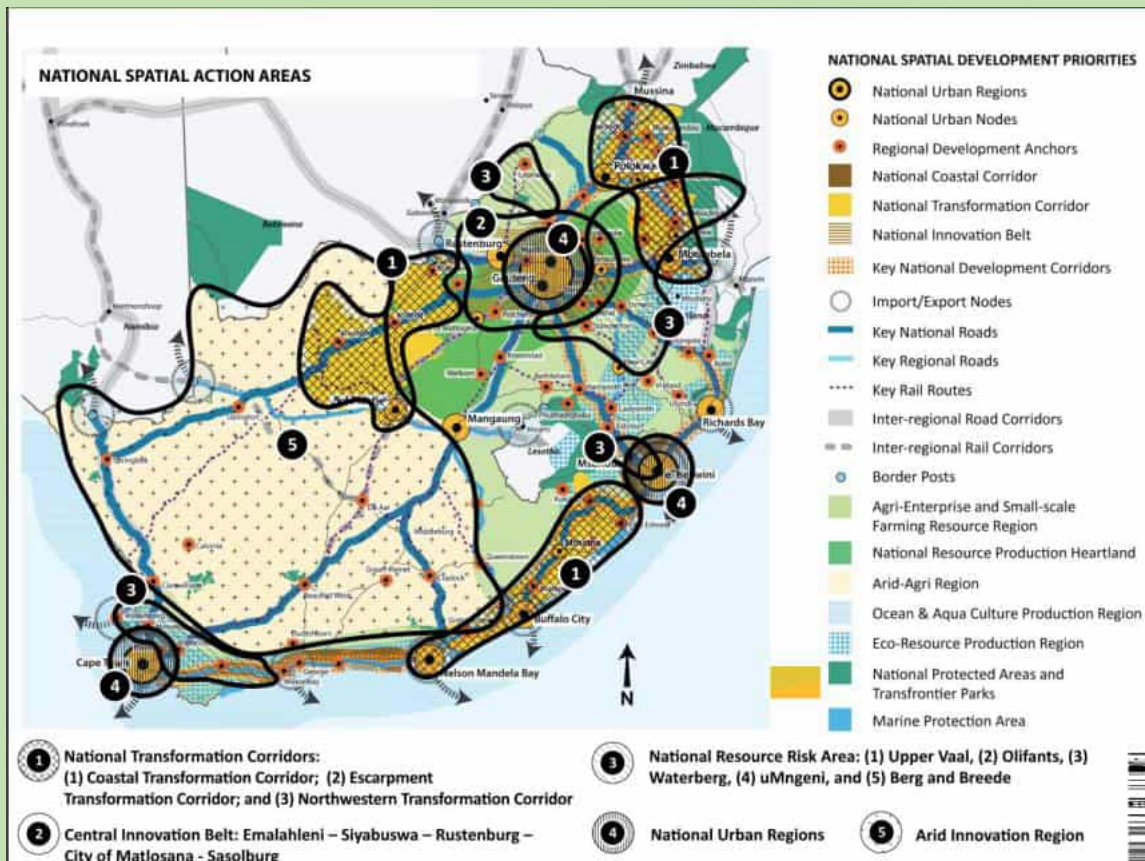


Figure: National Spatial Action Areas (www.dhs.gov.za)

The project area is located within Spatial Action Area No. 4, namely National Urban Regions.

The NSDF identifies the most urgent short-term, strategic spatial development catalysts to bring about radical spatial transformation at scale, and manage and mitigate rising national risks:

- National Urban Regions:
 - o Develop specific funding, land access, land tenure and service provision mechanisms to:
 - Enable higher residential densities
 - Provide a range of housing options
 - Alleviate pressure on basic and social service provision
 - Optimize all urban land reform dividends
 - Manage urban growth
 - Provide effective mass public transport.

The proposed decommissioning and demolition of the outdated Kelvin Power A-Station infrastructure will pave the way for the future development of the site, thereby contributing the urgent short-term, strategic spatial development catalysts to enable service provision that will support urban growth.

Regional Spatial Development Framework (SDF) – Region-B City of Ekurhuleni Metropolitan Municipality (EMM)

The Regional Spatial Development Framework for Region B provides the framework for making resource-effective decisions. It is also a guide that can be used for the development of the city in a systematic way. Therefore, the purpose of the SDF for Region B is to present a clear strategic vision for the future spatial growth of the region (EMM Municipality, 2015).

Region B is situated within the north-western section of the EMM. The City of Tshwane forms the northern boundary and the City of Johannesburg forms the western boundary. Region A is towards the south and Region C forms the eastern boundary. Region B is made up of the areas of Tembisa, a portion of Kempton Park, Edenvale, Bedfordview, Olifantsfontein / Clayville and Bredell Agricultural holdings.

It is stated in the SDF that, in terms of the metropolitan vision, the region will see major urban growth due to the proximity to the airport and its expected growth as an aerotropolis.



Figure: Region B in relation to EMM.

It is stated in the Regional SDF that, based on the status quo, Region B does have the installed electricity capacity to support development in the future but this capacity is classed as non-firm (i.e. security of supply cannot be confirmed).

The proposed decommissioning and demolition of the outdated Kelvin Power A-Station infrastructure will pave the way for

the future development of the site, thereby potentially assisting with firm electricity capacity to support development growth. Redevelopment of the site could also contribute to future job creation.

City of Ekurhuleni Metropolitan Municipality Integrated Development Plan (IDP)

Integrated development planning is a process through which municipalities prepare a strategic development plan which extends over a five-year period. The IDP is a product of this planning process. The EMM IDP is the principal strategic planning instrument which guides and informs all planning, budgeting, management and decision-making processes in the municipality.

It is stated in the IDP that the City has taken decisive action to demonstrate its commitment to clean, renewable energy. A number of projects have been implemented such as the establishment of a solar farm at the OR Tambo precinct in Wattville, the installation of generators to generate 1 megawatt of energy from methane gas at the Simmer and Jack landfill site in Germiston and the installation of solar panels on the rooftops of the Boksburg and Kempton Park Civic Centres.

It is further noted that the City experience challenges in the provision of electricity services that affected negatively on the achievement of all targeted deliverables.

The proposed decommissioning and demolition of the outdated Kelvin Power A-Station infrastructure will pave the way for the future development of the site, thereby potentially assisting the EMM to provide the core elements of a decent standard of living, identified in the NDP 2030, namely housing, water, electricity and sanitation.

8. RECOMMENDATION OF THE PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner as bound by professional ethical standards and the code of conduct of EAPASA).

YES

If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

The following conditions are recommended to be included in any authorization that may be granted in respect of the application:

Kelvin Power must:

- Implement and comply with the management and mitigation measures outlined in the EMPr.
- Comply with all relevant legislation at all times, including applicable By-Laws, policies and requirements of the City of Ekurhuleni.
- Appoint a qualified Environmental Control Officer (ECO) to oversee the implementation of the mitigation measures as detailed in the EMPr.
- Undertake six-monthly internal auditing of environmental performance and annual reporting to the Competent Authority during the decommissioning and demolition period.
- An alien invasive management plan must be compiled and implemented to prevent further encroachment of alien plant species into the disturbed areas caused by demolition and rehabilitation activities.
- Areas that are cleared during demolition or where alien plant species are removed, should be revegetated with appropriate, indigenous plant species.
- During demolition activities, demolition equipment may only operate between the hours of 08h00 and 17h00 on weekdays, 08h00 and 13h00 on Saturdays, with operation being prohibited on Sundays and Public Holidays.

9. THE NEEDS AND DESIREBILITY OF THE PROPOSED DEVELOPMENT (as per notice 792 of 2012, or the updated version of this guideline)

The Needs and Desirability Guidelines, in terms of the Environmental Impact Assessment Regulations, Government Notice 792 of 2012⁵, as amended⁶, highlights the need to consider how the proposed project may impact ecosystems and biological diversity; pollution; and renewable and non-renewable resources. It should also consider how the development may affect or promote justifiable economic and social development.

The A-Station Power Plant has been under extended care and maintenance since 2012. The proposed project entails the decommissioning and demolition of the A-Station infrastructure, making the site available for future industrial development.

Part 1 - Need	
Is the land use associated with the activity being applied for considered within the timeframe intended by the existing approved SDF agreed to be the relevant environmental authority?	The Site is Zoned as Industrial and Mixed Use (Light Industrial / Commercial) which currently includes the existing Kelvin Power A-Station and B-Station infrastructure.
Should the development, or if applicable, expansion of the town/area concerned in terms of this land use occurs here at this point in time?	The proposed decommissioning and demolition of the A-Station infrastructure will avail the section of the site for future industrial development.
Does the community/area need the activity and the associated land use concerned? This refers to the strategic as well as local level.	The proposed decommissioning and demolition of the A-Station infrastructure will avail the section of the site for future industrial development. The Site is currently Zoned as Industrial and Mixed Use (Light Industrial / Commercial) which currently includes the existing Kelvin Power A-Station and B-Station

⁵ DEA (2010), Companion to the EIA Regulations 2010, Integrated Environmental Management Guideline Series 9, Department of Environmental Affairs (DEA), Pretoria, South Africa.

⁶ DEA (2017), Guideline on Need and Desirability, Department of Environmental Affairs (DEA), Pretoria, South Africa.

	infrastructure.
Are the necessary services with adequate capacity currently available (at the time of application) or must additional capacity be created to cater for the development?	Yes. The necessary services are available at the existing Kelvin Power site.
Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of the services and opportunity cost)?	<p>The current project only involves the decommissioning and demolition of the outdated A-Station infrastructure.</p> <p>The Site is currently Zoned as Industrial and Mixed Use (Light Industrial / Commercial) which currently includes the existing Kelvin Power A-Station and B-Station infrastructure.</p> <p>Any future development of the site will be the subject of a new application for environmental authorization.</p>
Is the project part of a national programme to address an issue of national concern or importance?	<p>The current project only involves the decommissioning and demolition of the outdated A-Station infrastructure.</p> <p>Any future development, whether to construct an electricity generation facility or other industrial facility, of the site will be the subject of a new application for environmental authorization.</p>
Part 2 - Desirability	
Is the development the best practicable environmental option for this land/site?	The assessment by the Kelvin Power management team concluded that firstly the current technology is too outdated to bring the A-Station back into operation, as is, and secondly that a refurbishment exercise will be too costly and potentially unacceptable to stakeholders due to the continuous drive away from coal fired power stations and towards renewable and cleaner energy sources.
Would the approval of this application compromise the integrity of the existing approved and credible IDP and SDF as agreed to by the relevant authorities?	No, the project is aligned with the SDF and IDP of the EMM.
Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in EMFs), and if so, can it be justified in terms of sustainability considerations?	<p>The Site is currently Zoned as Industrial and Mixed Use (Light Industrial / Commercial) which currently includes the existing Kelvin Power A-Station and B-Station infrastructure.</p> <p>The proposed decommissioning and demolition activities will therefore not compromise the integrity of the existing environmental management priorities for the area.</p>
Do location factors favour this land use at this place? (this relates to the contextualization of the proposed land use on this site within its broader context).	<p>The current project only involves the decommissioning and demolition of the outdated A-Station infrastructure.</p> <p>The Site is currently Zoned as Industrial and Mixed Use (Light Industrial / Commercial) which currently includes the existing Kelvin Power A-Station and B-Station infrastructure.</p> <p>Any future development of the site will be the subject of a new application for environmental authorization.</p>
How will the activity of the land use associated with the activity being applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?	<p>The Site is currently Zoned as Industrial and Mixed Use (Light Industrial / Commercial) which currently includes the existing Kelvin Power A-Station and B-Station infrastructure.</p> <p>There are no sensitive natural or cultural areas in close proximity to the project area.</p>
How will the development impact on people's health and well-being? (E.g. In terms of noise, odours, visual character and sense of place, etc.)?	It is anticipated that short-term low to medium impacts, as a result of dust and noise, will occur during the project. These impacts will cease after completion of the demolition activities.
Will the proposed activity or the land use associated with the activity being applied for, result in unacceptable opportunity costs?	No. Kelvin Power will incur the cost for the decommissioning and demolition project.

Will the proposed land use result in unacceptable cumulative impacts?	No. Cumulative impacts associated with air quality, noise, groundwater, surface water and traffic could occur, however the impacts will cease after the completion of the demolition activities.
---	--

10. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED
(CONSIDER WHEN THE ACITIVTY IS EXPECTED TO BE CONCLUDED)

The decommissioning and demolition activities is expected to continue for 12 – 24 months, and it is requested that this authorization remain in effect for at least 5 years to allow for rehabilitation activities to be undertaken.

11. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr) (must include post construction monitoring requirements and when these will be concluded.)

If the EAP answers “Yes” to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached

Yes

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate (this list is inclusive, but not exhaustive):

It is required that if more than one item is enclosed that a table of contents is included in the appendix

Appendix A: Site plan(s) – *(must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)*

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information

Appendix E: Public participation information

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports

Appendix H: EMPr

Appendix I: Other information

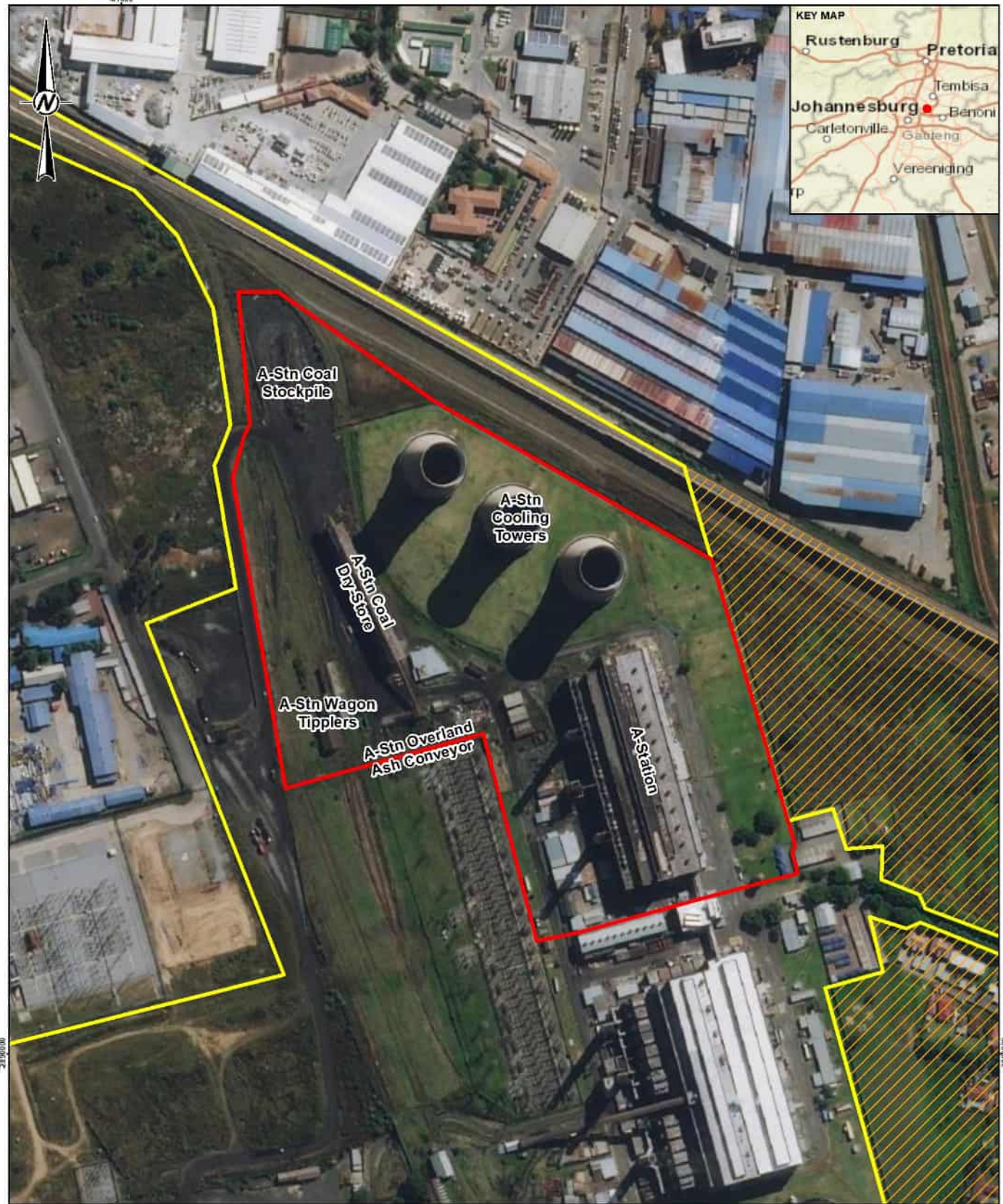
CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed.

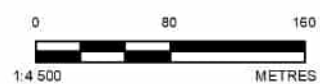
Appendix A: Site plan(s) – (must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)

#1000



LEGEND

- Kelvin Power Station Boundary
- Not part of Kelvin Power Station
- Kelvin A-Station Power Plant



NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: WGS LO29
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY

CLIENT
KELVIN POWER STATION

PROJECT
A-STATION POWER PLANT

TITLE
A-STATION INFRASTRUCTURE COMPONENTS

CONSULTANT	YYYY-MM-DD	2021/08/19
GOLDER MEMBER OF WSP	DESIGNED	
	PREPARED	TS
	REVIEWED	MS
	APPROVED	MS

PROJECT NO.	CONTROL	REV.	FIGURE
20360049			

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LEGEND

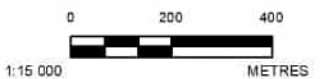
- Kelvin Power Station Boundary
- Not part of Kelvin Power Station
- Kelvin A-Station Power Plant

CLIENT
KELVIN POWER STATION

PROJECT
A-STATION POWER PLANT

TITLE
A-STATION POWER PLANT LOCATION

CONSULTANT	YYYY-MM-DD	2021/08/19
GOLDER MEMBER OF WSP	DESIGNED	
	PREPARED	TS
	REVIEWED	MS
	APPROVED	MS



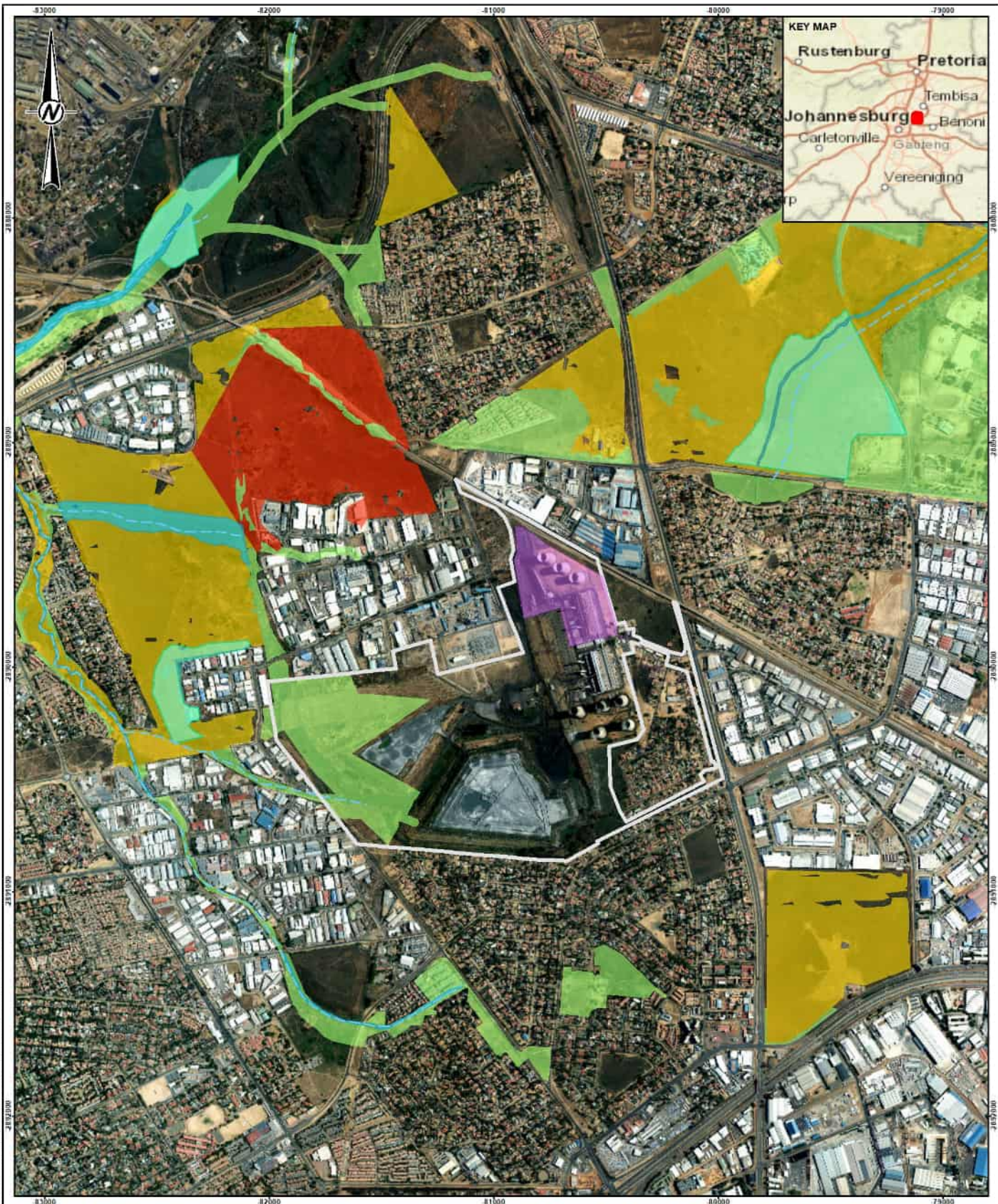
NOTE(S)

REFERENCE(S)
 1. COORDINATE SYSTEM: WGS LO29
 2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY

PROJECT NO. 20360049 CONTROL REV. FIGURE

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LEGEND

- Rivers - Non perennial
- National Wetland Map 5 (SANBI 2018)**
- Seep wetland
- Unchannelled valley-bottom wetland

- Gauteng C-Plan 3.3 (2011)**
- Ecological Support Area
 - Important Area
 - Irreplaceable Area



NOTE(S)

REFERENCE(S)

1. COORDINATE SYSTEM: WGS LO29
2. SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI

CLIENT
KELVIN POWER STATION

PROJECT
A-STATION POWER PLANT

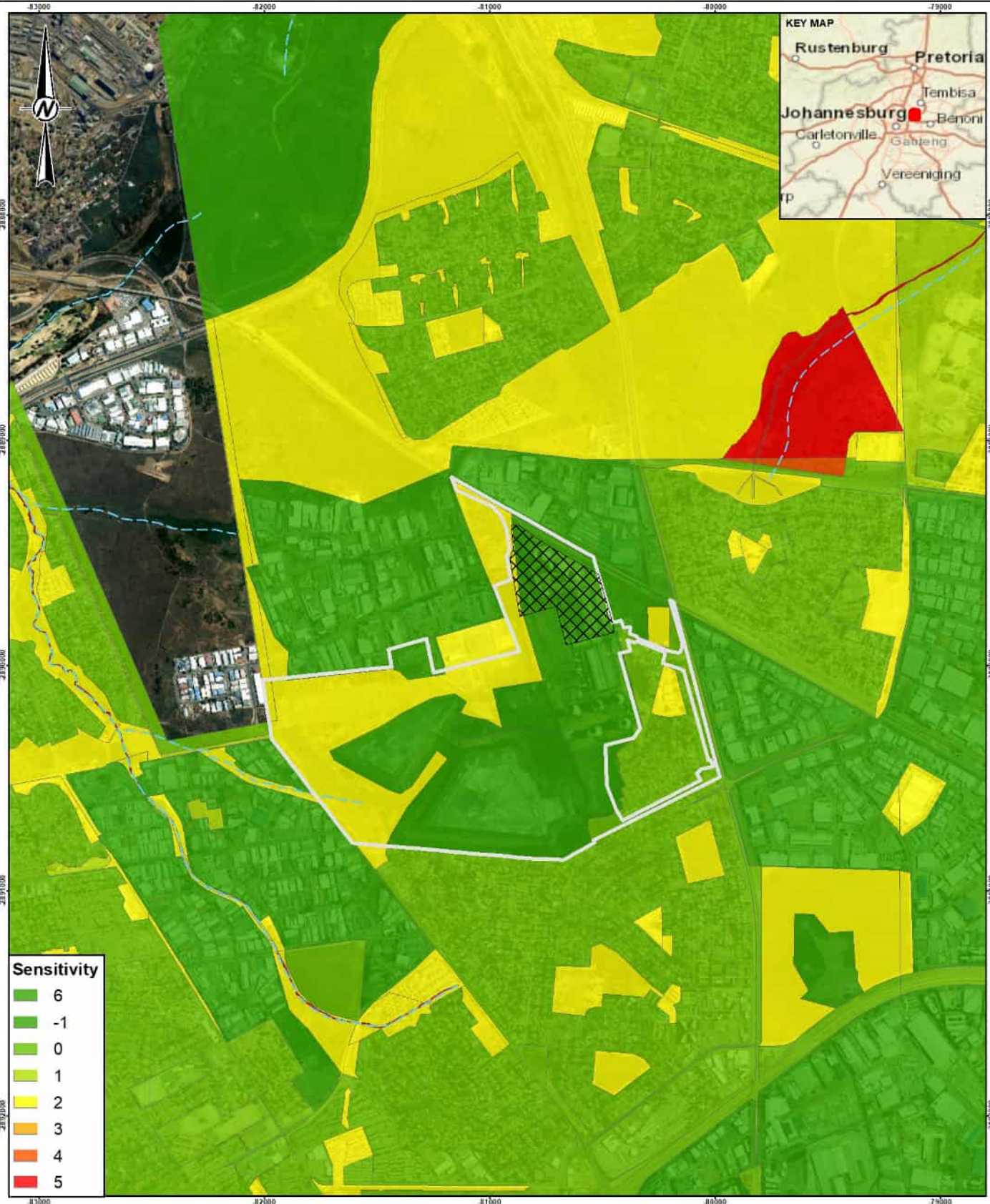
TITLE
ENVIRONMENTAL SENSITIVITY

CONSULTANT	YYYY-MM-DD	2022/05/31
GOLDER MEMBER OF WSP	DESIGNED	
	PREPARED	TS
	REVIEWED	MS
	APPROVED	MS

PROJECT NO. 20360049 CONTROL REV. FIGURE

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NOTE: IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN COPIED FROM 802.44



- LEGEND**
- Kelvin A-Station Power Plant
 - Kelvin Power Station Boundary
 - Rivers - Non perennial



NOTE(S)

REFERENCE(S)

- COORDINATE SYSTEM: WGS LO29
- SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI

CLIENT
KELVIN POWER STATION

PROJECT
A-STATION POWER PLANT

TITLE
**ENVIRONMENTAL SENSITIVITY
EKURHULENI ENVIRONMENTAL DATA V1**

CONSULTANT	YYYY-MM-DD	2022/05/31
GOLDER MEMBER OF WSP	DESIGNED	
	PREPARED	TS
	REVIEWED	MS
	APPROVED	MS

PROJECT NO.	CONTROL	REV.	FIGURE
20360049			

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Appendix B: Photographs

SITE PHOTOGRAPHS

Note: Since the site contains existing infrastructure, it was not practical to take photographs only from the centre of the site. Photographs were taken from two locations within the site to ensure all areas of importance are shown.



Photographs taken from Point A



NORTH-EAST



EAST



SOUTH-EAST



SOUTH



SOUTH-WEST



WEST



NORTH-WEST



Photographs taken from Point B

NORTH



NORTH-EAST



EAST



SOUTH-EAST



SOUTH



SOUTH-WEST



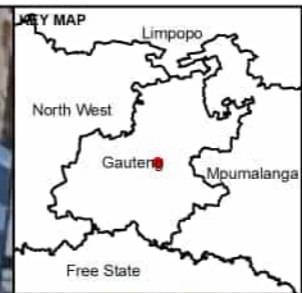
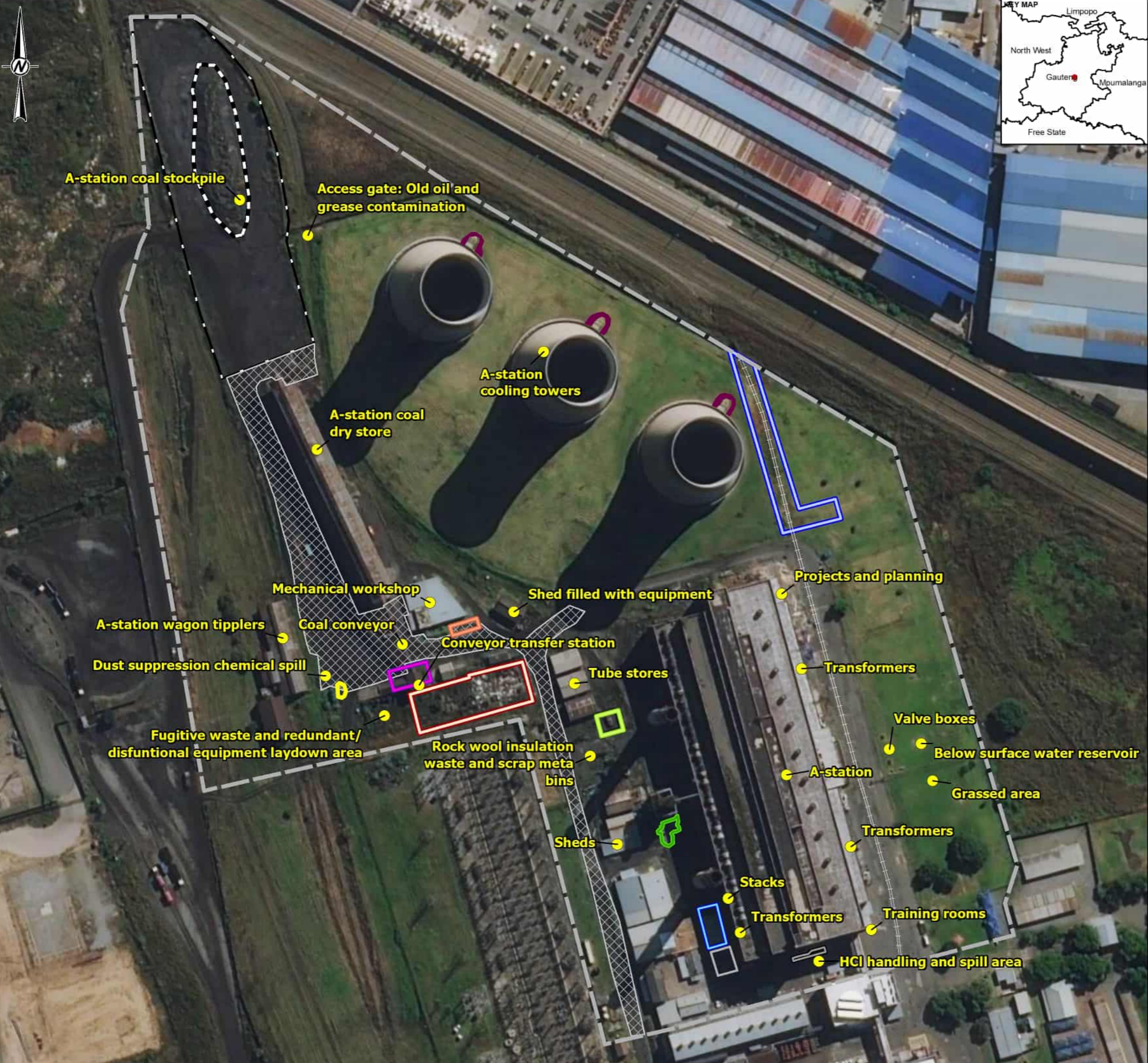
WEST



NORTH-WEST



Appendix C: Facility illustration(s)



- LEGEND**
- Railway
 - Kelvin A Power Plant
 - A-station coal stockpile
 - Coal residue on roads
 - Contaminated soil at conveyor
 - Diesel filling station
 - Dust suppression chemicals spill area
 - HCl area
 - Oil purifier area
 - Old Stockpile footprint
 - Remove asbestos holding area
 - Residue around valves of cooling tower
 - Shallow channels
 - Suspected contamination at the workshop
 - Suspected contamination in scrap yard area
 - Suspected contamination soil



NOTE(S)
 SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRIID, IGN, AND THE GIS USER COMMUNITY

REFERENCE(S)
 COORDINATE SYSTEM: WGS LO29

CLIENT
 KELVIN POWER STATION

PROJECT
 DECOMMISSIONING AND DEMOLITION ASSESSMENT

TITLE
 KELVIN A POWER PLANT LAYOUT

CONSULTANT	YYYY-MM-DD	2022/03/08
	DESIGNED	MB
	PREPARED	MB
	REVIEWED	HS
	APPROVED	HS

9674_8/18/2024_Planet20360049_Kelvin_A_Power_Plant_Planet20360049_KelvinPowerStation_A3_mxd_199107EDON_2022-03-08_A4_244.04.04

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Appendix D: Route position information

Not applicable

Appendix E: Public participation information

Appendix 1 – Proof of site notice

NOTICE

NOTICE OF A BASIC ASSESSMENT PROCESS AND AMENDMENT OF THE ATMOSPHERIC EMISSION LICENCE FOR THE PROPOSED DECOMMISSIONING AND DEMOLITION OF THE KELVIN POWER A-STATION POWER PLANT INFRASTRUCTURE, CITY OF EKURHULENI, GAUTENG PROVINCE

Notice issued in terms of the National Environmental Management Act 107 of 1998 (NEMA), the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended), and the National Environmental Management: Air Quality Act 39 of 2004 (NEM:AQA)

GDARD Reference Number: GAUT 002/22-23/E3386

The Kelvin Power Station is a 13-unit coal-fired power plant with a total installed capacity of 600 MW, operated by Kelvin Power (Pty) Ltd (Kelvin Power) and is situated in the City of Ekurhuleni (CoE) in the Gauteng Province. Kelvin Power consists of two independent stations (A-Station and B-Station). The Kelvin A-Station was commissioned and started generating commercial power on 27 March 1957; it has six 30MW generators and 11 chain grate boilers.

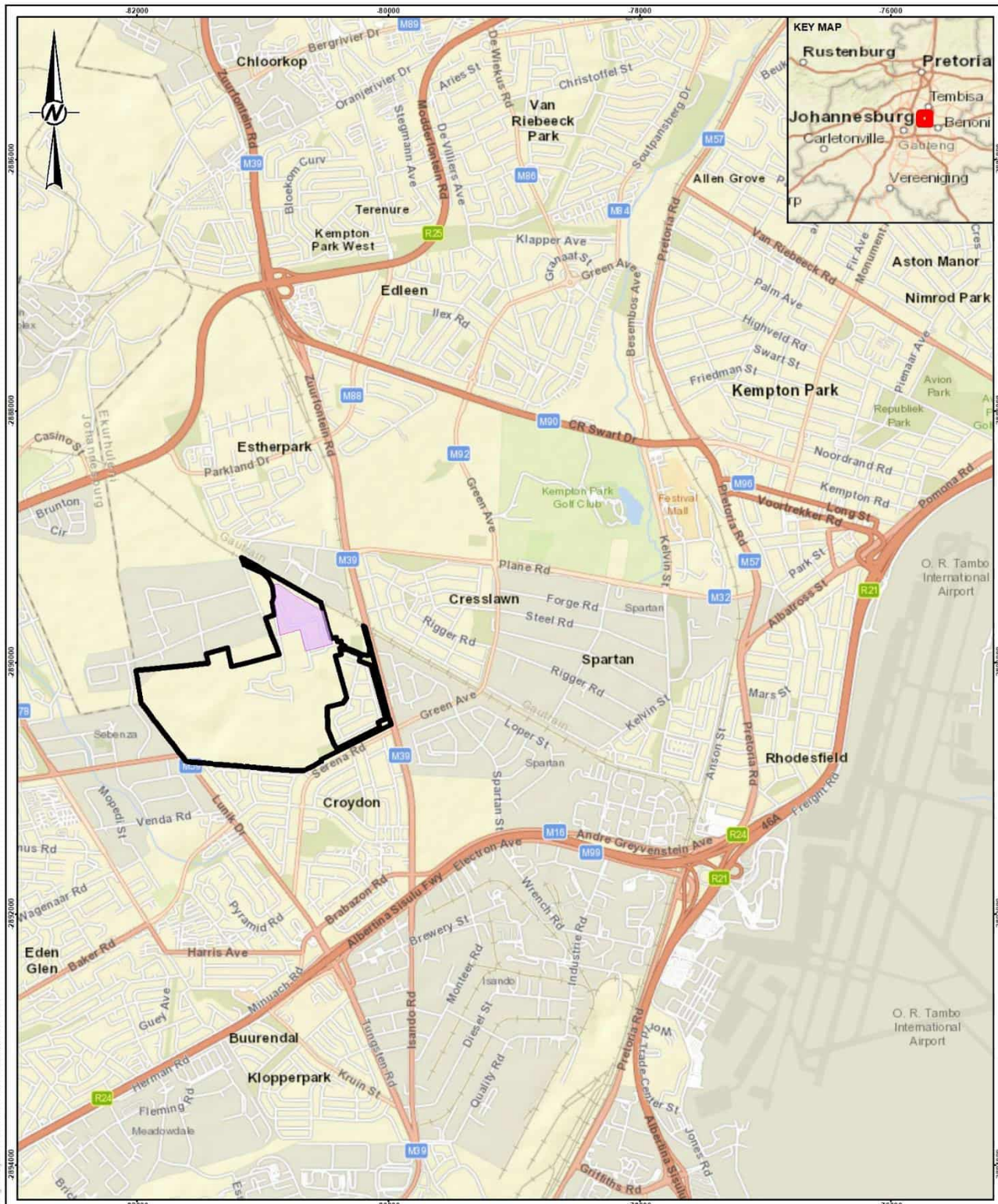
The Kelvin Power Station is located west of the Zuurfontein Road and is approximately 5 km north-west of the O.R. Tambo International Airport. The total extent of the plant is 226.18 ha and is located on the farm Zuurfontein 33 IR, in a wider area classified as a mixed industrial and residential area.

The technology used in the A-Station has become very outdated and the last unit was placed on extended care and maintenance in November 2012. The newer B-Station is still operational. The associated infrastructure for each of the stations include a common High Voltage Yard (now replaced by the new Sebenza sub-station), a control room and workshop facilities. A decision was made to decommission and demolish the A-Station infrastructure, making the site available for future development.

This notice serves to notify landowners and/or Interested and Affected Parties (I&APs) that, in terms of the NEMA and the EIA Regulations 2014 (as amended) GN R.983 Listing Notice 1 Activity 31, pertaining to the closure of existing facilities, structures or infrastructure, Kelvin Power is required to undertake a Basic Assessment process and submit a Basic Assessment Report and an Environmental Management Programme (EMPr), which describe the potential environmental impacts of the proposed additional infrastructure, activities and how impacts will be mitigated and managed. The competent authority responsible for the decision on whether to grant environmental authorisation is the Gauteng Department of Agriculture and Rural Development (GDARD). A draft Basic Assessment Report is now available for public review and comment.

In addition to the Basic Assessment Process, Kelvin Power is also required to submit written notification and Atmospheric Emission License (AEL) amendment application to the AEL licensing authority regarding the proposed decommissioning and demolition of the A-Station Power Plant infrastructure.

WSP Group Africa (Pty) Ltd (WSP), an independent environmental assessment practitioner (EAP), is appointed by Kelvin Power to conduct the required environmental authorisations for the proposed project.



LEGEND

- Kelvin Power Station Boundary
- Kelvin A-Station Power Plant

NOTE(S)

REFERENCE(S)

- COORDINATE SYSTEM: WGS LO29
- SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI

CLIENT
KELVIN POWER STATION

PROJECT
A-STATION POWER PLANT

TITLE
LOCALITY

CONSULTANT
wsp GOLDER

DATE
2022/10/06

DESIGNED
PREPARED
REVIEWED
APPROVED

**TS
MS
MS**

PROJECT NO. 20360049

CONTROL

REV.

FIGURE

Scale: 1:43 000 METRES

0 400 800

INVITATION TO REGISTER AS AN I&AP AND TO COMMENT

I&APs are invited to register as stakeholders and comment on the draft Basic Assessment Report which is available for public review and comment from **Monday, 28 November 2022 to Wednesday, 18 January 2023.**

INVITATION TO AN OPEN HOUSE

Date: Wednesday, 07 December 2022; **Time:** Anytime between 16:00 and 19:00

Venue: Kelvin Estate Club House, Cnr Starling & Cape Wagtail Street, Kelvin Estate, Spartan, Kempton Park

Printed copies of the draft Basic Assessment Report are available at the public places listed below. The Background Information Document and draft report can be downloaded from the following websites: WSP website - <https://www.wsp.com/en-za/services/public-documents> or data free website - <https://wsp-engage.com/>.

PUBLIC PLACE	TOWN
Kelvin Power Station, 3 Zuurfontein Road	Kempton Park
Kempton Park Library, Cnr CR Swart & Pretoria Road	Kempton Park
Kelvin Estate Club House, Cnr Starling & Cape Wagtail Street, Kelvin Estate, Spartan	Kempton Park

FOR MORE INFORMATION, PLEASE CONTACT:

Public Participation Office
WSP Group Africa (Pty) Ltd
P O Box 6001, HALFWAY HOUSE, 1685
Tel: (011) 254 4800
Fax: 086 582 1561
Email: gld.pp@wsp.com
Reference: 20360049



Date of notice: 25 November 2022

Appendix 2 – Written notices issued as required in terms of the regulations

NOTICE OF A BASIC ASSESSMENT PROCESS AND AMENDMENT OF THE ATMOSPHERIC EMISSION LICENCE FOR THE PROPOSED DECOMMISSIONING AND DEMOLITION OF THE KELVIN POWER A-STATION POWER PLANT INFRASTRUCTURE, CITY OF EKURHULENI, GAUTENG PROVINCE.

GDARD REFERENCE NUMBER: GAUT 002/22-23/E3386

- Draft Basic Assessment Report available for public review.
- Invitation to an Open House

Dear Stakeholder

The Kelvin Power Station is a 13-unit coal-fired power plant with a total installed capacity of 600 MW, operated by Kelvin Power (Pty) Ltd (Kelvin) and is situated in the City of Ekurhuleni (CoE) in the Gauteng Province. The plant was completed between 1957 and 1969. It was developed and operated by the City of Johannesburg until 2001 when it was sold to an independent private company. Kelvin is one of only a few coal-fired power stations in South Africa not owned by Eskom. Kelvin consists of two independent stations, A-Station and B-Station. The Kelvin A-Station was commissioned and started generating commercial power on 27 March 1957; it has six 30MW generators and 11 chain grate boilers. The newer Kelvin B-Station has seven 60MW generators and seven PF-type boilers.

The Kelvin Power Station is located west of the Zuurfontein Road and is approximately 5 km north-west of the O.R. Tambo International Airport (Figure 1). The total extent of the plant is 226.18 ha and is located on the farm Zuurfontein 33 IR, in a wider area classified as a mixed industrial and residential area.

The technology used in the A-Station has become very outdated and the last unit was placed on extended care and maintenance in November 2012. The newer B-Station is still operational. The associated infrastructure for each of the stations include a common High Voltage Yard (now replaced by the new Sebenza sub-station), a control room and workshop facilities.

A decision was made to decommission and demolish the A-Station infrastructure, making the site available for future development.

WSP Group Africa (Pty) Ltd (WSP), an independent environmental assessment practitioner (EAP), is appointed by Kelvin Power to conduct the required environmental authorisations for the proposed project.

KELVIN POWER A-STATION

Process description

The A-Station had an installed capacity of 180 MW comprising of six 30 MW turbo-alternators and eleven 85 ton/hr Babcock and Wilcox boilers.

During its operational period, coal was transported to the site by rail. The coal was fed by conveyors either directly to the A-Station or tipped onto the coal storage areas. The coal that was elevated to the A-Station by the conveyors was discharged into the coalbunkers from where it was fed to the chain grate system of the A-Station boilers.

Waste generated from the process included bottom ash and fly ash. The fly ash was deposited in a slurry form on the Kelvin Ash Dam A (currently still in use by the B-Station Power Plant) and the bottom ash was deposited on the Clinker Dump.

Infrastructure

The infrastructure associated with the A-Station Power Plant occupies an area of approximately 13.75 ha and includes the following infrastructure as illustrated in **Figure 2**:

- A-Station building, including stacks
- A-Station cooling towers (3)
- Workshops
- A-Station coal stockpile
- A-Station coal dry-store
- A-Station overland ash conveyor (removed)
- A-Station train wagon tippers

Future of the A-Station Power Plant

Since the A-Station Power Plant infrastructure is very outdated, combined with the movement away from coal-fired power generation towards cleaner technologies, a decision has been made to decommission and demolish the infrastructure to make the site available for future development.

PROJECT DESCRIPTION AND PHASES OF THE PROJECT

Kelvin Power is proposing to appoint a demolition contractor to dismantle and demolish the redundant infrastructure associated with the A-Station Power Plant and leave behind land of undeveloped industrial quality on a stabilised, and free draining site.

Kelvin Power intends on approaching the decommissioning and demolition of the A-Station infrastructure in three distinctive phases i.e., decommissioning, demolition and site clean-up.

During the decommissioning phase, usable assets such as machinery and equipment will be identified, dismantled and stored for either reuse at the B-Station or will be sold. It is anticipated that these items will be cleaned and decontaminated before removal from the A-Station site, if required.

Demolition will progress in a controlled manner, as determined by an appointed demolition contractor, and in accordance with the mitigation measures stipulated in the Environmental Management Programme (EMPr). Laydown areas, to be demarcated in consultation with the demolition contractor and Environmental Control

Officer (ECO), will be utilised for the storage of waste skips, recyclables, inert concrete for crushing, offices and vehicle parking.

Waste, generated as part of the demolition process, will be separated, handled, recycled and disposed of in accordance with applicable waste management legislation to various licenced waste management facilities in the vicinity of the site.

It is anticipated that the demolition of the A-Station Power Plant will take approximately 12 months.

ENVIRONMENTAL AUTHORISATION PROCESSES

In terms of the Environmental Impact Assessment (EIA) Regulations (2014, as amended) GN R.983 Listing Notice 1 Activity 31 pertaining to the closure of existing facilities, structures or infrastructure, Kelvin Power must submit an application for Environmental Authorisation (EA) to the Gauteng Department of Agriculture and Rural Development (GDARD), supported by a Basic Assessment process, which entails the compilation of a Basic Assessment Report (BAR) and an Environmental Management Programme (EMPr), which describes how the environmental impacts of the proposed decommissioning and demolition activities will be managed and mitigated.

Kelvin Power is also required to submit written notification and and AEL amendment application to the Atmospheric Emission License (AEL) licensing authority regarding the proposed decommissioning and demolition of the A-Station Power Plant infrastructure.

Invitation to register as an I&AP, to comment and attend an open house

Stakeholders are invited to register as interested and affected parties (I&APs) and to participate in the environmental authorisation process by commenting on the proposed Basic Assessment Process as follows:

- Completing the enclosed Registration and Comment Sheet and return it to the WSP Public Participation (PP) Office by post or email.
- Providing comments on the proposed project, draft BAR and EMPr by contacting the WSP PP Office telephonically, by email or post, or
- Attending an open house as follows:

Date: 07 December 2022

Time: Anytime between 16:00 and 19:00

Venue: Kelvin Estate Club House, Cnr Starling & Cape Wagtail Street, Kelvin Estate, Spartan

The objective of the open house will be to share information about the proposed environmental authorisation application process; for I&APs to ask questions, raise issues of concern, contribute comments and suggestions for enhanced benefits.

I&APs are invited to register as stakeholders and comment on the draft BAR and EMPr which is available for public review and comment from **Monday, 28 November 2022 to Wednesday, 18 January 2018**.

Printed copies of the draft BAR and EMPr are available at the public places listed below. This background information letter and the draft reports can be downloaded from the following websites: WSP website - <https://www.wsp.com/en-za/services/public-documents> or data free website - <https://wsp-engage.com/>.

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Kempton Park Library, Cnr CR Swart & Pretoria Road.	Kempton Park
Kelvin Estate Club House, Cnr Starling & Cape Wagtail Street, Kelvin Estate.	Kempton Park

We would like to encourage you to actively participate in the environmental authorisation process. Should you wish to obtain more information to comment, please contact the WSP PP Office at (011) 254 4800, fax: 086 582 1561 or email: gld.pp@wsp.com.

WAY FORWARD

After the public review period on the draft BAR and EMPr has closed, the report will be updated with comments received and submitted to the GDARD for decision making.

Yours sincerely,

WSP Group Africa (Pty) Ltd

Attachments: Figure 1: Locality Map
Figure 2: Site Layout Map
Registration and Comment Sheet

WSP will be processing certain personal information about you as an interested and affected party (I&AP) for purposes of enabling your registration as an I & AP and for purposes of storing your details on our database, if you consent for us to do so. WSP uses these details to contact you about other projects in the future. WSP will always process your personal information in accordance with the Protection of Personal Information Act 4 of 2013. You are entitled to exercise your rights as a data subject and let us know if you wish to be deregistered as an I&AP or if you no longer want your contact details to be included on our database.

[https://golderassociates.sharepoint.com/sites/133264/project files/6 deliverables/pp documentation for draft ba report/final/20360049_mem01_bid_final_18nov2022_final.docx](https://golderassociates.sharepoint.com/sites/133264/project%20files/6%20deliverables/pp%20documentation%20for%20draft%20ba%20report/final/20360049_mem01_bid_final_18nov2022_final.docx)

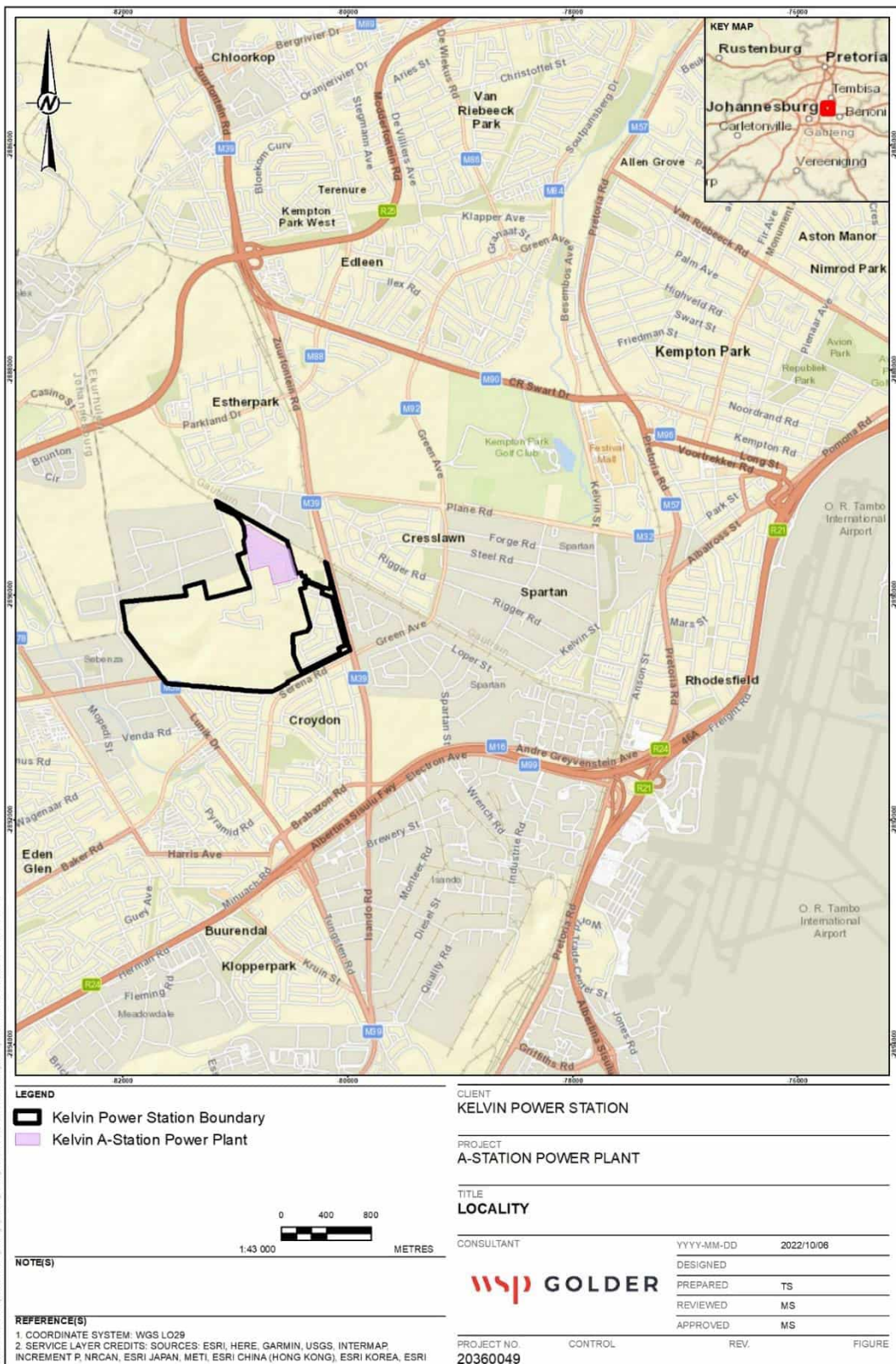


Figure 1: Locality of the Kelvin Power Station

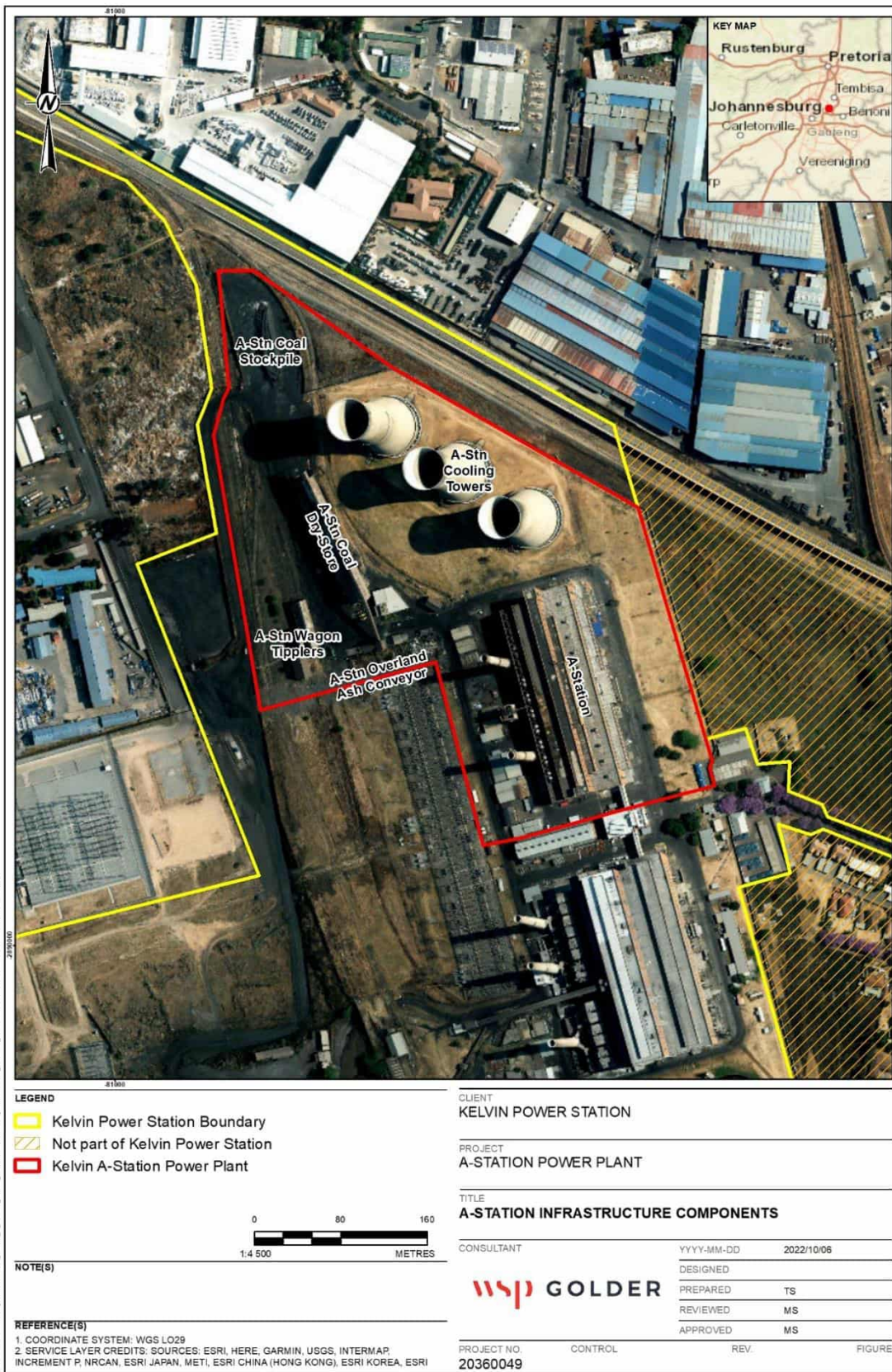


Figure 2: Kelvin Power A-Station infrastructure

**BASIC ASSESSMENT PROCESS AND
ATMOSPHERIC EMISSION LICENCE AMENDMENT FOR THE PROPOSED DECOMMISSIONING
AND DEMOLITION OF THE KELVIN POWER A-STATION POWER PLANT, CITY OF EKURHULENI,
GAUTENG**

GDARD Reference Number: GAUT 002/22-23/E3386

Registration and Comment Sheet

Draft Basic Assessment Report Review Period: Monday, 28 November 2022 to Wednesday, 18 January 2023



Your comments make an important contribution to these permitting processes. We would like to encourage you to register as an Interested and Affected Party (I&AP) so that we can keep you updated and can respond to any questions or concerns that you may have.

PERSONAL DETAILS					
Name	Surname	Title	Organisation / Department / Farm/ Community <i>(If applicable)</i>		
Contact Details					
Mobile Number					
Office Number					
Home Number					
Fax Number					
Email Address					
Postal Address				Postal code	
WSP Golder, will not share personal information with a third party					
LANDOWNERS					
If your property is adjacent to Kelvin Power Station, please tell us your, street address, farm name and/or erf/portion number					
WOULD YOU LIKE TO REGISTER AS AN INTERESTED AND AFFECTED PARTY? (Mark with an X)				YES	NO
Preferred Method of Communication (Mark with an X)		Post	Email	Fax	
In terms of the EIA Regulations, 2014 (as amended), I disclose below any direct business, financial, personal or other interest that I may have in the approval or refusal of the application:		Date			
		Signature			

Appendix 3 – Proof of newspaper advertisements

NOTICE OF A BASIC ASSESSMENT PROCESS AND AMENDMENT OF THE ATMOSPHERIC EMISSION LICENCE FOR THE PROPOSED DECOMMISSIONING AND DEMOLITION OF THE KELVIN POWER A-STATION POWER PLANT INFRASTRUCTURE, CITY OF EKURHULENI, GAUTENG PROVINCE

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This notice serves to notify landowners and/or Interested and Affected Parties (I&APs) that, in terms of the NEMA and the EIA Regulations, 2014 (as amended), GN R.983 Listing Notice 1 Activity 31, pertaining to the closure of existing facilities, structures or infrastructure, Kelvin Power is required to undertake a Basic Assessment process and submit a Basic Assessment Report (BAR) and an Environmental Management Programme (EMPr), describing the potential environmental impacts and mitigation measures. The competent authority responsible for the decision on whether to grant environmental authorisation is the Gauteng Department of Agriculture and Rural Development (GDARD).

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INVITATION TO ATTEND AN OPEN HOUSE

I&APs are invited to attend an Open House as follows:

Date: Wednesday, 07 December 2022; Time: Anytime between 16:00 and 19:00

Venue: Kelvin Estate Club House, Cnr Starling & Cape Wagtail Street, Kelvin Estate, Spartan, Kempton Park

FOR MORE INFORMATION, PLEASE CONTACT:

Public Participation Office
WSP Group Africa (Pty) Ltd
P O Box 6001, HALFWAY HOUSE, 1685
Tel: (011) 254 4800, Fax: 086 582 1561
Email: gld.pp@wsp.com
Reference: 21466019



Appendix 4 –Communications to and from interested and affected parties

Appendix 5 – Minutes of any public and/or stakeholder meetings

Appendix 6 - Comments and Responses Report

Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report

Appendix 8 –Comments from I&APs on amendments to the BA Report

Appendix 9 – Copy of the register of I&APs

Kelvin Power Station Stakeholder Database

LAST NAME	FIRST NAME	COMPANY/PROPERTY OWNED	POSITION
COMMUNITY MEMBERS			
	Malapane		Community Member
Bruun	Wayne		Chair of KHOA
Mabueta	Matthews		Community Member
Collinge	Alan		Community Member
Pieterse	Kobus		Community Member
Whiffler	Winifred		Community Member
Pieterse	Dawn		Community Member
Odnghue	Alexandra		Community Member
van Rensburg	Mark		Community Member
Sibande	Marco		Community Member
Malinda	Kenneth		Community Member
Nzimanek	Nkosinathi Thompson		Community Member
Moyo	Milton		Community Member
Botha	Bennie		Community Member
Owens	Gareth		Community Member
Fredericks	Denver		Community Member
Marais	Juliam		Community Member
Rantle	Tshepiso		Community Member
Kok	Bert		Community Member
De Beer	Gary		Community Member
Nyembe	Elvis		Community Member
Nyauyngwa	Samuel		Community Member
Buthelezi	Mxolisi		Community Member
Stock	Gavin		Community Member
Ineson	Charles		Community Member
Porter	Trevor		Community Member
Feely	Noreen		Community Member
Abrahams	Clayton		Community Member
Krige	Kerryn		Community Member
Abrahams	Litzi		Community Member
Mangezi	Jerlanee		Community Member
van der Merwe	Donovan		Community Member
Thomas	Lesley	Iliondale Wetland	Airforum Member
Thomas	Gary	Iliondale Wetland	Airforum Member
Bartam	Allan	Modderfontein Environmental Community Forum	Community Member
Woodward	Nigel	Modderfontein Environmental Community Forum	Community Member
ADJACENT LANDOWNERS			
Griessel	Jackie		Resident
GOVERNMENT NATIONAL/PROVINCIAL			
Mahofi	Edward	Department of Forestry, Fisheries and Environment (DFFE)	Assistant Director - Air Quality
Mudlambi	Lydia	Department of Agriculture and Rural Development (GDARD)	Acting Director: Air Quality
Mkwana	Loyiso	Department of Agriculture and Rural Development (GDARD)	Chief Director - Organs of State
Manthekeleang	Monsama	Department of Public Works, Roads and Transport (DPWR) (National)	Chief Director in the Office of the DG
Du Plessis	Louw	Department of Road and Transport	Chief Engineer
Nkosazana	Machete	South African Heritage Resource Agency (SAHRA)	The Provincial Manager
Noluthando	Cembi	Provincial Heritage Resources Authority Gauteng (PHRAG)	Built Environment Applications
Tabogoo	Molokomme	Provincial Heritage Resources Authority Gauteng (PHRAG)	Heritage Impact Assessment Applications
WARD COUNCILLORS			
Lapping	Simon James	Kelvin Homeowners Association/ Ward 17	Chairperson/ Ward 17 Councillor
LOCAL GOVERNMENT			
Seloto	Lerato	Ekurhuleni Metropolitan Municipality	Administration Office - Environmental Assessment - Legislative Com
Mokoena	Thabang	Ekurhuleni Metropolitan Municipality	Environmental Assessment: Divisional Head
Dr Mashazi	Imogen	Ekurhuleni Metropolitan Municipality	Municipal Manager
Yola	Mboombo	Ekurhuleni Metropolitan Municipality	Air Quality
Athenkosi	Quta	Ekurhuleni Metropolitan Municipality	Air Quality
Samukelo	Shongwe	Ekurhuleni Metropolitan Municipality	Air Quality
Clerence	Ngobeni	Ekurhuleni Metropolitan Municipality	Air Quality
LOCAL BUSINESSES			
Bourneam	Marilyn	Little Squirel Nursery School	
Mokoena	Talent	Sasol Garage	
Strover	Sam	The Parker Store	
Gimmel	Roger	Ultra Fine Depth Filtration	
Cowley	Chiara Luisa	Vilabella	

PUBLIC TRANSPORT			
Buthelezi	Nosisa	Gautrain	Communication Office
Makwe	Samuel	Gautrain	Manager: Building Facility
Mavoni	Whisky	Gautrain	Senior Manager: Special Development and Planning
CLIENT			
Nelwamondo	Lavhelesani	Kelvin Power Station	Environmental Manager - Energy Generation
Seopa	Oupa	Kelvin Power Station	General Manager
Mathabi	Busisiwe	Kelvin Power Station	
Ubei	Excellent	Kelvin Power Station	
Oliphant	Maecellus	Kelvin Power Station	
Mondiane	Joseph	Kelvin Power Station	
Lambane	Gad	Kelvin Power Station	
du Busa	Lucas	Kelvin Power Station	
Mann	Christie	Kelvin Power Station	
Rangasamy	Christopher	Kelvin Power Station	
LAST NAME	FIRST NAME	KELVIN HOME OWNERS ASSOCIATION	POSITION
Voges	Ewerhardus Johannes Wilhelm Christiaan & Fransina Carolina		Home Owner at Kelvin
Kruyt	Michael & Karyn		Home Owner at Kelvin
D'Souza	Sunil Michael		Home Owner at Kelvin
Visser	Celeste		Home Owner at Kelvin
Kobe	Makhulube Solomon & Busisiwe		Home Owner at Kelvin
Bishop	Phillip & Anne		Home Owner at Kelvin
Spinner	Willem & Petronella		Home Owner at Kelvin
Pugin	Adrienne Michelle		Home Owner at Kelvin
Muller	Desmond John		Home Owner at Kelvin
Basilotta	Jorge		Home Owner at Kelvin
Milham	Shaun Gary		Home Owner at Kelvin
Venter	Willem		Home Owner at Kelvin
Heyneke	Veronica		Home Owner at Kelvin
Marais	Anton & Xanthe		Home Owner at Kelvin
Sass	Rozette		Home Owner at Kelvin
Mahamuke	Elsina Tahameleni		Home Owner at Kelvin
Williamson	Ellen		Home Owner at Kelvin
de Vries	Japie		Home Owner at Kelvin
Seema	Tlou Gladwin & Motheri Natasha		Home Owner at Kelvin
Hattingh	Johannes		Home Owner at Kelvin
Stock	Gavin		Home Owner at Kelvin
Eustace	Tersia		Home Owner at Kelvin
Moyo	Sydney & Nomagugu		Home Owner at Kelvin
Uys	Jan		Home Owner at Kelvin
Butterworth	Darren		Home Owner at Kelvin
Johnston	Charles Henry		Home Owner at Kelvin
Swart	Jonathan		Home Owner at Kelvin
Do Santos	Ian		Home Owner at Kelvin
Roberts	Frank George		Home Owner at Kelvin
Pillay	M I & C		Home Owner at Kelvin
Pheiffer Family Trust		Pheiffer Family Trust	Home Owner at Kelvin
Burke	Tracy		Home Owner at Kelvin
Ramotabai	Christina Mantapo		Home Owner at Kelvin
Oliver	Rob & Leslie		Home Owner at Kelvin
Kroucamp	Elaine		Home Owner at Kelvin
Motele	P D		Home Owner at Kelvin
Masheshe	Gladwin		Home Owner at Kelvin
Paulprop (Pty) Ltd		Paulprop (Pty) Ltd	Home Owner at Kelvin
Venter	Pieter		Home Owner at Kelvin
Smith	William & Lucinda		Home Owner at Kelvin
Platinum Partnership		Platinum Partnership	Home Owner at Kelvin
Pope Family Trust		Pope Family Trust	Home Owner at Kelvin
Kganyago	J J & M C		Home Owner at Kelvin
Maruping	Aaron Bishop & Mpolokeng Vengy		Home Owner at Kelvin
Baleni	Milton		Home Owner at Kelvin
Mulaudzi	Rachel		Home Owner at Kelvin
Myburgh	Petrus		Home Owner at Kelvin
Munsami	Perumal		Home Owner at Kelvin
Cromb	Rob		Home Owner at Kelvin
Kgole	W M & M S		Home Owner at Kelvin

Millar	Stuart James		Home Owner at Kelvin
Naidoo	Dino		Home Owner at Kelvin
Roberts	Graig		Home Owner at Kelvin
Sithole	Anton		Home Owner at Kelvin
Harding	Brigid		Home Owner at Kelvin
Bowles	J M & C		Home Owner at Kelvin
Oberholzer	Hermanus		Home Owner at Kelvin
Manamela	Freida		Home Owner at Kelvin
Pugin	Adrienne Michelle		Home Owner at Kelvin
Maapola	Lucas Mogau & Khathutshelo		Home Owner at Kelvin
Jacobs (Nee Jones)Clayton	Jacqueline		Home Owner at Kelvin
Smit	Allan		Home Owner at Kelvin
Bruun	Wayne		Home Owner at Kelvin
Elizah	Ralph		Home Owner at Kelvin
Bugsy Holdings Trust		Bugsy Holdings Trust	Home Owner at Kelvin
Nienaber	Hilda		Home Owner at Kelvin
Mkhwebane	Percy Thomas		Home Owner at Kelvin
Lethebe	Precious		Home Owner at Kelvin
De Freitas	Greg & Ciska		Home Owner at Kelvin
Senama	David		Home Owner at Kelvin
Smith	Johannes		Home Owner at Kelvin
Smith	Allister		Home Owner at Kelvin
Sekwakwa	Frans		Home Owner at Kelvin
Diamond	Krystal June		Home Owner at Kelvin
Sibanda	Nhlupeko		Home Owner at Kelvin
Van Wyk	Ryno		Home Owner at Kelvin
Wilhelm	Ueckermann		Home Owner at Kelvin
Greeff	Gary		Home Owner at Kelvin
Bester	Betha		Home Owner at Kelvin
Porter	Trevor		Home Owner at Kelvin
			Home Owner at Kelvin
Bester & Erasmus	Roy & Zelda		Home Owner at Kelvin
Charandura	Kudakwashe		Home Owner at Kelvin
Bentley	F G & R B		Home Owner at Kelvin
Cheary	Graham		Home Owner at Kelvin
Kapp	J D & A R		Home Owner at Kelvin
Mashiloane	Trevor		Home Owner at Kelvin
Senje	Rammokana		Home Owner at Kelvin
Kekana	Ntsokoroko John		Home Owner at Kelvin
Mapalle	Tobeaane Fredi		Home Owner at Kelvin
Masango	Sibongile		Home Owner at Kelvin
De La Rey	Henning Johannes		Home Owner at Kelvin
Zongo	Nolutha & Sivamthanda		Home Owner at Kelvin
Harinarian	R & M		Home Owner at Kelvin
Smith	Jacobus Johannes		Home Owner at Kelvin
Mojapelo	Kgabo		Home Owner at Kelvin
Hattingh	Wessel Hendrik		Home Owner at Kelvin
Slabbert	Jenny		Home Owner at Kelvin
Starling Mews Body Corporate		Starling Mews Body Corporate	Home Owner at Kelvin
Cape Wagtail Mews Body Corporate		Cape Wagtail Mews Body Corporate	Home Owner at Kelvin
New Development Stand 883/884			Home Owner at Kelvin
Mantsuryane	Obakeng Daphney		Home Owner at Kelvin
Wietpro Housing Limited		Wietpro Housing Limited	Home Owner at Kelvin
MEDIA			
Otto	Mariette	Kempton Express	
		The Temblain	Fort night newspaper
PUBLIC PLACES			
Sahadeo	Neil	Ekurhuleni - Kempton Park Library	
Cir Lapping	Simon James	Kelvin Estate Club House	
AIR TRAFFIC			
Stroh	Lisel	South African Civil Aviation Authority (CAA)	Obstacle Inspector
Madlala	Richard	Air Traffic and Navigation Service (ATNS)	Executive Engineering

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X313, Pretoria, 0001, Sedibeng Building, 185 Schoeman Street, Pretoria Tel: (012) 336-7500
Fax: (012) 323-4472 / (012) 326-2715

LICENCE IN TERMS OF CHAPTER 4 OF THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998) (THE ACT)

I, **Trevor Balzer**, in my capacity as Acting Director-General in the Department of Water Affairs and acting under authority of the powers delegated to me by the Minister of Water and Environmental Affairs, hereby authorize the following water uses in respect of this licence.

SIGNED: 

DATE: 24/06/2011

LICENCE NO: 03/A21C/FGH/1110
FILE NO: 16/27/A210/B1

1. **Water User**
Postal Address of Applicant: **Kelvin Power Station**
PO Box 311
Kempton Park
1620
2. **Water Uses**
 - 2.1 Section 21(f) of the Act: Discharging waste or water containing waste into a water resource, subject to the conditions set out in Appendix I and II.
 - 2.2 Section 21(g) of the Act: Disposing of waste in a manner which may detrimentally impact on a water resource, subject to the conditions set out in Appendix I and II.
 - 2.3 Section 21(h) of the Act: Disposing of water in a manner that has been heated, subject to the conditions set out in Appendix I and II.
3. **Properties on which the uses will be exercised**
 - 3.1 Section 21 (f) of the Act: Zuurfontein 33IR
 - 3.2 Section 21 (g) of the Act: Zuurfontein 33IR
 - 3.3 Section 21 (h) of the Act: Zuurfontein 33IR
4. **Registered owners of the Properties**
 - 4.1 Kelvin Power (Pty) Ltd. – Zuurfontein 33 IR

B 1460

5. Licence and Review Period

- 5.1 This licence is valid for a period of fifteen (15) year(s) from the date of issuance and as provided for under Section 49 of the Act, it will be reviewed every two (2) year(s).

6. Definitions

Any terms, words and expressions as defined in the National Water Act, 1998 (Act 36 of 1998) shall bear the same meaning when used in this licence.

"The Regional Head" means the Regional Chief Director: North West Region, Department of Water Affairs, Private Bag X5, Mmabatho, 2735.

"Report" refers to the report entitled "Kelvin Power Station IWWMP" dated February 2005 for "Kelvin Power Station (Pty) Ltd." as compiled by Marsh Environmental Services, a division of Marsh Vikela Pty Ltd for Kelvin Power Station as well as all other related documentations and communication (emails, letters, verbal, etc) related thereto.

7. Description of activity

The applicant is authorised to discharge waste or water containing waste into a water resource and disposing waste in a manner which has been heated for industrial use purposes in terms of the National Water Act, 1998 (Act NO 36 of 1998).



APPENDIX I

GENERAL CONDITIONS FOR THE LICENCE

1. This licence is subject to all applicable provisions of the National Water Act, 1998 (Act 36 of 1998).
2. The responsibility for complying with the provisions of the licence is vested in the Licensee and not any other person or body.
3. The Licensee must immediately inform the Regional Head of any change of name, address, premises and/or legal status.
4. If the property in respect of which this licence is issued is subdivided or consolidated, the Licensee must provide full details of all changes in respect of the properties to the Regional Head of the Department within 60 days of the said change taking place.
5. If a water user association is established in the area to manage the resource, membership of the Licensee to this association is compulsory.
6. The Licensee shall be responsible for any water use charges or levies imposed by a responsible authority.
7. While effect must be given to the Reserve as determined in terms of the Act, where a desktop determination of the Reserve has been used in issuance of a licence, when a comprehensive determination of the Reserve has finally been made; it shall be given effect to.
8. When compulsory licensing is implemented for the water resource in respect of which this licence was issued, the water use authorized in this licence could be subject to appropriate reduction.
9. The licence shall not be construed as exempting the Licensee from compliance with the provisions of any other applicable Act, Ordinance, Regulation or By-law.
10. The licence and amendment of this licence are also subject to all the applicable procedural requirements and other applicable provisions of the Act, as amended from time to time.
11. The Licensee shall conduct an annual internal audit on compliance with the conditions of licence. A report on the audit shall be submitted to the Regional Head within one month of the finalisation of the audit.
12. The Licensee shall appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence. The first audit must be conducted within 3 (three) months of the date this license and a report on the audit shall be submitted to the Regional Head within one month of finalisation of the report.
13. Flow metering, recording and integrating devices shall be maintained in a sound state of repair and calibrated by a competent person at intervals of not more than two years. Calibration certificates shall be available for inspection by the Regional Head or his representative upon request.
14. Any incident that causes or may cause water pollution shall be reported to the Regional Head or his/her designated representative within 24 hours.



APPENDIX II

Section 21 (f) of the Act: Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit.

Section 21 (g) of the Act: Disposing of waste or water containing waste in a manner which may detrimentally impact on a water resource.

Section 21(h) of the Act: Disposing in any manner of water which contain waste from, or which has been heated in any industrial or power generation process.

CONSTRUCTION AND OPERATION.

- 1.1 The Licensee shall carry out and complete all the activities, including the construction or upgrading and operation of the Ash Dams (A and B), and Return Water Dams according to the Report and the design/upgrading plans still to be submitted within 6 months of the issuance of this license for approval.
- 1.2 The construction and the forth coming operation of the Ash Dams (A and B) and Return Water Dams shall be carried out under the supervision of a Professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990), as approved by the designer.
- 1.3 Within 30 days after the completion of the Ash Dams A and B and Return Water dams, the Licensee shall in writing, under reference 16/2/7/A210/B1, inform the Regional Head thereof. This shall be accompanied by a signature of approval from the designer referred to above that the construction was done according to the design plans referred to in the Report.
- 1.4 The Licensee must ensure that the disposal of the ash, disposal of waste water and the operation and maintenance of the system are done according to the provisions in the Report.
- 1.5 The Licensee shall as well submit a set of as-built drawings to the Regional Head after the completion of the Ash Dams
- 1.6 Waste minimisation, disposal, and rehabilitation at the Ash Dumps:
 - 1.6.1 The operation of the existing Ash Dam facilities and Return Water Dams shall be carried out under supervision of a Professional Civil Engineer, registered under the Engineering Profession of South Africa Act, 1990 (Act 114 of 1990), as approved by the designer.
 - 1.6.2 The Licensee shall implement the following erosion protection measures at the Ash Dumps:
 - 1.6.3 The slopes of the Ash Dump residue facility and berms shall be vegetated as soon as practically possible with appropriate seed mix.

- 1.7 The Licensee shall establish an Ash Dump residue deposit management system appropriate for the size, complexity and safety classification of the residue disposal facility. The management system shall include a policy, setting of objectives and targets, an organisational structure, the definition of duties and responsibilities, the setting of procedures and methods, training, performance monitoring, reporting and response mechanisms, emergency preparedness plans, management review procedures and auditing of the tailings.
- 1.8 The Licensee shall manage and operate the facility in accordance with the design plans and specifications. Notwithstanding these specifications, the operator of the facility should advise the professional person on any circumstances or aspect of the facility that, according to his operating experience, might either endanger the integrity of the disposal facility or present a risk to the public or the environment.
- 1.9 Notwithstanding specific operational prescriptions, supernatant water accumulating on the residue facility should be minimised and recycling of water from the disposal facility should be maximised.
- 1.10 The Licensee shall ensure the implementation of controls as to ensure that deposition of residue are done in such manner as to ensure that the shape of the surface is managed in order to prevent the concentration of stormwater on the facility which might lead to excessive erosion and the overtopping of containment structures.

2. STORAGE OF WATER CONTAINING WASTE

- 2.1 The Licensee is authorised to dispose of a maximum quantity of industrial waste water in cubic metres (m³) to the dams as indicated in the following Table 1.

Table 1 Storage of water containing waste

Waste management facility	Description of waste stream	Volume per annum (m ³)	Farm property
Desilting Reservoirs 1 and 2	Industrial Waste Water	4 891 000	Zuurfontein 33 IR
Return Water Dams	Industrial Waste Water	7 426 800	Zuurfontein 33 IR
Ash Dam A and B	Industrial Waste Water	207 377	Zuurfontein 33 IR

- 2.2 No industrial wastewater or water containing waste shall be disposed of or stored onto any land, into any pond, dam or any other structure whatsoever, except for the disposal as authorised in the conditions specified in this licence.
- 2.3 The quantities and composition of the industrial wastewater and other waste authorised to be disposed of in terms of this Licence may not be changed without prior authorisation from the Regional Head..
- 2.4 Runoff emanating from both the Power Stations, wash bays, Ash Dams and water originating from washing the floors shall be considered as dirty water and shall not be discharged into the surrounding streams, Edenvale Spruit or the Modderfontein Spruit.
- 2.5 The quality of the water containing waste disposed of into the return water dams shall not exceed the qualities as specified in Table 2 below:



Table 2: Quality of waste water to be disposed

Variable	Limit
pH	6.5 - 8.5
Electrical conductivity (EC)	80 mS/m
Total Suspended Solids (TSS)	40 mg/l
Chemical oxygen demand (COD)	50 mg/l
Sulphate	200 mg/l
Sodium (as Na)	25 mg/l

Calcium (as Ca)	25 mg/l
Magnesium (as Mg)	15 mg/l
Free Residual Chlorine (as Cl)	0.2 µg/l
E. coli / Faecal Coliforms	0cfu/100ml
Ammonia (ionised and un-ionised) as Nitrogen (NH ₃ as N)	2.0 mg/l
Nitrate/Nitrite as Nitrogen (NO ₃ /NO ₂ as N)	6.0 mg/l
Ortho-Phosphate as Phosphorous (PO ₄ as P)	0.1 mg/l

2.6 General:

- 2.6.1 All interim facilities constructed to manage clean and dirty stormwater, seepage and or process water shall be constructed as proposed in the Concept Water Use Licence: IWRM Report for the improvement of water management designs reflected in the report and approved by Civil Design Directorate.
- 2.6.2 The process dam systems must be operated under appropriate supervision and maintained in such a manner as to ensure that
- (a) wave action created by wind does not erode the inner sides of the pond walls;
 - (b) a minimum freeboard of 0.8 metres be maintained for the mine residue facility return water dam above the expected maximum water level which is based on the average monthly rainfall figure for the catchment area concerned, plus the maximum precipitation to be expected over a period of 24 hours with a frequency of once in every 50 years, less the gross mean evaporation for the area.
 - (c) If, in the opinion of the Regional Head, the process dam system fails to meet the requirements of this Licence or otherwise constitutes a water pollution hazard, the Licensee must take such appropriate steps as may be deemed necessary by the Regional Head.



- 2.6.3 Contour walls or furrows must be provided around the process dam system to prevent stormwater ingress or erosion of the evaporation pond walls and any wastewater from entering any river or stream.

3. WASTE WATER TO BE DISCHARGED

- 3.1 The Licensee is authorised to discharge effluent of a maximum quantity of 2 599 380 m³ per annum through secondary channel via a concrete channel to the Modderfontein Spruit.
- 3.2 No industrial wastewater or water containing waste shall be discharged to the Modderfontein Spruit, except for the discharges as authorised in the conditions specified in this licence.

4. REPORTING

- 4.1 The Licensee shall update the water balance annually and calculate the loads of waste emanating from the activities. The Licensee shall determine the contribution of their activities to the mass balance for the water resource and must furthermore co-operate with other water users in the catchment to determine the mass balance for the water resource reserve compliance point.
- 4.2 The Licensee shall submit the results of analysis for the monitoring requirements to the Regional Head on an annual basis under Reference number 16/2/7/A210/B1.

5. STORMWATER MANAGEMENT

- 5.1 The Licensee shall provide a detailed stormwater management plan for the Kelvin Power Station operations within 12 months of the issuance of this licence. This stormwater management plan shall include but shall not be limited to the following: details
- 5.1.1 Separation of clean and dirty water runoff
 - 5.1.2 Surface water control measures
 - 5.1.3 Dirty water storage dams and management thereof
 - 5.1.4 All runoff from the stockpile area must be contained and reused
 - 5.1.5 The stormwater management plan shall be compiled based on the Best Practice Guidelines issued by DWAF. .
- 5.2 Stormwater leaving the Licensee's premises shall in no way be contaminated by any substance, whether such substance is a solid, liquid, vapour or gas or a combination thereof which is produced, used, stored, dumped or spilled on the premises.
- 5.3 Increase runoff due to vegetation clearance and/or soil compaction must be managed, and steps must be taken to ensure that stormwater does not lead to bank instability and excessive levels of silt entering the stream.
- 5.4 Stormwater shall be diverted from the Kelvin Power Station complex site and roads and shall be managed in such a manner as to disperse runoff and concentrating the stormwater flow.
- 5.5 Where necessary works must be constructed to attenuate the velocity of any stormwater discharge and to protect the banks of the affected watercourses.
- 5.6 Stormwater control works must be constructed, operated and maintained in a sustainable manner throughout the impacted area.
- 5.7 All stormwater that would naturally run across the pollution areas shall be diverted via channels and trapezoidal drains designed to contain the 1:50 year flood.

- 5.8 The Licensee shall provide a detailed plan for polluted stormwater system; the plan shall be designed and implemented to provide suitable routing and pumping capacity for contaminated stormwater from the individual facilities to the respective containment facilities. This system shall be in accordance with the design specifications as described in the stormwater management guideline.
- 5.9 The polluted stormwater captured in the stormwater control dams shall be pumped to the process water treatment plant for reuse and recycling.

6. PLANT AREAS AND CONVEYANCES

- 6.1 Pollution caused by spills from the conveyances must be prevented through proper maintenance and effective protective measures especially near all stream crossings.
- 6.2 All reagent storage tanks and reaction units must be supplied with a bunded area built to the capacity of the facility and provided with sumps and pumps to return the spilled material back into the system. The system shall be maintained in a state of good repair and standby pumps must be provided.
- 6.3 Any hazardous substances must be handled according to the relevant legislation relating to the transport, storage and use of the substance.
- 6.4 Any access roads or temporary crossings must be:
- 6.4.1 non-erosive, structurally stable and shall not induce any flooding or safety hazard and
- 6.4.2 be repaired immediately to prevent further damage.

7. ACCESS CONTROL

- 7.1 Strict access procedures must be followed in order to gain access to the property.
- 7.2 Access to the waste disposal facilities must be limited to authorised employees of the Licensee and their Contractors only.
- 7.3 Notices prohibiting unauthorised persons from entering the controlled access areas as well as internationally acceptable signs indicating the risks involved in case of an unauthorised entry must be displayed along the boundary fence of these areas.

8. CONTINGENCIES

- 8.1 Accurate and up-to-date records shall be kept of all system malfunctions resulting in non-compliance with the requirements of this licence. The records shall be available for inspection by the Regional Head upon request. Such malfunctions shall be tabulated under the following headings with a full explanation of all the contributory circumstances:
- 8.1.1 operating errors
- 8.1.2 mechanical failures (including design, installation or maintenance)
- 8.1.3 environmental factors (e.g. flood)
- 8.1.4 loss of supply services (e.g. power failure) and
- 8.1.5 other causes.
- 8.2 The Licensee must, within 24 hours, notify the Regional Head of the occurrence or potential occurrence of any incident which has the potential to cause, or has caused water pollution, pollution of the environment, health risks or which is a contravention of the licence conditions.



8.3 The Licensee must, within 14 days, or a shorter period of time, as specified by the Regional Head, from the occurrence or detection of any incident referred above, submit an action plan, which must include a detailed time schedule, to the satisfaction of the Regional Head of measures taken to

- 8.3.1 correct the impacts resulting from the incident
- 8.3.2 prevent the incident from causing any further impacts and
- 8.3.3 prevent a recurrence of a similar incident.

9. AUDITING

9.1 The Licensee shall conduct an annual internal audit on compliance with the conditions of this licence. A report on the audit shall be submitted to the Regional Head within one month of finalisation of the report, and shall be made available to an external auditor should the need arise.

9.2 The Licensee shall appoint an independent external auditor to conduct an annual audit on compliance with the conditions of this licence. The first audit must be conducted within 3 (three) months from the date of issuance of this licence a report on the audit shall be submitted to the Regional Head within one month of finalisation of the report.

10. INTEGRATED WATER AND WASTE MANAGEMENT

10.1 The Licensee must prepare an *Integrated Water and Waste Management Plan (IWWMP)*, which must together with the *Rehabilitation Strategy and Implementation Programme (RSIP)*, be submitted to the Regional Head for approval within one (1) year from the date of issuance of this licence.

10.2 The IWWMP and RSIP shall thereafter be updated and submitted to the Regional Head for approval, annually.

10.3 The Licensee must, at least 180 days prior to the intended closure of any facility, or any portion thereof, notify the Regional Head of such intention and submit any final amendments to the IWWMP and RSIP as well as a final *Closure Plan*, for approval.

10.4 The Licensee shall compile a water balance explaining the management of the water on site and shall include but not be limited to the following:

- 10.4.1 Meteorological data (average and extreme rainfall events)
- 10.4.2 Defining the various water and effluent streams e.g. General Service Water System, Ash Water System, Return Water System, General Effluent,
- 10.4.3 Raw water coming into the plant
- 10.4.4 Distribution of raw water to the various industrial processes and to third parties e.g. Golf Course, Astrobrick
- 10.4.5 Distribution of the waste water or effluent (e.g. return of ash dam return water dam, general effluent)
- 10.4.6 Recycling and reuse of the effluent and waste water e.g. service water used for hydrants, dust control
- 10.4.7 Effluent discharge to the Modderfontein Spruit.

10.4.8 The Licensee shall undertake a groundwater impact study in order to determine the impacts of its past and current activities on the receiving groundwater and this shall include pollution plume modelling around potential pollution sources and what is leaving the Licensee's site. This study must also include the mitigatory measure to prevent further continuation of pollution into the water resources. The study must be conducted within six months of the issuance of this licence. The Scope of work shall be submitted to the Regional Head for approval.

- 10.5 The Licensee shall determine whether there is a link between the groundwater and the Edenvale Spruit and/or the Modderfontein Spruit.
- 10.6 The Licensee shall implement pollution control measures at the coal stockpiles, stores, the clinger hopper at Station A and the area beneath the bag filters at Station B to prevent and mitigate the impact on the receiving surface and groundwater quality.
- 10.7 The Licensee shall make full financial provision for all investigations, designs, construction, operation and maintenance for a water treatment plant should it become a requirement as a long-term water management strategy.
- 10.8 A waste minimisation and management programme shall be submitted within six months of the issuance of this licence to the Regional Head. The Licensee shall address but not be limited to the following:
- 10.8.1 The Licensee shall identify all the waste streams within the process
 - 10.8.2 The Licensee shall classify these waste streams according to the latest edition of Minimum Requirements for Hazardous Waste Classification, Handling and disposal
 - 10.8.3 The Licensee shall identify programmes to minimise its waste production
 - 10.8.4 The Licensee shall forward the waste classification and delisting reports that were undertaken on the clinker ash used in brick making and construction of roads and the fine ash used by a cement manufacture within three months of the issuance of this licence.
- 10.9 The Licensee shall compile a rehabilitation and bioremediation plan for all the areas that was identified being contaminated with oil in the IWWMP within 3 months of the issuance of licence. The rehabilitation and bioremediation plan shall be submitted to the Regional Head within one month of finalisation, thus four months after the issuance of this licence. The plan shall be implemented within two months after written approval is received from the Region Head.

10.10 MONITORING, REPORTING AND AUDITING

11.1 SURFACE WATER MONITORING

- 11.1.1 The Licensee shall monitor surface water resources at the points indicated in the table below to determine the impact of the facility and other activities on the water quality in the Edenvale Spruit and the Modderfontein Spruit by taking samples at the monitoring points

Table 3: Monitoring points

	Locality
1	Discharge point into the Edenvale Spruit
2	Point upstream in the Edenvale Spruit
3	Point downstream of the Edenvale Spruit
4	Discharge point prior to entering the Modderfontein Spruit
5	Point upstream from the Modderfontein Spruit
6	Point downstream in the Modderfontein Spruit
7	Secondary Channel
8	Desilting dams

- 11.1.2 The Licensee shall determine these points and provide the following information
- (a) A description of the points in terms of locality
 - (b) The GPS coordinates of each point
 - (c) Map indicating these point in relation with all the infrastructure

- 11.1.3 The date, time and monitoring point in respect of each sample taken shall be recorded together with the results of the analysis.
- 11.1.4 Monitoring points shall not be changed prior to notification to and written approval by the Regional Head

11.2 BIOMONITORING

- 11.2.1 An Aquatic Scientist approved by the Regional Head must establish a monitoring programme for the following indices: Invertebrate Habitat Assessment System (IHAS) and the latest SASS (South African Scoring System). Sampling must be done once during the summer season and once during the winter season, annually, to reflect the status of the river upstream and downstream of the industrial activities.
- 11.2.2 Toxicity testing to be performed on the effluent leaving the site at the desilting dams, the secondary channel and effluent entering the Edenvale Spruit on a quarterly basis in order to determine the risks to the receiving environment. The data gathered in the investigation must be reported annually during July of each year to the Regional Chief Director. If any toxicity levels as specified is exceeded, the Licensee must institute an investigation to determine the cause of toxicity.
- 11.2.3 Toxicity testing must be conducted quarterly on the wastewater stream from the Ash Dam and Return Water Dam when returned back to the Power Station for use as process water.
- 11.2.4 The Licensee shall participate in any initiative such as Direct Estimation of Ecological Effect Potential (DEEEP) to determine the toxicity of complex tailings waste discharges. Both acute and chronic toxicity must be addressed and at least three taxonomic groups must be present when toxicity tests are performed.
- 11.2.5 The Licensee shall determine the accumulative impact due to both past and present activities on the Edenvale Spruit and the Modderfontein Spruit.
- 11.2.6 Analysis shall be carried out in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), in terms of the Standards Act, 1982 (Act 30 of 1982).
- 11.2.7 The methods of analysis shall not be changed without prior notification to and written approval by the Minister.

11.3 WATER RESOURCE PROTECTION

- 11.3.1 The impact of the activities of the industry on the Edenvale Spruit and the Modderfontein Spruit shall not exceed the water quality variable detailed in table 5.

11.4 GROUNDWATER MONITORING

- 11.4.1 The Groundwater monitoring programme shall include water level monitoring, rainfall records, ash deposition data, and hydrochemistry.
- 11.4.2 Monitoring boreholes shall be clearly marked and numbered, and must be equipped with lockable caps.
- 11.4.3 The Department reserves the right to sample monitoring boreholes at any time and to analyse these samples, or to have samples taken and analysed.

11.4.4 The Licensee shall maintain the groundwater quality monitoring network to the satisfaction of the Regional Head, so that unobstructed sampling, as required in terms of this Licence, can be undertaken.

11.4.5 The Licensee shall monitor ground water quality at the boreholes set out in the table 4, in the following page:

Table 4: Groundwater quality monitoring points

Borehole no	Description	Coordinates	Monitoring frequency	Constituents to be sampled
KPSMON01			Quarterly	pH, EC, TDS, Alkalinity, SO ₄ , Ca, Mg, Na, Cl, K, F, Si, V, Al, Fe, Mn, NO ₃ , Ammonia, Ecoli
KPSMON02				
KPSMON03				
KPSMON04				
KPSMON05				
KPSMON06				
KPSMON07				
KPSBH1			Annually	As, Ni, Fe, Al, As, Cu, Cd, Cr, Zn
KPSBH2				
KPSBH4				
KPSBH5				
KPSBH6				
KPSBH7				

11.4.6 Groundwater monitoring shall be conducted according to the monitoring frequency as defined in Table 4.

11.4.7 Groundwater monitoring results shall be compiled in a report and submitted to the Department within one month of its finalisation.

11.4.8 The Licensee shall undertake a groundwater study to determine the baseline study including background monitoring points and the impacts on the receiving water environment due to the activities on site e.g. ash dump, coal stockpile, ash dam A and B, Return Water dams 1 and 2.

11.4.9 Licensee shall implement water pollution control measures around any potential pollution sources e.g. ash dump, coal stockpile, ash dam A and B, Return Water dams 1 and 2.

11.4.10 Additional background monitoring boreholes shall be established to determine the Licensee's impact on the receiving environment



11.5 METHODS OF ANALYSIS

11.5.1 Analyses shall be carried out in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), in terms of the Standards Act, Act 30 of 1982.

11.5.2 The methods of analysis shall not be changed without prior notification to and written approval by the Regional Chief Director.

11.6 EMERGENCY MONITORING

11.6.1 The Licensee shall implement emergency monitoring during the overflow of any pollution containment dams i.e Ash Dams, Return Water Dams and will comprise of the following monitoring:

11.6.1.1 Taking a water sample of the effluent being spilled every 30 minutes until the water has stopped overflowing

11.6.1.2 Water samples shall be taken at the point it overflows and at a point upstream and downstream in the Edenvale Spruit and the Modderfontein Spruit being impacted until the effluent has stopped overflowing

11.6.1.3 The following variables shall be analysed in the surface water and effluent: pH, EC, TDS, Alkalinity, SO₄, Ca, Mg, Na, Cl, K, F, Si, V, Al, Fe, Mn, NO₃, NH₃, As, Ni, As, Cu, Cd, Cr, Zn

11.6.2 The Licensee shall determine the reason for the incident and investigate the root cause of the problem. The necessary measures shall be implemented to prevent a recurrence of the incidents.

11.6.3 A detailed report shall be submitted to the Regional Head explaining the cause of the incident and the measures that were taken to address the situation and to prevent a recurrence of the situation.

11.7 WATER RESOURCE PROTECTION

11.7.1 The impact of the activities of the Licensee on the Edenvale and Modderfontein Spruit shall not exceed the following in-stream water quality objectives (or resource quality objectives) as stipulated in the water quality reserve for the area.

Table 5

VARIABLE	RQO
pH	5.0 – 9.5
Electrical Conductivity (EC) (mS/m)	115
Sulphate (SO ₄) (mg/l)	200.0 mg/l
Chloride (Cl) (mg/l)	103.4mg/l
Sodium (Na) (mg/l)	49.5 mg/l
Magnesium (Mg) (mg/l)	61.6 mg/l
Calcium (Ca) (mg/l)	100.0 mg/l
Nitrate (NO ₃) (mg/l)	6.0 mg/l
Fluoride (F) (mg/l)	0.3 mg/l

11.8 REPORTING

11.8.1 The Licensee shall compile an annual Report that must be submitted during the month of July highlighting compliance with the conditions of this licence.

- 11.8.2 The Information and data shall also be included in a digital format as required by the Responsible Authority in the prescribed format to be included in the regional database.
- 11.8.3 The Licensee shall summarise, analyse and formulate all monitoring data to highlight trends (line graphs), compliance with set conditions and standards as well as potential risks and impacts, and submit it with the report to the Regional Head as per Condition 8.1.
- 11.8.4 All reports shall be submitted with a complete electronic copy attached on Compact Disk or such format as determined by the Regional Head.

[END OF LICENCE]



**CITY OF EKURHULENI
HEALTH AND SOCIAL DEVELOPMENT DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION**

Ekurhuleni Air Quality Officer
Department of Health and Social Development
P O Box 13
Kempton Park
1620

Tel: (011) 999 3525
Fax: (011) 999 4581
Email: Samukelo.Shongwe@ekurhuleni.gov.za

**THE ATMOSPHERIC EMISSION LICENCE AS CONTEMPLATED IN SECTION 47 OF THE
NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004, (ACT NO. 39 OF 2004)**

This Atmospheric Emission Licence issued to Kelvin Power Pty Ltd in terms of section 41(1) (a) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), in respect of Listed Activity, 1.1 Combustion Installation (Solid Fuel Combustion Installation) and 5.1 Storage and Handling of Ore and Coal, As published in terms of Section 21 of the Act.

The Atmospheric Emission Licence has been issued based on information provided in the company's application dated 17 May 2018 and information that became available during processing of the application.

The Atmospheric Emission Licence is valid until 31 August 2023
The reason issuance of the current licence is the **Renewal application**.

The Atmospheric Emission Licence is issued subject to the conditions and requirements set out below which form part of the Atmospheric Emission Licence and which are binding on the holder of the Atmospheric Emission Licence to Kelvin Power Pty Ltd.

1. ATMOSPHERIC EMISSION LICENCE ADMINISTRATION

Name of the Licensing Authority	Ekurhuleni Metropolitan Municipality
Atmospheric Emission Licence Number	14/1/17/1/66/Kelvin/ Kemp
Atmospheric Emission Licence Issue Date	10 SEPTEMBER 2018
Atmospheric Emission Licence Type	Final
Review Date; not later than	30 May 2023

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Health and Social Development Department

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2 ENTERPRISE INFORMATION

Enterprise Name	Kelvin Power Pty Ltd
Trading As	Kelvin Power Pty Ltd
Type of Enterprise, e.g. Company/Close Corporation/Trust, etc	Private Company
Company/Close Corporation/Trust Registration Number (Registration Numbers if Joint Venture)	2000/003611/07
Registered Address	3 Zuurfontein Road, Kempton Park 1620
Postal Address	PO Box 311, Kempton Park 1620
Telephone Number (General)	011 573 2500
Fax Number (General)	011 573 2615
Industry Type/Nature of Trade	Power Generation
Land Use Zoning as per Town Planning Scheme	Industrial
Land Use Rights if outside Town Planning Scheme	Industrial

Responsible Person Name or Emission Control Officer (where appointed)	Paul Collier
Telephone Number	011 573 2500/2505
Cell Phone Number	011 573 2607
Fax Number	086 274 9293
E-mail Address	Simphiwe.khuluse@kelvinpower.com
After Hours Contact Details	011 573 2500 / 2508 / 2588

SITUATION AND EXTENT OF PLANT

3.1 Location and extent of plant

Physical Address of the Plant	3 Zuurfontein Road, Kempton Park 1620
Description of Site (Where No Street Address)	
Coordinates of Approximate Center of Operations	North-south: -26° 11' 5064", East-west: 28° 19' 5953"
Extent (km ²)	2,2618 (226.18 Ha)
Elevation Above Mean Sea Level (m)	1650 (approximately)
Province	Gauteng
Metropolitan/District Municipality	City of Ekurhuleni
Local Municipality	Kempton Park Customer Care Centre
Designated Priority Area	Highveld Priority Area

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3.2 Description of surrounding land use (within 5 km radius)

Northern boundary: Predominantly industrial (Spartan)

Western boundary: Predominantly industrial (Spartan)

Southern boundary: Predominantly residential (Croydon)

Eastern boundary: Predominantly residential (Cresslawn and Kelvin Estate)

North-Eastern boundary: Predominantly residential (Cresslawn)

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Figure 1. Aerial photograph showing Kelvin Power Station

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4. GENERAL CONDITIONS

4.1. Process and ownership changes

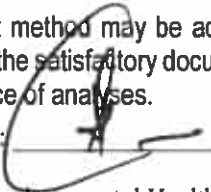
- 4.1.1 The holder of the Provisional/atmospheric emission licence must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.
- 4.1.2 No building, plant or site of works related to the listed activity or activities used by the licence holder shall be extended, altered or added to the listed activity without an environmental authorisation from the competent authority.
- 4.1.3 The investigation, assessment and communication of potential impact of such an activity must follow the basic assessment procedure as prescribed in the Environmental Impact Assessment Regulations published in terms of section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended.
- 4.1.4 Any changes in processes or production increases, by the licence holder, will require prior approval by the licensing authority.
- 4.1.5 Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the licensing authority.
- 4.1.6 The licence holder must, in writing, inform the licensing authority of any change of ownership of the enterprise.
- 4.1.7 The licensing authority must be informed within 30 (thirty) days after the change of ownership.
- 4.1.8 The licence holder must immediately on cessation or decommissioning of the listed activity inform, in writing, inform the licensing authority.

4.2. General duty of care

- 4.2.1 The holder of the licence must, when undertaking the listed activity, adhere to the duty of care obligations as set out in section 28 of the NEMA.
- 4.2.2 The license holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.
- 4.2.3 Failure to comply with the above condition is a breach of the duty of care, and the licence holder will be subject to the sanctions set out in section 28 of the NEMA.

4.3. Sampling and/or analysis requirements

- 4.3.1 Measurement, calculation and/or sampling and analysis shall be carried out in accordance with any nationally or internationally acceptable standard.
- 4.3.2 A different method may be acceptable to the licensing authority as long as it has been consulted and agreed to the satisfactory documentation necessary in confirming the equivalent test reliability, quality and equivalence of analyses.

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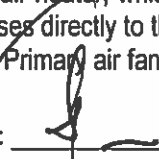
- 4.3.3 The licence holder is responsible for quality assurance of methods and performance.
- 4.3.4 Where the holder of the licence uses external laboratories for sampling or analysis, accredited laboratories shall be used.
- 4.4. General requirements for licence holder**
- 4.4.1 The licence holder is responsible for ensuring compliance with the conditions of this licence by any person acting on his, her or its behalf, including but not limited to, an employee, agent, sub-contractor or person rendering a service to the holder of the licence.
- 4.4.2 The licence does not relieve the licence holder to comply with any other statutory requirements that may be applicable to the carrying on of the listed activity.
- 4.4.3 A copy of the licence must be kept at the premises where the listed activity is undertaken.
- 4.4.4 The licence must be made available to the environmental management inspector representing the licensing authority who requests to see it.
- 4.4.5 The licence holder must inform, in writing, the licensing authority of any change to its details including the name of the emission control officer, postal address and/or telephonic details.
- 4.5. Statutory obligations**
- 4.5.1 The licence holder must comply with the obligations as set out in Chapter 5 of the Act.
- 4.6. Annual payment of atmospheric emission licence processing fee**
- 4.6.1 The licence holder must, for the period of validity of the licence, pay the processing fee annually to the licensing authority.

5. NATURE OF PROCESS

5.1 Process description.

Kelvin Power Station has two separate power Stations. Both have a common High Voltage Yard (soon to be replaced by new Sebenza Sub-Station), Control Room and workshop facilities. The 'A' Station is currently under extended maintenance, has an installed capacity of 180 MW comprising 6 – 30 MW turbo-alternators and eleven-85 ton/hr Babcock and Wilcox boilers. These boilers are chain grate, as opposed to the pulverised fuel type of the 'B' Station. The steam conditions at the turbine stop value are 454 °C and 41.3 bar.

The 'B' Station has an installed capacity of 420 MW comprising seven 60 MW turbo-alternators and seven 250 tons/hr boilers (four Babcock and Wilcox and three Mitchell made boiler units). The steam conditions at the turbine stop valve are 482 °C and 62 bar. Coal is transported to the Stations by mainly road and rail. It is fed by the conveyors either directly to the Station, or it is tipped onto the coal storage area (stockpile). Coal elevated to the Station by the conveyors is discharged by means of a coal tipper into the coalbunkers. From the bunkers the coal descends through the coal feeders into the pulverising mills (this applies to Station 'B' only, coarse coal is used in Station 'A'), where it is pulverised. Warm air is drawn from the top of the boiler house by forced draught fans and passes through an air heater, which further heats the air using the residential heat in the flue gases. From here, some of the air passes directly to the burners. The remainder is taken to the pulverising mill where it is mixed with the powdered coal. Primary air fans push the air/coal dust mixture from the pulverising mills to the boiler burners.

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Here it mixes with the rest of the air and burns to generate heat for making steam. Oil burners are used for lighting up and flame stabilisation purposes only.

When coal is burnt in the boiler, ash and dust are produced. The ash falls into the bottom of the boiler and dust is carried by the flue gases to the bag houses. Here dust is removed and falls into hoppers. The boiler ash boxes and dust hoppers are emptied on a regular basis by means of high-pressure water jets and the dust and ash in solution is pumped to the settling ponds, where the excess water is allowed to drain off. The flue gases, which have passed through the bag houses, are discharged to the atmosphere by induced draught fans through the chimneys (stacks).

The fly and bottom ash is transported to the active ash dam (Ash Dam 'A'). Ash dam 'B' is currently not active as per design, however ash is being transported by tucks and stored on it.

Water enters the boiler via the economiser where its temperature is raised by the flue gases leaving the boiler. It then enters the boiler drum and then flows down to the bottom of the furnace and rises up through the furnace wall tubes to return to the drum where steam separation takes place. This steam then passes through the primary super heater followed by the secondary super heater whereupon it has reached a final temperature of 490 °C and is at a pressure of 64 bar.

Main steam pipes transfer the steam to the high-pressure turbine cylinder where it is discharged into the turbine blade. The energy of the steam causes the turbine shaft to rotate. The steam then passes through the low-pressure turbine. As the steam gives up its heat energy, to drive the turbine, its temperature and pressure falls and it expands. Because of this expansion the blades are much larger and longer towards the low-pressure end of the turbine.

When as much energy as possible has been extracted from the steam it passes through the condenser where it is cooled and condensed by the circulating water. The condensate is pumped out of the condenser by extraction pumps and through the low-pressure feed water heaters. Feed pumps then pump the water through the high-pressure feed water heaters and return it to the boiler at the economizer.

The condenser contains 12 500 copper-nickel tubes through which water from the cooling towers is continually passed. The heat which the water extracts from the steam in the condenser is removed by passing the water through cooling towers, concrete shells which create an updraught of cold air. The water is sprayed out from nozzles within the tower, hence forming small droplets, which are cooled by the updraught as they fall into the pond below. The circulating pumps to the condenser recirculate water in the tower pond.

Solidly coupled to the turbine shaft is the alternator rotor, rotating at 3000 rpm. This large spinning electro-magnet produces electricity by inducing a voltage, which causes current to flow in the alternator stator. The electricity is transformed up to the grid voltage by the generator transformer, switched, and supplied to the grid system of the City of Johannesburg power utility (City power).

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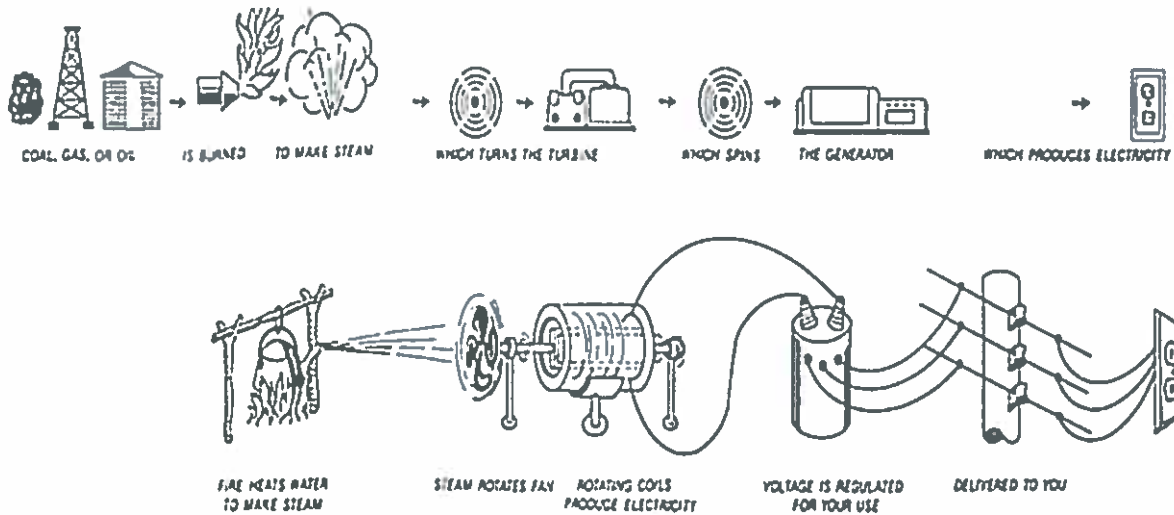


Figure 2. Simplified electricity production process

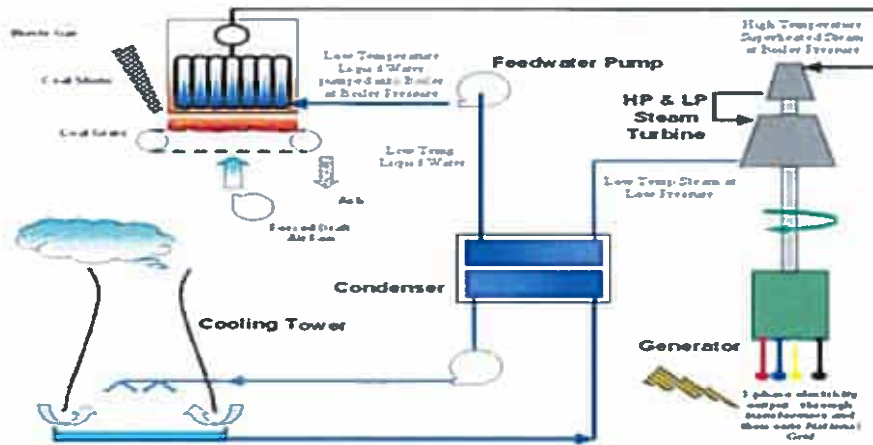


Figure 3. Schematic diagram of electricity production process

5.2 Listed activities

Listed Activity Number	Category of Listed Activity	Sub-category of the Listed Activity	Name of the Listed Activity	Description of the Listed Activity
1	1	1.1	Combustion Installation (Solid Fuel Combustion Installation)	Solid fuels combustion installation used primarily for steam rising or electricity generation
1	5	5.1	Storage and Handling of Ore and Coal	Storage and handling of ore and coal not situated on the premises of a mine or works as defined in the Mines Health and Safety Act 29/1996.

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5.3 Unit processes.

Unit Process		Unit Process Function	Batch or Continuous Process
A Station (Stack emissions)	Boiler 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 & 11.	Power Generation – coal from the stock piles is fed into the coalbunkers using conveyer belts system. From the coalbunkers the coal is fed into the boiler furnace via chain grates, coal is then burnt in the furnace of the boiler to generate steam. The steam is used to drive turbine which generates electricity. The process of burning of coal results in emissions and production of ash. Emissions (which includes fly ash) – proceed from the boiler into the stack; via a bag filter system (which remove fly ash from gas).	Continuous
B Station (Stack emissions)	Boiler 13, 14, 15, 16, 17, 18 & 19.	Power Generation – coal from the stock piles is fed into the coalbunkers using conveyer belts. From the coalbunkers the coal is fed into the mills, where coal is crushed. The pulverised coal is fed into boiler furnace where it is burnt to generate steam. The steam is used to drive turbine which generates electricity. Emissions (which includes fly ash) – proceed from the boiler into the stack, via a bag filter system (which remove fly ash from gas). Most of the Ash goes to Ash Handling Plant via the sluice ways, where it is mixed with water to form sludge that is pumped into Ash dam A for storage.	Continuous
Rail		Coal handling Transport of coal to site (A)	Continuous
Coal tippler		Coal transfer onto conveyer (B)	
Conveyor system		Transport coal to coal external bunker (C)	
Conveyor system		Transport coal to coal internal (boiler) bunker (D)	
Tipper Truck		Road transport of coal to the stockpile (E)	
Bulldozer		Moves stockpile around, and onto conveyor hopper (F)	
Conveyor system and truck		Transport of bottom ash from A station boilers to the ash dump (clinker dump) and again from the ash dump off site (G)	
Truck		Transport of A Station bottom ash to external company that buys ash (H)	
Tractor		Transport of fly ash from A Station boilers onto skips and skips transported by tractors road to B Station ash handling plant (I). The ash is then mixed with water and sent to Ash Dam A through the sludge way.	
Ash Dam A and Ash Dam B		Storage of ash (J) Ash Dam B is inactive. Ash Dam A receives A station fly ash and B Station fly and bottom ash	
Clinker dump		Storage of ash (K)	
Truck		Transport of B Station fly ash to external company that buys ash (L). This activity only happens if the company buying ash from Kelvin likes the quality of ash	

*Unit process means a single component (equipment) with identifiable inputs and outputs within a process flow. A series of unit processes make up the full manufacturing process, for example, boiler, furnace, distillation column, etc.

Please provide any other unit processes currently conducted at the site of works.

Name of the Unit Process	Description of the Unit Process
None	

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5.4 Hours of operation

Unit Process	Operating Hours	Number of Days Operated per Year
A Station	00h00 – 24h00	365
B Station	00h00 – 24h00	365

5.5 Graphical process information.

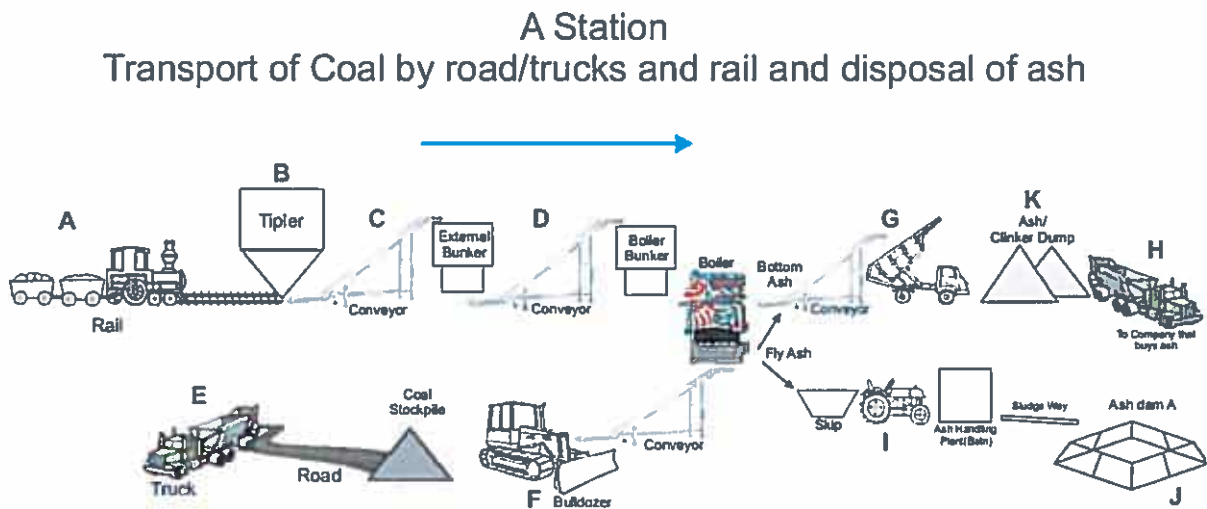
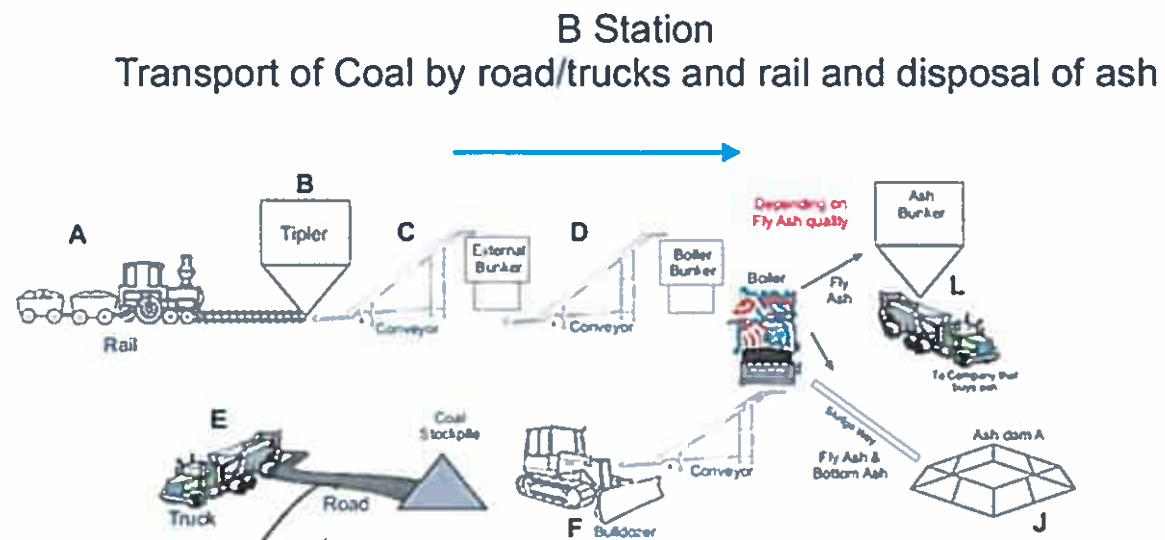


Figure 4. Process flow indicating inputs, outputs and emissions at A. station



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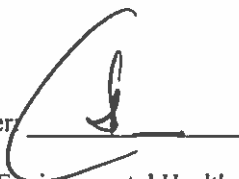
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6. RAW MATERIALS AND PRODUCTS

6.1. Raw materials used

Raw Material Type	Maximum Permitted Consumption Rate (Quantity)	Design Consumption Rate (Quantity)	Actual Consumption Rate (Quantity)		Units (Quantity/Period)
			Year	Quantity	
Coal	A Station boilers: 123000 tons/annum/boiler. The total of 1 353 000 tons/annum at A Station (11 boilers).	Unknown	2008	371,690	ton coal/annum
			2009	19,059	
2010			55,346		
2011					
Coal	B Station boilers: 219 000 tons/annum/boiler. The total of 1 533 000 tons/annum at B Station (7 boilers).	Based on 200t/h steam flow per boiler, steam per ton of coal = 8 tons i.e. coal burnt per hour = 25t/h 600 tons of coal per boiler per day 4200 tons of coal for 7 boilers per day 126 000 tons of coal per month 1 512 000 per annum Assume 85% Availability per annum = 1 285 200 tons of coal per annum	2013	706 381.48	ton coal/annum
			2014	699 519.23	
			2015	674 685	
			2016	774 434.12	
			2017	985 269.04	

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6.2. Production rates

Production Name	Maximum Production Capacity Permitted (Quantity)	Design Production Capacity (Quantity)	Actual Production Capacity (Quantity)	Units (Quantity/Period)
A Station electricity	180 MW	180 MW	700 000	Wh/annum
B Station electricity	420 MW	420 MW	820 000	Wh/annum

By-Product Name	Maximum Production Capacity Permitted (Quantity)	Design Production Capacity (Quantity)	Actual Production Capacity (Quantity)	Units (Quantity/Period)
Ash A Station (based on 180 MW capacity)	Depends on combustion efficiency and ash content and inert material in the coal.	Unknown	Depends on combustion efficiency and ash content and inert material in the coal.	tons/annum
Ash B Station (based on 420 MW capacity)	Depends on combustion efficiency and ash content and inert material in the coal.	Unknown	Depends on combustion efficiency and ash content and inert material in the coal.	tons/annum

6.3. Materials used in energy sources

Materials for Energy	Sulphur Content of the Material (%)	Ash Content of Material (%)	Maximum Permitted Consumption Rate (Quantity)	Design Consumption Rate (Quantity)	Actual Consumption Rate (Quantity)	Units (Quantity/Period)
Coal	1.2 (upper limit)	22 (upper limit)	As per section 5.1 above	As per section 5.1 above	As per section 5.1 above	
Coal (2017 actual average)	0.48	19.87	As per section 5.1 above	As per section 5.1 above	As per section 5.1 above	

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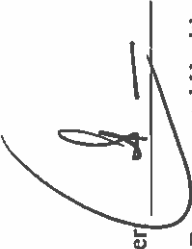
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6.4. Sources of atmospheric emission

6.4.1. Point source parameters

Unique Stack ID	Source Name	Latitude (decimal degrees)	Longitude (decimal degrees)	Height of Release Above Ground (m)	Height Above Nearby Building (m)	Diameter at Stack Tip / Vent Exit (m)	Actual Gas Exit Temperature (°C)	Actual Gas Volumetric Flow (m³/hr)	Actual Gas Exit Velocity (m/s)	Emission Hours	Type of Emission (Continuous / Batch)
A N	A Station North Stack	26° 06' 51.3" S	28° 11' 37.91" E	73	35	6.1 (internal diameter)	97	151.97 Nm³/S or 547 092 m³/hr	5.2	24	Continuous
A S	A Station South Stack	26° 06' 54" S	28° 11' 38.74" E							24	Continuous
B N	B Station North Stack	26° 06' 59.1" S	28° 11' 38.99" E	73	26	6.1 (internal diameter)	115	279.39 Nm³/S or 1 005 804 m³/hr	9.56	24	Continuous
B M	B Station Middle Stack	26° 07' 00.44" S	28° 11' 39.36" E				116	117.98 Nm³/S or 424 728 m³/hr	4.04	24	Continuous
B S	B Station South Stack	26° 07' 02.65" S	28° 11' 39.97" E				130	258.73 Nm³/S or 931 428 m³/hr	8.85	24	Continuous


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6.4.2. Area and/or line source parameters

Unique Area Source ID	Source Name	Source Description	Latitude (decimal degrees) of SW corner	Longitude (decimal degrees) of SW corner	Height of Release Above Ground (m)	Length of Area (m)	Width of Area (m)	Angle of Rotation from True North (°)
AD A	Ash Dam A	Materials (Waste) handling operation	S26°07'17.89"	E28°11'26.51"	45 m or 1682 MASL	814.40	518.73	-
AD B	Ash Dam B (not active)	Materials (Waste) handling operation	S26°07'12.48"	E28°11'09.67"	30	510	295	-
CS A I	Coal Stockpile A (internal)	Raw Materials handling operation (coal stockpile not active)	S26°06'42.69"	E28°11'30.08"	-	-	-	-
CS B	Coal Stockpile B	Raw Materials handling operation (coal stockpile size varies and dependant on Kelvin's operations)	S26°07'12.81"	E28°11'33.89"	11	15,312	Total footprint area is approx 1.76 Ha	-
VE UR	Vehicle entrainment from unpaved roads	Unpaved Roads	-	-	-	3,706.1 (all unpaved roads)	10	-
VE PR	Vehicle entrainment from paved roads	Paved roads	-	-	-	1,678.5 (all paved roads)	10	-

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7. APPLIANCES AND MEASURES TO PREVENT AIR POLLUTION

7.1. Appliances and control measures


Appliances				Abatement Equipment Control Technology							
Associated Unique Stack ID	Appliance / Process Equipment Number	Appliance Type / Description	Appliance Serial Number	Abatement Equipment Manufacture Date	Abatement Equipment Name and Model	Abatement Equipment Technology Type	Commission Date	Date of Significant Modification / Upgrade	Design Capacity	Minimum Control Efficiency (%)	Minimum Utilization (%)
AN & AS	A Station boilers (1 -11)	Boiler Fabric Filters in each boiler of A Station	BFA1 BFA2 BFA3 BFA4 BFA5 BFA6 BFA7 BFA8 BFA9 BFA10 BFA11	Continuous replacement	Fabric Bag Filters	A Bag filters 1216 (PPS- Polyphenylene Sulphide) bags per boiler) Total Bag filter-cloth area 3320 m ² per boiler	Fully installed in 2003	Filter bag, cage arrangement and required ID fan upgrade finalised in 2003	A Station boilers need 1192 bags. Bags are built to last 36000 hours but can reach 40 000 depending on steaming conditions	98	99
BN, BM & BS	B Station boilers (13 -19)	Boiler Fabric Filters in each boiler of A Station	FB13 FB14 FB15 FB16 FB17 FB18 FB19	Continuous replacement	Fabric Bag Filters	A Bag filters 1216 (PPS- Polyphenylene Sulphide) bags per boiler) Total Bag filter-cloth area 3320 m ² per boiler		Before 2001	A Station boilers need 3008 bags. Bags are built to last 36000 hours but can reach 40 000 depending on steaming conditions	98	99

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7.2. Point source – maximum emission rates (under normal working conditions)

Category 1.1

Point Source Code	Pollutant Name	Maximum Release Rate		Emission Hours	Type of Emission
		Sec 21 Req (mg/Nm ³)	Date to be Achieved By		
AN AS	PM	50	New	Hourly	Continuous
		100	Existing		
BN BM	NOx	750	New		
		1100	Existing		
BS	SO ₂	500	New		
		3500	Existing		

a) The following special arrangement shall apply —

- (i) Continuous emission monitoring of PM, SO₂ and NO_x is required, however, installations less than 100 MW heat input per unit must adhere to periodic emission monitoring as stipulated in Part 2 of this Notice.
- (ii) Where co-feeding with waste materials with calorific value allowed in terms of the Waste Disposal Standards published in terms of the Waste Act, 2008 (Act No.59 of 2008) occurs, additional requirements under subcategory 1.6 shall apply.

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Averaging Period

Unless where otherwise specified, minimum emission standards are expressed on a daily average basis, under normal conditions of 273 K, 101.3 kPa, specific oxygen Percentage and dry gas

Compliance time frames

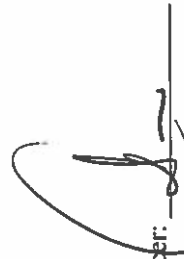
Existing plant must comply with minimum emission standards for existing plant as contained in Part 3 by 01 April 2015, unless where specified. Existing plant must comply with minimum emission standards for new plant as contained in Part 3 by 01 April 2020, unless where specified

Category 5: Mineral Processing, Storage and Handling

(1) Subcategory 5.1: Storage and Handling of Ore and Coal

Description: <i>mg/m³</i>	Storage and handling of ore and coal not situated on the premises of a mine or works as defined in the Mines Health and Safety Act 29/1996.		
Applicability:	Locations designed to hold more than 100 000 tons.		
Substance or mixture of substances	Chemical symbol	Plant, status	mg/m³ under normal conditions of 273 Kelvin and 101.3 kPa.
Common name'	N/A	New	a
		Existing	a
Dustfall			

a three months running average not to exceed limit value for adjacent land use according to dust control regulations promulgated in terms of section 32 of the NEM: AQA, 2004 (Act No. 39 of 2004), in eight principal wind directions.

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7.3. Point source – maximum emission rates (under start-up, maintenance and shut-down conditions)

Point Source Code	Pollutant Name	Maximum Release Rate		Average Period (Instantaneous, Hourly, Daily, Monthly, Annually)	Maximum Gas Volumetric Flow (m ³ /hr)	Maximum Gas Exit Velocity (m/s)	Emission Hours	Permitted Duration of Emissions
		(mg/Nm ³)	Date to be Achieved By					
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Point source – operating requirements

- The Atmospheric Emission License Authority must be notified if any kind of normal start-up, maintenance, upset and shutdown conditions exceed a period of 48 hours, as per Section 30 of the National Environmental Management, 1998 (Act No.107 of 1998)

7.4. Point source – emission monitoring and reporting requirements

Point Source Code	Emission Sampling / Monitoring Method	Sampling Frequency	Sampling Duration	Parameters to be Measured	Parameters to be Reported	Reporting Frequency
AN AS BN BM BS	Emission Sampling as prescribed in Annexure A of Section 21 Methods for Sampling and Analysis GN 893 of 22 November 2013	Annually	As required in Part 2 Section 18(b)(v) of GN 893 of 22 November 2013	PM, SO ₂ , NO _x	PM, SO ₂ , NO _x	Annually

Air Quality Officer

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Health and Social Development Department

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AN AS BN BM BS	Monitoring Method: Continuous Online Emission Monitoring System	Continuous (24 hour basis)	Emission Monitoring as prescribed in Section 15 (a) to (d) of Section 21 Notice GN 893 of 22 November 2013	PM, SO ₂ , NO _x	PM, SO ₂ , NO _x	Quarterly
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7.5. Area and/or line source – management and mitigation measures

Area and/or Line Source Code	Area and/or Line Source Description	Description of Specific Measures	Timeframe for Achieving Required Control Efficiency	Method of Monitoring Measures Effectiveness	Contingency Measures
ADA	Ash Dam A	Vegetation, Sprinkler system in place, fenceline monitoring in place	Immediately	Monthly fenceline monitoring and daily inspections	Additional alternatives are being investigated.
ADB	Ash Dam B (not active)	Ash dam B vegetated, fenceline monitoring in place	Immediately	Monthly fenceline monitoring and daily inspections	Additional alternatives are being investigated.
CSA I	Coal Stockpile A (internal)	Water Cart, fenceline monitoring in place	Immediately	Monthly fenceline monitoring and daily inspections	Additional alternatives are being investigated.
CS B	Coal Stockpile B	Water Cart, fenceline monitoring in place	Immediately	Monthly fenceline monitoring and daily inspections	Additional alternatives are being investigated.
VE UR	Vehicle entrainment from unpaved roads	Water Cart, fenceline monitoring in place	Immediately	Monthly fenceline monitoring and daily inspections	Additional alternatives are being investigated.
VE PR	Vehicle entrainment from paved roads	Water Cart, fenceline monitoring in place	Immediately	Monthly fenceline monitoring and daily inspections	Additional alternatives are being investigated.

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Health and Social Development Department

7.6. Routine reporting and record keeping

7.6.1 Complaints register

7.6.1.1 The licence holder must maintain a complaints register at its premises, and such register must be made available for inspections.

7.6.1.2 The complaints register must include the following information on the complainant, namely, the name, physical address, telephone number, date and the time when the complaint was registered. The register should also provide space for noise, dust and offensive odours complaints.

7.6.1.3 Furthermore, the licence holder is to investigate and, monthly, report to the licensing authority in a summarised format on the total number of complaints logged.

7.6.1.4 The complaints must be reported in the following format with each component indicated as may be necessary:

- a) Source code / name
- b) Root cause analysis
- c) Calculation of impacts/emissions associated with incidents and dispersion modeling of pollutants, where applicable
- d) Measures implemented or to be implemented to prevent recurrence , and
- e) Date by which measure will be implemented.

7.6.1.5 The licensing authority must also be provided with a copy of the complaints register. The record of a complaint must be kept for at least 5 (five) years after the complaint was made.

7.6.2 Annual reporting

7.6.2.1 The licence holder must complete and submit to the licensing authority an annual report.

7.6.2.2 The report must include information for the year under review (i.e. annual year-end of the company).

7.6.2.3 The report must be submitted to the licensing authority not later than 60 (sixty) days after the end of each reporting period.

7.6.2.4 The annual report must include, amongst others, the following items:

- (a) Pollutant emissions trend;
- (b) Compliance audit report(s);
- (c) Major upgrades projects (i.e. abatement equipment or process equipment); and
- (d) Greenhouse gas emissions as per GN 275 of 3 April 2017

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Health and Social Development Department

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7.6.2.5 The holder of the license must keep a copy of the annual report for a period of at least 5 (five) years.

7.6.2.6 Annual National Atmospheric Emission System (NAEIS) online reporting

- Reporting of all your emissions online (NAEIS) must be in accordance with National Atmospheric Emissions Reporting Regulations No. 283 of April 2015

7.7. Investigation

The following investigations are required:

Investigation	Purpose	Completion Date
None	None	None


8. DISPOSAL OF WASTE AND EFFLUENT ARISING FROM ABATEMENT EQUIPMENT CONTROL TECHNOLOGY

The disposal of any waste and effluent arising from the abatement equipment control technology must comply with the relevant legislation and requirements of the relevant authorities.

Source Code / Name	Waste / Effluent Type	Hazardous Components Present	Method of Disposal
BFA1, BFA2, BFA3, BFA4, BFA5, BFA6, BFA7, BFA8, BFA9, BFA10, BFA11 BFB13, BFB14, BFB15, BFB16, BFB17, BFB18 & BFB19	Bag Filters from A and B Station Boilers	Small amounts of ash in fabric filter	Disposed at a licence H:H landfill site (Holfontein H:H Disposal Site) through a specialised Waste Management Company

9. PENALTIES FOR NON-COMPLIANCE WITH LICENCE AND STATUTORY CONDITIONS OR REQUIREMENTS

Failure to comply with any of the licence and relevant statutory conditions and/or requirements is an offence, and licence holder, if convicted, will be subjected to those penalties as set out in section 52 of the AQA.

Air Quality Officer: 
Mr. Jerry Chaka
Divisional Head, Environmental Health
Health and Social Development Department

Date: 10/09/2012 21 of 21



CITY OF EKURHULENI
HEALTH AND SOCIAL DEVELOPMENT DEPARTMENT: INTEGRATED POLLUTION
CONTROL (AIR QUALITY MANAGEMENT) SECTION

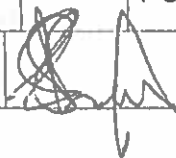
APPLICATION:
Atmospheric Emission License (AEL)

(In terms of the Regulations Prescribing the Atmospheric Emission License Processing Fee
No.250 of 11 March 2016

Prior to this Office considering the application for the issuing of an Atmospheric Emission License, this Office must be furnished with a positive Environmental Authorization for all new applications. All other information and supporting documents for all types of AEL applications as stipulated in the relevant Chapters and Sections of the National Environmental Management: Air Quality Act as amended, which are applicable to Listed Activities.

**NO EFT (ELECTRONIC FUNDS TRANSFERS) PAYMENTS WILL BE ALLOWED AT THIS STAGE!!!!!!
AS FROM THE 11 MARCH 2016, ALL LISTED ACTIVITY FACILITIES ISSUED WITH AN AEL IS
LIABLE FOR PAYMENT OF THE SAID PROCESSING FEE**

Select type of AEL	Number of Listed Activities	Fee	Name of account: Inspection Fees: Statutory Services (Atmospheric Emission License Processing Fee)
Application for a New Atmospheric Emission License (AEL)		R10 000.00 per listed activity	
Application for the Review of an AEL		R10 000,00 per listed activity under review	Vote no./account number 29101382450MNZZZZ16
✓ Application for a Renewal of an Atmospheric Emission License	1	R5000.00 per listed activity	Send Proof of payment to Samukelo.Futshane@ekurhuleni.gov.za Fax No Tel: 011) 999-3525
Application for Atmospheric Emission License Transfer		R2000.00	

Name of applicant:	Kelvin Power (Pty) Ltd		
Name of business / Facility:	Kelvin Power (Pty) Ltd		
ID number:	2000/003611/07		
Telephone landline:	011 573 2500	Cell phone no:	011 573 2607
Fax number:	086 274 9293	E-mail address:	Simphiwe.khuluse@kelvinpower.com
Physical address:	3 Zuurfontein Road,		
Stand number:	ERF ¹	Suburb:	Zuurfontein 33-IR (Spartan x26)
Postal address:	P O Box 311, Kempton Park 1620		
Signature of applicant:		Date:	08 May 2018

¹ R33 000 00000033; R21 026 00000882; R21 026 00000885 & R21 026 00000788



EKURHULENI METROPOLITAN MUNICIPALITY

Northern Service Delivery Region
KEMPTON PARK SERVICE DELIVERY CENTRE

**DEPARTMENT FINANCIAL MANAGEMENT
DEPARTEMENT FINANSIELE BESTUUR**

PO Box/Posbus 2300, Kempton Park 1620 Tel: (011) 921-9111
PO Box/Posbus 1, Tembisa 1628 Tel: (011) 920-1120/3

Official Receipt • Amptelike Kwitansie

Techno Print (012) 653-8133

DEPARTMENT: Ekurhuleni Metropolitan Municipality
 AFDELING: 2018/05/08 11:26:53 AM
 ALLOCATION CODE: VOTE NUMBER: 315251
 TOEWYSINGSKODE: POSNOMMER: Payment
 DESCRIPTION: Account: 29101392450MZZZZ216
 BESKRYWING: Initt

Name: INSPECTION
 CLEAR Amount Paid R *****5000.00
 Orig. Amount Tend R *****5000.00

This receipt is not valid, unless cash register numbers appear on it.
Hierdie kwitansie is nie geldig nie, tensy kasregister syfers daarop verskyn.

NEDBANK
 EMM KEMPTON PARK RATES H
 CR SWARTZ KEMPTON PARK
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 CAULIENG
 South Africa

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 AUTHORIZED - 018284
 TRACE NO - 513270
 R5,000.00

IN00050474
 CO 0025 775
 thank you.




CITY OF EKURHULENI
HEALTH AND SOCIAL DEVELOPMENT DEPARTMENT: INTEGRATED POLLUTION
CONTROL (AIR QUALITY MANAGEMENT) SECTION

APPLICATION:
Atmospheric Emission License (AEL)

(In terms of the Regulations Prescribing the Atmospheric Emission License Processing Fee
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Prior to this Office considering the application for the Issuing of an Atmospheric Emission License, this Office must be furnished with a positive Environmental Authorization for all new applications. All other information and supporting documents for all types of AEL applications as stipulated in the relevant Chapters and Sections of the National Environmental Management: Air Quality Act as amended, which are applicable to Listed Activities.

**NO EFT (ELECTRONIC FUNDS TRANSFERS) PAYMENTS WILL BE ALLOWED AT THIS STAGE!!!!!!
AS FROM THE 11 MARCH 2016, ALL LISTED ACTIVITY FACILITIES ISSUED WITH AN AEL IS
LIABLE FOR PAYMENT OF THE SAID PROCESSING FEE**

Select type of AEL	Number of Listed Activities	Fee	Name of account: Inspection Fees: Statutory Services (Atmospheric Emission License Processing Fee)
Application for a New Atmospheric Emission License (AEL)		R10 000.00 per listed activity	<u>Vote no:/account number</u> 29101382450MNZZZZ16 Send Proof of payment to Samukelo.Futshane@ekurhuleni.gov.za Fax No Tel: 011) 999-3525
Application for the Review of an AEL		R10 000.00 per listed activity under review	
✓ Application for a Renewal of an Atmospheric Emission License	1	R5000.00 per listed activity	
Application for Atmospheric Emission License Transfer		R2000.00	
Name of applicant:		Kelvin Power (Pty) Ltd	
Name of business / Facility:		Kelvin Power (Pty) Ltd	
ID number:		2000/003611/07	
Telephone landline:	011 573 2500	Cell phone no:	011 573 2607
Fax number:	086 274 9293	E-mail address:	Simphiwe.khuluse@kelvinpower.com
Physical address:	3 Zuurfontein Road,		
Stand number:	ERF ¹	Suburb:	Zuurfontein 33-IR (Spartan x28)
Postal address:	P O Box 311, Kempton Park 1620		
Signature of applicant:		Date:	16 May 2018

¹ R33 000 00000033; R21 026 00000882; R21 026 00000885 & R21 026 00000788

Northern Customer Care Areas ☎011 999-3525 Email: Samukelo.Fushane@ekurhuleni.gov.za	Southern Customer Care Areas ☎011 999-2470/2 ☎0866118357 e-mail: Edmund.Wyke@ekurhuleni.gov.za	Eastern Customer Care Areas ☎011 999-8766 ☎011 999 Email: Elio.Visser@ekurhuleni.gov.za
Kempton Park CCA ☎011 999-3525	Alberton CCA ☎011 999 2472 ☎0866118357 Email: Ndivhudzanyi.Necane@ekurhuleni.gov.za	Springs CCA ☎011 999-8759 Email: Chris.Kapp@ekurhuleni.gov.za
Corporate Office ☎011 999-2970 ☎011 999 2697 Email: Nomsa.Sirange@ekurhuleni.gov.za		



Ekurhuleni
METROPOLITAN MUNICIPALITY

EKURHULENI METROPOLITAN MUNICIPALITY

Northern Service Delivery Region
KEMPTON PARK SERVICE DELIVERY CENTRE

DEPARTMENT FINANCIAL MANAGEMENT
DEPARTEMENT FINANSIËLE BESTUUR

PO Box/Posbus 2300, Kempton Park 1620 Tel: (011) 921-9111
PO Box/Posbus 1, Tembisa 1628 Tel: (011) 920-1120/3

Official Receipt • Amptelike Kwitansie

Techno Print (012) 653-8133

DEPARTMENT: Ekurhuleni Metropolitan Municipality
AFDELING: 2018/05/16 12:43:09 PM
ALLOCATION CODE: VOTE NUMBER: 315900
TOEWYSINGSKODE: POSNUMMER: Payment
DESCRIPTION: Account: 29101382450MHZZZZ16
BESKRYWING: In t:

Name: INSPECTION
Card Amount Paid R *****5000.00
Orig. Amount Tend R *****5000.00
Bedrag: R *****5000.00

This receipt is not valid, unless cash register numbers appear on it.
Hierdie kwitansie is nie geldig nie, tensy kasregister syfers daarop verskyn.

NEDBANK
EMM KEMPTON PARK RATES H
CR SWARI KEMPTON PARK
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2018/05/16 12:43 1702C
EMV SALE
422254*****1055
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BEUKES/WILLEM JACOBUS
InvestecBusiness
AUTHORISED - 718257
TRACE NO - 520555
R5,000.00
IN00050174
CO 0014 77
I thank you!

11 March 2022

Project No. 20360049

Kelvin Power (Pty) Ltd

WRITTEN NOTIFICATION FOR THE DECOMMISSIONING AND DEMOLITION PHASE OF THE A-STATION POWER PLANT AT KELVIN POWER STATION IN EKURHULENI METROPOLITAN IN GAUTENG

Dear Sir/Madam,

Kelvin Power (Pty) Ltd (Kelvin Power) consists of two separate power plants, namely the A-station and the B-station. The A-station was in operation for approximately 60 years, until 2012 when it was placed under care and maintenance. Kelvin Power has made the decision to decommission and demolish the A-station after which this section of the site will be redeveloped into a cleaner technology power plant.

Golder Associates Africa (Pty) Ltd (Golder), a member of WSP Group Africa (Pty) Ltd (WSP), was appointed by Kelvin Power as an independent environmental consulting firm to conduct the environmental regulatory process for the proposed decommissioning and demolition of the A-station power plant situated in Ekurhuleni Metropolitan Municipality in Gauteng. This includes conducting or updating a number of specialist studies to inform the Basic Assessment Report (BAR).

Further, based on Golder's understanding of the project scope and battery limits, the decommissioning and demolition phase of the A-station power plant will trigger the following, as stipulated by the National Environment Air Quality Act (NEM:AQA):

- "Any changes in processes or production increases, by the licence holder, will require prior approval by the licensing authority";
- "Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the licensing authority"; and
- "The licence holder must immediately on cessation or decommissioning of the listed activity inform, in writing, the licensing authority".

As such, written approvals as well as an AEL amendment application will be required. This letter serves to inform the authority in writing of the above-mentioned changes at Kelvin Power.

Should you have any further questions or concerns regarding the above, please do not hesitate to contact me.

Kind regards,



Novania Reddy
Environmental Consultant

Golder Associates Africa (Pty) Ltd.NR/MS



Marie Schlechter
Senior Reviewer

Appendix G: Specialist reports

Appendix H: EMPr

Appendix I: Other information

Not applicable



golder.com