SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED DEVELOPMENT FOOTPRINT ENVIRONMENTAL SENSITIVITY

EIA Reference number:

Project name: Kelvin Power Station CCGT

Project title: Kelvin Power Station CCGT EIA

Date screening report generated: 08/02/2024 12:11:04

Applicant: Kelvin Power

Compiler: John von Mayer

Compiler signature:

Application Category: Utilities Infrastructure | Electricity | Generation | Non

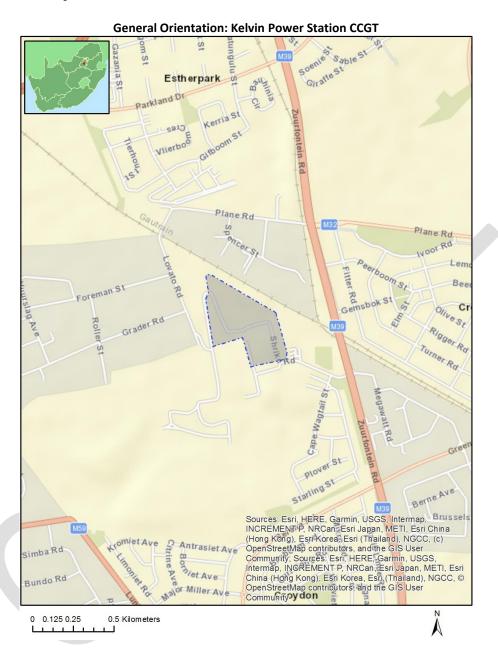
Renewable | Hydrocarbon | Petroleum

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Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	ZUURFONTEIN	33	0	26°6'1.88S	28°12'22.41E	Farm
2	ZUURFONTEIN	33	391	26°6'50.15S	28°11'29.75E	Farm Portion

Development footprint¹ vertices:

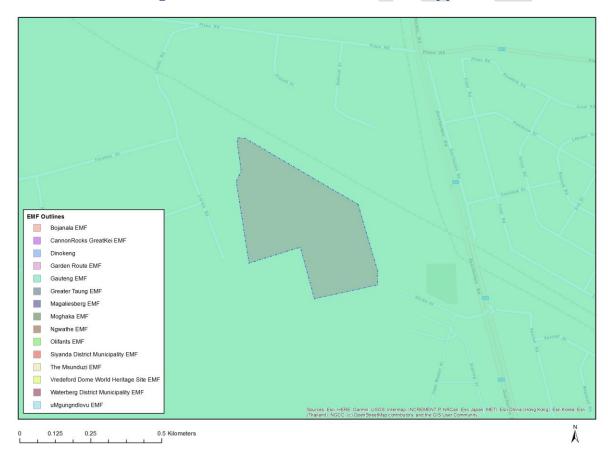
Footprint	Latitude	Longitude
1	26°6'40.39S	28°11'28.25E
1	26°6'39.84S	28°11'28.29E
1	26°6'39.87S	28°11'29.15E
1	26°6'46.67S	28°11'42.05E
1	26°6'53.54S	28°11'44.29E
1	26°6'54.02S	28°11'44.22E
1	26°6'54.74S	28°11'44.28E
1	26°6'54.93S	28°11'44.24E
1	26°6'56.32S	28°11'37.04E
1	26°6'51.05S	28°11'35.44E
1	26°6'52.67S	28°11'29.58E
1	26°6'44.34S	28°11'28.14E
1	26°6'43.24S	28°11'28.7E
1	26°6'40.39S	28°11'28.25E

¹ "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of	Distance from proposed
			application	area (km)
1	14/12/16/3/3/1/2358	Solar PV	Approved	27.9
2	12/12/20/2147/A1	Solar PV	Approved	4.6
3	14/12/16/3/3/2/375/AM1	Solar PV	Approved	23.7
4	12/12/20/2530	Solar PV	Approved	28.3
5	12/12/20/2147	Solar PV	Approved	4.6
6	12/12/20/2551	Solar PV	Approved	28.3
7	002/15-16/E0152	Solar PV	Approved	28.9
8	14/12/16/3/3/1/569	Solar PV	Approved	28.5

Environmental Management Frameworks relevant to the application



Environmental	LINK
Management	
Framework	
Gauteng EMF	https://screening.environment.gov.za/ScreeningDownloads/EMF/GPEMF
	2021 Gazette and summary.pdf

Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development footprint as well as the most environmental sensitive features on the footprint based on the footprint sensitivity screening results for the application classification that was selected. The application classification selected for this report is:

Utilities Infrastructure | Electricity | Generation | Non Renewable | Hydrocarbon | Petroleum.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this footprint are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Central corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined EGI.pdf
Air Quality-Highveld Priority Area	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/HIGHVELD_PRIORITY_AREA_AQMP.pdf
Gauteng EMF-Urban development zone 1	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Zone1 2021.pdf
Gauteng EMF-Industrial and large commercial focus zone 5	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Zone5 2021.pdf

Proposed Development Area Environmental Sensitivity

The following summary of the development footprint environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High	High	Medium	Low
	sensitivity	sensitivity	sensitivity	sensitivity
Agriculture Theme	X			
Animal Species Theme		Х		
Aquatic Biodiversity Theme				Х
Archaeological and Cultural				Х
Heritage Theme				
Civil Aviation Theme	Χ			
Defence Theme				Х
Paleontology Theme				Х
Plant Species Theme			Х	
Terrestrial Biodiversity Theme	Х			

Specialist assessments identified

Based on the selected classification, and the known impacts associated with the proposed development, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the

assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the footprint situation.

No Specialist assessment		Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Agriculture Assessment Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/Asse ssmentProtocols/Gazetted Terrestrial Biodiversity Assessment Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Aquatic Biodiversity Assessment Protocols.pdf
7	Hydrology Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
8	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Noise Impacts Assessment Protocol.pdf
9	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/Asse ssmentProtocols/Gazetted General Requirement Assessment P rotocols.pdf
10	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
11	Climate Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/Asse ssmentProtocols/Gazetted General Requirement Assessment P rotocols.pdf
12	Health Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/Asse ssmentProtocols/Gazetted General Requirement Assessment P rotocols.pdf
13	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted General Requirement Assessment Protocols.pdf
14	Ambient Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
15	Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/Asse ssmentProtocols/Gazetted General Requirement Assessment P rotocols.pdf

16	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/GazettedPlantSpeciesAssessmentProtocols.pdf
17	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf



Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed footprint for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Х			

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
Very High	Land capability;11. High/12. High-Very high/13. High-Very high/14. Very high/15. Very high

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity	Feature(s)	
High	Aves-Tyto capensis	
Medium	Mammalia-Chrysospalax villosus	
Medium	Mammalia-Crocidura maquassiensis	
Medium	Mammalia-Dasymys robertsii	
Medium	Mammalia-Hydrictis maculicollis	
Medium	Mammalia-Ourebia ourebi	
Medium	Invertebrate-Clonia uvarovi	

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			Χ

Sensitivity	Feature(s)	
Low	Low sensitivity	
Low	Low sensitivity	

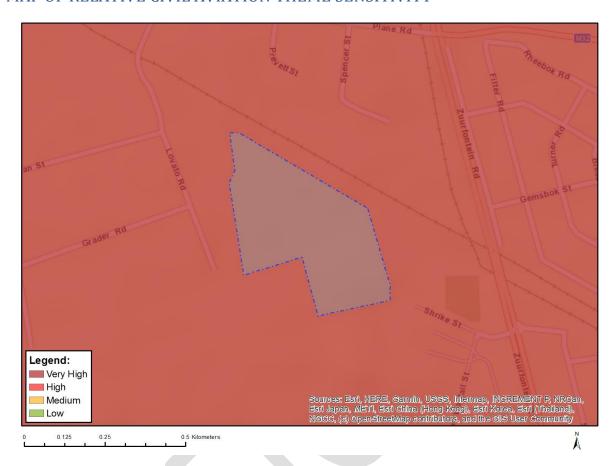
MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			Χ

Sensitivity	Feature(s)	
Low	Low sensitivity	

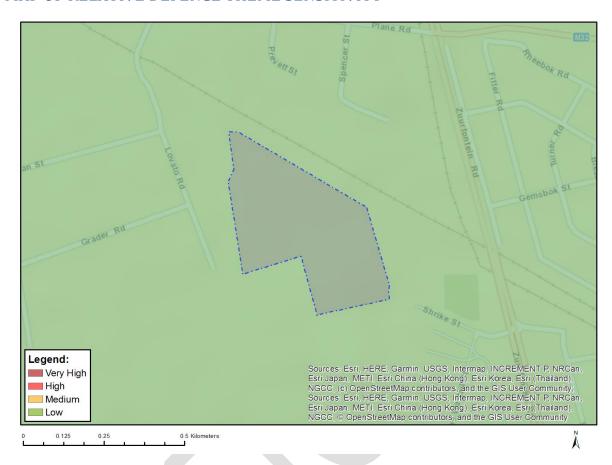
MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity	Feature(s)	
High	Within 15 km of a civil aviation radar	
High	Within 8 km of other civil aviation aerodrome	
Medium	Within 5 km of an air traffic control or navigation site	
Very High	Within 8 km of a major civil aviation aerodrome	

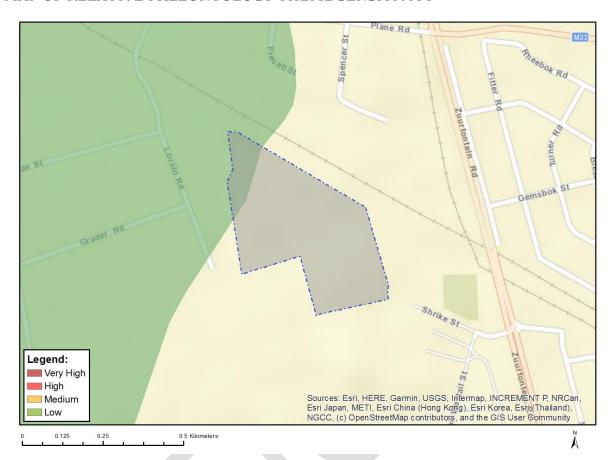
MAP OF RELATIVE DEFENCE THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			Χ

Sensitivity	Feature(s)	
Low	Low Sensitivity	

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			Χ

Sensitivity	Feature(s)
Low	Features with a Low paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		Х	

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Sensitive species 1147
Medium	Brachycorythis conica subsp. transvaalensis
Medium	Sensitive species 1248

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity	Feature(s)				
Low	Low Sensitivity				
Very High	CBA 1				
Very High	ESA 2				



PREPARED FOR:

Kelvin Power Station CCGT EIA



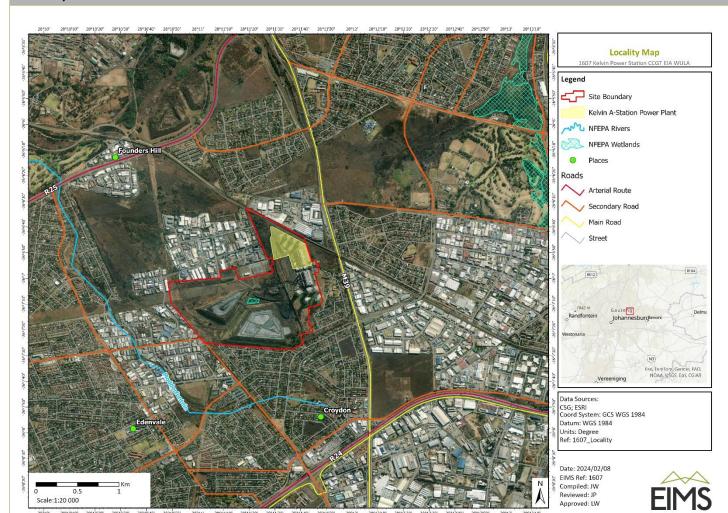
Environmental Site Sensitivity Verification Report

Site ID:	Kelvin Power Station	Contractor:	EIMS
Location:	Kempton Park, Ekurhuleni Metropolitan Municipality	Inspector:	Qaphela Magaqa
Client representative:	Lavhelesani Nelwamondo	Inspection Date:	14 February 2024

1. Background					
Background of the project:	net o 391 R	utput w R/E, Eku	t wishes to develop a Combined Cycle Gas Turbine (CCGT) ill be approximately 600 megawatts. The proposed projec rhuleni Metropolitan Municipality, Gauteng Province. The Park CBD. The centre point of the site is approximately	t is located on Zuurf	ontein Farm 33-IR portic
Draiget Aspects	Voc	No	Details (provide specifications)	Locatio	on (DD MM SS)
Project Aspects:	Yes	No	Details (provide specifications)	Latitude	Longitude
CCGT Power Plant			The CCGT Power Plant will comprise of one H class gas turbine, a heat recovery boiler and a steam turbine. The main structures comprising the plant include a gas turbine building, steam turbine building, water treatment plant, heat recovery steam generator, mechanical draft cooling tower, EHV substation, exhaust stack, auxiliary buildings and administration buildings. Other possible infrastructure includes additional water and treated sewage wastewater supply pipelines, as well as electricity transmission lines to the City Power Sebenza substation adjacent to the power station. The final positions of all project components are to be determined during the EIA process.	26°06'45.84"S,	28°11'36.42"E.



2. Site Layout Plan



2. DEA Screening Tool Assessment

Aspect	Very High	High	Medium	Low
Agriculture Theme	X			
Animal species Theme		X		
Aquatic Biodiversity Theme				Х
Archaeological and Cultural Heritage				х
Civil Aviation Theme	X			
Defence Theme				Х
Palaeontology Theme				Х
Plant Species Theme			X	
Terrestrial Biodiversity Theme	Х			



3. Site Assessment

3.1 Gradient (indicate the general gradient characteristics of site)

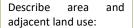
Aspect	Rudge Line	Plateau	Mountain Slope /	Open Valley		Closed Izan	(alle)	Plain	Ungulating A	Foot hills
WLTR plant, Remining and Repulping plant and Associated Infrastructur e						\boxtimes				
Is the site locat	ted on or in tl	he immed	iate vicinity of any of the f	ollowing:						
					WLTR Retrofitting and					
					Yes		No	Comment		
Erosion Channe	els or areas of	f severe er	osion/ destabilized soils				\boxtimes	No erosion channels or destabilised soils were noted through the desktop analysis and site visit.		
Wetlands (with	iin 32m)						\boxtimes	No wetlands were identified within 32r of the proposed site through deskto studies and the site visit.		
Unstable slopes or geological features (rocky outcrops)						No rocky outcrops or unstated were noted on site and vianalysis. It is noteworthy proposed development is location brownfield site.		desktop that the		
Bare areas								The site was noted to be mainly cover by the A-station buildings a infrastructure. These are curren planned for demolition. Section located adjacent to the A-static cooling towers are covered in largrass. The previous A-station costockpiles area was noted to be "barduring the site visit."		ngs and currently Sections A-station I lawn tion coal
Other Sensitive or risk areas?							\boxtimes	No further sensitiv	e areas we	re noted.
Are any existing servitudes and structures directly or indirectly affected by the proposed sites and routes (e.g. Eskom, public road servitudes and restrictions- 60m from National Road, farmer's water/irrigation supplies, etc.)?						The proposed developme within an existing power of mainly surrounded by infrastructure/servitudes.		power stat ed by		

		_				
					recently k the site. ¹ approxim Power St point. Fui railway r site, thi stockpiles stakehold	lers have been identified and in the I&AP database and of the proposed
3.2 Vegetation						
Which of the listed of	descriptions best o	lescribes the general gro	undcover on and around t	the site?		
Natural veld - go	Natural vel	d with scattered aliens	Natural veld with heavy alien infestation species		by alien	Gardens 🗌
Sport field	Cultivated I	and 🗌	Pav ed surface	Building or structure	other	Bare soil 🗌
Comments on composition:	and/colling towers surrounded by grass Kikuvu grass with scattered aliens located mainly along the railway					
Comments on weed species/type A terrestrial biodiversity screening and compliance statement will be prepared. This section will be update as per the specialist site assessment.						ed. This section will be updated
Land cover/ use description: Describe the land uses on the site						
The current land use description on the site is Public service infrastructure – power generation. Kelvin Power Station is an operational power station consisting of the A-station and B-station. The A-station is no longer operational and is undergoing a demolition process. The proposed CCGT is to be located at the current A-station footprint.						



Site Photos





View of the Kelvin A-station, cooling towers and access road.



Describe area and adjacent land use:

Kelvin A-station dry coal storage area view surrounded by natural veld

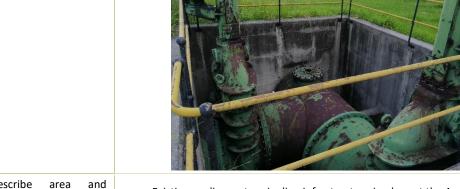


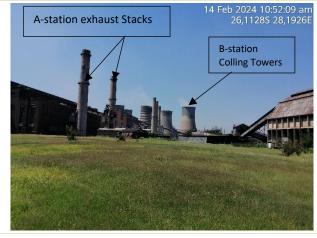
Kelvin A-station cooling towers surrounded by natural veld.



Northerly view of the Gautrain railway line from site







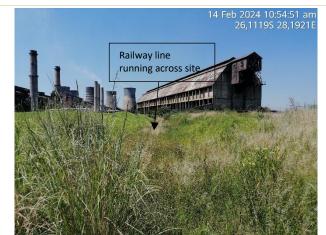
Describe area and adjacent land use:

1

Existing cooling water pipeline infrastructure in place at the A-station.

South east view showing the operational B-station, A-station buildings including exhaust stacks





Describe area and adjacent land use:

Nort west view from site showing neighbouring industrial developments

View of railway line covered by natural veld vegetation with scattered alien vegetation







Describe area and adjacent land use:

General view of A-station wet coal stockpile area



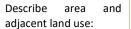


Describe area and adjacent land use:

General view of existing power station access road.







General view of A-station buildings to be demolished surrounded by natural veld with scattered alien infestation



Describe area and adjacent land use:



General view of A-station buildings to be demolished



General view of Sebenza switch yard



7. Verification findings and motivation:

Assessment for specialist studies and motivation:							
Screening Tool Specialist Study Required:	Level of Sensitivity:	Suggested Sensitivity:	Required level Assessment	of	Motivation		
		Low	None.		The site is located on a property/site that is		
Agriculture Theme	Very High		Compliance Statement		utilised for power generation since the 1960s, the proposed development is not anticipated to impact agricultural resources.		
			Full Assessment		A DFFE compliant agriculture/land use land capability/soils compliance statement will be undertaken by a suitably qualified specialist.		
			Other		undertaken by a suitably qualified specialist.		
			None.				
Animal Species Theme	High	Low	Compliance Statement		A DFFE compliant Terrestrial Biodiversity compliance statement will be undertaken by a suitably qualified specialist. The proposed		
	C .		Full Assessment		development is located on a brownfield site and is not anticipated to impact animal species		
			Other				
Aquatic Biodiversity	Low	Low	None.	\boxtimes			
			Compliance Statement		The nature of the development and components of the development during the construction and operational phases will not pose any risk to aquatic ecosystems.		
			Full Assessment		Therefore no specialist aquatic studies will be undertaken.		
			Other				
			None.				
Archaeological and Cultural Theme	High	Unknown	Compliance Statement		A phase I DFFE compliant specialist assessment will be undertaken if required by		
			Full Assessment		SAHRA.		
			Other				
		Low	None.		It is understood that due to the nature of the development and components of the		
	High		Compliance Statement		development during the construction and operational phases will not pose any risk to commercial air traffic. Therefore no specialist aviation studies will be		
Civil Aviation Theme			Full Assessment		specialist aviation studies will be undertaken. However, SACAA will be included in the I&AP database, notified of		
			Other		the proposed development and provided an opportunity to participate in the environmental authorisation process.		



Defence Theme		Low	None.	\boxtimes	
	Low		Compliance Statement		The nature of the development and components of the development during the construction and operational phases will not
			Full Assessment		pose any risk to defence infrastructure or properties. Therefore no specialist defence studies will be undertaken.
			Other		
			None.		
Palaeontology Theme	Low	Low	Compliance Statement		The proposed development is located in an area with a low palaeontologic sensitivity and is not anticipated to cause loss of
			Full Assessment		palaeontologic resources. A DFFE compliant specialist study will be undertaken
			Other		
	Medium	Low	None.		
Plant Species Theme			Compliance Statement		A DFFE compliant Terrestrial Biodiversity compliance statement will be undertaken by
			Full Assessment		a suitably qualified specialist.
			Other		
Terrestrial Biodiversity Theme		Unknown	None.		
	Very High		Compliance Statement		A DFFE compliant Terrestrial Biodiversity compliance statement will be undertaken by
			Full Assessment		a suitably qualified specialist.
			Other		

Guidance notes:

- An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of "very high" or "high" sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Specialist Assessment Report.
- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of "medium sensitivity" for terrestrial animal species must submit either a Terrestrial Animal Species Specialist Assessment Report or a Terrestrial Animal Species Compliance Statement, depending on the outcome of a site inspection undertaken in accordance with paragraph 4.
- An applicant intending to undertake an activity identified in the scope of this protocol on a site identified by the screening tool as being of "low" sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Compliance Statement.
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of "very high" or
 "high", for terrestrial animal species sensitivity and it is found to be of a "low" sensitivity, then a Terrestrial Animal Species Compliance
 Statement must be submitted.
- Where the information gathered from the site sensitivity verification differs from the screening tool designation of "low" terrestrial animal species sensitivity and it is found to be of a "very high" or "high" terrestrial animal species sensitivity, a Terrestrial Animal Species Specialist Assessment must be conducted.
- If any part of the development falls within an area of confirmed "very high" or "high" sensitivity, the assessment and reporting requirements prescribed for the "very high" or "high" sensitivity, apply to the entire development footprint. Development footprint in the context of this protocol means, the area on which the proposed development will take place and includes the area that will be disturbed or impacted.