Appendix 9C

Bat Report

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SSE Tarbert Next Generation Power Station

Environmental Impact Assessment (EIAR) Volume II
Appendix 9C Bat Report

SSE Generation Ireland Limited

November 2023

Delivering a better world

Prepared for:

SSE Generation Ireland Limited

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1. Introduction

1.1 Background

AECOM was commissioned by SSE Generation Limited (SSE) to conduct bat activity surveys as part of a wider ecological assessment, within and adjacent to, a site of a Proposed Development. The Proposed Development consists of a new Open Cycle Gas Turbine (OCGT) generator, administration building and workshop, ancillary plant, site works, services and grid connection on land within the boundary of the existing SSE Tarbert Power Station, in the townland of Tarbert Island, Co. Kerry. Full details of the Proposed Development are presented in Chapter 5 EIAR Volume I.

The Site is located at the northern end of a small peninsula north of Tarbert and is surrounded by the Shannon Estuary to the west, north and east. Habitats on Site consist mainly of buildings and artificial surfaces, although smaller areas of grassland, scrub, treelines, ornamental shrub plantings, and a small service reservoir are also present. A small deciduous woodland is present immediately to the east of the Site boundary, and a much larger deciduous woodland is present to the south of the Site, separated by grassland and scrub. For details of the Site and existing conditions please refer to Chapter 4, EIAR Volume I.

This report should be read in conjunction with the Biodiversity Chapter (Chapter 9, EIAR Volume I).

1.2 Survey aims

The aims of the bat surveys were to:

- Record bats within the Site, as well as their activity and habitat use within the Site.
- Identify any constraints relating to bat activity relevant to the Proposed Development; and,
- Identify appropriate mitigation measures, if relevant.

1.3 Quality assurance

This project has been completed in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, its quality as well as covering all aspects of environmental and Health and Safety management. All staff members are committed to establishing and maintaining our accreditation to the relevant international standards namely BS EN ISO 9001:2008 and 14001:2004 and BS OHSAS 18001:2007. In addition, AECOM's IMS requires careful selection and monitoring of the performance of all sub consultants and contractors.

2. Legislative and planning policy context

2.1 Relevant legislation

All bats in Ireland are listed on Annex IV of the Habitats Directive[1]. Listing under Annex IV requires Member States of the European Union (EU) to strictly protect these species wherever they occur. In addition, the lesser horseshoe bat *Rhinolophus hipposideros* is also listed under Annex II of the Habitats Directive, which effectively means that Member States are required to designate Special Areas of Conservation (SAC) for the further protection of this species.

The Habitats Directive is transposed into Irish law by the European Communities (Bird and Natural Habitats) Regulations 2011 (the 'Habitats Regulations'), which provide national legislation for the protection of bats. Under the Habitats Regulations it is an offence to:

- Deliberately capture, injure, or kill any bat.
- Deliberately disturb a bat, particularly during the period of breeding, rearing, hibernation, and migration; and,
- Damage or destroy a bat breeding site or resting place.

2.2 Relevant planning policy and guidance

The following planning policy is also of relevance to nature conservation and the Proposed Development:

- Project Ireland 2040 National Planning Framework
- National Biodiversity Action Plan 2021 – 2030;
- National Development Plan 2018 – 2027; and
- County Kerry Development Plan 2022 – 2028.

[1] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, which is more commonly referred to as the 'Habitats Directive'.

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3. Methods

3.1 Desk study

An initial desk study was carried out to identify nature conservation designations for which bats are a reason for designation, and to search for existing records of bats in proximity to the Proposed Development. The desk study consequently sought to identify:

- any SACs within 15km of the Site, or beyond where a link exists, for which bats are a Qualifying Interest (QI);
- any Natural Heritage Areas (NHAs) or Proposed Natural Heritage Areas (pNHAs) within 5km of the Site, or beyond where a link exists, for which bat species are an identified reason for designation; and,
- records of bats within 2km.

3.2 Field survey

All field surveys were carried out by experienced AECOM ecologists and had regard for relevant guidance including the Bat Conservation Trust (BCT) best practice guidelines (Collins, 2016).

The scope of field survey was determined based on an understanding of the habitats within and adjacent to the Site informed by previous walkover surveys and desk analysis of maps and satellite imagery.

Field surveys were carried out to assess the presence of suitable bat roosting features and to assess use of the Site and the wider area by foraging and/or commuting bats.

A description of the field survey methods adopted is provided below for each type of survey conducted.

3.2.1 Preliminary roost assessment

During daylight hours, all buildings within the Site to be impacted by the Proposed Development were assessed from ground level for their suitability to support roosting bats. This involved a search of the buildings, using binoculars where necessary, for potential roost features (PRFs) that may be used by roosting bats.

Buildings were classified as having 'Negligible', 'Low', 'Moderate' or 'High' bat roost suitability, according to the definitions provided in Collins (2016) (**Error! Reference source not found.**). Where suitable PRFs were found evidence of bat use was searched for, including droppings, staining, foraging remains, auditory evidence, and sightings of live or dead bats.

Table 3.1: Bat roost suitability categories

Suitability	Description of roosting habitats
Negligible	Negligible habitat features on Site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRF but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more PRF that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more PRF that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat.

Source: Collins (2016).

3.2.2 Walked transects

Walked transects were carried out on 7 June, 26 June, 30 August 2023 following a pre-determined transect illustrated in Figures 9C.1 – 9C.3. Bat activity surveys were carried out by Dr Paul Lynas and Dr Erfan Fadaei, using Batlogger M2 ('Batlogger') detectors.

The transect route was devised to cover typical examples of all habitats suitable for bat foraging and commuting within and adjacent to the Site. The transect targeted habitat or linear features which may be both important to local bat populations and potentially impacted upon by the Proposed Development.

Dusk activity surveys commenced around sunset and ended approximately two to three hours after sunset. Upon detecting a bat during the survey, surveyors attempted to identify the direction and height of bat flight, and any notable bat behaviour (e.g., foraging or commuting). Weather conditions likely to influence bat activity including temperature (automatically recorded by Batlogger detectors), wind, and precipitation were recorded during each survey.

All survey data from the walked transects were initially recorded onto Esri Field Maps using mobile mapping tablets. The field data were then digitised to enable high quality drawings to be prepared.

Survey dates, weather conditions and start and end times are presented in Table 3.2.

Table 3.2: Bat activity survey details

Time		Temperature (°C)	Cloud cover (%)	Wind description	Precipitation
07/06/2023		**Sunset:**	**21:57**		
Start:	22:30	17	10-30	Moderate	Dry
End:	00:14	16	10-30	Light air	Dry
26/06/2023		**Sunset:**	**22:05**		
Start:	22:10	15	100	Gentle breeze	Dry
End:	01:09	15	100	Gentle breeze	Dry
30/08/2023		**Sunset:**	**20:31**		
Start:	20:49	14	100	Light air	Dry
End:	22:45	14	100	Light breeze	Dry

3.3 Data analysis

Batlogger detectors record continuously throughout the survey, in real-time (i.e., including all calls and gaps, allowing distinctive 'rhythms' to be ascertained) and in full spectrum (i.e., all frequencies are recorded). This results in a complete sonogram and allows detailed analysis of the audio recording.

Data collected during surveys were stored and subsequently analysed using Kaleidoscope Pro specialist software to identify any bats not detected in the field by the surveyors and to confirm species identifications made in the field.

3.4 Personnel

The surveys were planned by Dr Paul Lynas and conducted by Dr Paul Lynas, and Dr Erfan Fadaei. Both surveyors are skilled and experienced AECOM ecologists who have worked at industrial and large-scale sites such as this one.

3.5 Limitations

Desk study information is dependent on records having been submitted for the area of interest. As such, lack of records for particular species does not necessarily mean they are absent from the area of interest. Similarly, the presence of records for particular species does not automatically mean they still occur within the area of interest or are relevant.

Numbers of bat registrations are used to provide an indicative assessment of bat use of the site. However, it must be noted that number of registrations do not indicate individual bats, but rather the number of times a bat call was registered on the Batlogger and identified to species.

4. Results

4.1 Desk study

4.1.1 Designated sites

There are no designated sites for which bats are QIs within 15 km of the Site.

4.1.2 Species records

No records of bats within 2 km of the Site were returned from the NBDC data search.

4.2 Field survey

4.2.1 Bat roost suitability assessment

All buildings inspected within the survey area had Negligible suitability for roosting bats, according to the definition provided by the BCT in Collins (2016).

4.2.2 Bat activity survey

4.2.2.1 2023 Survey results

Across the 2023 surveys, three bat species were identified: common pipistrelle, soprano pipistrelle, and Leisler's bat. Bat activity was lowest during the first survey. It peaked during the second survey where significantly higher activity was recorded throughout, of all species. Activity levels once again dropped in the last visit although slightly more activity was encountered in the final survey than on the first (Table 4.1). The first and final surveys had a similar composition of bat recordings, with low numbers of common pipistrelle and Leisler's bat, and a high proportion of soprano pipistrelle. During the second survey, similar numbers of soprano pipistrelle and Leisler's bat were recorded, with a lower proportion of common pipistrelle encountered, compared with the other two species.

Table 4.1: Bat survey results

Species	Survey					
	07 June 2023		26 June 2023		30 August 2023	
	Total	Proportion	Total	Proportion	Total	Proportion
Leisler's bat	2	5.1%	79	39.9%	5	5.8%
Common pipistrelle	3	7.7%	28	14.1%	3	3.5%
Soprano pipistrelle	34	87.2%	91	46.0%	78	90.7%
Total recordings	39		198		86	

During the first survey, bats were recorded in only three locations: foraging and commuting at the treeline at the eastern boundary and the woodland beyond the eastern Site boundary; commuting immediately south of the power station building and foraging and commuting at the bridge between the scrub and inlet, see Figure 9C.1.

Bats were recorded across all parts of Site during the second survey, including around power station and associated buildings, although these detections were generally brief passes. Bats recorded along vegetation to the north of the inlet and along the road to the south of the inlet were mainly foraging, as were bats recorded in the same areas as during the first survey, see Figure 9C.2.

During the final survey, the majority of the activity was recorded along the road to the south of the inlet and was of foraging bats. Foraging bats were also recorded at the same bridge, and at three locations along the coastline, see Figure 9C.3.

5. Discussion and recommendations

5.1 Roosting bats

All buildings within the survey area were assessed as having Negligible suitability for roosting bats. There are also no trees within the survey area or other structures which could be used by roosting bats.

Roosting bats therefore pose no constraint to the Proposed Development.

5.2 Development of the Proposed Development

Three species of bat were recorded within the Proposed Development Site: common pipistrelle, soprano pipistrelle, and Leisler's bat. Foraging and commuting activity was observed throughout the Site, but the majority of bat activity was recorded along linear features used by bats for foraging, namely woodland, treelines, and scrub. Habitats within the Site are considered to be of value to the local bat population. Much of the centre of the Site is illuminated at night, particularly surrounding the existing power station building and associated buildings. However, the rest of the Site is relatively dark, and there is no illumination along the road to the south of the Site, where much of the bat activity was recorded.

The three species of bat recorded, Leisler's bat and pipistrelle species are typically considered to be relatively light-tolerant with studies indicating foraging around light sources; however, this can increase the risk of bat predation (BCT and ILP, 2023).

The Proposed Development will involve construction of a new power station building and associated structures in the centre and north of the Site, where relatively little bat activity was recorded, given that these areas are currently dominated by artificial surfaces and illuminated buildings. The development will not involve the removal of any treelines or scrub within the Site, and the majority of bat activity was recorded around these features or elsewhere, outside of the Site boundary and will therefore not be impacted by the development.

The Site is already illuminated by external lighting on the power station itself and on surrounding buildings, as well as street lights, particularly on the main access road into the Site. Any operational lighting associated with the Proposed Development will not disrupt commuting routes or foraging behaviours given the presence of existing lighting at the Site and the distance of the foraging / commuting routes from the Proposed Development. Lighting during the construction phase is likely to be limited given that most of the works will be completed during daylight hours and thus any increase in lighting is likely to be temporary and of short duration, and in locations already subject to illumination.

Therefore, no specific mitigation to protect bats is required.

6. Summary

AECOM was commissioned by SSE Generation Ireland Limited to carry out bat activity surveys for the Proposed Development of a new power station consisting of an OCGT generator, and associated infrastructure at SSE Tarbert Power Station, Co. Kerry. A summary of the findings is presented in the following bullets:

- A preliminary roost assessment found no suitability for roosting bats within the Proposed Development site.
- A total of three bat species were identified during transect surveys, comprising common pipistrelle, soprano pipistrelle, and Leisler's bat. Activity recorded included foraging and commuting across the Site, including several recordings in the main development area, although the vast majority of bat activity was recorded to the south of the Site along the road to the south of the sea inlet and at several locations adjacent to scrub and treelines.
- The Proposed Development will not involve removal of linear features used by bats for foraging or commuting and thus the Proposed Development is not anticipated to impact the local bat population. Therefore, no specific mitigation to protect bats is required.

7. References

Bat Conservation Trust and Institute of Lighting Professionals (2023). *Guidance Note 08/23 Bats and Artificial Lighting at Night*. Institute of Lighting Professionals, Warwickshire.

Collins, J. (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd Edition.* Bat Conservation Trust, London.

NPWS (2006) *Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25*. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland.

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LEGEND

- Proposed Development Site

Bat Activity Line

- Common pipistrelle
- Soprano pipistrelle

Bat Activity Point

- Common pipistrelle
- Leisler's bat
- Soprano pipistrelle

NOTES

Maxar, Microsoft

ISSUE PURPOSE

FINAL

PROJECT NUMBER

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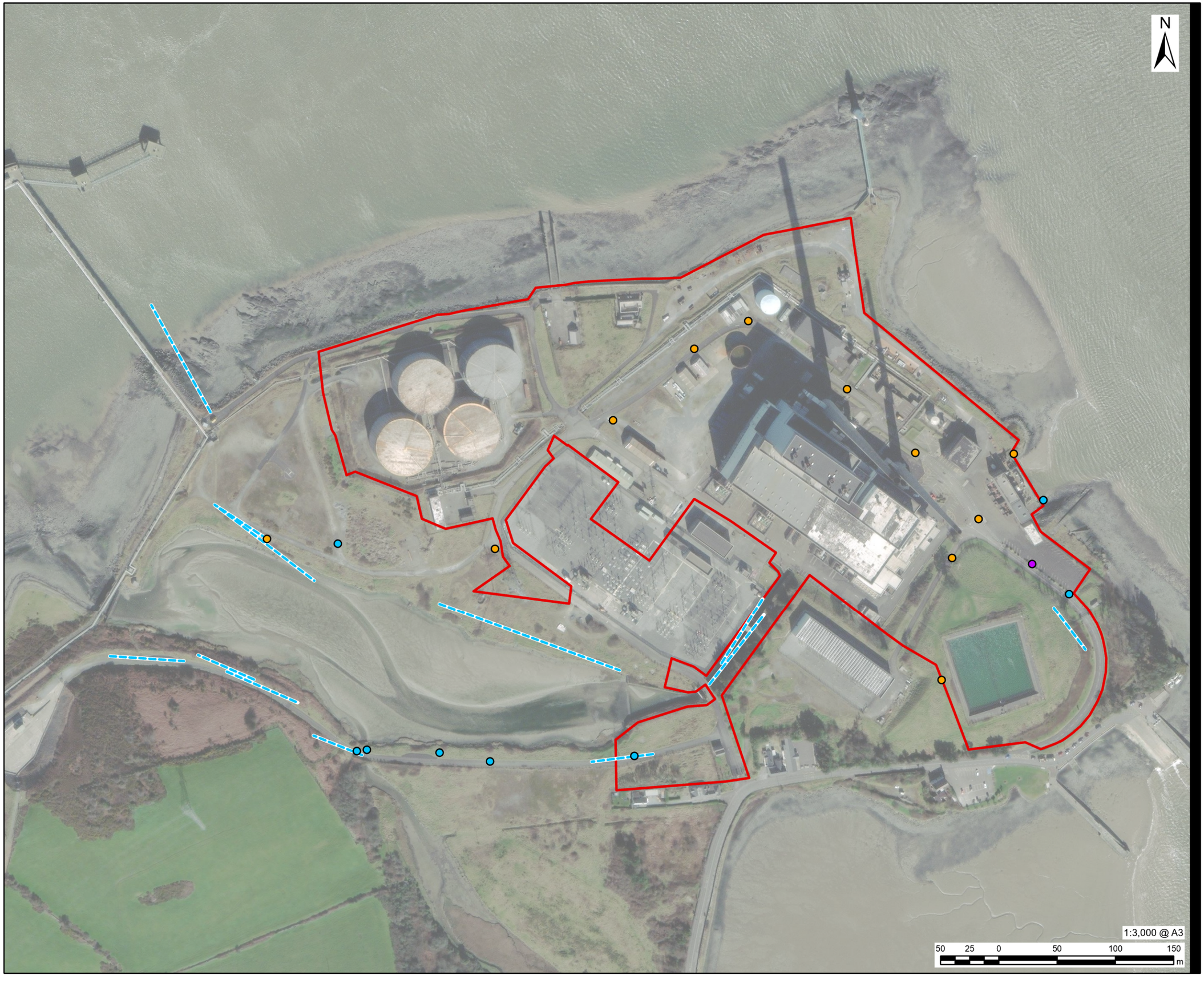
FIGURE TITLE

Bat Activity Survey Results 7 June 2023

FIGURE NUMBER

9C.1



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LEGEND

- Proposed Development Site

Bat Activity Line

- Soprano pipistrelle

Bat Activity Point

- Common pipistrelle
- Leisler's bat
- Soprano pipistrelle

NOTES

Maxar, Microsoft

ISSUE PURPOSE

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PROJECT NUMBER

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FIGURE TITLE

Bat Activity Survey Results 26 June 2023

FIGURE NUMBER

9C.2

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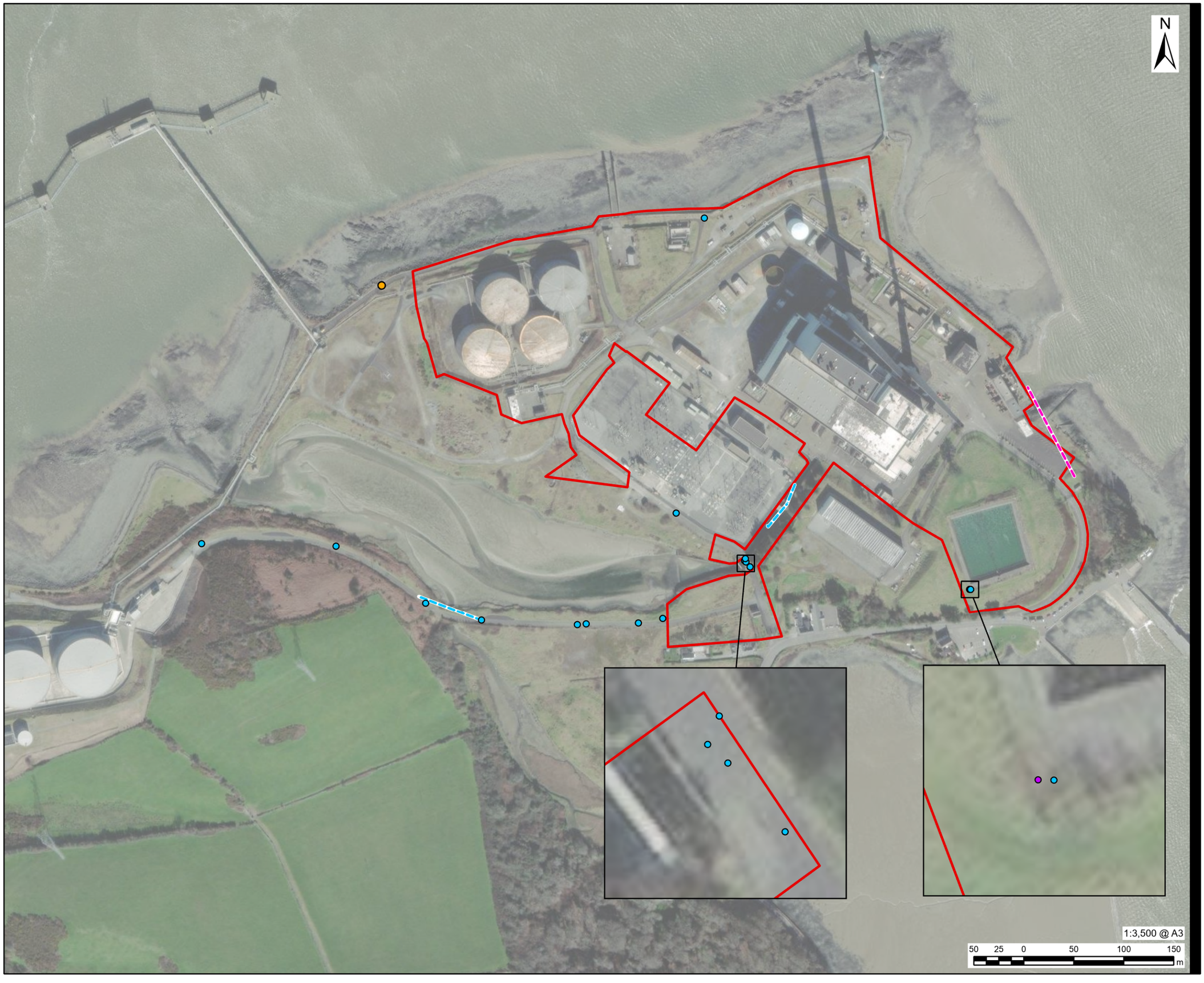

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LEGEND

- Proposed Development Site

Bat Activity Line

- Soprano pipistrelle
- Unknown

Bat Activity Point

- Common pipistrelle
- Leisler's bat
- Soprano pipistrelle

NOTES

Maxar, Microsoft

ISSUE PURPOSE

FINAL

PROJECT NUMBER

60707258

FIGURE TITLE

Bat Activity Survey Results 30 August 2023

FIGURE NUMBER

9C.3

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