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SPALDING ENERGY PARK BATTERY ENERGY STORAGE SYSTEM

ENVIRONMENTAL AND TECHNICAL REPORT

APPLICATION FOR PLANNING PERMISSION UNDER THE 1990 TOWN AND COUNTRY PLANNING ACT

RAMBOLL

SPALDING ENERGY PARK BATTERY ENERGY STORAGE SYSTEM

ENVIRONMENTAL AND TECHNICAL REPORT
Application for Planning Permission under the 1990 Town and Country Planning Act

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Prepared By:	EAGUS

Ramboll

Suite 2, NEON,
Quorun Business Park,
Benton Lane,
Newcastle upon Tyne,
NE12 8BU
United Kingdom

T: +44 (0) 191 594 7498

https://uk.ramboll.com/energy

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Ramboll UK Limited
Registered in England and Wales
Company No: 03659970
Registered Office:
240 Blackfriars Road
London
SE1 8NW
United Kingdom

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EXECUTIVE SUMMARY

Spalding Energy Park Limited (SEPL), a company controlled by InterGen UK Developments Limited (InterGen), is submitting an application for planning permission under the 1990 Town and Country Planning Act[1] to South Holland District Council (the Council) for the Spalding Energy Battery Energy Storage System (BESS).

Ramboll UK Limited (Ramboll) have been appointed by InterGen to support the application and, in support of the application, have prepared this Environmental and Technical Report in respect of the Spalding Energy Park BESS.

The Application Site is located off West Marsh Road, to the south of the existing InterGen-owned Spalding combined cycle gas turbine (CCGT) generating station, and immediately to the west of the existing InterGen-owned Spalding open cycle gas turbine (OCGT) generating station.

The Spalding Energy Park BESS will comprise:

- Batteries, housed in containers / enclosures, also including:
  - Control and protection systems;
  - Power conversion systems and associated transformers; and,
  - Temperature regulation systems;
- An Electrical Banking Station (comprising a main step-up transformer(s) and switchgear);
- A Welfare Compound (comprising office areas, kitchen facilities, changing / toilet facilities and car parking);
- Electrical cabling and electrical connection;
- Site security (including: fencing; Closed Circuit Television (CCTV) / security cameras; and, operational (intermittent) lighting columns); and,
- Landscaping.

Other associated development works include:

- Site preparation (including any necessary ground works to raise the site to the required levels); and,
- Provision of site drainage.

The Spalding Energy Park BESS will be connected to the existing National Grid 400 kV Spalding North Substation.

Spalding Energy Park BESS development and construction may take place in one phase, or over a number of phases. For one construction phase (or the first construction phase), the construction period will likely last between one-and-a-half to two-and-a-half years (18 – 30 months). For any subsequent construction phase, each additional construction period will likely last between one-and-a-half to two years (18 – 24 months). For the purposes of assessment, one construction phase with a construction period lasting two years (24 months) has been assumed.

It is anticipated that the first construction phase will commence in Q1 / Q2 2023 and, in particular, with regards to the site preparation, parts of the Application Site will be raised to a level of 6.7 metres (m) Above Ordnance Datum (AOD) to mitigate potential flood risks.

The Spalding Energy Park BESS power capacity will be up to 550 MW.

The Spalding Energy Park BESS will be an unmanned operational facility, noting that continuous and remote monitoring / regular inspection and maintenance visits will be undertaken, and each phase will have an operational lifetime of approximately 20 to 25 years.

The 2017 Town and Country Planning (Environmental Impact Assessment) Regulations[2] (the Environmental Impact Assessment (EIA) Regulations) apply to applications for planning permission under the 1990 Town and Country Planning Act.

[1] The 1990 Town and Country Planning Act. Available at: https://www.legislation.gov.uk/ukpga/1990/8/contents
[2] The 2017 Town and Country Planning (Environmental Impact Assessment) Regulations. Available at: https://www.legislation.gov.uk/uksi/2017/571/contents/made

Accordingly, this Environmental and Technical Report also presents the relevant environmental assessment information to aid the Council in adoption of a Screening Opinion as to whether (or not) the Spalding Energy Park BESS comprises EIA Development.

Based on the relevant environmental assessment information, it is considered that:

- The Spalding Energy Park BESS is not Schedule 1 development; and,
- Whilst the Spalding Energy Park BESS is Schedule 2 development, it is not likely to have significant effects / impacts on the surrounding environment.

Therefore, it is considered that the Spalding Energy Park BESS is not EIA Development.

LIST OF ABBREVIATIONS

AIL	Abnormal Indivisible Load
AIS	Air Insulated Switchgear
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
BESS	Battery Energy Storage System
BMS	Battery Management System
bn	billion (1,000,000,000)
CCGT	Combined Cycle Gas Turbine
CCTV	Closed Circuit Television
CEMP	Construction Environmental Management Plan
EIA	Environmental Impact Assessment
EMS	Energy Management System
GW	gigawatt
ha	hectare
HGV	Heavy Goods Vehicle
HIS	Highly Integrated Switchgear
HVAC	Heating, Ventilation and Air Conditioning
InterGen	InterGen UK Developments Limited
ITT	Invitation to Tender
km	kilometre
kV	kilovolt
m	metre
MW	megawatt
MWh	megawatt-hours
NO_2	nitrogen dioxide
NSR	Noise Sensitive Receptor
O&M	Operation and Maintenance
OCGT	Open Cycle Gas Turbine
OS	Ordnance Survey
PM_{10}	particulate matter
PPE	Personal Protective Equipment
PPG	Planning Practice Guidance
PV	PhotoVoltaic
Ramboll	Ramboll UK Limited
SAC	Special Area of Conservation
SEPL	Spalding Energy Park Limited
SPA	Special Protection Area
SSSI	Site of Special Scientific Importance
The Council	South Holland District Council
TWh	terawatt-hours
ZoI	Zone of Influence

1. INTRODUCTION

1.1 Overview

1.1.1 Spalding Energy Park Limited (SEPL), a company controlled by InterGen UK Developments Limited (InterGen), is submitting an application for planning permission under the 1990 Town and Country Planning Act[3] to South Holland District Council (the Council) for the Spalding Energy Park Battery Energy Storage System (BESS).

1.1.2 Ramboll UK Limited (Ramboll) have been appointed by InterGen to support the application and, in support of the application, have prepared this Environmental and Technical Report in respect of the Spalding Energy Park BESS.

1.2 Overview of the Spalding Energy Park BESS

1.2.1 The Application Site is located off West Marsh Road, to the south of the existing InterGen-owned Spalding combined cycle gas turbine (CCGT) generating station, and immediately to the west of the existing InterGen-owned Spalding open cycle gas turbine (OCGT) generating station.

1.2.2 Insert 1-1 presents the Application Site (shown with a red line boundary).

1.2.3 The Ordnance Survey (OS) Grid Reference for the centre of the Application Site is approximately 525801, 324553.

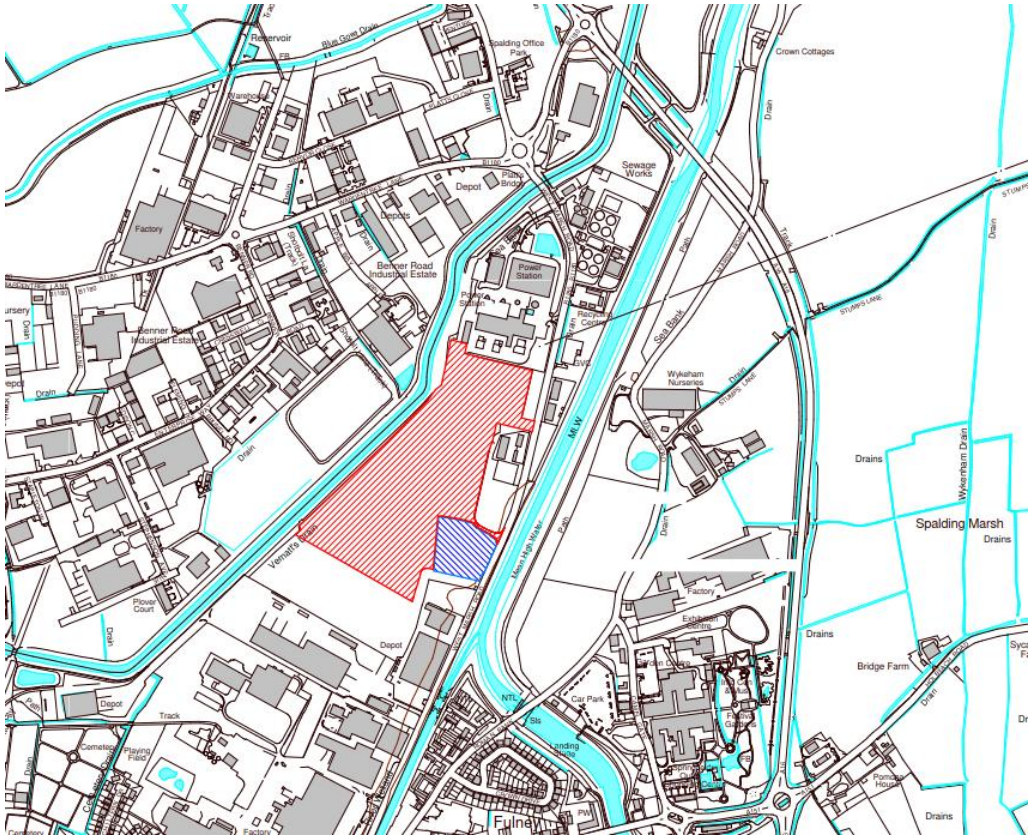
1.2.4 The Application Site covers a total area of approximately 12.6 hectares (ha) (31.1 acres), and is located at an elevation / level between 4.8 – 11.0 metres (m) Above Ordnance Datum (AOD).

[3] The 1990 Town and Country Planning Act. Available at: https://www.legislation.gov.uk/ukpga/1990/8/contents

Insert 1-1: APPLICATION SITE[4]

Based on Weedon Architects Drawing (Reference 16181-WDN-XX-XX-DR-A-0320)

Application Site Boundary



[4] Other land within the Applicant's (InterGen's) control is shown with blue line boundary.

1.2.5 The Spalding Energy Park BESS will comprise:

- Batteries, housed in containers / enclosures, also including:
  - Control and protection systems;
  - Power conversion systems and associated transformers; and,
  - Temperature regulation systems;
- An Electrical Banking Station (comprising a main step-up transformer(s) and switchgear);
- A Welfare Compound (comprising office areas, kitchen facilities, changing / toilet facilities and car parking);
- Electrical cabling and electrical connection;
- Site security (including: fencing; Closed Circuit Television (CCTV) / security cameras; and, operational (intermittent) lighting columns); and,
- Landscaping.

1.2.6 Other associated development works include:

- Site preparation (including any necessary ground works to raise the site to the required levels); and,
- Provision of site drainage.

1.2.7 The Spalding Energy Park BESS will be connected into the existing National Grid 400 kilovolt (kV) Spalding North Substation.

1.2.8 Spalding Energy Park BESS development and construction may take place in one phase, or over a number of phases. For one construction phase (or the first construction phase), the construction period will likely last between one-and-a-half to two-and-a-half years (18 – 30 months). For any subsequent construction phase, each additional construction period will likely last between one-and-a-half to two years (18 – 24 months). For the purposes of assessment, one construction phase with a construction period lasting two years (24 months) has been assumed.

1.2.9 It is anticipated that the first construction phase will commence in Q1 / Q2 2023 and, in particular, with regards to the site preparation, parts of the Application Site will be raised to a level of 6.7 m AOD to mitigate potential flood risks.

1.2.10 The Spalding Energy Park BESS power capacity will be up to 550 megawatts (MW).

1.2.11 The Spalding Energy Park BESS will be an unmanned operational facility, noting that continuous and remote monitoring / regular inspection and maintenance visits will be undertaken, and each phase will have an operational lifetime of approximately 20 to 25 years.

Rationale for the Spalding Energy Park BESS

1.2.12 BESS technologies offer great potential to support the UK's electricity transmission and distribution network system and, in 2013, were named by the UK Government as one of the "*eight great technologies* […] *in which the UK is set to be a global leader*"[5].

1.2.13 At that time, the UK Government stated that UK researchers were developing next generation battery technologies which could "*reduce our electricity consumption by one fifth*", and with the increased integration of intermittent renewable technologies (such as solar photovoltaics (PV) and wind) "*will keep the lights on*". The UK Government further stated that "*innovation in energy storage could create £12* [billion] *bn of new business revenue in the UK*"[6].

[5] 'Eight Great Technologies: Infographics' (HM Government, October 2013). See information available at: https://www.gov.uk/government/publications/eight-great-technologies-infographics
[6] 'Eight Great Technologies: Energy Storage' (HM Government, October 2013). See information available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/249262/energy_storage_infographic.pdf

1.2.14 Subsequently, in 2016, the Renewable Energy Association stated that the use of energy storage technologies is "*a key missing piece of the UK's energy policy*" and can "*help deliver the low carbon energy the country needs*"[7].

1.2.15 Furthermore, in 2017, the UK Government and OFGEM stated that "*storage can open up many possibilities, helping to integrate low carbon generation, reduce the costs of operating the system, and help avoid or defer costly reinforcements to the network*"[8].

1.2.1 At the current time, the UK's energy market continues to evolve rapidly, both pressured and supported by the UK Government's 2050 'Net Zero' target[9]. This is anticipated to further accelerate during the recovery from the impact of COVID-19.

1.2.2 A key enabler to the 2050 Net Zero target, and wider energy market decarbonisation, is the development and deployment of energy storage technologies, including BESS. Indeed, by 2035, the Climate Change Committee's Net Zero Balanced Pathway forecast include the development and deployment of 18 gigawatts (GW) of BESS capacity[10].

1.2.3 Within this context, the Spalding Energy Park BESS will be able to provide essential support to the UK's energy market evolution, delivering significant benefits in addressing the UK's 'Energy Trilemma'[11]. These benefits include:

- In terms of ensuring security of supply:
  - Helping to optimise overall supply and demand, and thereby reducing the reliance on supplies through interconnectors.
  - Providing a source of scalable low carbon energy supply security as closures of thermal (fossil fuelled) assets start to outpace the growth and integration of renewable energy. Indeed, by 2030, it is anticipated that more than 50 gigawatt-hours (GWh) (€15 bn) of investment in battery energy storage will be required across Europe[12].
  - Addressing the increasing requirements for flexibility by balancing the variability in zero-carbon renewable energy generation, achieved by enabling energy produced from these technologies during times of low demand and / or during times of favourable generation conditions to be stored and subsequently discharged during times of peak demand.
  - Providing network system stability, with an ability to respond (i.e. discharge / generate) in less than 150 milliseconds.
  - Reducing transmission and distribution losses[13].
- In terms of decarbonising:
  - Supporting the further integration of zero-carbon renewable energy technologies (such as solar PV and wind). The use of an energy storage system for this is essential because, for renewable technologies, times of favourable generation conditions do not frequently coincide with times of peak demand. Indeed, in 2020, the UK curtailed energy generation from wind on 75% of days, totalling over 3.6 terawatt-hours (TWh) of zero-carbon energy[14]. This energy would have been able to serve over 1,000,000 homes

[7] 'Energy Storage in the UK: An Overview' (Renewable Energy Association (and UK Energy Storage), Autumn 2016). Available at: https://www.r-e-a.net/wp-content/uploads/2019/10/Energy-Storage-FINAL6.pdf
[8] 'Upgrading Our Energy System: Smart Systems and Flexibility Plan' (Department for Business, Energy and Industrial Strategy, July 2017 (Updated October 2018)). See information available at: https://www.gov.uk/government/publications/upgrading-our-energy-system-smart-systems-and-flexibility-plan
[9] The 2050 'Net Zero' target, set via the 2019 amendment to the 2008 Climate Change Act, requires a 100% reduction of all greenhouse gas emissions compared with 1990 levels. The original 2008 Climate Change Act required an 80% reduction of all greenhouse gas emissions compared with 1990 levels. The amended 2008 Climate Change Act is available at: https://www.legislation.gov.uk/ukpga/2008/27/contents
[10] 'The Sixth Carbon Budget: The UK's Path to Net Zero' (Climate Change Committee, December 2020). Available at: https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf
[11] The UK's 'Energy Trilemma' is widely accepted to represent the key challenges of: ensuring security of supply; decarbonising; and, containing costs.
[12] 'European Battery Investment Wave: Understanding and Quantifying Battery Value' (Timera Energy, October 2020).
[13] The Renewable Energy Association states that "*electricity transmission losses typically run at just below 10% of the total energy produced in the UK*".
[14] 'Is Battery Storage a Good Investment Opportunity' (Lane Clark and Peacock LLP, January 2021).

over the year if it had been able to be stored and subsequently discharged when required.

  - Further reducing the use of fossil fuels (and hence reducing emissions), creating a greener mix.

- In terms of containing costs:
  - Reducing business and consumer bills as energy can be stored when prices are low, and discharged when prices are high.
  - Reducing the amount of transmission and distribution network upgrades required.

1.2.4 To highlight the Spalding Energy Park BESS ambition and scale, when fully charged, a 550 MW BESS (assuming a two-hour discharge capacity) would be able to supply approximately 277,000 homes[15] per year, or fully charge up to approximately 19,600 electric vehicles[16].

1.3 Structure of this Report

1.3.1 This structure of this Report comprises:

- *Section 1:* This brief Introduction, including a summary of the rationale for the development of the Spalding Energy Park BESS.
- *Section 2:* A summary of the Relevant Consenting History of the Site, and the Accepted Environmental Envelope for the site.
- *Section 3:* A description of the Spalding Energy Park BESS, in particular the site location and characteristics.
- *Section 4:* The presentation of the Relevant Environmental Assessment Information.

1.3.2 Additional supporting information is provided in the Appendices.

[15] Calculated taking the anticipated power capacity (up to 550 MW) and assuming a two-hour discharge capacity (to give an energy storage capacity of 1,100 megawatt-hours (MWh)) and an average of two cycles per day for 365 days per year, and dividing by the medium typical domestic consumption value per year (2.9 MWh).
[16] Calculated taking the anticipated power capacity (up to 550 MW) and assuming a two-hour discharge capacity (to give an energy storage capacity of 1,100 MWh), and dividing by an average (available) electric vehicle consumption (0.056 MWh).

2. RELEVANT CONSENTING HISTORY OF THE SITE, AND ACCEPTED ENVIRONMENTAL ENVELOPE

2.1 Overview

2.1.1 The Spalding Energy Park BESS will replace the remaining unbuilt elements of the current committed development (the Spalding Energy Expansion generating station) on the site. Therefore, if implemented, the potential effects / impacts from the Spalding Energy Park BESS on the surrounding environment will replace those of the remaining unbuilt elements of the current committed development (i.e. as they occupy the same site, they are 'mutually exclusive', and cannot co-exist).

2.1.2 In this regard, this Section sets out:

- The relevant consenting history of the site; and,
- The concept of an accepted environmental envelope for the site.

2.1.3 It should be noted that this Section provides the relevant consenting history of the current committed development (the Spalding Energy Expansion generating station) on site. The Planning Statement (prepared by DWD) provides the full relevant consenting history of the site.

2.2 Consenting History of the Site

2.2.1 On 11 November 2010, consent was granted under Section 36 of the 1989 Electricity Act for the Spalding Energy Expansion generating station. The consent was accompanied by a direction that planning permission be deemed to be granted under Section 90 of the 1990 Town and Country Planning Act. Within the consent, the Spalding Energy Expansion generating station had a permitted generation capacity of about[17] 900 MW and comprised up to two CCGT units. The consent commencement deadline was not later than 11 November 2015.

2.2.2 Subsequently, two variations to the consent have been granted under Section 36C of the 1989 Electricity Act. The varied consents were accompanied by directions that the planning permission deemed to be granted be varied under Section 90(2ZA) of the 1990 Town and Country Planning Act.

2.2.3 On 30 October 2015, the first variation was granted. Within the varied consent, the Spalding Energy Expansion generating station had a permitted generation capacity of up to 945 MW and comprised either:

(i) Development Option (i), comprising:

(1) Up to two CCGT units; or,

(ii) Development Option (ii), comprising:

(1) One CCGT unit; and,

(2) One or more OCGT units, with the OCGT units having a combined rated electrical output of less than 300 MW.

2.2.4 The consent commencement deadline was extended to not later than 30 October 2020.

2.2.5 The supporting rationale for the variation was to:

- Provide the flexibility for the implementation of the most appropriate Development Option for the electricity market and, under Development Option (ii), enable the use of highly efficient technology (based on the CCGT unit) alongside fast-start peaking technology (based on OCGT unit(s)); and,
- Allow a meaningful opportunity for the Spalding Energy Expansion generating station to win an award during the UK's Capacity Market Auction[18], and subsequently progress towards the finalisation of a construction contract(s),

[17] A tolerance of up to 5% was permitted.
[18] Used within the context of the application / variation date and timing, noting that the decision to run a Capacity Market Auction is made around June each year by the Secretary of State and that, during a Capacity Market Auction, the clearing price is driven by a number of factors but mainly by the amount of capacity to be procured and the capacity of Capacity Market Units that participate.

securing of a power purchase agreement(s) / tolling contract(s) and raising of project finance.

2.2.6 In December 2016, the Development Option (ii) OCGT unit(s) secured an award in the UK's T-4 Capacity Market Auction.

2.2.7 Accordingly, on 7 June 2017, Spalding Energy Expansion Limited (a wholly owned subsidiary of InterGen) notified the Secretary of State and the Council that the Spalding Energy Expansion generating station would comprise Development Option (ii).

2.2.8 In association, in order to allow for a phased development of the Spalding Energy Expansion generating station, on 7 August 2017, non-material amendments were approved to the planning permission deemed to be granted.

2.2.9 The supporting rationale for the non-material amendments were to:

- In recognition of the Development Option (ii) OCGT unit(s) award in the Capacity Market Auction and differing Development Option element economics, maximise the opportunity for the remaining unbuilt elements of the Spalding Energy Expansion generating station to win award(s) during future UK Capacity Market Auctions, and subsequently progress towards finalisation of construction contract(s) and power purchase agreement(s) / tolling contract(s), and raise the relevant project finance.

2.2.10 Most recently, in January 2018, the second variation was granted. Within the varied consent, the Spalding Energy Expansion generating station has a permitted generation capacity of up to 945 MW and comprises:

- Development Option (ii), comprising:

  (1) One CCGT unit;

  (2) One or more OCGT units, with the OCGT units having a combined rated electrical output of less than 300 MW; and,

  (3) A BESS with a rated electrical output of up to 175 MW.

2.2.11 The consent commencement deadline remains not later than 30 October 2020.

2.2.12 The supporting rationale for the variation was to:

- Complement the Development Option (ii) CCGT and OCGT elements by using a BESS to provide essential support to the UK's electricity transmission and distribution network system and deliver significant benefits in addressing the UK's 'Energy Trilemma'.

2.2.13 On 6 March 2018, the Development Option (ii) OCGT unit commenced construction, and in June / July 2019 commenced commercial operation (ahead of commitments under its award).

2.2.14 Subsequently, in order to allow for the further development of the Spalding Energy Expansion generating station site via the reprofiling of the Mound[19], on 3 September 2021, additional non-material amendments were approved to the planning permission deemed to be granted.

2.2.15 Based on the above, the January 2018 varied consent (as amended) comprises the existing consent for the remaining unbuilt elements of the Spalding Energy Expansion generating station, and is capable of being implemented (therefore representing a 'fallback' position).

2.2.16 Within this context, it is noted that the Spalding Energy Park BESS represents the latest iteration of the remaining unbuilt elements of the Spalding Energy Expansion generating station.

[19] Historically, the existing InterGen-owned Spalding CCGT generating station site and the Spalding Energy Expansion generating station site were used as a sugar beet factory (including railway lines and sidings, and settlement lagoons / ponds). In 1989, the sugar beet factory closed and subsequently, between 2001 and 2004 (during the construction of the existing InterGen-owned Spalding CCGT generating station), sugar beet washings from the settlement lagoons / ponds were relocated to the Spalding Energy Expansion generating station site. These washings comprise Made Ground that is present in variable thickness [across the Spalding Energy Expansion generating station site], with a Mound forming a distinct area approximately 4 m higher than the remainder of the site.

2.2.17 However, the Spalding Energy Park BESS is being progressed under the 1990 Town and Country Planning Act as, in England, BESS technologies no longer fall under the 1989 Electricity Act or the 2008 Planning Act[20].

2.2.18 Table 2-1 provides a summary of the above relevant consenting history of the site, alongside the proposals for the current application for planning permission for the Spalding Energy Park BESS.

Table 2-1: SUMMARY OF THE RELEVANT CONSENTING HISTORY OF THE SITE / CURRENT APPLICATION FOR PLANNING PERMISSION FOR THE SPALDING ENERGY PARK BESS

	2010 Consent	*2015 Variation*	*2018 Variation*	*Application*
SPALDING ENERGY EXPANSION GENERATING STATION: DEVELOPMENT OPTION (i)				
CCGT	900 MW	945 MW	N / A	-
SPALDING ENERGY EXPANSION GENERATING STATION: DEVELOPMENT OPTION (ii)				
CCGT	-	645 MW	Up to 645 MW	-
OCGT	-	Less than 300 MW	Less than 300 MW	-
BESS	-	-	Up to 175 MW	-
SPALDING ENERGY PARK BESS				
BESS	-	-	-	Up to 550 MW

2.3 Accepted Environmental Envelope

2.3.1 As the Spalding Energy Park BESS will replace the remaining unbuilt elements of the current committed development (the Spalding Energy Expansion generating station) on the site, it is noted that the above consenting history of the site also sets an accepted environmental envelope for the site. That is, the 2010 Consent, alongside the 2015 Variation and the most recent 2018 Variation, have set an accepted level of effects / impacts on the surrounding environment.

2.3.2 Accordingly, the accepted environmental envelope (noting the relevant baseline (i.e. state of the surrounding environment)) for the site is described / set out in the previous environmental assessments prepared in respect of (and submitted to inform) the previous applications for consent / varied consents.

2.3.3 Appendix A provides a full description of the accepted environmental envelope, and also provides a qualitative assessment of the Spalding Energy Park BESS against this accepted environmental envelope.

2.3.4 This assessment is of relevance because, as noted above, the remaining unbuilt elements of the current committed development (the Spalding Energy Expansion generating station) are capable of being implemented, and therefore represent a 'fallback' position.

2.3.5 Appendix A shows that, across both construction (and decommissioning) and operation, for the majority of aspects / receptors, the differences in potential effects / impacts on the surrounding environment of the Spalding Energy Park BESS against the accepted environmental envelope are either of an overall positive or negligible nature.

[20] The 2008 Planning Act. Available at: https://www.legislation.gov.uk/ukpga/2008/29/contents

3. THE SPALDING ENERGY PARK BESS

3.1 Overview

3.1.1 This Section provides a summary of the Spalding Energy Park BESS, in particular its site location and characteristics. Subsequently, this Section also provides a description of the current state of the surrounding environment and the potential effects / impacts from the Spalding Energy Park BESS on the surrounding environment.

3.2 Application Site Location

3.2.1 The Application Site is located off West Marsh Road, to the south of the existing InterGen-owned Spalding CCGT generating station, and immediately to the west of the existing InterGen-owned Spalding OCGT generating station.

3.2.2 Insert 3-1 presents the Application Site (shown with a red line boundary).

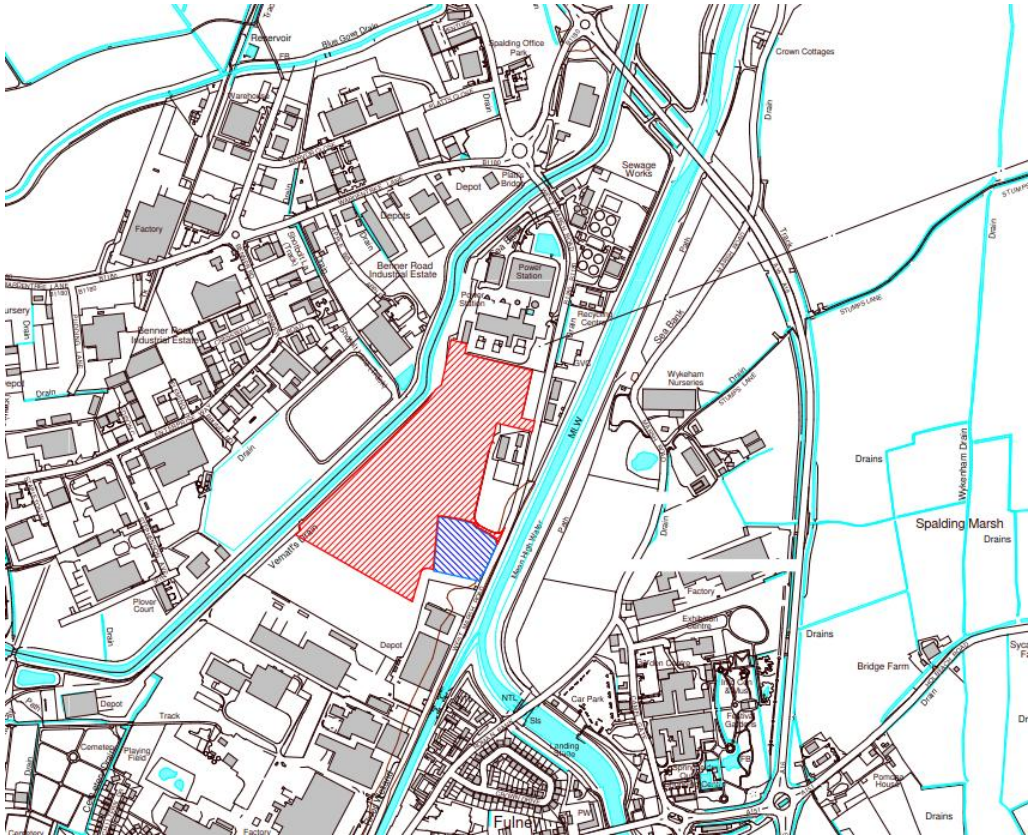
3.2.3 The OS Grid Reference for the centre of the Application Site is approximately 525801, 324553.

3.2.4 The Application Site covers a total area of approximately 12.6 ha (31.1 acres), and is located at an elevation / level between 4.8 – 11.0 m AOD.

Insert 3-1: APPLICATION SITE[21]

Based on Weedon Architects Drawing (Reference 16181-WDN-XX-XX-DR-A-0320)

Application Site Boundary



[21] Other land within the Applicant's (InterGen's) control is shown with blue line boundary.

Existing and Approved Land Uses

3.2.5 Within the South East Lincolnshire Local Plan[22], the Application Site is located on land designated under:

- Policy 7 on Improving South East Lincolnshire's Employment Land Portfolio, and more specifically as sites SP037 ('Spalding Power Station') and SP038 ('Spalding Power Station B') noted to be 'Restricted Use Employment Sites'.

3.2.6 It is noted that the 'Restricted Use Employment Sites' designation is: "*to encourage investment in port-related and power-generation related industries*".

3.2.7 The Planning Statement (prepared by DWD) provides further information on the South East Lincolnshire Local Plan and associated policies, alongside the relevant planning assessment information.

3.2.8 Within the immediate surrounding area, the predominant land use is commercial and industrial. Indeed, the immediate surrounding existing and approved land uses to the Application Site comprise:

- To the north, the existing National Grid 400 kV Spalding North Substation and the existing InterGen-owned Spalding CCGT generating station. Further to the north, across West Marsh Road, the existing Anglian Water sewage treatment works.
- To the north east, across West Marsh Road, the Gas Receiving Facility for the existing InterGen-owned generating stations and some Council offices.
- To the east, the existing InterGen-owned Spalding OCGT generating station and West Marsh Road. Further to the east, across West Marsh Road, the River Welland and agricultural land with occasional residential dwellings.
- To the south east, across West Marsh Road and the River Welland, the Springfields Shopping Centre and Festival Gardens.
- To the south, commercial and industrial buildings (Fowler Welch Transport Depot), with no obvious bulk fuel storage.
- To the west, Vernatt's Drain (which is a man-made drainage channel designed as a flood prevention measure). Further to the west, across Vernatt's Drain, the Benner Road Industrial Estate, comprising a mixture of commercial and industrial premises (including some associated with food storage, processing and distribution).
- To the north west, a mixture of commercial and industrial premises.

3.2.9 The Application Site (and Spalding Energy Park BESS) will be viewed within this immediate commercial and industrial context.

3.2.10 Within the wider surrounding area, the predominant land use is agricultural with some residential settlements. Within the wider surrounding area, the nearest larger residential settlements to the Application Site[23] include:

- To the east, Holbeach (approximately 10 kilometres (km));
- To the south east, Wisbech (approximately 25 km);
- To the south west, Spalding (approximately 2.0 km) and Peterborough (27 km); and,
- To the north west, Sleaford (both approximately 28 km).

3.2.11 Insert 3-2 provides visual context for the surrounding land uses.

[22] The South East Lincolnshire Local Plan is the main local plan document setting out the planning policy across Boston Borough and South Holland District, and was developed through the partnership of Boston Borough Council, South Holland District Council and Lincolnshire County Council. On 8 March 2019, the South East Lincolnshire Local Plan was adopted. The South East Lincolnshire Local Plan covers the period 2011 to 2036. Further information is available at: http://www.southeastlincslocalplan.org/

[23] Measured from the centre of the Application Site to the approximate centre of the residential settlement as marked on Google Earth Pro (© 2021).

Insert 3-2: CONTEXT FOR THE SURROUNDING LAND USES (BASED ON GOOGLE EARTH PRO (© 2021))



Previous Land Uses

3.2.12 The Historical OS Maps of the area indicate that the Application Site and surrounding area were mainly undeveloped and used for agriculture / farming until the 1920s and the establishment of a sugar factory.

3.2.13 The previous land uses on and immediately adjacent to the Application Site are summarised as follows:

- Prior to the 1920's, the main land use was agriculture / farming;
- 1924 / 1925: Development and construction of the sugar factory;
- 1925 – 1989: Operation of the sugar factory (originally as part of the Anglo-Scottish Beet Sugar Corporation, and latterly as part of the British Sugar Corporation);
- 1989: Closure of the sugar factory;
- 1989 – 1995: Minor operational related to the closure of the sugar factory;
- 2001 – 2004: (on land to the north) Development and construction of the existing National Grid 400 kV Spalding North Substation and the existing InterGen-owned Spalding CCGT generating station;
- 2004: (on land to the north) First commercial operation of the existing InterGen-owned Spalding CCGT generating station;
- 2018 – 2019: (on land to the east) Development and construction of the existing InterGen-owned Spalding OCGT generating station;
- 2019: (on land to the east) First commercial operation of the existing InterGen-owned Spalding OCGT generating station; and,
- Ongoing: Operation of the existing InterGen-owned Spalding CCGT generating station and Spalding OCGT generating station.

Designated Sites / Sensitive Area Locations

3.2.14 Noting the 2017 Town and Country Planning (Environmental Impact Assessment) Regulations[24] (the Environmental Impact Assessment (EIA) Regulations), Table 3-1 provides a summary of the definition of designated sites and sensitive areas, along with a description of their associated location in relation to the Application Site.

[24] The 2017 Town and Country Planning (Environmental Impact Assessment) Regulations. Available at: https://www.legislation.gov.uk/uksi/2017/571/contents/made

Table 3-1: DEFINITION OF DESIGNATED SITES / SENSITIVE AREAS, AND ASSOCIATED LOCATION IN RELATION TO THE APPLICATION SITE

EIA Regulations Definition[25]		*Associated Location*
"[designated site /] *"sensitive area" means any of the following –*		
(a)	*land notified under section 28(1) (sites of special scientific interest) of the Wildlife and Countryside Act 1981;*	The Application Site is not located within a Site of Special Scientific Interest (SSSI). The SSSIs within a 5 km radius comprise: • Surfleet Lows SSSI, approximately 4.0 km to the north.
(b)	*a National Park within the meaning of the National Parks and Access to the Countryside Act 1949;*	The Application Site is not located within a National Park. There are no National Parks within a 5 km radius, and the closest is the Broads National Park, located over 100 km to the east.
(c)	*the Broads;*	The Application Site is not located in The Broads. The Broads are located over 100 km to the east.
(d)	*a property appearing on the World Heritage List kept under article 11(2) of the 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage;*	The Application Site is not located within a property appearing on the World Heritage List. There are no properties appearing on the World Heritage List within a 5 km radius, and the closest is the Derwent Valley Mills, located over 90 km to the west.
(e)	*a scheduled monument within the meaning of the Ancient Monuments and Archaeological Areas Act 1979;*	The Application Site is not located within a Scheduled Monument. The Scheduled Monuments within a 5 km radius comprise: • Pinchbeck Engine (#LI 248 / 1004966), approximately 1.7 km to the north east; • Wykeham Chapel (# 33131 / 1019096), approximately 2.6 km to the north east; and, • Churchyard Cross at St Mary's Churchyard (#22691 / 1013529), located approximately 3.5 km to the east.
(f)	*an area of outstanding natural beauty designated as such by an order made by Natural England under section 82(1) (areas of outstanding natural beauty) of the Countryside and Rights of Way Act 2000;*	The Application Site is not located in an Area of Outstanding Natural Beauty (AONB). There are no AONBs within a 5 km radius, and the closest is the Norfolk Coast AONB, located over 30 km to the east.

[25] Regulation 2 (Interpretation) of the EIA Regulations.

EIA Regulations Definition[25]		*Associated Location*
(g)	*a European site within the meaning of regulation 8 of the Conservation of Habitats and Species Regulations 2010*".	The Application Site is not located within a European site (either a Ramsar Site, Special Area of Conservation (SAC) or Special Protection Area (SPA)). There are no Ramsar Sites, SACs or SPAs within a 5 km radius, and the closest are: • The Wash Ramsar Site, located over 10 km to the north east; • The Wash and North Norfolk Coast SAC, located over 10 km to the north east; and, • The Wash SPA, located over 10 km to the north east.

3.3 Spalding Energy Park BESS Characteristics

3.3.1 The Spalding Energy Park BESS will comprise:

- Batteries, housed in containers / enclosures, also including:
  - Control and protection systems;
  - Power conversion systems and associated transformers; and,
  - Temperature regulation systems;
- An Electrical Banking Station (comprising a main step-up transformer(s) and switchgear);
- A Welfare Compound (comprising office areas, kitchen facilities, changing / toilet facilities and car parking);
- Electrical cabling and electrical connection;
- Site security (including: fencing; CCTV / security cameras; and, operational (intermittent) lighting columns); and,
- Landscaping.

3.3.2 Other associated development works include:

- Site preparation (including any necessary ground works to raise the site to the required levels); and,
- Provision of site drainage.

3.3.3 The Spalding Energy Park BESS will be connected into the existing National Grid 400 kV Spalding North Substation.

Phasing

3.3.4 Spalding Energy Park BESS development and construction may take place in one phase, or over a number of phases. It is anticipated that any formal requirement for a phasing plan / programme will be secured via a suitably worded condition in the planning permission.

3.3.5 For one construction phase (or the first construction phase), the construction period will likely last between one-and-a-half to two-and-a-half years (18 – 30 months). For any subsequent construction phase, each additional construction period will likely last between one-and-a-half to two years (18 – 24 months). For the purposes of assessment, one construction phase with a construction period lasting two years (24 months) has been assumed.

3.3.6 It is anticipated that the first construction period will commence in Q1 / Q2 2023 and, in particular, with regards to the site preparation, parts of the Application Site will be raised to a level of 6.7 m AOD to mitigate potential flood risks.

Size and Design

3.3.7 The Spalding Energy Park BESS power capacity will be up to 550 MW.

3.3.8 The Spalding Energy Park BESS will be an unmanned operational facility, noting that continuous and remote monitoring / regular inspection and maintenance visits will be undertaken, and each phase will have an operational lifetime of approximately 20 to 25 years.

3.3.9 The exact Spalding Energy Park BESS characteristics have yet to be confirmed (pending (for example): the selection and appointment of a BESS integrator[26]; detailed design; the selection and appointment of a Construction Contractor (or Construction Contractors); further ground investigations; the accuracy of existing services / utilities information; and, agreements with existing services / utilities operators).

[26] InterGen is currently running a formal Invitation to Tender (ITT) process amongst a short-list of leading BESS integrators. Each BESS integrator solution contains similar equipment, but the exact layout and dimensions / number of BESS containers / enclosures is different.

3.3.10 In particular, it should be noted that the exact area required, and the associated layout and visuals, will be dependent on a number of factors, in particular: the selected / appointed BESS integrator; the initial BESS power capacity (MW) and duration / energy storage capacity (hours / megawatt-hours(MWh)); and, the subsequent BESS augmentations[27].

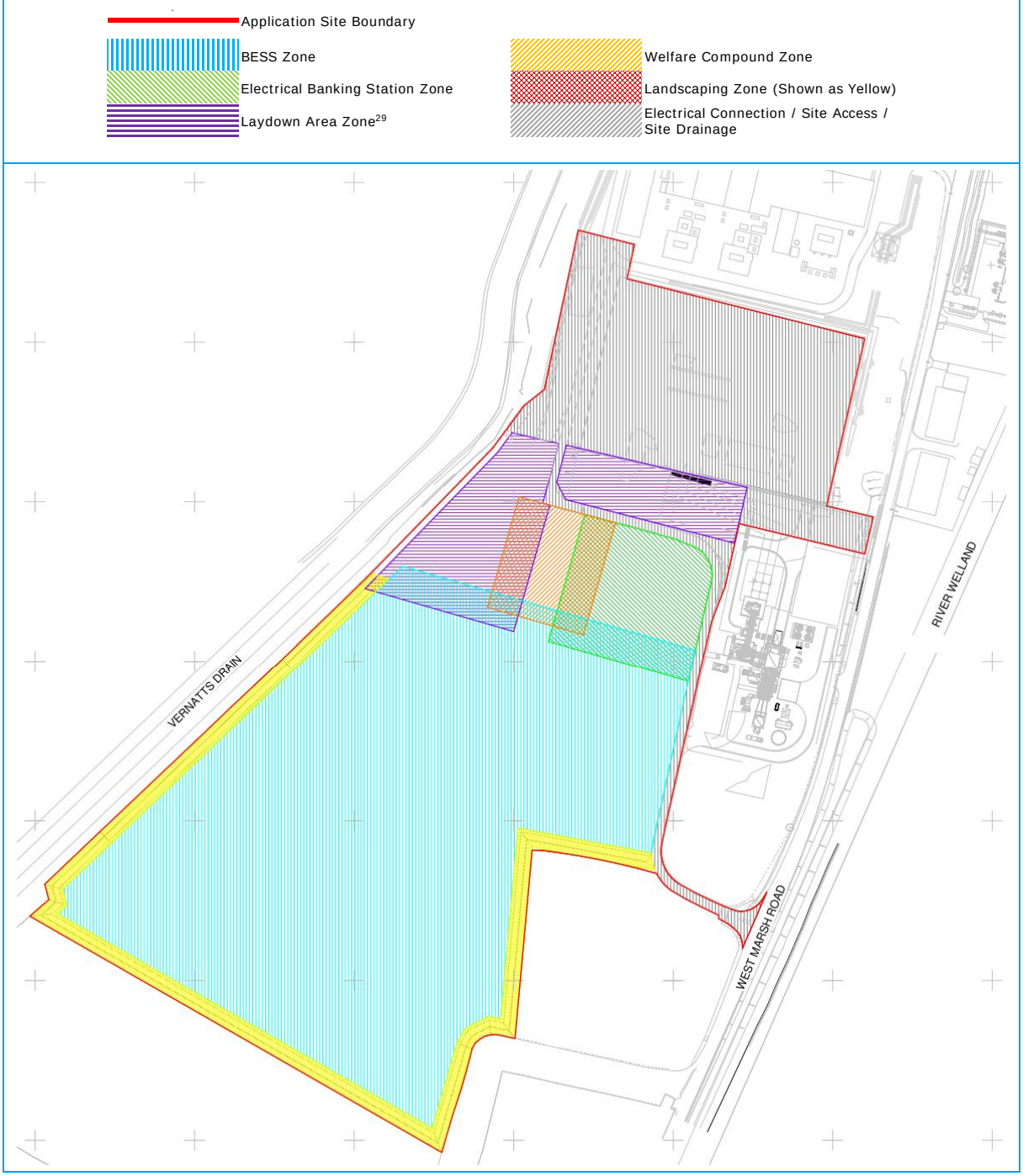
3.3.11 Therefore, a degree of flexibility has been incorporated into the application and supporting reports / studies. In this regard, Insert 3-3 presents the Parameter Plan (which allows for subsequent BESS augmentations[28]).

3.3.12 The design of the BESS will minimise both regular and long-term maintenance requirements. Materials and finishes will be selected to meet this objective and to ensure that the appearance of the Spalding Energy Park BESS does not materially deteriorate over its operating lifetime.

[27] During commercial operation, it is anticipated that regular (approximately every three years) battery augmentations will take place to ensure that the batteries are returned to their original capacity. The augmentations will likely comprise the addition of further batteries and associated BESS containers / enclosures, and will incorporate the necessary control and protection, power conversion and temperature control systems (with associated transformers).
[28] Within the Parameter Plan, a conservative estimate for augmentation has been assumed.

Insert 3-3: PARAMETER PLAN

Based on Weedon Architects Drawing (Reference 16181-WDN-XX-XX-DR-A-1000)



[29] The existing InterGen-owned generating stations (Spalding CCGT generating station and Spalding OCGT generating station) use parts of the Application Site as laydown areas during maintenance / outages. These laydown areas are to be retained, and will also serve as the Spalding Energy Park BESS laydown area for maintenance / outages.

Batteries

3.3.13 It is anticipated that lithium-ion batteries will be used[30]. Lithium-ion battery technology is fully developed, and is also commercially proven and viable.

BESS Containers / Enclosures

3.3.14 The above factors (BESS integrator, initial power capacity and duration / energy storage capacity, and subsequent augmentation) will influence a number of specific BESS container / enclosure characteristics, including (for example): dimensions; number; and, stacking. These will subsequently influence the BESS arrangement / layout.

3.3.15 Noting the Parameter Plan, Table 3-2 provides a description of the BESS container / enclosure characteristics.

Table 3-2: DESCRIPTION OF BESS CONTAINER / ENCLOSURE CHARACTERISTICS

	Parameter Envelope
Dimensions	Varying container / enclosure dimensions are offered. These mainly vary in length and width, rather than height. Lengths vary between 2.6 – 7.2 m, and widths vary between 1.7 – 2.5 m. Heights are typically between 2.6 – 2.9 m. Typically, a number of BESS containers / enclosures are linked together into a group, and each group is then connected to an associated power conversion system and associated transformer.
Number	Depending on the BESS integrator, the container / enclosure number would be between 520 and 2,410. This includes the subsequent BESS augmentation provision. It should be noted that the maximum number corresponds with the minimum container / enclosure dimensions (and, conversely, the minimum number corresponds with the maximum container / enclosure dimensions).
Stacking	Some BESS integrators offer both single and double storey (single-stacked and double-stacked) solutions. In the case of single storey, the BESS container / enclosure height would be up to approximately 3.0 m. In the case of double storey, the BESS container / enclosure height (with the required separation) would be up to approximately 8.0 m. The Parameter Plan assumes the use of a double storey solution to optimise the use of land.

Electrical Banking Station (Transformers and Switchgear)

3.3.16 The Spalding Energy Park BESS will be connected to the existing National Grid 400 kV Spalding North Substation.

3.3.17 In order for the connection to be made, the Spalding Energy Park BESS will include an Electrical Banking Station, comprising a main step-up transformer(s) and 400 kV Air Insulated Switchgear (AIS), with cable sealing ends. The Electrical Banking Station will also include a switchroom.

3.3.18 The 400 kV AIS, with cable sealing ends, will comprise:

- 400 kV AIS surge arresters;
- 400 kV AIS circuit breakers, with associated disconnectors and integral earth switches;
- 400 kV High-Accuracy metering current and voltage transformers; and,
- 400 kV AIS insulators, busbars and clamps.

[30] Regarding other battery types, it is likely that lithium-ion batteries will continue to be the battery chemistry of choice for the immediate future, largely due to upfront investment in this battery chemistry from the automotive industry in large-scale manufacturing for the electric vehicle market.

3.3.19 The size of the Electrical Banking Station compound will be approximately 65 m × 75 m (0.5 ha). The maximum height of the Electrical Banking Station compound will be approximately 14.0 m.

Welfare Compound

3.3.20 Whilst the Spalding Energy Park BESS will be an unmanned operational facility, regular inspection and maintenance visits will be undertaken.

3.3.21 To facilitate these visits, the Spalding Energy Park BESS will include a Welfare Compound, comprising office areas, kitchen facilities, changing / toilet facilities and car parking.

3.3.22 Any Welfare Compound wastewater will be stored in sewage tanks and, on a periodic basis, removed by tanker for off-site treatment at an appropriately licenced facility. Therefore, the Welfare Compound will not generate an effluent / wastewater stream that requires a permanent connection into a foul water / sewerage system.

Electrical Cabling and Electrical Connection

3.3.23 Electrical cabling will be used to make the electrical connection between the Electrical Banking Station / main step-up transformer(s) and switchgear and the existing National Grid 400 kV Spalding North Substation.

3.3.24 Marker posts (approximately 0.75 m high) will be placed on the electrical connection route (between the Electrical Banking Station and the existing National Grid 400 kV Spalding North Substation) to inform of the existence and whereabouts of the electrical cabling and associated equipment.

3.3.25 Within the existing National Grid 400 kV Spalding North Substation, it is currently anticipated that the connection will require a Substation extension. The Substation extension will be approximately 65 m × 75 m (0.5 ha), noting that some of this area would be within the existing footprint.

3.3.26 It is anticipated the Substation extension will comprise:

- Removal of existing National Grid equipment (including the existing 400 kV AIS bus coupler circuit breaker, and associated disconnectors, and portable relay room);
- Installation of new InterGen equipment, including:
  - 400 kV Highly Integrated Switchgear (HIS), with cable sealing ends, comprising:
    - 400 kV HIS surge arresters;
    - 400 kV HIS circuit breaker(s), with associated disconnectors and earth switches;
    - 400 kV HIS current transformers; and,
  - A portable relay room.
- Installation of new National Grid equipment, including:
  - 400 kV AIS to HIS bushings;
  - 400 kV HIS, comprising:
    - 400 kV HIS surge arresters;
    - 400 kV HIS circuit breaker(s), with associated disconnectors and earth switches;
    - 400 kV HIS busbars; and,
  - A portable relay room.

Site Security

3.3.27 Access to the Spalding Energy Park BESS will be strictly controlled.

3.3.28 Operational security of the Spalding Energy Park BESS will be achieved by providing suitable fencing on the site perimeter (approximately 2.9 m in height), and security will

be continuously and remotely monitored via the use of CCTV / security cameras (attached to operational (intermittent) lighting columns, up to approximately 4.0 m in height).

Landscaping

3.3.29 Following the main construction and commissioning activities, site de-mobilisation and reinstatement will be undertaken, and landscaping will be provided.

Other Associated Development Works

Site Preparation

3.3.30 Across parts of the Application Site, significant clearance and levelling is being / has been undertaken, and the baseline area / plot to be developed is largely bare (brownfield) ground.

3.3.31 Notwithstanding, in advance of the main construction activities, any necessary additional site preparation will be undertaken.

3.3.32 In particular, parts of the Application Site (i.e. BESS Zone, Electrical Banking Station Zone, and Welfare Compound Zone) will be raised to a level of 6.7 m AOD to mitigate potential flood risks.

3.3.33 Other potential site preparation activities may include: further clearance works; and, further remediation works. Regarding the clearance works, during detailed design / prior to construction, a geophysical survey will be used to identify any remaining underground obstructions / services with subsequent clearance of any likely to impede the BESS development. Regarding the remediation works, during detailed design / prior to construction, validation surveys will be undertaken to verify the previous works, and determine the need for any further remediation works.

Site Drainage

3.3.34 Site drainage will be provided. It is anticipated that any captured site drainage requirements will connect into existing Spalding OCGT generating station site drainage system, which (in turn) connects into the existing Spalding CCGT generating station site drainage system (including storm / surface water pond which periodically discharges to the River Welland).

Construction

3.3.35 Spalding Energy Park BESS development and construction may take place in one phase, or over a number of phases. For one construction phase (or the first construction phase), the construction period will likely last between one-and-a-half to two-and-a-half years (18 – 30 months). For any subsequent construction phase, each additional construction period will likely last between one-and-a-half to two years (18 – 24 months). For the purposes of assessment, one construction phase with a construction period lasting two years (24 months) has been assumed.

3.3.36 During construction, there is a higher potential for effects / impacts on the surrounding environment to occur.

3.3.37 (For each phase) construction will be undertaken by an experienced Construction Contractor (or Construction Contractors) in accordance with the relevant industry requirements (e.g. legislation, regulations, codes and standards).

Construction Environmental Management

3.3.38 (For each phase) the Construction Contractor will be required to prepare and implement a Construction Environmental Management Plan (CEMP). The objectives of the CEMP will be to:

- Identify legal, environmental, ecological and other obligations and requirements appropriate to construction;
- Provide a framework to comply with the identified legal, environmental, ecological and other obligations and requirements through appropriate mitigation and monitoring measures;

- (Based on the identified mitigation and monitoring measures), provide the basis for setting objectives and targets for construction; and,
- Demonstrate a professional approach to environmental management.

3.3.39 In demonstrating a professional approach to environmental management, the CEMP will set out: general measures and working hours; environmental communications and training requirements; environmental monitoring and audit requirements; and, emergency response / incident reporting requirements.

3.3.40 In addition (based on the identified mitigation and monitoring measures), the CEMP will also include a number of aspect-specific management plans. For the identified Spalding Energy Park BESS mitigation and monitoring measures, Appendix B provides the Outline CEMP Aspect-Specific Management Plans.

3.3.41 It is anticipated that the formal requirement for a CEMP will be secured via a suitably worded condition in the planning permission.

Construction Site Access

3.3.42 Site access will be via the existing Spalding CCGT generating station / Spalding OCGT generating station Gate C, off West Marsh Road.

3.3.43 From the north, the site is accessed from the A16, the B1180 (Wardentree Lane) and West Marsh Road, with roundabouts between the A16 / A17, the A16 / A152, the A16 / B1180 and the B1180 / West Marsh Road. To the south, West Marsh Road links to the A151 and the A16, with roundabouts between West Marsh Road / A151[31], the A151 / Fulney Lane[32], the A151 / A16 and the A16 / Low Road.

Construction Working Hours

3.3.44 Regarding general construction works, Table 3-3 provides the proposed construction working hours.

Table 3-3: PROPOSED GENERAL CONSTRUCTION WORKING HOURS

Day	*Working Hours*
Monday to Friday	07:00 – 19:00
Saturday	07:00 – 17:00
Sunday / Bank Holiday	N / A

3.3.45 The proposed construction working hours are consistent with the working hours for the current committed development (the Spalding Energy Expansion generating station). Noting Table 3-3, no general construction works will take place outside these working hours unless such work:

- Is associated with an emergency;
- Is carried out with the prior approval of the Council; or,
- Does not cause the existing ambient background noise levels to be exceeded.

3.3.46 Regarding the potential for piling (most likely associated with the main step-up transformer(s)), Table 3-4 provides the proposed piling working hours.

Table 3-4: PROPOSED PILING WORKING HOURS

Day	*Working Hours*
Monday to Friday	09:00 – 18:00
Saturday	09:00 – 13:00
Sunday / Bank Holiday	N / A

[31] Junction also includes: B1173; Albion Street; and, West Elloe Avenue.
[32] Junction also includes: Camel Gate.

3.3.47 The proposed piling working hours are consistent with the working hours for the current committed development (the Spalding Energy Expansion generating station). Noting Table 3-4, no piling will take place outside these working hours unless such work:

- Is associated with an emergency; or,
- Is carried out with the prior approval of the Council.

3.3.48 Regarding construction heavy goods vehicle (HGV) movements, Table 3-5 provides the proposed working hours for construction HGV movements.

Table 3-5: PROPOSED WORKING HOURS FOR CONSTRUCTION HGV MOVEMENTS

Day	*Working Hours*
Monday to Friday	07:00 – 19:00
Saturday	08:00 – 16:00
Sunday / Bank Holiday	N / A

3.3.49 The proposed working hours for construction HGV movements are consistent with the working hours for the current committed development (the Spalding Energy Expansion generating station). Noting Table 3-5, no construction HGV movements will take place outside these working hours unless such construction HGV movements:

- Are associated with an emergency;
- Are carried out with the prior written approval of the Council; or,
- Are an abnormal / indivisible load authorised by National Highways (formerly Highways England / the Highways Agency).

Construction Activities / Indicative Construction Programme

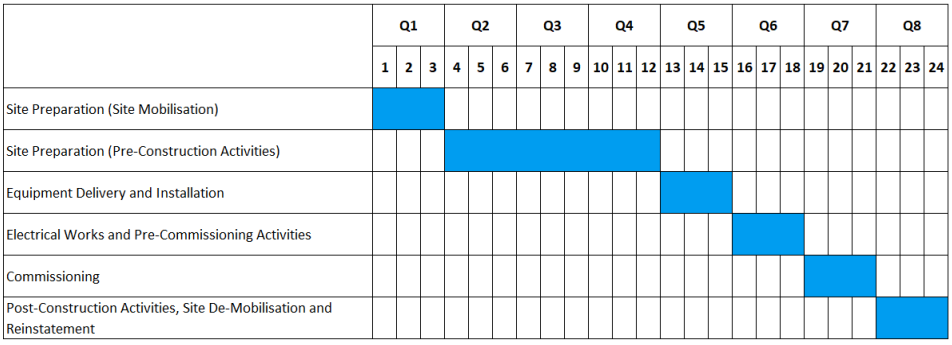
3.3.50 Based on similar experience, the proposed progress of construction activities comprise:

- (During site preparation) site mobilisation;
- (During site preparation) pre-construction activities;
- Equipment delivery and installation;
- Electrical works and pre-commissioning activities;
- Commissioning; and,
- Post-construction activities, site de-mobilisation and reinstatement.

3.3.51 These represent proven construction activities that have been developed over many years from experience on similar construction developments / projects.

3.3.52 For the purposes of assessment, one construction phase with a construction period lasting two years (24 months) has been assumed. Accordingly, Insert 3-4 presents an indicative / outline programme for a construction period lasting two years (24 months).

Insert 3-4: INDICATIVE / OUTLINE PROGRAMME OF CONSTRUCTION



3.3.53 Table 3-6 provides a description of the above standard construction activities.

Table 3-6: DESCRIPTION OF STANDARD CONSTRUCTION ACTIVITIES

Construction Activity	*Description*
(Site Preparation) Site Mobilisation	Initially, site mobilisation will be undertaken, and will include the provision of a Construction Compound. The Construction Compound will be a temporary facility, and will comprise: offices / welfare facilities (i.e. portacabins); construction personnel parking facilities; site vehicle parking facilities; equipment / plant storage; equipment / plant assembly; fuels / material / oils storage; tools storage; and, recycling / waste management facilities. The Construction Compound area will be covered with a suitable material.
(Site Preparation) Pre-Construction Activities	Across parts of the Application Site, significant clearance and levelling is being / has been undertaken, and the baseline area / plot to be developed is largely bare (brownfield) ground. Notwithstanding, in advance of the main construction activities, any necessary additional site preparation will be undertaken. In particular, parts of the Application Site (i.e. BESS Zone, Electrical Banking Station Zone, and Welfare Compound Zone) will be raised to a level of 6.7 m AOD to mitigate potential flood risks. Appendix C provides the Ecological Impact Assessment, which presents further information on site fauna and flora, Appendix D provides the Ground Conditions Phase 1 Preliminary Environmental Site Assessment, which presents further information on the site raising, and Appendix E provides the Flood Risk Assessment, which presents further information on the design site levels to mitigate potential flood risks. Further, site drainage will be provided. It is anticipated that any captured site drainage requirements will connect into existing Spalding OCGT generating station site drainage system, which (in turn) connects into the existing Spalding CCGT generating station site drainage system.
Equipment Delivery and Installation	Following site preparation, equipment delivery and installation will be undertaken. The equipment to be delivered and installed will include: the batteries (both modules and racks) and associated containers / enclosures; the temperature regulation (heating, ventilation and air conditioning (HVAC)) systems; the power conversion (inverter) systems and associated transformers; the main step-up transformer(s) and switchgear; and, the electrical cabling (/ electrical connection). Piling may be required for the installation of some of the equipment, most likely the main step-up transformer(s).
Electrical Works and Pre-Commissioning Activities	Following the equipment installation, electrical works and pre-commissioning activities will be undertaken. This will include final equipment / plant checks, and the setting to work of individual component parts.
Commissioning	Following the electrical works and pre-commissioning activities, commissioning will be undertaken. The commissioning will provide the technical acceptance of the equipment / plant. Reliability tests will demonstrate the fitness for purpose of the BESS prior to commercial operation, and performance tests will demonstrate that the BESS complies with the performance guarantees. Reliability and performance (and also availability) will also be demonstrated by operating the BESS under commercial conditions for a period of time without any major repair to equipment / plant items.
Post-Construction Activities, Site De-Mobilisation and Reinstatement	Following the main construction and commissioning activities, post-construction activities will commence, and site de-mobilisation and reinstatement will be undertaken, and landscaping will be provided. Appendix F provides the indicative Landscaping Plan.

Operation

3.3.54 After commissioning, the Spalding Energy Park BESS will be operated and maintained in such a manner as to keep it safe and in good condition. Where relevant, the operation and maintenance will take account of the requirements of any authorities / third parties such that the Spalding Energy Park BESS integrity is not compromised.

3.3.55 Each phase of the Spalding Energy Park BESS will have an operational lifetime of approximately 20 to 25 years, and will operate in either 'energy charge', 'energy storage' or 'energy discharge' modes (or else will be providing ancillary (support) services to the National Grid). Between each mode, there will be no material difference in the Spalding Energy Park BESS operational characteristics.

Operational Environmental Management

3.3.56 The Spalding Energy Park BESS will be operated in accordance with InterGen's Health, Safety and Environmental Management System.

Operational Safety

3.3.57 InterGen is an independent power generator with a track record of developing, constructing, and operating large-scale power generation projects. InterGen has been active in the UK since the 1990s and has invested over £2 bn to develop and construct a portfolio of flexible generating stations (three CCGT and one OCGT), totalling 2.8 GW.

3.3.58 Regarding operational safety, InterGen has a strong operational safety record at all of its generating station sites and, in 2019, completed its most recent construction with no Lost Time Incidents.

3.3.59 For the Spalding Energy Park BESS, InterGen will partner with a leading and experienced supplier of battery systems and, from the outset, operational safety will be embedded in every layer of the BESS's controls and hardware, with the BESS designed to meet established Underwriters Laboratories Inc. and International Electrotechnical Commission standards at cell, module, rack, container, and overall system levels.

3.3.60 An overall Energy Storage Management Plan will be prepared, in conjunction with key stakeholders (such as the local fire service), prior to construction / prior to commercial commissioning. The Energy Storage Management Plan will consider any relevant risks, and set out any required control / mitigation measures.

3.3.61 During the planning and design phase, the measures are anticipated to include, but not be limited to, the following:

- Physical separation of the containers / enclosures[33], Electrical Banking Station, Welfare Compound, and site access.
- Comprehensive control and protection systems with associated safety features, including: fire detection and suppression; emergency stops; deflagration panels; and, multiple sensors to minimise and contain ignition, fire and thermal runaway risks. Noting these comprehensive systems, any fire event originating in a battery should be limited to a single cell, and any fire event originating outside a battery should be extinguished by the fire detection and suppression system. This means it is highly likely that any fire event would be limited to a single container / enclosure.
- Suitably selected temperature control systems (e.g. heating, cooling and ventilation systems) within each container / enclosure.
- Comprehensive site-wide safety planning and use of industry best practices to prepare customised emergency response plans.

3.3.62 During the operational phase, the measures are anticipated to include, but not be limited to, the following:

- A Battery Management System (BMS), as the first layer of operational protection. The BMS will ensure the safe management of the BESS at all levels.

[33] Including associated components: control and protection systems; power conversion systems (inverters) and associated transformers; and, temperature regulation systems.

For example, the BMS will monitor the battery rack voltage or state of charge. If this drops below or rises above safe levels, the BMS will automatically open the battery DC contactors to isolate each rack individually and prevent current from flowing between racks. In doing so, the BMS will significantly reduce the risk of thermal runaway.

In addition, the BMS will report alerts of malfunctioning equipment to the operation and maintenance (O&M) team, who will be able to take further action, including (if necessary) notifying the local emergency and fire services.

- An Energy Management System (EMS), as the second layer of operational protection.

  For example, the EMS will monitor the state of every battery module / rack (voltage or SoC), and associated temperature regulation systems, to ensure each operates within safe limits.

  The EMS allows the O&M team to monitor and operate the BESS continuously (24 × 7), and will report alarms / alerts of faults to the O&M team.

  In addition, the EMS will be able to act / respond remotely (for example, to initiate remote shutdown / standby, or to send a technician to investigate any issues, and repair or replace damaged / faulty components).

  In doing so, the EMS will significantly reduce the risk of temperature rise within the modules (thus also reducing the risk of thermal runaway) and allow adequate time for repair / replacement, before the system is restarted.

- Routine (and regular) physical inspection and associated preventative maintenance, covering, in particular, the control and protection systems and temperature regulation systems.

- Appropriate, and ongoing, training for O&M personnel, including: required personal protective equipment (PPE); service protocols; and, key hazard identification.

3.3.63 A continuous (24 × 7) remote camera system may be provided to provide additional visual observations.

3.3.64 Overall, the combination of the overall Energy Storage Management Plan (incorporating the BMS, EMS, inspection and maintenance, and training for the O&M team) contributes towards operational safety, and significantly reduces any operational risks associated with thermal runaway.

3.3.65 In addition, it is noted that the BESS containers / enclosures (typically entirely filled with equipment) will be made of non-combustible material and will typically have an external access door(s). This limits the ability / need for operators to access / enter.

3.3.66 Furthermore, specific design requirements for any required diesel / fuel / oil and chemical storage containers and containment systems will be included in the Spalding Energy Park BESS specifications.

Operational Security

3.3.67 Access to the Spalding Energy Park BESS will be strictly controlled.

3.3.68 Operational security of the Spalding Energy Park BESS will be achieved by providing suitable fencing on the site perimeter (approximately 2.9 m in height), and security will be continuously and remotely monitored via the use of CCTV / security cameras (attached to operational (intermittent) lighting columns, up to approximately 4.0 m in height).

3.3.69 Specifically, regarding security lighting, there will be no permanent / regular lighting, and only emergency / intermittent lighting is proposed.

3.3.70 The operational (intermittent) lighting columns will be motion sensitive (for example, controlled by an infrared motion sensor system), and will switch on only when movement within the BESS site is detected or when essential operational maintenance is required. The emergency / intermittent lighting will be highly directional (for example, controlled by cowling) to avoid excessive light spillage beyond the boundary fencing. The associated

lighting design will be undertaken with reference to the relevant guidance such as the 'Guidance Note 01/21 for the Reduction of Obtrusive Light'[34].

3.3.71 Furthermore, whilst they are noted to be up to approximately 4.0 m in height, the operational (intermittent) lighting columns will be of the minimum height possible to provide the required lighting. As the light emissions from the operational (intermittent) lighting columns will be motion sensitive and highly directional, any nuisance will be extremely limited in spatial and temporal extent / nature.

Operational Site Access

3.3.72 Site access will be via the existing Spalding CCGT generating station / Spalding OCGT generating station Gate C, off West Marsh Road.

Operation Working Hours

3.3.73 The Spalding Energy Park BESS will be capable of continuous operation.

Decommissioning

3.3.74 At the end of its operational lifetime (for each phase, after approximately 20 to 25 years), the Spalding Energy Park BESS will be decommissioned.

3.3.75 Decommissioning will take account of the prevailing environmental legislation and guidance in place at the time. Notice will be given to the relevant statutory authorities, including the Council, and any necessary authorisations / permissions(s) will be acquired / obtained.

3.3.76 During decommissioning, it will be ensured that the site is left with no residual environmental and / or safety risks, and that the site is returned to a condition suitable for reuse.

3.3.77 Under the 2009 Waste Batteries and Accumulators Regulations[35], the selected / appointed BESS integrator will be required to take back any waste batteries, and ensure they are delivered to an approved treatment and recycling facility / operator. In addition, wherever possible, the equipment / plant will be made of materials suitable for reuse or recycling. All equipment / plant will be removed offsite by an approved and licenced waste management operator, for treatment at an approved and licenced facility.

3.3.78 Alternatively, if the prevailing market conditions and / or electricity supply constraints at the time indicate that it would be appropriate to extend the Spalding Energy Park BESS operational lifetime, then decommissioning may be deferred. In order to ensure continuing equipment / plant conditions and performance, the Spalding Energy Park BESS may be further augmented / supplemented.

3.4 The Current State of the Surrounding Environment and Potential Effects / Impacts on the Surrounding Environment

3.4.1 Noting the Spalding Energy Park BESS location and characteristics, Table 3-7 provides a description of the current state of the surrounding environment and the potential effects / impacts from the Spalding Energy Park BESS on the surrounding environment. The potential effects / impacts on the surrounding environment are those likely to result from (where relevant):

- The expected residues and emissions, and the production of wastes; and,
- The use of natural resources (in particular soil, land, water and biodiversity).

[34] 'Guidance Note 01/21 for the Reduction of Obtrusive Light' (Institution of Lighting Professionals, 2021). Available at: https://theilp.org.uk/publication/guidance-note-1-for-the-reduction-of-obtrusive-light-2021/

[35] The 2009 Waste Batteries and Accumulators Regulations. Available at: https://www.legislation.gov.uk/uksi/2009/890/contents/made
Also see:
Directive 2006/66/EC on batteries and accumulators and waste batteries and accumulators. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006L0066&from=EN
Directive 2008/98/EC on waste. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0098&from=EN
Directive 2012/19/EU on waste electrical and electronic equipment. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012L0019&from=EN

3.4.2 Within the Table, there has been limited consideration to any features and / or measures to avoid / prevent significant adverse effects / impacts on the surrounding environment.

Table 3-7: CURRENT STATE OF THE SURROUNDING ENVIRONMENT AND POTENTIAL EFFECTS / IMPACTS ON THE SURROUNDING ENVIRONMENT

	Current State of the Surrounding Environment	*Potential Effects / Impacts*
Air Quality	The current state of the surrounding environment regarding air quality is based on: • The most recent publications from the Council; and, • Available data from the Department of Environment, Food and Rural Affairs UK Air Information Resource website[36]. In summary, the latest publication[37] from the Council notes: • Currently, there are no Air Quality Management Areas (AQMAs) declared in South Holland. • The main source of air pollution is traffic emissions on major roads (notably the A16, A17 and A151) which connect South Holland with north Lincolnshire, the Humber estuary and south west Lincolnshire. • Air quality monitoring, predominately considering nitrogen dioxide (NO_2) and particulate matter (PM_{10}), was undertaken at two automatic monitoring sites, and at 15 non-automatic monitoring sites. • During 2019: – At the two automatic monitoring sites: o Annual mean NO_2 concentrations were <10 µg/m^3, well below the annual (40 µg/m^3) NO_x air quality objective. o There were no exceedances of the hourly mean (200 µg/m^3) NO_2 air quality objective. o Annual mean PM_{10} concentration were <15 µg/m^3, well below the annual (40 µg/m^3) PM_{10} air quality objective. o There were no exceedances of the 24-hourly mean (50 µg/m^3) PM_{10} air quality objective. – At the 15 non-automatic monitoring sites: o Annual mean NO_2 concentrations were <35 µg/m^3, well below the annual (40 µg/m^3) NO_x air quality objective. In addition, noting the relevant consenting history / accepted environmental envelope for the site, it is considered that the current state of the surrounding environment regarding air quality is not materially different to that described in the previous environmental assessments.	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may release pollutants to air due to: • Localised emissions from construction activities, emissions from construction equipment / plant and construction vehicle movements; and, • Accidental / unplanned emissions / releases / spills. During operation, the Spalding Energy Park BESS will not release any pollutants or substances to air. Therefore, no potential effects / impacts have been identified.

[36] Department of Environment, Food and Rural Affairs UK Air Information Resource website. Available at: https://uk-air.defra.gov.uk/
[37] 'South Holland District Council Annual Status Report 2020' (Bureau Veritas, August 2020). Available at: http://shollandair.aeat.com/Reports/SouthHolland_ASR_England_2020_Final_v3.0.pdf

	Current State of the Surrounding Environment	*Potential Effects / Impacts*
Noise	The current state of the surrounding environment is based on: • Previous Baseline Noise Surveys; and, • An updated Baseline Noise Survey. Further details are provided in Appendix G, which provides the Noise Impact Assessment, and includes the updated Baseline Noise Survey. In summary: • The previous Baseline Noise Surveys noted that the baseline noise conditions / levels measured were generally: – During daytime periods[38], less than 55 dB; and, – During night-time periods[39], less than 50 dB. • The updated Baseline Noise Survey notes that whilst there have been some minor changes in the baseline noise conditions / levels (and associated noise / sound sources), the existing noise baseline conditions at the Noise Sensitive Receptor (NSR) locations is generally stable. Indeed, the minor changes measured are representative of the expected variations due to differing measurements conditions (e.g. meteorology, time). In addition, noting the relevant consenting history / accepted environmental envelope for the site, it is considered that the current state of the surrounding environment regarding noise is not materially different to that described in the previous environmental assessments.	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may emit noise due to: • Localised emissions from construction activities, emissions from construction equipment / plant and construction vehicle movements. During operation, the Spalding Energy Park BESS may emit noise mainly due to: • The use of the BESS container / enclosure temperature regulation (HVAC) systems, and the main step-up transformer(s).

[38] Daytime Period taken to be 07:00 to 23:00.
[39] Night-Time Period take to be 23:00 to 07:00.

	Current State of the Surrounding Environment	*Potential Effects / Impacts*
Biodiversity / Ecology	The current state of the surrounding environment is based on: • Previous Extended Phase 1 Habitat Surveys, and associated Phase 2 Protected Species Surveys; and, • An updated Extended Phase 1 Habitat Survey, and associated Phase 2 Protected Species Surveys for Reptiles and Riparian Mammals (Otters and Water Voles). Further details are provided in Appendix C, which provides the Ecological Impact Assessment, and includes the updated Extended Phase 1 Habitat Survey and associated Phase 2 Protected Species Surveys. In summary, the following receptors are considered present in the 2.0 km ecological Zone of Influence (ZoI): • Designated Sites; • Non-Statutory Sites; • Habitats; • Badgers; • Bats; • Birds; • Otters; and, • Reptiles. Notwithstanding, it is also noted that, across parts of the Application Site, significant clearance and levelling is being / has been undertaken, and the baseline area / plot to be developed is largely bare (brownfield) ground. Therefore, in general terms, the Application Site is largely unoccupied and vacant, with limited biodiversity / ecological receptors.	During construction, potential direct effects / impacts are related to any necessary additional site preparation (and the loss of any associated habitats). In addition, during construction (and possibly during decommissioning), the Spalding Energy Park BESS has indirect pollution potential effects / impacts arising from / related to: • Releases of pollutants to air due to: – Localised emissions from construction activities, emissions from construction equipment / plant and construction vehicle movements; and, – Accidental / unplanned emissions / releases / spills. • Noise due to: – Localised emissions from construction activities, emissions from construction equipment / plant and construction vehicle movements. • Release of light due to: – Localised light emissions from construction activities, light emissions from construction equipment / plant and light emissions from construction vehicle movements. • Release of pollutants to land / water due to: – Contamination of land / water from pollutant-laden run-off; – Accidental / unplanned emissions / releases / spills; and, – The release of unexpected / unknown ground-based contaminants. During operation, the Spalding Energy Park BESS has indirect pollution potential effects / impacts arising from / related to: • Noise due to: – The use of BESS container / enclosure temperature regulation (HVAC) systems, and the main step-up transformer(s). • Release of light due to: – Light emissions from the operational (intermittent) lighting columns. • Release of pollutants to land / water due to: – Accidental / unplanned emissions / releases / spills.

	Current State of the Surrounding Environment	*Potential Effects / Impacts*
Ground Conditions / Land Use	The current state of the surrounding environment is based on extensive previous ground investigations / monitoring. In terms of ground conditions, historically, the Application Site (and adjacent / surrounding areas) was used as a sugar beet factory (including railway lines and sidings, and settlement lagoons / ponds). In 1989, the sugar beet factory closed, and between 2001 and 2004 (on land to the north), there was development and construction of the existing InterGen-owned Spalding CCGT generating station. As a result, between 2001 and 2004, sugar beet washings from the sugar beet factory's settlement lagoons / ponds were relocated (from the Spalding CCGT generating station site) to the Application Site, and these washings comprise Made Ground that is present in variable thickness, with a Mound forming a distinct area approximately 4 m higher than the remainder of the site. In terms of ground contamination, the Application Site is not particularly contaminated, but there are some potential on-site contamination sources comprising: • Historic contaminants / substances associated with the use of the Application Site as a sugar beet factory; and, • Ground gas generated by the Made Ground (albeit at low flow rates). In addition, in terms of land use, in April 2021, at the time of the site walk-over visit, the Application Site comprised four main areas: • To the north, areas associated the existing National Grid 400 kV Spalding North Substation; • In the centre, the Mound; • In the south, a densely vegetated and uneven area, covered by long grass and shrubs; and, • In the west, a temporary car parking area. However, since the time of the site walk-over visit, it is noted that across the parts of the Application Site, significant clearance and levelling is being / has been undertaken, and the remaining area / plot to be developed is largely bare (brownfield) ground. Therefore, in general terms, the Application Site is largely unoccupied and vacant. Further details are provided in Appendix D, which provides the Ground Conditions Phase 1 Preliminary Environmental Site Assessment.	During construction, potential effects / impacts are related to any necessary additional site preparation. In particular, parts of the Application Site (i.e. BESS Zone, Electrical Banking Station Zone, and Welfare Compound Zone) will be raised to a level of 6.7 m AOD to mitigate potential flood risks. In addition, during construction (and possibly during decommissioning), the Spalding Energy Park BESS may release pollutants to land due to: • Pollutant-laden run-off; • Accidental / unplanned emissions / releases / spills; and, • The release of unexpected / unknown ground-based contaminants. During operation, the Spalding Energy Park BESS may release pollutants to land due to: • Accidental / unplanned emissions / releases / spills.

	Current State of the Surrounding Environment	*Potential Effects / Impacts*
Water Resources (including Flood Risk)	With regards to water resources, within 2.0 km of the Application Site, there are two main surface waterbodies / watercourses. These comprise: • (approximately 30 m east), the River Welland which flows in a general south east to north west direction, and (approximately 14 km north east) discharges into the Wash; and, • (adjacent to the west), Vernatt's Drain which also flows in a general south east to north west direction. With regards to flood risk: • According to the online Planning Flood Map[40], considering fluvial / tidal sources, the Application Site is located in Flood Risk Zone 3 (High Probability). This zone comprises land assessed as having a 1 in 100 or greater (>1%) annual probability of flooding from river (fluvial) sources or a 1 in 200 or greater (>0.5%) annual probability flooding from the sea (tidal). • Further, according to the online Long Term Flood Mapping[41], considering fluvial sources, the Application Site is located in a 'Very Low' risk zone. This zone comprises land assessed as having a less than 1 in 1,000 (<0.1%) chance of flooding each year from pluvial sources. Further details are provided in Appendix E, which provides the Flood Risk Assessment. In addition, noting the relevant consenting history / accepted environmental envelope for the site, it is considered that the current state of the surrounding environment regarding water resources is not materially different to that described in the previous environmental assessments.	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may release pollutants to water due to: • Pollutant-laden run-off; • Accidental / unplanned emissions / releases / spills; and, • The release of unexpected / unknown ground-based contaminants. During operation, the Spalding Energy Park BESS may release pollutants to water due to: • Surface water discharge; and, • Accidental / unplanned emissions / releases / spills. In addition, during operation, the Spalding Energy Park BESS may be subject to potential effects / impacts from flood risks.

[40] 'Flood Map for Planning' (Environment Agency / UK Government). Available Online (Accessed 01/09/2021) at: https://flood-map-for-planning.service.gov.uk/
[41] 'Check Your Long Term Flood Risk' (UK Government) Available Online (Accessed 01/09/2021) at: https://flood-warning-information.service.gov.uk/long-term-flood-risk/postcode

	Current State of the Surrounding Environment	*Potential Effects / Impacts*
Landscape and Visual Amenity	The Application Site is not subject to a landscape classification / designation. Furthermore, within 2.0 km of the Application Site, there are no landscape classifications / designations. Across parts of the Application Site, significant clearance and levelling is being / has been undertaken, and the remaining area / plot to be developed is largely bare (brownfield) ground. Within the immediate surrounding area, the predominant land use is commercial and industrial. These surrounding commercial and industrial areas (specifically the existing National Grid 400 kV Spalding North Substation, the existing InterGen-owned Spalding CCGT generating station, the existing InterGen-owned Spalding OCGT generating station and the Fowler Welch Transport Depot) comprise significant vertical structures and massing of large commercial / industrial buildings. The Application Site (and the Spalding Energy Park BESS) will be viewed within this immediate commercial and industrial context. Within the wider surrounding area, the predominant land use if agricultural with some residential settlements. Views from these residential settlements of the Application Site are currently constrained to some degree by existing buildings and planting. Further details are provided in Appendix F, which provides the indicative Landscaping Plan.	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may lead to potential effects / impacts due to: • Construction activities, and the presence of construction equipment / plant and construction vehicle movements; and, • Localised light emissions from construction activities, light emissions from construction equipment / plant and light emissions from construction vehicle movements. During operation, the Spalding Energy Park BESS may lead to potential effects / impacts due to: • The presence of the permanent BESS structures; and, • Release of light due to light emissions from the operational (intermittent) lighting columns.

	Current State of the Surrounding Environment	*Potential Effects / Impacts*
Historic Environment	The current state of the surrounding environment is based on extensive previous ground investigations / monitoring. From these it is noted that: • There are no areas or features (e.g. protected archaeological sites / historic landscapes) within the Application Site which are classified / designated for their archaeological / cultural heritage importance. The closest Scheduled Monument is Pinchbeck Engine (#LI 248 / 1004966) approximately 1.7 km to the north east. • There are no conservation areas or listed buildings within the Application Site. The closest conservation areas are at Pinchbeck and Spalding approximately 1.2 km to the west and south respectively. The closest listed buildings is are at St Paul Church (Grade I St Paul Church, including attached Schoolroom (1306702) and Grade 2* St Paul Church Vicarage (1392209)) approximately 0.6 km to the south east. In it also noted that during the previous ground investigations / monitoring, there are no records of archaeological findings, and the Application Site is not known to contain any features of historic environment importance / value. Furthermore, the historical use of the Application Site as a sugar beet factory (including railway lines and sidings, and settlement lagoons / ponds) is likely to have disturbed any 'in situ' archaeological remains. Therefore, the likelihood of the Application Site containing unknown surviving features of historic environment importance / value is considered negligible. In addition, noting the relevant consenting history / accepted environmental envelope for the site, it is considered that the current state of the surrounding environment regarding the historic environment is not materially different to that described in the previous environmental assessments.	During construction (and possibly during decommissioning), the Spalding Energy Park BESS will not present any material / significant risks to historic environment features. Therefore, no potential effects / impacts have been identified. During operation, the Spalding Energy Park BESS will not present any material / significant risks to historic environment features. Therefore, no potential effects / impacts have been identified.

	Current State of the Surrounding Environment	*Potential Effects / Impacts*
Traffic and Transport Infrastructure	Site access will be via the existing Spalding CCGT generating station / Spalding OCGT generating station Gate C, off West Marsh Road. This access already takes the form of a priority junction, and benefits from good visibility splays in both northbound and southbound directions. To the north, West Marsh Road links to the B1180 (Wardentree Lane) and the A16, with roundabouts between both West Marsh Road and the B1180 (Wardentree Lane), and the B1180 (Wardentree Lane) and the A16. To the south, West Marsh Road links to A151 and the B1773 (Cowbit Road) and the A16, with roundabouts between West Marsh Road and the A151 and the B1773 (Cowbit Road), the A151 and the A16, and the B1773 (Cowbit Road) and the A16. Further details are provided in Appendix H, which provides the Transport Statement.	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may lead to potential effects / impacts due to: • Traffic associated with construction HGV movements, including: – The delivery of construction equipment / plant; – Construction vehicles (i.e. delivery of construction materials / removal of construction wastes); and, • Traffic associated with construction personnel movements. It is currently anticipated that there will be limited Abnormal Indivisible Load (AIL) movements associated with the main step-up transformer(s).
		The Spalding Energy Park BESS will be unmanned, nothing that continuous and regular monitoring / regular inspection and maintenance visits will be undertaken. As such, during normal operation, the Spalding Energy Park BESS will not generate material / significant additional traffic movements. Notwithstanding, it is anticipated that regular (approximately every three years) battery augmentations will take place to ensure that the batteries are returned to their original capacity. The augmentations are also not anticipated to generate material / significant additional traffic movements. Therefore, any potential effects / impacts will be negligible.
Other Existing / Approved / Proposed Developments		During construction (and possibly during decommissioning) and during operation, the Spalding Energy Park BESS, together with other existing / approved / proposed development, may result in the cumulative interaction of impacts.

4. RELEVANT ENVIRONMENTAL ASSESSMENT INFORMATION

4.1 Overview

4.1.1 The EIA Regulations apply to applications for planning permission under the 1990 Town and Country Planning Act. In particular:

- At Regulation 8(1) (under Applications which appear to require a Screening Opinion) the EIA Regulations provide: "*Where it appears to the relevant planning authority that:*

  (a) an application which is before them for determination is a Schedule 1 application or a Schedule 2 application;

  (b) the development in question has not been the subject of a screening opinion or screening direction; and,

  (c) the application is not accompanied by a statement referred to as the applicant as an environmental statement […]

  [Regulation 6(5) and 6(6)] *apply as if the receipt or lodging of the proposal were made under Regulation 6(1)*"; and,

- At Regulation 6(1) (under Requests for Screening Opinions of the Relevant Planning Authority) the EIA Regulations provide: "*A person who is minded to carry out development may request the relevant planning authority to adopt a screening opinion*".

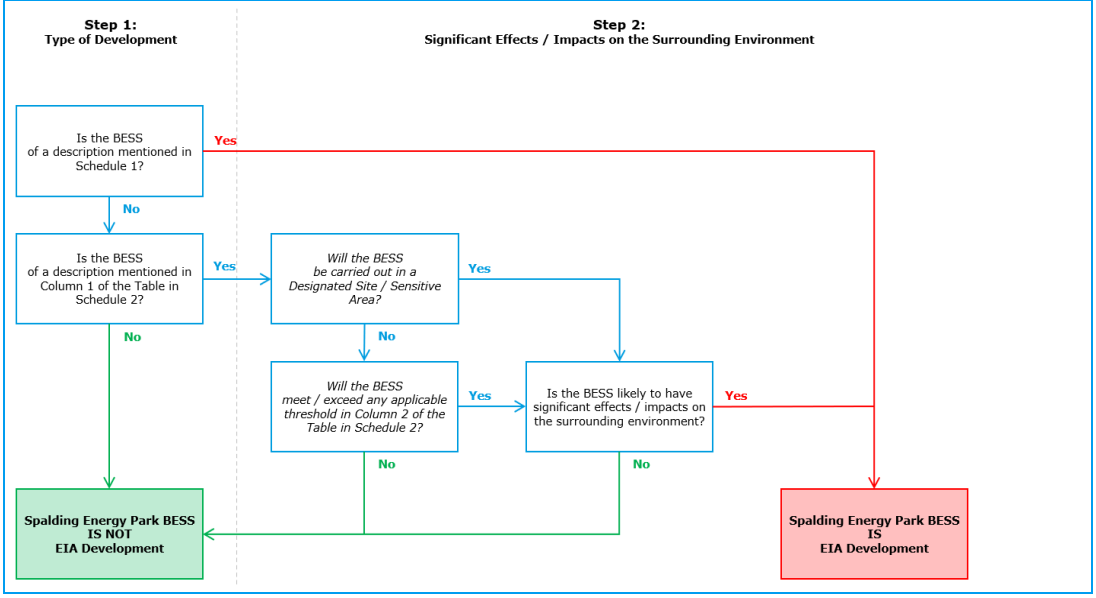
4.1.2 Accordingly, this Section provides the relevant environmental assessment information to aid the Council in adoption of a Screening Opinion as to whether (or not) the Spalding Energy Park BESS comprises EIA Development.

4.2 Environmental Assessment Methodology / Relevant Information

Environmental Assessment Methodology

4.2.1 Insert 4-1 presents the adopted environmental assessment methodology[42].

Insert 4-1: ENVIRONMENTAL ASSESSMENT METHDOLOGY



[42] Adapted from the 'Planning Practice Guidance' (PPG) on Environmental Impact Assessment (November 2016 (Last Updated June 2021)). Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/574326/eia1_030.pdf

Relevant Information

4.2.2 The environmental assessment methodology is designed to aid the Council in adoption of a Screening Opinion as to whether (or not) the Spalding Energy Park BESS comprises EIA Development. Subsequently, the purpose of this Section is to present the relevant required environmental assessment information.

4.2.3 Noting the EIA Regulations, Table 4-1 provides a summary of the relevant required information, along with a link to its associated location. In compiling the relevant required information, Regulation 6(4) (under Requests for Screening Opinions of the Relevant Planning Authority) of the EIA Regulations provides that: "*a person compiling the information* […] *must, where relevant, take into account –*

(a) The criteria set out in Schedule 3; and,

(b) The results of any relevant EU environmental assessment which are reasonably available to the person requesting the screening opinion".

Table 4-1: RELEVANT REQUIRED INFORMATION, AND ASSOCIATED LOCATION

EIA Regulations Definition[43]			*Associated Location*
"A person making a request for a screening opinion in relation to development where an application for planning permission has been or is proposed to be submitted must provide the following –			
(a)	*a plan sufficient to identify the land*		Insert 3-1 presents the Application Site (shown with a red line boundary). The Application Site covers a total area of approximately 12.6 ha (31.1 acres).
(b)	*a description of the development, including in particular –*		
	(i)	*a description of the physical characteristics of the development and, where relevant, of demolition works;*	Section 3.3 provides a description of the Spalding Energy Park BESS characteristics, including: the likely phasing; and, the size and design. This Section also provides a description of the proposed construction, operation and decommissioning measures / methods.
	(ii)	*a description of the location of the development, with particular regard to the environmental sensitivity of the geographical areas likely to be affected;*	Section 3.2 provides a description of the Application Site location, including: the existing and approved land uses; the previous land uses; and, the designated sites / sensitive area locations in relation to the Application Site.
(c)	*a description of the aspects of the environment likely to be significantly affected by the development;*		Section 3.4 provides a summary description of the current state of the surrounding environment.
(d)	*to the extent the information is available, a description of any likely significant effects of the proposed development on the environment resulting from –*		
	(i)	*the expected residues and emissions and the production of waste, relevant; and,*	Section 3.4 provides a summary description of the potential effects / impacts from the Spalding Energy Park BESS on the surrounding environment likely to result from (where relevant): • The expected residues and emissions, and the production of wastes; and, • The use of natural resources.
	(ii)	*the use of natural resources, in particular soil, land, water and biodiversity; and,*	
(e)	*such other information or representations as the person making the request may wish to provide or make, including any features of the proposed development or any measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment".*		Noting the above, Section 4.3 considers that the Spalding Energy Park BESS is Schedule 2 development, but Section 4.4 considers that the Spalding Energy Park BESS is not likely to have significant effects / impacts on the surrounding environment. Based on this, Section 4.5 considers that the Spalding Energy Park BESS is not EIA Development. Additional supporting information is provided in the Appendices.

[43] Regulation 6(2) (under Requests for Screening Opinions of the Relevant Planning Authority) of the EIA Regulations

4.3 Environmental Assessment Step 1: Type of Development

4.3.1 (Regulation 2 (Interpretation) of) The EIA Regulations define EIA Development as meaning: "*development which is either –*

(a) Schedule 1 development; or

(b) Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location".

4.3.2 Further, (also at Regulation 2 (Interpretation)) the EIA Regulations define:

- Schedule 1 development as meaning: "*development, other than exempt development, of a description mentioned in Schedule 1*"; and,
- Schedule 2 development as meaning: "*development, other than exempt development, of a description mentioned in Column 1 of the table in Schedule 2 where –*

  (a) any part of that development is to be carried out in a sensitive area; or

  (b) *any applicable threshold or criterion in the corresponding part of Column 2 of that table is respectively exceeded or met in relation to that development*".

Is the Spalding Energy Park BESS of a description mentioned in Schedule 1?

4.3.3 The Spalding Energy Park BESS is not of a description mentioned in Schedule 1 (Descriptions of Development for the purposes of the definition of 'Schedule 1 Development').

4.3.4 Therefore, the Spalding Energy Park BESS is not Schedule 1 development.

Is the Spalding Energy Park BESS of a description mentioned in Column 1 of the Table in Schedule 2?

4.3.5 Column 1 of the Table in Schedule 2 (Descriptions of Development and Applicable Thresholds and Criteria for the purposes of the definition of 'Schedule 2 Development') includes:

- (under 3: Energy Industry, at (a)): "*industrial installations for the production of electricity, steam and hot water"*.

4.3.6 Therefore, it is considered that the Spalding Energy Park BESS is of a description mentioned in Column 1 of the Table in Schedule 2 (Descriptions of Development and Applicable Thresholds and Criteria for the purposes of the definition of 'Schedule 2 Development').

Will the Spalding Energy Park BESS be carried out in a Designated Site / Sensitive Area?

4.3.7 As noted in Table 3-1, no part of the Spalding Energy Park BESS will be carried out in a Designated Site / Sensitive Area.

Will the Spalding Energy Park BESS meet / exceed any applicable threshold in Column 2 of the Table in Schedule 2?

4.3.8 Column 2 of the Table in Schedule 2 (Descriptions of Development and Applicable Thresholds and Criteria for the purposes of the definition of 'Schedule 2 Development') notes that:

- For: "*industrial installations for the production of electricity, steam and hot water*", that the applicable threshold is "*the area of the development exceeds 0.5 ha*".

4.3.9 For the Spalding Energy Park BESS, the Application Site covers a total area of approximately 12.6 ha (31.1 acres).

4.3.10 Therefore, it is considered that the Spalding Energy Park BESS exceeds an applicable threshold in Column 2 of the Table in Schedule 2 (Descriptions of Development and Applicable Thresholds and Criteria for the purposes of the definition of 'Schedule 2 Development').

Environmental Assessment Step 1: Conclusions

4.3.11 It is considered that the Spalding Energy Park BESS is Schedule 2 development.

4.4 Environmental Assessment Step 2: Significant Effects / Impacts on the Surrounding Environment

4.4.1 It is considered that the Spalding Energy Park BESS is Schedule 2 development.

4.4.2 Therefore, the Spalding Energy Park BESS will be EIA Development if it is likely to have significant effects / impacts on the surrounding environment.

Is the Spalding Energy Park BESS likely to have Significant Effects / Impacts on the Surrounding Environment?

4.4.3 Table 4-2 considers whether the Spalding Energy Park BESS is likely to have significant effects / impacts on the surrounding environment[44].

4.4.4 Amongst other aspects, the Table considers potential effects / impacts due to:

- Pollution / nuisances due to the expected residues and emissions;
- The production of wastes;
- The use of natural resources;
- The potential for major accidents and / or disasters; and,
- The potential for cumulative interaction of effects / impacts with other existing and / or approved developments.

4.4.5 In addition, the Table considers:

- The magnitude and spatial extent of each potential effect / impact;
- The nature of each potential effect / impact, including its associated transboundary nature;
- The intensity and complexity of each potential effect / impact;
- The probability of each potential effect / impact;
- The expected onset, duration, frequency and reversibility of each potential effect / impact;
- The potential for interaction of each potential effect / impact with other existing and / or approved developments; and,
- The possibility of effectively reducing each potential effect / impact.

4.4.6 Wherever relevant, the Table also considers any features and / or measures to avoid / prevent significant adverse effects / impacts on the surrounding environment.

[44] Adapted from 'The 2017 Town and Country Planning (Environmental Impact Assessment) Regulations Screening Matrix' (GOV.UK). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/643241/TCPA_EIA_Screening_Matrix_2017_Regs.pdf

Table 4-2: WILL THE SPALDING ENERGY PARK BESS HAVE SIGNIFICANT EFFECTS / IMPACTS ON THE SURROUNDING ENVIRONMENT?

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
POLLUTION / NUISANCES DUE TO EXPECTED RESIDUES AND EMISSIONS				
Will the proposed development release pollutants or any hazardous, toxic or noxious substances to air?	Y	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may release pollutants to air due to: • Localised emissions from construction activities, emissions from construction equipment / plant and construction vehicle movements; and, • Accidental / unplanned emissions / releases / spills.	N	The Construction Contractor will be required to prepare and implement a CEMP. The CEMP will include the following Aspect-Specific Management Plans: • A 'Releases to Air Management Plan'; and, • An 'Emergency Response Plan'. Appendix B provides the Outline CEMP Aspect-Specific Management Plans. Therefore, construction emissions (and similarly decommissioning emissions) are not likely to have a significant effect / impact on the surrounding environment.
	N	During operation, the Spalding Energy Park BESS will not release any pollutants or substances to air.	–	N / A
Will the proposed development emit noise?	Y	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may emit noise due to: • Localised emissions from construction activities, emissions from construction equipment / plant and construction vehicle movements.	N	Appendix G provides a summary of the relevant construction noise impact assessment information, and notes that construction noise (and similarly decommissioning noise) is not likely to have a significant effect / impact on the surrounding environment. The Construction Contractor will be required to prepare and implement a CEMP. The CEMP will include the following General Measures and Aspect-Specific Management Plans: • Construction Working Hours; and, • A 'Noise Management Plan'. Appendix B provides the Outline CEMP Aspect-Specific Management Plans.

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
	Y	During operation, the Spalding Energy Park BESS may emit noise mainly due to: • The use of BESS container / enclosure temperature regulation (HVAC) systems, and the main step-up transformer(s). Appendix G provides the Noise Impact Assessment, which presents further assessment of operational noise.	N	Appendix G notes that the operational noise is not likely to have a significant effect / impact on the environment.
Will the proposed development cause the release of light?	Y	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may cause the release of light due to: • Localised light emissions from construction activities, light emissions from construction equipment / plant and light emissions from construction vehicle movements.	N	The Construction Contractor will be required to prepare and implement a CEMP. The CEMP will include the following General Measures: • Construction Working Hours. Therefore, construction light (and similarly decommissioning light) is not likely to have a significant effect / impact on the surrounding environment.
	Y	During operation, the Spalding Energy Park BESS may cause the release of light due to: • Light emissions from the operational (intermittent) lighting columns.	N	The light emissions from the operational (intermittent) lighting columns will be motion sensitive and highly directional, therefore any nuisance will be extremely limited in spatial and temporal extent / nature. Therefore, operational light is not likely to have a significant effect / impact on the surrounding environment.
Will the proposed development cause the release of heat, energy or electromagnetic radiation?	N	The Spalding Energy Park BESS will not cause a material release of heat, energy or electromagnetic radiation.	–	N / A

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
Will the proposed development lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	Y	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may release pollutants to land / water due to: • Pollutant-laden run-off; • Accidental / unplanned emissions / releases / spills; and, • The release of unexpected / unknown ground-based contaminants.	N	The Construction Contractor will be required to prepare and implement a CEMP. The CEMP will include the following Aspect-Specific Management Plans: • A 'Releases to Land / Water Management Plan'; • An 'Emergency Response Plan'; and, • An 'Unexpected Contaminated Land Management Plan'. Appendix B provides the Outline CEMP Aspect-Specific Management Plans. Therefore, during construction (and similarly during decommissioning) the Spalding Energy Park BESS is not likely to have a significant effect / impact on the surrounding environment due to the release of pollutants to land / water.
	Y	During operation, the Spalding Energy Park BESS may release pollutants to land / water due to: • Surface water runoff; • Accidental / unplanned emissions / releases / spills.	N	Site drainage will be provided. It is anticipated that any captured site drainage requirements will connect into existing Spalding OCGT generating station site drainage system, which (in turn) connects into the existing Spalding CCGT generating station site drainage system. Appendix E provides the Flood Risk Assessment, which includes a Drainage Strategy. In addition, specific design requirements for any required diesel / fuel / oil and chemical storage containers and containment systems will be included in the Spalding Energy Park BESS specifications.
Are there any areas on / around the proposed development site which are already subject to pollution or environmental damage (such as: where existing legal environmental standards are exceeded) which could be affected?	N	There are no areas on / around the Application Site which are already subject to pollution or environmental damage which could be affected.	–	N / A

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
PRODUCTION OF WASTES				
Will construction / operation / decommissioning of the proposed development produce solid wastes?	Y	During construction, the Spalding Energy Park BESS will produce solid wastes. These are expected to include (but not be limited to): site clearance wastes; non-hazardous construction wastes; and, office wastes.	N	The Construction Contractor will be required to prepare and implement a CEMP. The CEMP will include the following Aspect-Specific Management Plans: • A 'Site Waste Management Plan'. Appendix B provides the Outline CEMP Aspect-Specific Management Plans. Therefore, construction wastes are not likely to have a significant effect / impact on the surrounding environment.
	N	During operation, the Spalding Energy Park BESS will not produce a material amount of solid wastes.	–	N / A
	Y	During decommissioning, the Spalding Energy Park BESS will produce solid wastes. These are expected to include waste batteries, with associated waste equipment / plant.	N	Under the 2009 Waste Batteries and Accumulators Regulations, the selected / appointed BESS integrator will be required to take back any waste batteries, and ensure they are delivered to an approved treatment and recycling facility / operator. In addition, wherever possible, the equipment / plant will be made of materials suitable for reuse or recycling. All equipment / plant will be removed offsite by an approved and licenced waste management operator, for treatment at an approved and licenced facility. Therefore, decommissioning wastes are not likely to have a significant effect / impact on the surrounding environment.

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
USE OF NATURAL RESOURCES				
Will the proposed development use natural resources above or below ground (such as: land; soil; materials / minerals; water; or, energy), which are non-renewable or in short supply?	Y	The Spalding Energy Park BESS will use natural resources, in particular those required for the batteries.	N	Whilst these natural resources may be considered to be non-renewable, they are not considered to be in short supply. Under the 2009 Waste Batteries and Accumulators Regulations, the selected / appointed BESS integrator will be required to take back any waste batteries, and ensure they are delivered to an approved treatment and recycling facility / operator. In addition, wherever possible, the equipment / plant will be made of materials suitable for reuse or recycling. All equipment / plant will be removed offsite by an approved and licenced waste management operator, for treatment at an approved and licenced facility. Therefore, the use of natural resources is not likely to have a significant effect / impact on the surrounding environment.
Will the proposed development involve actions which will cause physical changes in the topography of the area?	Y	In advance of the main construction activities, any necessary additional site preparation will be undertaken. In particular, parts of the Application Site (i.e. BESS Zone, Electrical Banking Station Zone, and Welfare Compound Zone) will be raised to a level of 6.7 m AOD to mitigate potential flood risks. Wherever possible, on-site materials will be re-used. Appendix D provides the Ground Condition Phase 1 Preliminary Environmental Site Assessment, which presents further information on the site raising.	N	Appendix D notes that the site raising is not likely to have a significant effect / impact on the surrounding environment.
Are there any areas on / around the proposed development site which contain important, high quality or scarce natural resources (such as: agriculture; forestry; minerals; water / coastal; or, fisheries) which could be affected?	N	There are no areas on / around the Application Site which contain important, high quality or scarce natural resources which could be affected.	–	N / A

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
POPULTATION AND THEIR HUMAN HEALTH				
Will construction / operation / decommissioning of the proposed development present a risk to population (having regard to population density) and their human health?	N	The Spalding Energy Park BESS will be designed, constructed and operated (and decommissioned) in compliance with the relevant legislation and regulations, and associated codes and standards. In addition, the Spalding Energy Park BESS will be operated and maintained in such a manner as to keep it safe and in good condition, and (where relevant) will take account of the requirements of any authorities / third parties such that its integrity is not compromised. Therefore, the Spalding Energy Park BESS will not present a risk to population and their human health.	–	N / A
BIODIVERSITY / ECOLOGY (HABITATS AND SPECIES)				
Are there any areas on / around the proposed development site which are classified / designated for their avian, marine or terrestrial ecological value (and / or non-classified / non-designated but important or sensitive for their avian, marine or terrestrial value) which could be affected?	Y	Appendix C provides the Ecological Impact Assessment, and notes that the following receptors are considered present in the 2.0 km ecological ZoI: • Designated Sites; and, • Non-Statutory Sites. These are considered to represent areas which are classified / designated for their avian, marine or terrestrial ecological value.	N	Appendix C notes that the Spalding Energy Park BESS is not likely to have a significant effect / impact on areas which are classified / designated for their avian, marine or terrestrial ecological value.
Could any protected, important or sensitive species of fauna or flora which use areas on / around the proposed development site (such as for: breeding; nesting; foraging; resting; overwintering; or, migration) be affected?	N	Appendix C provides the Ecological Impact Assessment, and notes that the following receptors are considered present in the 2.0 km ecological ZoI: • Habitats; • Badgers; • Bats; • Birds; • Otters; and, • Reptiles. These are considered to represent protected, important or sensitive species of fauna or flora.	–	Appendix C notes that the Spalding Energy Park BESS is not likely to have a significant effect / impact on protected, important or sensitive species of fauna of flora.

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
GROUND CONDITIONS / LAND USE				
Are there any existing land uses / plans for future land uses on / around the proposed development site which could be affected?	N	Appendix D provides the Ground Conditions Phase 1 Preliminary Environmental Risk Assessment, and notes that there are no existing land uses / plans for future land uses on / around the Application Site which could be affected.	–	N / A
Is the proposed development site susceptible to earthquakes / subsidence / landslides or extreme / adverse climatic conditions (such as: temperature inversions; fogs; or, severe winds) which could cause environmental problems?	N	The Application Site is not susceptible to earthquakes / subsidence / landslides or extreme / adverse climatic conditions.	–	N / A
WATER RESOURCES (INCLUDING FLOOD RISK)				
Are there any water resources, including surface waters (such as: rivers; lakes / ponds; or coastal) or underground waters, on / around the proposed development site which could be affected?	N	Appendix E provides the Flood Risk Assessment, and notes that there are no water resources on / around the Application Site which could be affected.	–	N / A
Will the proposed development cause / present any flood risks (e.g. risks caused by climate change, in accordance with scientific knowledge)?	N	In advance of the main construction activities, any necessary additional site preparation will be undertaken. In particular, parts of the Application Site (i.e. BESS Zone, Electrical Banking Station Zone, and Welfare Compound Zone) will be raised to a level of 6.7 m AOD to mitigate potential flood risks. Appendix E provides the Flood Risk Assessment, which presents further information on the design site levels. The design site level takes account of climate change and flood risks. Therefore, the Spalding Energy Park BESS will not cause / present any flood risks.	–	N / A

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
LANDSCAPE AND VISUAL AMENITY				
Are there any areas or features on / around the proposed development site which are classified / designated for their landscape and scenic value (and / or non-classified / non-designated but important or sensitive for their landscape and scenic value) which could be affected?	N	There are no areas or features on / around the Application Site which are classified / designated for their landscape and scenic value which could be affected.	–	N / A

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
Is the proposed development site in a location where it is likely to be highly visible to many people? If so, from where / what direction, and what distance?	N	During construction (and possibly during decommissioning), the Spalding Energy Park BESS may lead to potential effects / impacts due to: • Construction activities, and the presence of construction equipment / plant and construction vehicle movements; and, • Localised light emissions from construction activities, light emissions from construction equipment / plant and light emissions from construction vehicle movements. In addition, during operation, the Spalding Energy Park BESS may lead to potential effects / impacts due to: • The presence of the permanent BESS structures; and, • Release of light due to light emissions from the operational (intermittent) lighting columns. However, the Application Site is not in a location where it is likely to be highly visible to many people, and there are limited visual receptors in the immediate surrounding area. Further, during operation, the Spalding Energy Park BESS will not be of a large scale (in the case of double storey, the BESS container / enclosure height (with the required separation) would be approximately 8.0 m), and will be viewed within an immediate commercial and industrial context. Also, following the main construction and commissioning activities, site reinstatement will be undertaken, and landscaping screening will be provided. Appendix F provides the indicative Landscaping Plan.	–	N / A

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
HISTORIC ENVIRONMENT (ARCHAEOLOGY AND CULTURAL HERITAGE)				
Are there any areas or features on / around the proposed development site which are classified / designated for their archaeological or cultural importance (and / or non-classified / non-designated but of archaeological or cultural heritage importance) which could be affected?	N	There are no areas or features on / around the Application Site which are classified / designated for their archaeological or cultural heritage importance which could be affected.	–	N / A
TRAFFIC AND TRANSPORT INFRASTRUCTURE				
Will the proposed development cause additional traffic movements?	Y	During construction (and possibly during decommissioning), the Spalding Energy Park BESS will generate additional traffic due to: • Construction HGV movements, including: – Delivery of construction equipment / plant; and, – Construction vehicles (i.e. delivery of construction materials / removal of construction wastes); • Construction personnel movements.	N	Appendix H provides the Transport Statement, and this notes that the additional traffic movements will be short term and temporary in nature, with peak construction effects / impacts limited to a 6 month period, and average construction effects / impacts limited to an 18 to 30 month period. Therefore, potential effects / impacts will be negligible. In addition, Appendix H notes that the Construction Contractor will be required to prepare and implement a CEMP. The CEMP will include the following Aspect-Specific Management Plans: • A 'Construction Transport Management Plan'.
	N	During operation (including augmentation), the Spalding Energy Park BESS will not generate material / significant amounts of additional traffic movements.	–	N / A
Are there any transport routes on / around the proposed development site which are susceptible to congestion or which cause environmental problems which could be affected?	N	Appendix H provides the Transport Statement, and this notes that there are no transport routes on / around the Application Site which are susceptible to congestion or which cause environmental problems that will be significantly affected.	–	N / A
Are there any routes on / around the proposed development site which are used by the public for access to recreation or other facilities which could be affected?	N	There are no routes on / around the Application Site which are used by the public for access to recreation of other facilities which could be significantly affected.	–	N / A

	Yes (Y) / No (N), with Brief Description		*Is this likely to Result in a Significant Effect / Impact on the Surrounding Environment? Yes (Y) / No (N), with Brief Description*	
POTENTIAL FOR MAJOR ACCIDENTS AND / OR DISASTERS				
Will construction / operation / decommissioning of the proposed development cause / present the potential for major accidents and / or disasters?	N	The Spalding Energy Park BESS will be designed, constructed and operated (and decommissioned) in compliance with the relevant legislation and regulations, and associated codes and standards. In addition, the Spalding Energy Park BESS will be operated and maintained in such a manner as to keep it safe and in good condition, and (where relevant) will take account of the requirements of any authorities / third parties such that its integrity is not compromised.	–	N / A
OTHER EXISTING / APPROVED / PROPOSED DEVELOPMENTS				
Will the proposed development together with any other existing / approved / proposed developments result in the cumulative interaction of effects / impacts?	Y	The Spalding Energy Park BESS, together with other existing / approved / proposed development, may result in the cumulative interaction of effects / impacts.	N	The Spalding Energy Park BESS will replace the remaining unbuilt elements of the current committed development (the Spalding Energy Expansion generating station) on the site. The relevant consenting history of the site also sets an accepted environmental envelope for the site. That is, the associated consents have set an accepted level of effects / impacts on the surrounding environment. Appendix A provides a full description of the accepted environmental envelope, and also provides a qualitative assessment of the Spalding Energy Park BESS against this accepted environmental envelope, and notes that the Spalding Energy Park BESS, together with other existing / approved / proposed development, is not likely to have a significant effect / impact on the environment (and, rather, has fewer / reduced effects / impacts on the environment in comparison to the current committed development (the Spalding Energy Expansion generating station) on the site).
TRANSBOUNDARY EFFECTS / IMPACTS				
Will the proposed development lead to transboundary effects / impacts?	N	Due to the limited spatial extent of potential effects / impacts, the Spalding Energy Park BESS is not likely to lead to transboundary effects / impacts.	–	N / A

Environmental Assessment Step 2: Conclusions

4.4.7 Based on Table 4-2, it is considered that the Spalding Energy Park BESS is not likely to have significant effects / impacts on the surrounding environment.

4.5 Environmental Assessment: Conclusions

4.5.1 Based on the adopted environmental assessment methodology, it is considered that whilst the Spalding Energy Park BESS is Schedule 2 development, it is not likely to have significant effects / impacts on the surrounding environment.

4.5.2 Therefore, it is considered that the Spalding Energy Park BESS is not EIA Development.

APPENDICES

The following Appendices are provided:

- Appendix A: Accepted Environmental Envelope for the Spalding Energy Park BESS Site.
- Appendix B: Outline Construction Environmental Management Plan (CEMP) Aspect-Specific Management Plans.
- Appendix C: Ecological Impact Assessment.
- Appendix D: Ground Conditions Phase 1 Preliminary Environmental Site Assessment.
- Appendix E: Flood Risk Assessment.
- Appendix F: Indicative Landscaping Plan.
- Appendix G: Noise Impact Assessment.
- Appendix H: Transport Statement.