WHITESTONE SOLAR FARM

Volume 7 - Additional Prescribed Information and Other Documents

7.1 Grid Connection Statement

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Contents

Glossary

Term	Meaning
Cable Corridors	Corridors within which the high voltage cables would be constructed.
Environmental Statement (ES)	The Environmental Statement which presents the environmental information relating to the Proposed Development and assessment of potential effects. The ES has been prepared as part of the Application.
The Applicant	Whitestone Net Zero Ltd.
The Application	The Application submitted to the Secretary of State for a Development Consent Order.
The Proposed Development	The proposed Whitestone Solar Farm.
The Site	The land planned to be used for solar PV array and associated infrastructure, BESS, substation, landscaping and habitat enhancement. The Site is split into W1, W2, and W3.
Long Lane 400kV Substation	The new 400 kilovolt substation proposed on land immediately east of Long Lane, Brinsworth, S60 4JJ.
National Grid Brinsworth Substation	The existing 275 kilovolt substation at Brinsworth, located on Howarth Lane, Brinsworth, S60 5LW
Point of Connection	The new National Grid substation at Brinsworth (Long Lane 400kV Substation) where the Proposed Development would connect to the National Grid.
Solar PV infrastructure	Solar PV arrays and supporting infrastructure

Term	Meaning
Whitestone 1 (W1)	The northern parcels of the Whitestone Solar Farm.
Whitestone 2 (W2)	The middle parcels of the Whitestone Solar Farm.
Whitestone 3 (W3)	The southern parcels of the Whitestone Solar Farm.

Acronyms

Acronym	Meaning
AC	Alternating Current
APFP	Infrastructure Planning (Applications: Prescribed Forms and Procedures)
BCA	Bilateral Connection Agreement
BESS	Battery Energy Storage System
CP30	Clean Power 2030
CUSC	Connection and Use of System Code
DCO	Development Consent Order
DESNZ	Department for Energy Security and Net Zero
ES	Environmental Statement
NESO	National Energy System Operator
NETS	National Electricity Transmission System
NGESO	National Grid Electricity System Operator
NGET	National Grid Electricity Transmission
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
oCEMP	Outline Construction Environmental Management Plan
oOEMP	Outline Operational Environmental Management Plan
oDEMP	Outline Decommissioning Environmental Management Plan
oCCMS	Outline Cable Construction Method Statement
PA	Planning Act
POC	Point of Connection
PV	Photovoltaic
RMBC	Rotherham Metropolitan Borough Council

Units

Units	Meaning
MW	Megawatts
kV	Kilovolts

1 EXECUTIVE SUMMARY

1.1.1 Whitestone Net Zero Ltd (the Applicant) has prepared this Grid connection statement in relation to the application for a Development Consent Order (DCO) for the Whitestone Solar Farm (hereafter referred to as the 'Proposed Development').

1.1.2 The Proposed Development comprises the construction, operation, maintenance, and decommissioning of a solar photovoltaic (PV) array electricity generating facility, Battery Energy Storage System (BESS), onsite substations and associated grid connection infrastructure which will allow for the generation and export of electricity to the proposed National Grid Long Lane 400 kV Substation. The Proposed Development has a capacity greater than 100MW. Hence, it is defined under sections 14(1)(a), 15(1) and 15(2) of the Planning Act 2008 as a Nationally Significant Infrastructure Project (NSIP); and as such, requires a DCO from the Secretary of State for Energy Security and Net Zero. This statement has been prepared in support of the DCO application and should be read in conjunction with other documents submitted as part of the application.

1.1.3 The Applicant has secured a connection agreement with National Grid which will allow export of up to 750 Megawatts (MW) AC of electricity to the National Grid Long Lane 400kV Substation.

1.1.4 The Proposed Development is made up of the Order Limits shown in **Environmental Statement (ES) Volume 3 Figure 3.1 Order Limits [EN0110020/APP/6.19]**, which includes the Grid Connection infrastructure to connect to the new National Grid Long Lane 400kV Substation.

1.1.5 The Grid connection infrastructure includes a high voltage underground cable corridor which connects the three distinct areas of the site, including Whitestone 1 (W1), Whitestone 2 (W2), and Whitestone 3 (W3), and transmits the generated power to the grid. It falls under works no. 2 and is shown in the **Works Plans [EN0110020/APP/2.3]**. It is approximately 20km in length, connecting the three on-site substations to the National Grid Long Lane 400kV Substation. The Proposed Development will export and import electricity to and from the National Electricity Transmission System.

1.1.6 **ES Volume 1**, **Chapter 5: The Proposed Development [EN0110020/APP/6.5]** provides a full description of the Proposed Development. **ES Volume 1, Chapter 2: EIA Methodology [EN0110020/APP/6.2]** provides a reasonable overview of the methodology applied to assess its environmental impact.

2 INTRODUCTION

2.1.1 This Grid Connection Statement (the 'statement') has been prepared by Whitestone Net Zero Ltd (the 'Applicant') as part of the DCO to authorise the construction, operation and maintenance and decommissioning of the Whitestone Solar Farm ('the Proposed Development').

2.1.2 The Proposed Development comprises the construction, operation and maintenance, and decommissioning of a solar photovoltaic (PV) array electricity generating facility. The Site comprises solar PV arrays, BESS, onsite substations and associated grid connection infrastructure which will allow for the generation and export of electricity to the proposed National Grid Long Lane 400kV Substation. Whitestone Net Zero Ltd has secured a connection agreement with National Grid which will allow export and import of up to 750MW. Further details of the Proposed Development are provided in **ES Volume 1, Chapter 5: The Proposed Development [EN0110020/APP/6.5]. ES Volume 1, Chapter 2: EIA Methodology [EN0110020/APP/6.2]** outlines how its environmental impacts are assessed.

2.1.3 There are associated elements of the Proposed Development which include but are not limited to access routes, drainage, underground cabling between the different areas of solar PV arrays, and areas of landscaping and biodiversity enhancement. The Proposed Development also includes an underground Grid Connection Corridor of approximately 20km in length using cables of up to 400kV to connect the three on-site substations to the National Electricity Transmission System (NETS) at the new Long Lane 400kV Substation. The Proposed Development will export and import electricity to the NETS.

2.1.4 The Proposed Development is classed as a Nationally Significant Infrastructure Project (NSIP) as defined in the Planning Act 2008, because it comprises a generating station in England with a capacity exceeding 100 Megawatts (MW). Hence, a DCO is required to authorise its construction, operation and maintenance and decommissioning.

2.1.5 This Statement has been prepared by the Applicant to support the Application and should be read in conjunction with the other documents submitted with the Application.

3 PURPOSE AND STRUCTURE OF THIS STATEMENT

3.1.1 The National Policy Statement (NPS) for Energy (EN-1) states at paragraph 4.11.2 that it is the Applicant's responsibility to ensure that the required infrastructure and capacity is available within the existing or planned transmission or distribution network to accommodate the generated electricity.

3.1.2 This Statement is part of a suite of documents which must accompany the Application pursuant to Section 55 of the Planning Act (PA) 2008 and Regulations 5 and 6 of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (APFP Regulations).

3.1.3 This Statement has been prepared in accordance with Regulation 6(1)(a)(i) of the APFP Regulations, which requires an applicant for a DCO in respect of an onshore generating station to provide a statement of who will be responsible for designing and building the connection to the electricity grid.

3.1.4 This Statement is structured as follows:

- Section 4: Works Plans.
- Section 5: Grid Connection Contractual Agreements.
- Section 6: Elements of the Grid Connection.
- Section 7: Responsibilities for designing and building the Grid Connection.
- Section 8: Acquisition of Land Rights for the Grid Connection.
- Section 9: Consent for the Grid Connection Works.
- Section 10: Conclusion.

4 WORKS PLANS

4.1.1 The authorised development and ancillary works are described and itemised in Schedule 1 to the **Draft DCO [EN0110020/APP/3.1]** with reference to specific works numbers ('Work No's'). This Statement makes references to those Work numbers ('Work No's), further details of which should be referenced from the **Draft DCO [EN0110020/APP/3.1].**

4.1.2 Locations of each Works No are shown in the **Works Plans [EN0110020/APP/2.3].**

4.1.3 The Work No's relevant to this statement are as follows:

- Work No. 2 – Interconnection Cables which involves the installation of high voltage cables to connect the three distinct areas of the project to the National Grid Long Lane 400kV substation.
- Work No. 3 – BESS which involves the installation of a battery energy storage system and associated infrastructure.
- Work No. 4 – Substations which involves the installation of the relevant electrical, protection and control equipment required to step up the voltage to facilitate interconnection within the Site and the export to the Transmission network.
- Work No. 6 – Areas of green infrastructure and habitat management.
- Work No. 7 – Drainage associated with the primary substation which involves the installation of drainage systems to manage surface water in hardstanding areas.

4.1.4 The above works will form the infrastructure that allows electricity which is generated from Work No. 1 (the ground mounted solar photovoltaic infrastructure) or has been stored in Work No. 3 (BESS) to be transmitted to the Point of Connection at the new National Grid Long Lane 400kV Substation via the on-site substations in Work No. 4. The same infrastructure will allow for electricity from the grid to be transmitted from the connection point to be stored in Work No. 3.

5 GRID CONNECTION CONTRACTUAL AGREEMENTS

5.1.1 The Applicant holds a grid connection offer from the National Energy System Operator (NESO) to connect the Proposed Development to the NETS. NESO is the system operator for the Great British electricity network and the body responsible for issuing connection agreements for the transmission network. The system operator changed its name from NGESO to NESO on 1 October 2024 to mark its change of ownership from National Grid plc to the UK Government. Any reference to NESO also includes prior engagement with NGESO. The transmission owner for England and Wales is National Grid Electricity Transmission (NGET) pursuant to a transmission licence issued under the Electricity Act 1989. NGET is the body of National Grid plc responsible for delivering and operating the new National Grid Long Lane 400kV Substation.

5.1.2 The original Bilateral Connection Agreement (BCA) was issued by NESO in January 2022 for connection to the existing Brinsworth substation at 275kV. The agreement was accepted in April 2022. NESO then later revised the agreement in January 2025 to reflect the connection to the new Long Lane 400kV substation. At the same time, the connection date was moved to October 2029. The revised agreement was accepted by the Applicant in March 2025. As part of the Connections Reform process, the Proposed Development received confirmation from NESO that the solar component would receive a Gate 2 final customer offer for a phase 1 (up to and including 2030) connection. The BESS component is to receive a Gate 1 offer, the indicative connection date of which has not yet been confirmed. The revised offer is expected from NESO in the second half of 2026.

5.1.3 The connection agreement is for an export connection of up to 750MW AC power with a connection date no later than 2030.

5.1.4 The Applicant must also agree to comply with the Connection and Use of System Code (CUSC), which outlines the contractual framework for connecting to and using the NETS, as a requirement of the acceptance of the grid connection offer.

5.1.5 NGET has confirmed that a bay will be available within the new Long Lane 400kV substation for The Proposed Development to connect. The works to populate the bay will be required as part of the Proposed Development to facilitate the connection to the transmission network. The works will comprise the electrical works and installation of cabling and ancillary protection equipment.

5.1.6 The Applicant is responsible for the works to connect the Proposed Development to the dedicated bay within the Long Lane 400kV substation, which includes the construction of the Grid Connection Corridor up to and within the new Long Lane substation. It also includes the installation, testing and commissioning of the associated cable sealing ends and protection and control equipment within the new Long Lane 400kV substation. NGET will be responsible for the works on the

transmission network to facilitate the Applicant's works, including the installation, testing and commissioning of the required protection and control equipment and systems.

5.1.7 The Applicant confirms that the output of Work No. 1, the Solar PV infrastructure, and Work No. 3, the BESS, will be exported to the transmission network via the new long Lane 400kV substation owned and operated by NGET.

6 ELEMENTS OF THE GRID CONNECTION

6.1.1 The electricity generated by the Proposed Development will be exported to the transmission network via the high voltage cables installed within the grid connection corridor. The cables will connect W1, W2 and W3 at the Primary substation within W2. It will then connect the Primary substation in W2 to the PoC at the new Long Lane 400kV substation. Whitestone 3 will be connected via 33kV cables to Whitestone 2 due to the smaller power output in Whitestone 3.

6.1.2 The total length of the Grid connection corridor is approximately 20km.

6.1.3 The **Works Plans [EN0110020/APP/2.3]** show the location of the works areas. The location of the new Long Lane 400kV substation is shown on sheet **9** of the Works Plans.

6.1.4 The required elements of the grid connection are summarised below. The **ES Volume 1, Chapter 5: The Proposed Development [EN0110020/APP/6.5]** provides a description of how the elements will be constructed.

6.2 Substations (Work No. 4)

6.2.1 The electricity generated and stored by Works No.1 and 3 (the solar PV infrastructure and BESS) will be converted by Work No. 4 (the substations) to 400kV via high voltage transformers and switching equipment. The converted electricity will be transmitted to the new Long Lane 400kV substation via the underground 400kV cables within the Grid Connection Corridor.

6.2.2 There will be three substations within the Proposed Development: one satellite substation in Whitestone 1, another satellite substation in Whitestone 2 east, and the primary substation in Whitestone 2 west. The satellite substations will collect the power from the solar PV infrastructure and transport it to the primary substation for transmission to the PoC.

6.2.3 The substations will be located within a fenced off compound and will include:

- High voltage equipment such as transformers, switchgear, disconnectors, switching equipment, sealing ends, surge arresters, associated earthing, protection and control equipment.
- Ancillary buildings to house indoor equipment such as relays, control panels, metering equipment, welfare and storage.
- Underground electrical cables (Works No.2).

- Landscape and green infrastructure (Works No. 6) which includes the planting and seeding of new vegetation, and management of existing vegetation.
- Drainage associated with the primary substation (Works No.7), which includes the installation of a pipe to drain water from the Work No.4-2A.

6.3 Grid Connection Corridor (Work No. 2)

6.3.1 The power generated by the Proposed Development and collected by the substations will be transported via the interconnecting high voltage cables (Work No. 2) to the new National Grid Long Lane 400kV substation.

6.3.2 The Grid Connection Corridor will comprise underground high voltage cabling which will connect the on-site substations, and a single 400kV cable circuit (consisting of three single-core cables) which will connect the primary substation to the new National Grid Long Lane 400kV Substation as outlined in **ES Volume 1, Chapter 5: The Proposed Development [EN0110020/APP/6.5]**

6.3.3 The high voltage cables will be laid directly in trenches or into ducting. Burying the cables directly will require long sections of trench to be open at a time so the cables can be installed prior to backfilling. However, the ducting option allows shorter sections of trench to be opened and backfilled after ducts are installed, for cables to be pulled in later. Trenchless methods will also be considered for crossing infrastructure and natural features such as motorways and watercourses. The installation depth of the cable is dependent on several factors such as land usage, presence of obstacles and natural features as outlined in **ES Volume 1, Chapter 5: The Proposed Development [EN0110020/APP/6.5]**

6.3.4 A temporary working corridor of up to 40m is proposed for the cable installation works. This area will include the trench for the high voltage cables. It will also include the laydown area for materials, temporary access tracks, drainage and stockpiling area for topsoil and subsoil.

6.3.5 The construction, operation and decommissioning of the different elements of the Grid Connection Corridor have been assessed and reported in the Environmental Statement. The relevant mitigation measures are presented in the **Outline Construction Environmental Management Plan (oCEMP) [EN0110020/APP/5.9]**, the **Outline Operational Environmental Management (oOEMP) Plan [EN0110020/APP/5.10]**, and the **Outline Decommissioning Environmental Management Plan (oDEMP) [EN0110020/APP/5.11].**

6.3.6 The construction, operation and decommissioning of all elements of the Grid Connection Corridor will be carried out in line with the detailed CEMP, OEMP and DEMP respectively. These management plans will be prepared in accordance with the **oCEMP [EN0110020/APP/5.9]**, **oOEMP [EN0110020/APP/5.10]**, and the **oDEMP [EN0110020/APP/5.11]** submitted with this Application.

6.4 Works at the National Grid Long Lane 400kV Substation

6.4.1 The Proposed Development will be connected to the new National Grid Long Lane 400kV substation. NGET has confirmed that there will be a dedicated bay within the substation following construction, for the Proposed Development to connect. The Proposed Development requires works to be carried out by the Applicant and NGET to facilitate the connection to the transmission network. These works fall under Works No. 2.

6.4.2 The works to be carried out by the Applicant would typically comprise the installation, connection and commissioning of disconnectors, circuit breakers, transformers, metering and protection equipment, ancillary buildings and associated civil works.

6.5 Works at the National Grid Long Lane 400kV Substation Undertaken by National Grid

6.5.1 National Grid intends to construct the Long Lane 400kV substation, which as one of its objectives, will facilitate the connection of the Proposed Development to the NETS. These works as presented in the Long Lane planning application **(reference RB2025/1468)** would include:

- Construction of the new Long Lane 400kV substation.
- The provision of a user generation bay at the new Long Lane substation to facilitate a 400kV cable connection.
- Substation control modification and busbar protection at the new Long Lane 400kV substation.
- Associated civil works.

6.5.2 The works to construct the Long Lane 400kV substation will be carried out by NGET pursuant to a separate planning permission. The Proposed Development does not include the construction of the Long Lane 400kV substation and that is therefore not included in the Application.

6.5.3 As described above, the Applicant will bring a cable from the Primary Substation into the new Long Lane 400kV substation and install equipment in its allocated bay there to facilitate connection of the Proposed Development to the NETS. For this reason, the new Long Lane 400kV substation site is included within Works Area 2.

7 RESPONSIBILITIES FOR DESIGNING AND BUILDING THE GRID CONNECTION

7.1 Responsibilities of the Applicant

7.1.1 The responsibility for designing and building the elements described in **Sections 6.2 to 6.4** of this document sit with the Applicant and the Applicant's contractors. The works at the new National Grid Long Lane 400kV Substation required to facilitate the connection of the Proposed Development will be undertaken by NGET as set out in **section 6.5** of this document. The 400kV Grid Connection Cable will be delivered into a new bay within the Long Lane 400 kV substation.

7.1.2 The ownership, maintenance and management of the three on-site substations (Work No. 4) and the new interconnecting underground cables within the Grid Connection Corridor (Work No.2) will be the responsibility of the Applicant.

7.1.3 Full descriptions of the relevant works are provided in **ES Volume 1, Chapter 5: The Proposed Development [EN0110020/APP/6.5].**

7.2 Responsibilities of National Grid Electricity Transmission

7.2.1 The works as outlined in **section 6.5** of this document will be the responsibility of NGET. These works would be under the control of NGET and are not included as part of the Proposed Development.

7.2.2 Any requirements or modifications to the NETS to facilitate this connection at the new National Grid Long Lane 400 kV Substation will be implemented by NGET and are not included as part of the Proposed Development.

8 ACQUISITION OF LAND RIGHTS REQUIRED FOR THE GRID CONNECTION

8.1.1 Option agreements for the solar array and BESS areas have been secured through voluntary agreements. Option agreements for the land required for the on-site substations have also been voluntarily secured.

8.1.2 Negotiations for the cable corridor land rights are ongoing with the relevant landowners. If voluntary agreements cannot be secured, compulsory acquisition powers would be required to secure the land, and to ensure that any third-party interests or encumbrances affecting such land, rights and interests may be acquired, overridden or extinguished pursuant to the **draft DCO [EN0110020/APP/3.1]**, to ensure that the Proposed Development can be constructed, operated and maintained. The status of negotiations at the time of the Application submission is reported in the **Land and Rights Negotiations Tracker [EN0110020/APP/4.4].**

8.1.3 Notwithstanding the above in 8.1.1, the Applicant remains committed to obtaining the necessary land rights by negotiation where possible and discussions with landowners remains ongoing.

9 CONSENT FOR THE GRID CONNECTION WORKS

9.1.1 The grid connection, comprising the on-site substations (Work No. 4), the Grid Connection Corridor (Work No. 2) and works within the new National Grid Long Lane 400kV Substation form part of the Proposed Development for which development consent is being sought via the DCO Application.

9.1.2 The Applicant has accepted a grid connection offer from NESO which stipulates the works required to connect to the new National Grid Long Lane 400kV Substation. These works are explained in **Section 6** of this Statement.

9.1.3 As such, if the same terms as those set out in the **Draft DCO [EN0110020/APP/3.1]** are granted, development consent to deliver the grid connection will have been secured.

9.1.4 As outlined in **section 6.5**, NGET have submitted an application for planning permission **(reference RB2025/1468)** under the Town and Country Planning Act 1990 in late 2025 to Rotherham Metropolitan Borough Council (RMBC) for construction, operation and decommissioning of the National Grid Long Lane Substation. In addition, ancillary works are needed to connect the proposed Long Lane Substation into the NETS. These works comprise the construction of short sections of new 400kV overhead lines which will be consented separately under the consenting regime provided by Section 37 of the Electricity Act 1989 for the installation of overhead lines.

10 CONCLUSION

10.1.1 It is the Applicant's responsibility to submit a statement pursuant to Regulation 6(1)(a)(i) of the APFP Regulations, stating who will be responsible for designing and building the connection to the electricity grid.

10.1.2 It is considered that this Statement provides confirmation to the Secretary of State of the requirement of the above, namely:

- The Applicant has received a grid connection offer from NESO to connect the Proposed Development to the NETS and the offer has been accepted.
- A connection to the new National Grid Long Lane 400kV Substation will be provided via a single circuit 400kV underground cable from the primary substation as shown on Work No. 2 of the **Works Plans [EN0110020/APP/2.3].**
- The responsibility of designing and building the on-site substations (Work No. 4) and laying the cable within the Grid Connection Corridor (Work No. 2) will sit with The Applicant.
- The Applicant has, or will have, the ability to procure the necessary land and rights required to install the Grid Connection Corridor.
- The grid connection forms part of the Proposed Development for which development consent is being sought as set out in the **Draft DCO [EN0110020/APP/3.1].**

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