Scottish & Southern Electricity Networks

TRANSMISSION

Stannergate 132kV Substation and Network Rail Feeder Station

Pre-Application Feedback Event

August 2024

ssen-transmission.co.uk/stannergate

Contents

The consultation event will be taking place on:

15 August 2024 – 2pm-7pm

The Art Gallery room, Apex City Quay Hotel & Spa, 1 West Victoria Dock Road, Dundee DD1 3JP

Stannergate 132kV Substation and Network Rail Feeder Station Pre-Application Feedback Event

Powering change together

The time has come to further enhance Scotland's energy infrastructure, providing power for future generations as we move towards net zero.

The shift to a cleaner, more sustainable future is about more than climate change. It's about ensuring future generations have the same opportunities to thrive as we have all had.

Countries around the world are investing in their energy infrastructure to support the demands of modern economies and meet net zero targets. The UK is leading the way in building a modern, sustainable energy system for the future.

We all have a part to play

When it comes to net zero, we have to be in it together. The UK and Scottish governments have ambitious net zero targets, and we're playing our part in meeting them.

We work closely with the National Grid to connect vast renewable energy resources – harnessed by solar, wind, hydro and marine generation – to areas of demand across the country. Scotland is playing a big role in meeting this demand, exporting two thirds of power generated in our network.

But there's more to be done. By 2050, the north of Scotland is expected to need 40GW of renewable energy capacity to help deliver net zero. Today, our region has just 8GW of renewable generation connected to the network

At SSEN Transmission, it is our role to build the energy system of the future.

We're investing £10 billion into our region's energy infrastructure this decade, powering more than ten million UK homes and 20,000 jobs, 9,000 of which will be here in Scotland.

Find out more

Scan the QR code with your smartphone to find out more about how these policies have been assessed and determined.

Who we are

We're responsible for maintaining and investing in the electricity transmission network in the north of Scotland. We're part of SSE plc, one of the world's leading energy companies with a rich heritage in Scotland that dates back more than 80 years. We are also closely regulated by the GB energy regulator Ofgem, who determines how much revenue we are allowed to earn for constructing, maintaining and renovating our transmission network.

What we do

We move electricity all over the UK. We manage the electricity network across over a quarter of the UK's land mass, crossing some of the country's most challenging terrain. We connect renewable energy sources to our network in the north of Scotland and then transport it to where it needs to be. From underground subsea cables and overhead lines to electricity substations, our network keeps your lights on all year round.

Working with you

We understand that the work we do can be disruptive to communities. So we're committed to keeping that disruption to a minimum and maximising all the benefits that local development can bring to your area.

We're regularly assessed by global sustainability consultancy AccountAbility for how we engage with communities. That means we provide all the information you need to know about our plans and how they will impact communities like yours. The way we consult is also a two-way street. We want to hear people's views, concerns, or ideas and harness local knowledge so that our work benefits their communities: today and long into the future. You can share your views with us at: ssen-transmission.co.uk/talk-to-us/contact-us

SSEN Transmission's Dundee city strategy

Summary of strategy

Based on the condition of aging assets across Dundee city SSEN Transmission are proposing a programme of asset renewal. These proposals will cover the substations, underground cables and overhead lines which make up the Dundee Transmission network.

Subject to approval from the regulator Ofgem, the assets will require replacement in the upcoming regulatory periods between 2026 to 2036. The result of this strategy and subsequent works hopes to see assets providing over 40 years of service to the city and beyond.

Asset conditions demand

The Asset Management Department of SSEN Transmission continually assesses the condition of assets across the network. Now approaching 60 years of service, many of the assets in Dundee have either exceeded or are nearing the end of their economic and operational capabilities.

Under Section 6 of the 1989 Electricity Act, SSEN Transmission are required to ensure a safe and secure network, which means replacing these assets in a timely manner. To comply with SSEN Transmission's license obligations, infrastructure upgrade works will be required at the following sites in Dundee:

- Dudhope Grid Supply Point (GSP)
- Glenagnes GSP
- Charleston GSP
- Lyndhurst GSP
- Milton of Craigie GSP

A GSP provides a connection between the transmission network operated by SSEN Transmission and the lower voltage distribution network, operated by SSEN which provides power to houses and business.

Please see the map adjacent which shows all the current Dundee Transmission Assets.

The need/why are we upgrading the network

The primary drivers for the new 132kV substation in Stannergate are; SSEN Transmission's obligation for asset upgrades and reinforcements and a new 132kV connection request from Network Rail. This connection must be within 2km of the existing rail network in the Dundee area.

There is no space at the current Dudhope GSP to extend the site to allow the Network Rail connection or to replace and upgrade the transformers.

This necessitates the requirement for a new 132kV GIS (Gas Insulated Switchgear) substation at Stannergate to provide a connection for Network Rail and sufficient space to provide a replacement for Dudhope GSP.

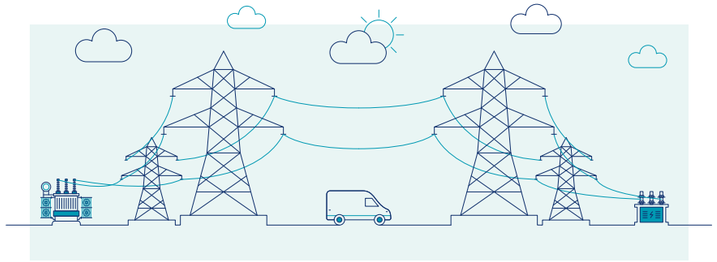
GIS is proposed to reduce the substation footprint in a city centre location compared to more conventional Air Insulated Switchgear.

Network Rail demand

As part of a £120m Scottish Government investment, Network Rail are electrifying Scotland's rail network to help decarbonise and support ambitions to reach Net Zero by 2045. To electrify the rail routes from Dundee – Arbroath – Montrose, Network Rail have requested a 132kV feeder station to deliver power to the newly electrified lines, with a firm demand of 16.2MW from SSEN Transmission.

This request has triggered the demand for 2 key projects at Stannergate, one 132kV feeder station and one 132kV GIS substation which will power the feeder station.

SSEN Transmission and Network Rail will be working in close partnership to plan, design and deliver the required works in a way that reduces risk, minimises disruption and helps to move forward with plans to decarbonise Scotland's railway by 2035.



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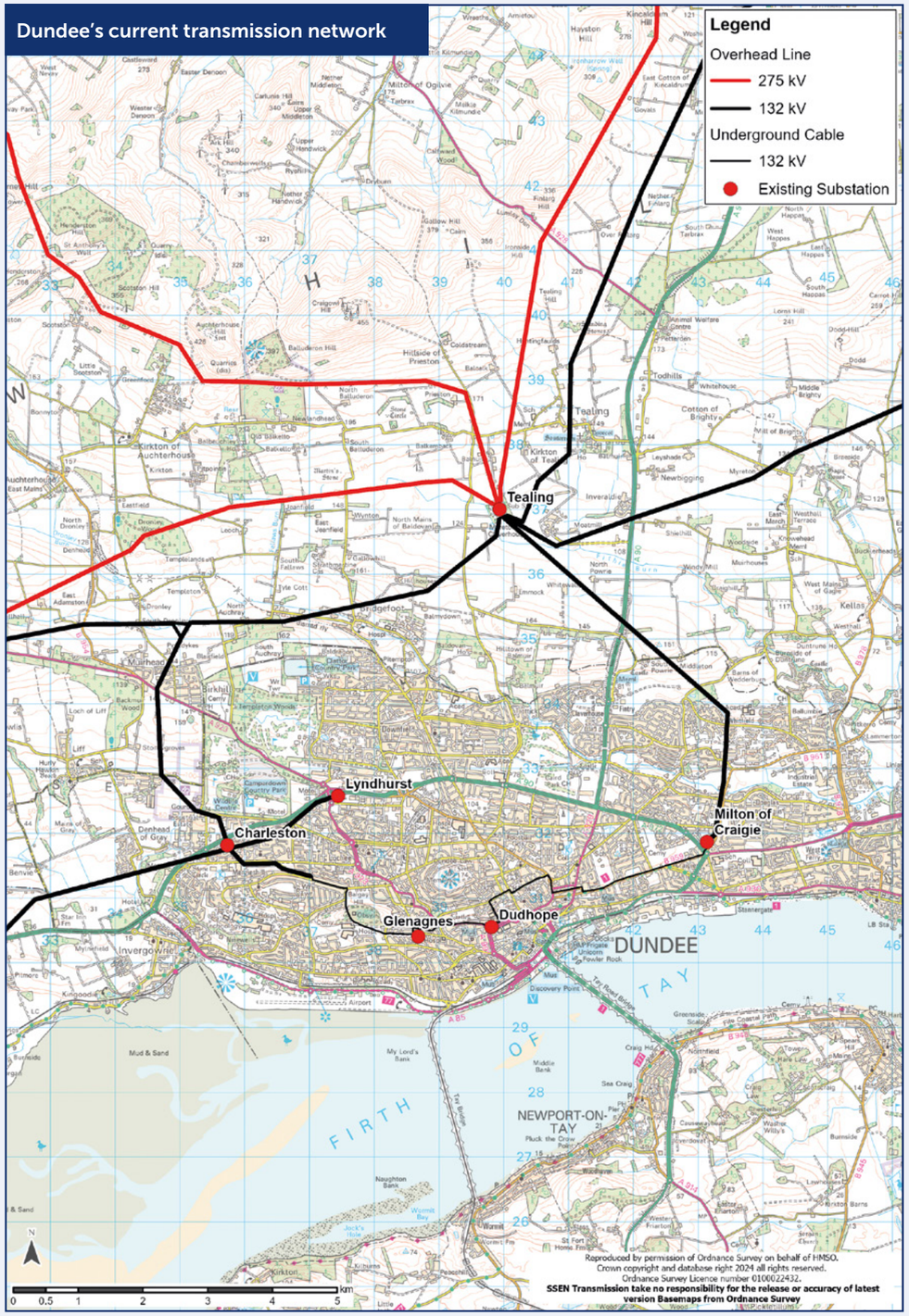
Dundee's current transmission network



Project overview

The city of Dundee has high ambitions to decarbonise, aligning its greenhouse emissions reduction targets with the Scottish Government's target of meeting net zero by 2045.

Decarbonisation initiatives include investment in charging infrastructure for electric vehicles, electrification of railway, hydrogen buses and fleet, and district heating. There are three key projects which are proposed within the Stannergate site, with all the details on the proposals for each below.

Dudhope Grid Supply Point (GSP) replacement

Dudhope currently has two 132/33kV transformers with a capacity of 60MVA each. Both transformers were installed in 1967 and are reaching the end of their capacity. These will be upgraded to two 132/33kV transformers at Stannergate with a capacity of 120MVA each.

The existing equipment at Dudhope does not meet current standards. Stannergate substation will accommodate the upgrade and installation of these new assets. Replacement of these assets is required in RIIO-T3, Ofgem's next price control period, and the existing site is not acceptable for the current design standards or space requirements.

132kV Network Rail feeder station

The Network Rail feeder station will provide a connection to the transmission electricity network and support the electrification of the rail network in Scotland.

The feeder station equipment will include two 132/25kV rail transformers with a capacity of 25MVA for Network Rail and all associated ancillary plant, which will also be developed within the new 132kV Stannergate substation site.

Stannergate 132kV GIS substation

To facilitate Network Rail's connection requirement and replace the existing assets at Dudhope GSP, the following equipment will be installed at the Stannergate 132kV GIS substation:

- An overall site to be developed of approximately 5.25 hectares to accommodate all required equipment
- 132kV indoor GIS substation building housing the 132kV double busbar configuration
- Two 132/25kV 25MVA rail transformers housed in buildings
- Two 132/33kV 120MVA grid transformers housed in buildings
- 33kV distribution building.
- 132kV underground cable to connect Stannergate substation to the existing 132kV transmission network in Dundee.

Work done by others:

- Underground cable connection between Network Rail Feeder Station and the rail (route tbc)
- Underground cable connection between 33kV Building and Dudhope (route tbc).

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Project timeline

2022
- Project need and scope confirmed

2023
- Site selection for substation started
- Environmental and engineering surveys
- Substation detailed design commences- October 2023

2024
- Substation site selection concluded – March 2024
- Environmental impact assessment scoping – March 2024
- Pre-Application Consultation – first consultation – May 2024
- Environmental and engineering assessment continues
- Pre-Application Consultation – second consultation – August 2024 **WE ARE HERE**
- Environmental Impact Assessment – April- July 2024
- Planning application submitted – September 2024

2025
- Receive consents decisions – May 2025
- Agree discharge of conditions if planning consent granted
- Proposed substation construction start – October 2025

2026
- Construction works ongoing

2027
- Energisation of substation – October 2027

3D visualisations

We understand that local stakeholders need to be able to visualise what the development may look like in their local area.

We've commissioned 3D visualisations which model the substation into the local landscape to aid understanding of the proposals in terms of the visual impact, distance and height. These are also available to view from the project webpage or via the QR code at the bottom of this page.

Our proposals may change based on feedback and further refinement of the design, if that happens, we'll update our model and video and share this on our webpage and with you at the next event.

Photomontages

Photomontage visualisations will also be produced as part of the Environmental Impact Assessment (EIA).

Once the EIA is completed, we'll ensure these photomontages are easily available to view.

Indicative view of site from East Dock Street

Find out more

Scan the QR code with your smartphone to view on the project website.

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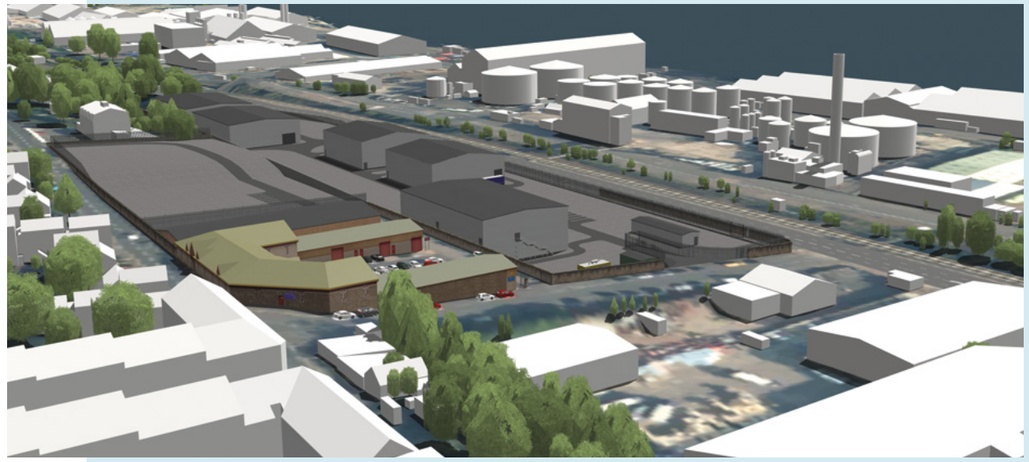

Indicative aerial views from various points

Feedback

Following submission of the Proposal of Application Notice (PAN) in April 2024, the first of two pre-application consultation events were held at the Apex City Quay Hotel on 16 May 2024.There was a total of 10 attendees.

During the 6-week feedback period, which closed on 27 June 2024 we did not receive any formal feedback form submissions. We did receive several comments from event attendees and written responses from statutory consultees.

We have organised the feedback around a number of key themes. Those, and our responses, are set out below. In addition, in the following pages, we present updates to the substation design, and explain how those have changed in response to feedback. We also present new information to explain how the construction and development of the substation would likely be progressed.

Event feedback	Response
Proximity to the Eden Project Attendees noted the proximity of the proposed Stannergate site to the new Dundee Eden Project which will be located east of Melville Lane. Concerns were raised around wither this would cause any disruption to the Eden Project.	We have held pre-application discussions with Dundee City Council who are the Planning Authority for both this project and the Eden Project, the latter of which we understand is now consented. As part of our non-statutory engagement, we emailed the Eden Project a copy of our Pre-application Notice to make them aware of our plans. The two projects are not situated directly adjacent to each other, there is a barrier of businesses between the two sites with the Stannergate site situated west of Market Street. Therefore, we do not predict any adverse impacts on the operation of the Eden Project because of our plans. However, we will seek to continue to engage with them as and when required and mitigate against any potential impact. Traffic will also be carefully managed, see below.
Construction traffic Concerns about the level of construction traffic given the proximity to the A92.	It is anticipated that a Construction Traffic Management Plan (CTMP) will be required as part of the development, setting out a clear methodology for how construction traffic will be managed. This will address such issues as construction traffic routing, temporary traffic management requirements and measures for the environmental control of vehicles and transported materials, such as wheel washing and dust suppression. Specific consideration will also to be given to the transportation of any Abnormal Indivisible Loads (AILs) and a route assessment will be included to demonstrate how AILs will be transported to the site. The CTMP will require to be agreed with Transport Scotland, Dundee City Council and Police Scotland prior to works starting on site. See statutory consultee feedback section.
Substation site name Some attendees noted the Stannergate name was potentially misleading as residents generally associate the Stannergate area as being further east.	We acknowledge the feedback received that the Stannergate name may not accurately reflect the actual site location, however after careful consideration, the decision has been taken not to change this for both technical and safety reasons. Each of our projects is required to apply to the Electricity System Operator (ESO) to obtain a code in advance, which can be a time-consuming process. Moreover, a unique and easily identifiable site reference is critical when dealing with emergency situations that may affect the network and careful consideration has been given in this instance to achieve this. Any change in name at this late stage would need to be agreed by both the ESO and the Transmission control room which could ultimately delay the project programme.

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Event feedback	Response
Site location Concern raised over why we have chosen this site and not an alternative.	There were several considerations and criteria restraints which included distance, size, and Dundee City Council area development plans which safeguard sites across the city for different purposes. Alternative site options were therefore limited. A summary of the site selection process undertaken is set out in "How we've selected the substation site" section. The site comprises the vacant former abattoir site on Broughty Ferry Road and the derelict former Nynas fuel storage facility that fronts onto East Dock Street. Our proposals offer the opportunity to redevelop the site in a manner that will make a positive contribution fitting to the character and amenity of the local area. Dundee Port continues to be recognised as one of the Scottish Government's Low Carbon/ Renewables Enterprise Areas with the aim of encouraging businesses in this sector to set up and grow in Scotland. Our proposed site, directly north of the port, is in line with this area designation as the reinforcement of the electricity transmission grid will ensure progress towards achieving net zero and a decarbonised economy.
Visual impact and landscaping Questions around how the site will be screened to reduce visual impact. Comments were also made in relation to how to substation would look, with requests for it to be vibrant. Ideas were shared that a local artist could be commissioned to paint a mural which links the site to its history.	The proposals will be supported by a landscape strategy plan for the site, which will aim to maximise landscape mitigation where possible, to minimise the potential visual impact of the proposed development. Where appropriate, this will include new or enhanced boundary planting. We recognise the potential visual impact our projects can have, and we work to make sure our designs minimise these impacts as far as possible. However, we need to ensure that the site is designed to meet all operational and health and safety requirements, in line with current regulations and guidelines. Where possible, we will consider any alternative designs and the potential inclusion of a public art which Dundee City Council encourages as part of all new major developments.

Statutory Consultee Feedback	Response
Transport Scotland In summary Transport Scotland's requirements would be: • A Transport Statement, detailing traffic generation by volume, type and distribution for the proposals, during both construction and operation. • Design details for the proposed site access points confirming compliance with DMRB requirements including visibility splays. • A Stage 1 Road Safety Audit covering these access proposals. • Construction Traffic Management Plan (CTMP). Assessment of any abnormal loads and the likely routes for the proposals.	AECOM consultants have been appointed to undertake a Transport Assessment which will assess levels of likely trip generation, distribution and type of vehicles during both the construction and operational phase. This will be undertaken in accordance with Transport Scotland's 'Transport Assessment Guidance' and the scope discussed and agreed with both Transport Scotland and Dundee City Council in advance of submission. The Transport Assessment will also consider how the site will be accessed both during construction and operational phases including swept path analysis of all proposed access points to demonstrate that traffic entering and exiting the site will not impact on or block traffic on the trunk road or interfere with the necessary visibility splays. Transport Scotland's comments in relation to the proposed secondary access area are noted and consideration to be given to moving the access westwards away from the bend and forming a left in / left only access junction. The design proposals for both site accesses will be accompanied by a Stage 1 Road Safety Audit, undertaken in accordance with DMRB GG119, along with a Designers Response. We will seek approval from Transport Scotland for both the brief and audit team prior to the audit being undertaken. As discussed above it is expected that any future planning permission will be subject to a condition requiring the preparation and approval of a CTMP for the site. Transport Scotland's comments regarding drainage, boundary fencing, landscaping and any external site lighting are noted and will be considered in the final design.

Feedback

Event feedback	Response
Dundee City Council Greenspace Officer A full ecological assessment should be carried out on site, to inform a landscape plan showing how positive gains for biodiversity will be incorporated in line with the requirements of National Planning Framework 4.	The requirement for a full ecological assessment is noted and will be provided as part of the Environmental Assessment (EA) being prepared to support the planning application. The EA will provide the basis for a landscape strategy plan for the site, which will designed to satisfy the requirements of NPF4 in relation biodiversity enhancement and meet SSEN Transmission's own Biodiversity Net Gain requirements, which target a minimum 10% net gain on all projects.
Dundee City Council Environmental Health Recommend a condition be attached to any consent stipulating that the received noise from the electrical substation(s) shall not exceed NR30 as measured 1m external to the facade of residential property. A Construction Environmental Management Plan will be required.	A Noise Impact Assessment is being carried out for the proposed development and will be submitted in support of the planning application. This assessment will establish the existing baseline noise levels at the closest Noise Sensitive Receptors and, where required, will identify mitigation measures required to meet the necessary levels identified through consultation with the Council. It is anticipated that a Construction Environmental Management Plan (CTMP) will be required as a condition of any development that will provide details of any mitigation to be implemented to minimise impacts to nearby residents. This shall also provide clarification of construction hours, location of site compounds and laydown areas, any dust suppression measures, lighting impacts and detail any operations which may generate vibration or significant noise impacts.
Dundee City Council Outdoor Access Officer The site incorporates the partial length of Roodyards Road, an unclassified adopted road which runs from Broughty Ferry Road down to East Dock Street.	It is considered that Roodyards Road no longer represents a viable vehicle or pedestrian through route and that in its current state the road is not a safe or desirable access route and represents a health and safety risk. The proposals would seek to close this road, removing it as an adopted highway to allow for the redevelopment of the site. SSEN Transmission are engaging with the Council's Highways Department and Outdoor Access Officer regarding these proposals.
Dundee City Council Surface Water Drainage and Flooding The proposed development would require to demonstrate that the proposals could be satisfactorily drained in a sustainable manner, and that the development would not either be at risk of flooding or increase the flood risk at surrounding property. Full details of a proposed on-site sustainable drainage solution would require to be provided with any application, including drainage statement, detailed drainage proposals and associated calculations.	Drainage Impact and Flood Risk Assessments will be undertaken and submitted in support of the application. These assessments will demonstrate that the proposals can be satisfactorily drained in a sustainable manner, and that the development will not at risk of flooding or increase the flood risk at any surrounding property. Full details of a proposed onsite sustainable drainage solution will also be provided with the application, including drainage statement, detailed drainage proposals and associated calculations.

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How we've selected the substation site

Our site selection process makes sure the design, consenting, construction and operation of our projects are undertaken in a manner, which on balance, causes the least disturbance to the environment and the local community, while ensuring the solution taken forward is economically and technically practical.

In the first instance, consideration was given to the redevelopment/extension of the existing Dudhope GSP substation as opposed to its relocation.

However, this was discounted due to the age of the existing buildings, structures on site and the constrained nature of the site, which would not allow for the delivery of a replacement substation that would meet SSEN Transmission's most up-to-date construction and operation standards.

Consequently, the only option available was to establish a new site within Dundee. The decision was taken to develop a site that could accommodate both the Network Rail connection and asset replacement works.

A combined site is likely the most economical solution and the least disruptive from a construction perspective.

As part of an initial desk-based site selection workshop, a wide variety and number of sites across Dundee city were considered. This stage one process produced an initial shortlist of 12 potential sites.

The shortlisted sites were then assessed in greater detail using the following site selection criteria:

- Size of site (0.7 hectares for feeder and 1.4 hectares for GSP, = 2.1 hectares needed in total for combined site)
- Within 2km of Dudhope GSP
- Within 5km of rail infrastructure

Please see the table below which demonstrates the level of constraint for each of the 3 considerations.

From this assessment and the consideration of additional engineering, operational, land and environmental aspects of each site, the only sites that were identified as being viable were:

- Site 1 – Seabraes; and
- Sites 4 and 5 combined – Victoria Works

SSEN Transmission subsequently undertook pre-application consultation and discussion with Dundee City Council in relation to both sites during 2023.

The conclusion of this pre-application process led to the identification of a more suitable site at Stannergate, which has been selected as our proposed site to be taken forward to the planning application stage.

RAG Status from Site Selection Workshop

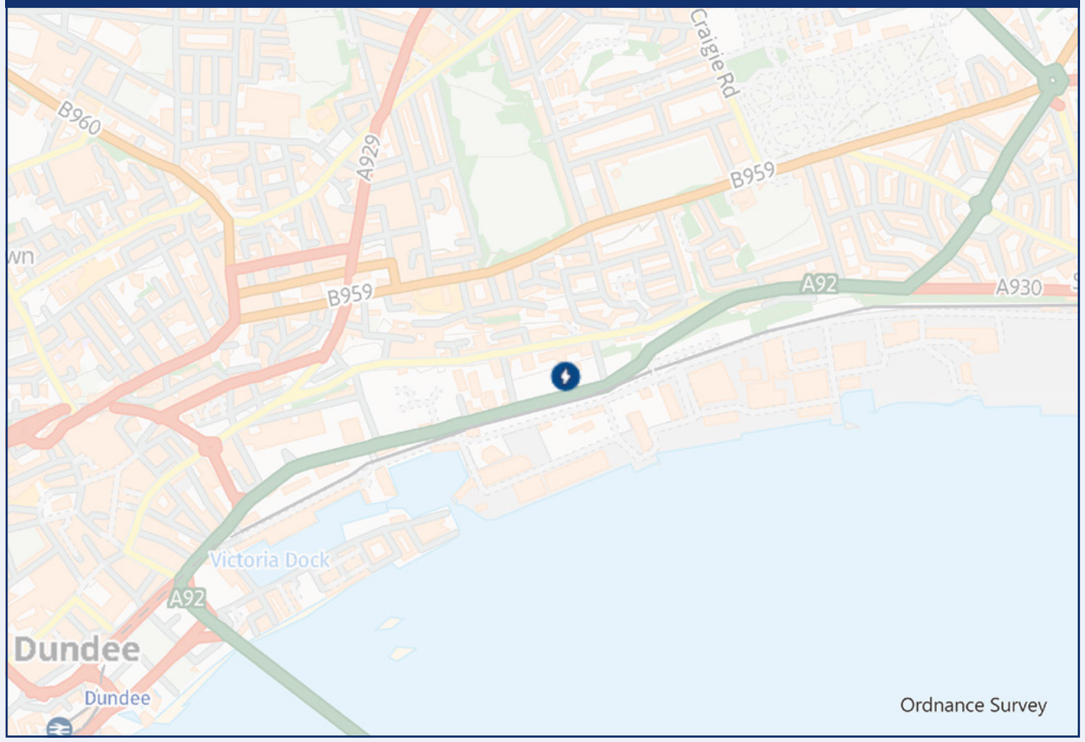
Site	Site Name	Size	Distance from Dudhope GSP	Distance from Rail	Issues
1	Seabraes				Site safeguarded for employment uses in NPF4 and Development Plan.
2	Ninewells				Distance from SHEP-D Network
3	Whitehall				Land now under development
4	Victoria Works (1)				Site contains listed building (Cat. B former Jute Mill) and is allocated for residential land uses, with adopted Development Brief. Blackness Conservation Area. Culverted watercourse.
5	Victoria Works (2)				Allocated for residential land uses, with adopted Development Brief. Blackness Conservation Area.
6	Baird Avenue				Distance from Dudhope GSP
7	Old Glamis Rd				Would only fit one site
8	Gowrie Court				Distance from SHEP-D network
9	Verdant Works				Would only fit one site
10	Main Street				Would only fit one site
11	Faraday Street				Distance from Dudhope GSP
12	Gore				Distance from Dudhope GSP

Performance	Comparative appraisal
Most preferred ↓ Least preferred	Low potential for the development to be constrained
	Intermediate potential for the development to be constrained
	High potential for the development to be constrained

How we've selected the substation site

Our proposed site

The proposed site is located to the east of the town centre within the Stannergate/Harbour area of the city. The site is bounded by East Dock Street to the south, Market Street to the west and Broughty Ferry Road to the north. The site comprises the vacant former abattoir site on Broughty Ferry Road and the derelict former Nynnas fuel storage facility that fronts onto East Dock Street.

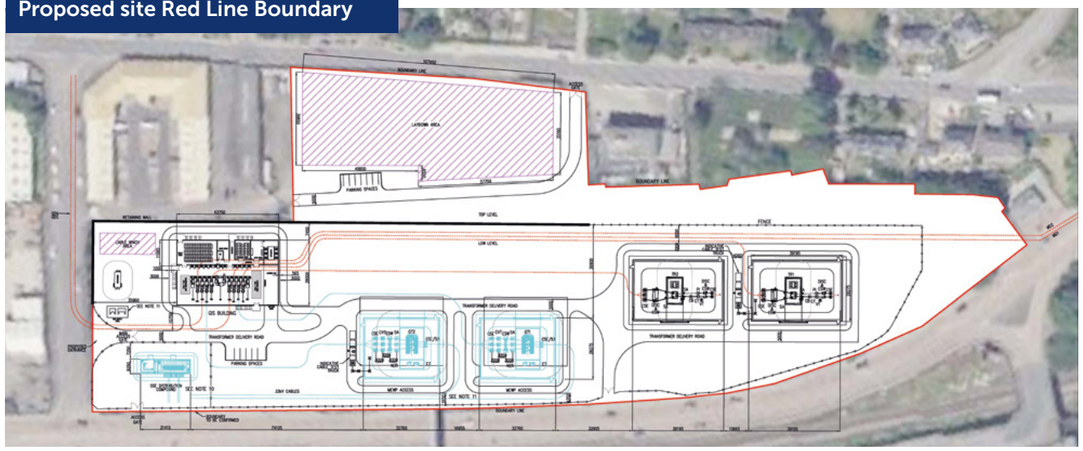


Why this site?

- The site meets the technical requirements of both elements of the development.
- There are fewer residential properties or other sensitive receptors such as cultural heritage assets in close proximity to the site.
- The site currently comprises vacant and derelict former industrial land and the proposals offer the opportunity to redevelop the site in a manner that will make a positive contribution to the character and amenity of the local area.

Proposed substation layout

Proposed site Red Line Boundary



Key

	Laydown area for construction
	Grid transformers
	Rail transformers
	Proposed cable routes
	Access point

The substation footprint has been positioned to avoid direct impacts on the existing retaining wall within the site, whilst taking advantage of the split in site levels. This approach will maximise the opportunity for natural screening and accommodate the need to manage surface water run-off, ensuring that all elements of the proposed development are contained within a single site.

The substation comprises of six separate buildings or structures that range in height and design depending upon their function. Full details of the design of the buildings will finalised prior to application submission, however it is anticipated that they will be metal-clad structures ranging in height from 15m to 18m.

We are proposing a new permanent access off Market Street with secondary access onto East Dock Street Road. A Transport Assessment will be undertaken to demonstrate that traffic entering and exiting the site would not impact on or block traffic on East Dock Street or interfere with the necessary visibility splays at the junction with Market Street.

A security fence will be erected around the perimeter of the substation and where possible existing perimeter walls will be retained.

A lighting strategy will be prepared and will adopt the following broad principles; lighting will be kept to the minimum to ensure safe operations and security; individual light clusters will be low level, narrow beam, and directed downwards to minimize glare and light spill; different lighting configurations and designs will be adopted for different parts of the site and will be appropriate for use.

The following associated works will also be required to provide a connection into the network:-

- A new 132kV underground cable (UCG) will be installed in Market Street, Broughty Ferry Road, Lily Bank Road, Robertson Street and Greendykes Road to connect to the existing 132kV network on Arbroath Road.
- Additional UCG works to connect to additional Network Rail equipment to be located close to Dundee Railway Station.

These UGC works do not form part of this planning application and will be delivered under our statutory undertaker permitted development rights.

Environmental considerations

The potential environmental impacts discussed below will be assessed as part of the Environmental Imapct Assessment (EIA), which will accompany the planning application to Dundee City Council . The EIA Report will be available for members of the public to view and comment on as part of the planning process and the determination of the application by Dundee City Council.

Ecology

The site is largely developed industrial and commercial land with limited vegetation found throughout the site and no protected or notable species identified during a desk-based study of the site. The Firth of Tay and Eden Estuary Special Area of Conservation (SAC) is located approximately 300m to the south of the proposed development. This SAC is designated as an important marine habitat.

A field survey and Preliminary Ecological Appraisal (PEA) will be carried out to identify whether there are known or potential ecological features (nature conservation designations and protected and notable habitats and species) that may constrain or influence the design. Any potential adverse impacts on ecological receptors will be mitigated where possible.

In addition, we will carry out a Biodiversity Net Gain (BNG) assessment. If the results of the assessment do not predict a net gain in biodiversity, recommendations will be provided suggesting potential options for habitat creation and/or enhancement either on- or off-site which could help the proposed development to achieve a net gain.

Landscape

The proposed development site has a Landscape Character Assessment of 'Urban' (i.e. an area that is identified as settlements with a population of approximately 25,000) and is located within the industrial context of the wider Dundee Harbour.

There are a number of residential and industrial buildings located along the northern border of the proposed development site boundary.

Noise and vibration

During construction, noise and possibly vibration may be experienced by properties close to the site from the movement of construction equipment and construction activities. The adoption of standard construction methods will ensure the level of off-site construction noise is kept to a minimum.

Baseline noise levels will be measured using industry standard techniques and at locations agreed with Dundee City Council.

A detailed noise and vibration impact assessment will be undertaken as part of the EIA, which will model possible levels of noise based on the equipment specified for the substation and define the measures necessary to attenuate (mitigate) noise so that significant impacts at nearby properties are not experienced.

Traffic and transport

A Transport Assessment and detailed construction traffic route assessment will be undertaken to define route options with least impact and will include determining how the amenity of properties close to the roads can be protected and what road improvements or modifications may be required.

Geology and soils

The existing site is a brown field site with a previous industrial land use therefore an assessment will be carried out, informed by a site survey, of the site's potential for historical and current ground contamination, or future ground contamination to occur.

Consideration will then be given to how potentially harmful contamination will be addressed as part of the development.

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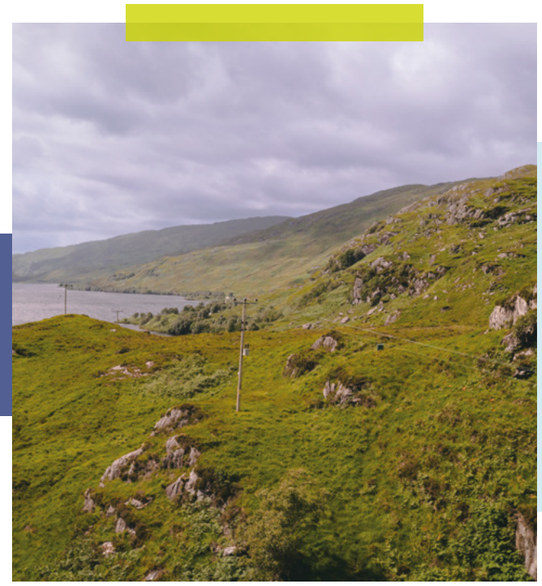

Hydrology and hydrogeology

The Dundee Harbour and the Lower Tay Estuary is situated approximately 280m to the south of the proposed development. This transitional water body is classified with an overall status of 'Good' (Water Framework Directive, 2022).

The proposed development site sites on a moderately productive, 2B class aquifer and is situated within a Drinking Water Protected Area for groundwater.

A large portion of the proposed site has been identified to exhibit a medium likelihood for surface water flooding (each year this area has a 0.5% chance of flooding).

There are some areas of the proposed site which exhibit a high likelihood of surface water flooding (each year this area has a 10% chance of flooding), these are primarily situated along the site's southern border and in the east of the site.

A hydrology and hydrogeology assessment will be carried out addressing the water quality, flows and levels, resources, flood risk and hydromorphology of the proposed site. Where required, mitigation measures will be identified and implemented.

Cultural heritage

There are a few Category A and B listed buildings within 300m of the proposed development associated with the heritage of Dundee Harbour as well as the Baxter Park Garden and Designated Landscape. In addition, there are numerous heritage assets situated within the wider Dundee City area.

A cultural heritage site walkover and desk top study will be undertaken to identify the presence of known heritage assets within the proposed site, or with the potential to be impacted as a result of changes to their setting.

Any potential adverse impacts on cultural heritage assets will be mitigated where possible.

Development considerations

A detailed engineering, environmental and cost analysis was undertaken by SSEN Transmission to identify key development considerations for the project outlined below.

Summary of engineering considerations

The fundamental engineering considerations when selecting a preferred site location for a new 132kV substation include access, connectivity, footprint requirements, ground and environmental conditions and avoiding hazards.

The substation is required to be located in Dundee within 5km of the rail network and within 2km from the current Dudhope GSP. Proximity to Dudhope is required to provide feasible continuity of existing connections already connected to Dudhope. Having the replacement site too far away from their existing connection location could result in them becoming stranded and unviable to connect to the new location.

Site selection criteria - Stannergate

- UGC access and connectivity
- Proximity to rail network
- Proximity to existing SSEN Transmission network
- Substation footprint requirements
- Grounds and environmental conditions
- Logistical access for equipment delivery
- Hazards.

Site assessment

The site offers good UGC connectivity and flexibility with connecting to new and existing assets on the transmission network. There is good existing access to the site off the A92, which will facilitate the delivery of large substation equipment and provide ease of access for future operational needs.

Access and civil considerations

The chosen site will allow connection of Network Rail's equipment to the proposed 132kV Stannergate substation. The new substation will also facilitate the upgrade of the existing 132kV UGCs from the Glenagnes substation and the Milton of Craigie substation.

The main access to site is proposed to be from the A90 via an existing slip road with survey and design works ongoing to determine any improvements required to facilitate this access.

There will also be the requirement to establish a new access track north of the new substation site to allow for delivery and vehicle access during and post construction

Ground and site investigation works will be undertaken on the preferred site which will be used to inform the civil design of the site. The platform level will be designed to optimise the overall cut fill balance of the site to minimise the amount of material import required.

Site layout

The layout of the substation has been developed as GIS due to space constraints within the city centre location. The GIS equipment will be indoors and consists of busbars and switchgear which is used to marshal and control the electricity supply.

The substation size has been developed based on the number of bays to facilitate the initial connections at the site and allowance made for future connections and is approximately 350m x 150m and the tallest point of the site will be 18m in height.

Building size

A control building will be required on site which contains ancillary equipment required to operate the substation including control panels and low voltage AC and DC systems.

The size of this building is determined by the number of ancillary system equipment required which is determined by the number of bays within the substation which for Stannergate is 11. The building will be double story with an approximate overall height of 18m.

As well as the control building, Stannergate substation will also have two rail transformers and two grid transformers which are required to manage power quality or power factor of the substation and network. Each transformer will be located inside a building with an approximate height of 15m.

Stannergate 132kV Substation and Network Rail Feeder Station Pre-Application Feedback Event

Other projects in the local area

As the transmission operator in the north of Scotland, we need to maintain and invest in the high voltage electricity transmission network in our area to provide a safe and reliable electricity supply to our communities.

We also need to offer terms for connections to the transmission network for new generation such as wind farms and pumped storage schemes and for new sources of electricity demand.

Therefore, as well as the Stannergate 132kV substation, we have a few other projects within the local area we are currently developing, as described below.

Dundee warehouse

The construction of a 7,500m2 warehouse is currently ongoing which commenced in May 2023 which is of vital importance to ensure the management of stock and spares for improved logistics and timely response to faults on the SSEN Transmission Network.

The warehouse will have bespoke storage to house oil filled components such as transformers.

132kV cable and towers

The 132kV ring that supplies Dundee City has overhead lines and cable sections.

MD1/MD2 cables between Dudhope and Milton of Craigie were replaced in 2009 and the GDN/GDS cables between Glenagnes and Dudhope were replaced in 2017.

The CGN/CGS cables between Glenagnes and Elmwood compound are oil filled cables which have reached the end of their capabilities Works commenced in June 2024 and are expected to run until October 2025.

Future developments

We know that local stakeholders are keen to understand the full extent of developments being proposed in their local area. Applications from renewable developers to connect to the transmission network are made to National Grid ESO and undergo a lengthy process before we begin to develop a network connection for developments applying in our license area.

We aim to be transparent about the renewable developments looking to connect to our network but are not permitted to disclose any details of these developments until they are in the public domain.

A list of projects that hold contracts for Transmission Entry Capacity (TEC) with National Grid, the Electricity System Owner is available from their website: **nationalgrideso.com/data-portal/transmission-entry-capacity-tec-register**

Future developments may also require additional work at Tealing substation including further extensions to the existing site.

Help shape our plans

The work we have planned is significant and has the potential to deliver massive benefits in your community, Scotland, and beyond. Yet we know that achieving our goals will require a lot of work that will impact your lives. That's why we want to work with you every step of the way throughout the planning and delivery stages of these essential and ambitious works.

We're committed to delivering a meaningful consultation process that actively seeks the views of everyone affected by our plans. That means making our plans clear and easily accessible, so that you can give us input throughout each stage of the development process.

Throughout the consultation, we'll present our approach to developing the project, including changes made since we last consulted with you.

We will also provide some visualisations and maps to show you where everything will be located.

We want you to share your thoughts and opinions on our plans, where you think we can make improvements, concerns about the impact of our work and what you think of any changes and refinements we've made.

By telling us what you think, you will help shape our proposals. We want to harness your local knowledge so that we spot any unforeseen challenges early and maximise the potential benefits and opportunities for your communities.

Because, ultimately, we want you to work with us to ensure that the energy infrastructure we build will be the best it can possibly be.

Who we are consulting with

As well as communities, we are keen to hear feedback from a broad range of other stakeholders including but not limited to landowners, businesses, non-statutory consultees and statutory consultees such as local authorities, NatureScot, Scottish Environment Protection Agency (SEPA), Historic Environment Scotland (HES) and Forestry and Land Scotland (FLS).

Stannergate 132kV Substation and Network Rail Feeder Station Pre-Application Feedback Event

Have your say

We value community and stakeholder feedback. Without this, we would be unable to progress projects and reach a balanced proposal.

The feedback period

We intend to submit our planning application in late summer 2024. Our formal feedback period will close on 5 September 2024; however, we will welcome final comments from members of the public, statutory consultees and other key stakeholders regarding our proposals until we submit our planning application.

What we're seeking views on

During our last public consultation event in May 2024, we wanted to know your thoughts on our project plans, where you thought we could make improvements, and any changes and refinements we'd made.

We are now asking for any final comments or feedback ahead of submitting our planning application for the Stannergate 132kV substation and Network Rail feeder station project.

We'll be actively looking to mitigate the impacts of the site as much as possible over the coming months, but it would be helpful to understand what you believe we should be doing to help minimise these impacts and if there are any opportunities to deliver a local community benefit you would like us to consider.

How to provide feedback

Submit your comments and feedback by emailing or writing to your Community Liaison Manager.

Any comments made to us as the Applicant are not representations to Dundee City Council as the planning authority.

There will be opportunity to make formal representations to the planning authority following the submission of the planning application.

Our Community Liaison Team

Each project has a dedicated Community Liaison Manager who works closely with community members to make sure they are well informed of our proposals and that their views, concerns, questions or suggestions are put to our project teams.

Throughout the life of our projects, you will hear from us regularly. We aim to establish strong working relationships by being accessible to key local stakeholders such as community councils, residents' associations and development trusts, and regularly engage with interested individuals.

Community Liaison Manager

Martha Smart
Community Liaison Manager

SSEN Transmission
1 Waterloo Street
Glasgow, G2 6AY

E: martha.e.smart@sse.com
T: 07880 998 846

Additional information

The best way to keep up to date is to sign up to project updates via the project webpage: ssen-transmission.co.uk/stannergate

You can also follow us on social media

SSEN-Transmission

SSETransmission

To support everyone online, we provide accessibility and language options on our website through 'Recite Me'. The accessibility and language support options provided by 'Recite Me' include text-to-speech functionality, fully customisable styling features, reading aids, and a translation tool with over 100 languages, including 35 text-to-speech.

Please select "Accessibility" on our website to try out our inclusive toolbar.

Notes

Stannergate 132kV Substation and Network Rail Feeder Station Pre-Application Feedback Event

Notes


Scottish & Southern
Electricity Networks
TRANSMISSION