

Sizewell C Limited
90 Whitfield Street
London
England
W1T 4EZ

Our ref: EPR/RP3820SH/A001
Your ref:

Date: 24 May 2024

Dear Ms Proctor

We need more information about your application

Application reference: EPR/RP3820SH/A001

Operator: Sizewell C Limited

Facility: Sizewell C (SZC) construction site, located adjacent to Sizewell B Power Station, Leiston, Suffolk, IP16 4UR

Thank you for your application received on 02/04/2024. The following is to confirm our conversations of 13/05/2024 and 21/05/2024, and e-mails dated 14/05/2024 and 24/05/2024.

Dealing with missing or incorrect information within 5 working days

We need to ask you for some missing information before we can do any more work on your application. Please provide us with a response to the following questions (1 to 21 listed below):

1.) Queries relating to the main SZC technical supporting information document (101228245):

General comment (as provided as comment 12 of the draft SSSI bridge crossing dewatering permit risk assessment provided on 14/02/2024, and comment 17 of the Draft AD6 06a and 06b dewatering permit risk assessment feedback provided on 27/02/2024):

- a) Please confirm if any (or no) pre-application engagement has been undertaken by SZC with Natural England and the local internal drainage board (IDB)/water management board (WMB) regarding your proposals under the CWDA18 permit application. For example, to assist you with the selection of relevant designated/protected receptors (i.e. habitats and species) that NE have recommended SZC incorporate within your Habitats Regulations/CRoW Act supporting information, or how you may have proposed to discharge based on the IDB/WMB's advice.
- b) Please also confirm if and when SZC the relevant applications will be submitted to the local IDB/WMB for the relevant permissions under their jurisdiction (and applicable byelaws) regarding the relevant inland discharges under CWDA18?

2.) Query relating to section 4.4. (discharge stream A – Outlet EO1 – TMO) of the main SZC technical supporting information document (101228245):

This section states: *The discharge flow rate from Outlet EO1 will be limited to a maximum of 200 l/s. This figure has been calculated on the design of the outfall itself (pipe diameter), which has taken into consideration the 24-hour half-drain time requirement for attenuation structures, such as lagoons, which are expected to be constructed in the MCA as required to hold and aid settlement of run-off prior to discharge. The discharge from the TMO will be intermittent, dependent upon rainfall and dewatering activities. The flow rate will be controlled from the treatment plant system(s) that will be incorporated as part of the discharge treatment train.*

Please clarify how the maximum rate of 200l/s was derived, and what the proposed storage volume/capacity (in m³) of the required attenuation structures/settlement lagoons will be.

3.) Queries relating to section 4.6 (discharge stream C – Outlet O5 – Northern TCA) of the main SZC technical supporting information document (101228245) in relation to:

- a) This section states: *The maximum discharge flow rate from Outlet O5 will be restricted to 35 l/s via a headwall. This has been designed so as not to exceed the greenfield run-off rate agreed at the DCO stage. This will be managed by pipe size selection, flow control (such as a hydrobrake) or similar. The maximum volume that therefore could be discharged in a 24-hour period is 3,024 m³ from Outlet O5.*

Please clarify which greenfield run-off rate was agreed at the DCO stage for this outlet (1l/s/ha or 2l/s/ha) and provide a calculation to demonstrate how the rate of 35l/s was derived.

- b) When stating “Marsh Harrier Habitat”, please confirm if this relates to the Marsh Harrier Lagoon?
- c) Please confirm if this a sealed/lined lagoon, or does the lagoon allow percolation into the surrounding groundwater?
- d) Please confirm the storage capacity/volume (in cubic metres (m³)) of the Marsh Harrier Habitat/Lagoon
- e) Please provide a site plan to demonstrate the interaction between WMZ 5 basin/lagoons (as displayed in the site plan provided as Appendix E (WMZ 5 drawing)) and the outfall into carrier drain (CD) to demonstrate the route of the carrier drain and discharge point into the Marsh Harrier lagoon/habitat (as displayed and provided in the site plan provided as Appendix F (Outlet O5 drawing)).
- f) The site plan provided as Appendix F (Outlet O5 drawing) does not display the entire extent and boundary of the Marsh Harrier habitat/lagoon to the south. Please provide a site plan to provide this clarification.
- g) Is this restriction provided on the outlet at O5 (TM 46424 65825), or the carrier drain outlet from WMZ5 into the Marsh Harrier Habitat/Lagoon (as shown via the site plan within Appendix F?)
- h) This section states: *The discharge from the overflow Outlet O5 will therefore be intermittent and should only occur when water levels are higher.* Please clarify and confirm what constitutes a ‘high level’?

4.) Queries relating to sections 4.7 to 4.11 of the main SZC technical supporting information document (101228245) and Appendix K (101222443, section 3.2.1.2, page 9) for the following discharge activities:

- **Section 4.7:** Discharge stream D (AD6 outlet O6a) and table 10
 - **Section 4.8:** Discharge stream E (AD6 outlet O6b) and table 11
 - **Section 4.9:** Discharge stream F (AD6 outlet O6c) and table 12
 - **Section 4.11:** Discharge stream H (AD6 outlet O8a) and table 14
- a) It is stated that maximum discharge rates have been defined by the greenfield run-off rates, defined by catchment area. Please confirm what the greenfield run-off rates for the relevant catchments (please also confirm the proposed catchment area size) for each discharge stream (D, E F and H).
- b) We need to be able to understand how the proposed maximum discharge rates (l/s) and volumes (m³/day) have been derived, and how they interact (as it is not immediately apparent how the maximum volumes relate to the proposed maximum discharge rates, as per the example below). We also need to understand which volume is proposed to be permitted to provide you with operational flexibility. Therefore, please provide explanation and clear calculation breakdowns of proposed maximum volumes and rates to support your application for discharge streams D, E, F and H.

Example based on data in table 10 (for discharge steam D – AD6 outlet O6a)

Requested maximum discharge flow rates:

- Discharge rate of 5l/s (construction run-off only): this would equate to an assumed maximum discharge volume of 432m³/day
- Discharge rate of 216l/s (construction, WMZ6 and highway run-off based on worst case 1 in 100-year storm + 40% climate change allowance): this would equate to an assumed maximum discharge volume of 18,662.4m³/day

Requested maximum discharge volumes (which differ from the assumed volumes calculated above):

- 972m³/day (construction run-off only): this would equate to an assumed discharge rate of 11.25l/s
- 4,992m³/day (combined construction, highway and WMZ6 based on 1 in 5-year storm event): this would equate to an assumed discharge rate of 57.8l/s
- 9,859m³/day (combined construction, highway and WMZ6 based on 1 in 100-year storm event): this would equate to an assumed discharge rate of 114.1l/s

The information and clarification above are required for duly making to allow us to begin our risk assessment processes (e.g. for water quality, HRA, CROW Act assessment purposes), and for clarity when we consult the general public on the application during the publication phase.

5.) Query relating to section 4.10 (Discharge stream G (Outlet O7 – ACA) and table 13) of the main SZC technical supporting information document (101228245):

- a.) This section (4.10.1) states *“ACA has an area of approximately 30 ha...flow rates have been calculated using the greenfield runoff rate (2 l/s/ha) agreed at DCO stage. Flows from the WMZ 7 basin at Outlet O7 will therefore be restricted to 62 l/s. The maximum volume of effluent that could be discharged via Outlet O7 in a 24-hour period is 5,357 m³”*.
- Please clarify how a rate of 62l/s was derived to provide a volume of 5,357m³. For example, based on the information provided, from an area of 30ha it is assumed that a (30ha x 2l/s/ha) x 86,400 = 5,184,000 litres or 5,184m³.

- b.) This section also states: *“Run-off from the area of land forming the ACA will be captured in swales and diverted to the WMZ basins. WMZ 9 will then be pumped to WMZ 7”*. Please clarify what the proposed pumping rate of WMZ 9 into WMZ 7 will be? What will the storage capacities of WMZ 7 and WMZ 9 (in m³) be?

6.) Query relating to section 4.12 Discharge stream I (WMZ 8 outlet O8) and table 15) of the main SZC technical supporting information document (101228245):

Please provide a breakdown and clarification of how the maximum discharge rate of 10.6l/s (producing a maximum daily discharge volume of 916m³/day) was derived.

7.) Query relating to Appendix K (Section 3.2.1.2, page 9):

This section states that where surface water is proposed to be infiltrated to ground, suitable infiltration rates have been confirmed through on-site testing. Can you please confirm what these rates and provide a summary of the testing results?

8.) Query relating to Appendix K (Section 3.2.1.5, page 9):

It is stated in this section that flow control systems will constrain the rate of discharge. Please clarify how this will be achieved? (for example what type of system(s) is/are proposed to be utilised and how is it operated and maintained?

9.) Query relating to Appendix K (Section 3.3.1.5, page 10):

It is stated in this section that limiting values have been proposed for pH, suspended solids (SS) and visible oil and grease, and that these parameters broadly align with CIRIA guidance. Are these limiting values being applied as standard practice or as mitigation? Have the values been selected by SZC with the needs of the designated site(s) in mind?

10.) Query relating to Appendix M (Section 4.8, page 25) and section 4.5.1 of main support document (page 59):

Paragraph 2 of App M's section 4.8, and section 4.5.1 of the main support document states a risk factor of 1.1 is considered appropriate to incorporate possible changes to construction method that may be chosen at a later stage. Please provide clarification within an update version of Appendix M to explain how the value of 1.1 was derived and why is that value considered appropriate?

11.) Query relating to Appendix N (Section 3.4, page 9):

Within table 3-1, it is unclear what column labelled 'Level' is. Is that depth at which samples were taken? Please provide clarification on this and confirm what the units represent.

12.) Query relating to Appendix O (Section 5.1.1, page 13):

This section states that *“A calculation to derive the average runoff flows are presented in Table 5-1, which indicates that 398 cubic metres per day (m³/day) would be discharged on average.”*

- a.) We are unable to identify the calculation in table 5-1, nor an indication as to where the value of 398 m³/day is stated. Please provide clarification on this within an updated version of Appendix O.
- b.) There is no indication as to where the maximum flow rate calculation has come from or how that compares to the volume of 398 m³/day in a.) above. Please provide clarification on this within an updated version of Appendix O.

13.) Query relating to Appendix O (Section 5.1.2, page 16):

- a.) Please clarify and explain how the additional risk factor of 1.25 has been derived for the upper envelop total groundwater dewatering volume of 450.5m³ (360.4m³ x 1.25 = 450.5m³). Please clarify and provide this explanation within an amended version of Appendix O.
- b.) Within Appendix M (101222451), a risk factor of 1.1 has been utilised. Please provide clarification why these risk factors are different?
- c.) A calculation of 0.058 m³ x 9 months x 30 days is calculated to estimate maximum total leakage. Please provide clarification/explanation as to why the calculation includes multiplying by 30 days.

14.) Query relating to Appendix O (Section 5.1.2, page 13):

For the desalination intake, please clarify if there is one or multiple shafts that will be constructed. This clarification is required as “shaft” and “shafts” are used within this section (as well as within sections 5.2.3, 6.2, 7.2.2 (title and paragraph 3), 7.3.2 (title), 10 (paragraph 2), table 6-5, for example:

“The TMO will also discharge relatively small volumes of groundwater from dewatering during the construction of the Desalination Intake Shaft. The shafts are to be constructed using a wet caisson excavation technique...”

If multiple shafts are required, please also confirm the total number required and confirm their proposed locations displayed on a site plan (along with corresponding 10 figure national grid reference (NGR) in the format AB 12345 67890).

15.) Query relating to Appendix O (Section 5.2.1, page 16):

Two documents are referenced in support of the application. However, copies of the two documents do not seem to be included in the application. Therefore, please provide electronic/PDF copies of the two documents:

- EW0302 Early Drainage Strategy Technical Note (EDS) (Atkins, March 2020)
- EW0320 Surface Water Discharges Report (Atkins Ltd, May 2020).

16.) Query regarding Appendix O (Section 7.2.2, page 29):

This section states “Fluoranthene presence in groundwater appears isolated and not widespread, and as such it is not generally expected to be present in groundwater abstracted for the shaft construction”. Please provide clarification in the text of this or other relevant section of Appendix O to confirm where the isolated presence of Fluoranthene was detected from the background groundwater borehole quality monitoring. This will be of benefit for any publication of the permit application and allow members of the public/interested parties to understand quickly and easily which is the relevant borehole sample location (as opposed to having to review the appendices within appendix O to identify the relevant sample result).

17.) Query regarding Appendix O (section 8.4, page 35)

This section states: *“Any direct discharge would occur within the wave breaker zone, which means that details of the mixing process will be very dependent on weather conditions (wind strength and direction) and prevailing swell present over a wider sea area. It can be assumed that mixing will be rapid but to quantitatively model it exactly would be potentially impossible”*

Please provide further explanation and clarification regarding why it is potentially impossible to quantitatively model the mixing. During the joint SZC/EA level 4 pre-application feedback meeting held on the 08/02/2024 for CWDA/18 (TMO specific meeting), it was discussed (and recorded via SZC action A2) that SZC would elaborate on the quantitative assessment undertaken, and that explanation would be provided following discussions with consultants at Cefas as to why modelling via CORMIX/GETM would not be possible for the TMO discharge at this location. Please provide this additional information/explanation within a revised version of Appendix O.

18.) Query regarding Appendix O (References):

Please provide an electronic (PDF) copy of the following reference report: *Atkins Ltd. (August 2023). SZC-EW0400-ATK-XX-000-XXXXXX-NOT-CIV-000011: Desalination Intake Shaft Dewatering. Draft Technical Note.*

If you consider that the relevant and appropriate sections of this report have already been incorporated into the supporting information, please provide confirmation of the relevant sections of your application, and provide justification why the remaining sections are not relevant.

19.) Query regarding Appendix O (Drawings):

The notes of drawing 1 state that the design of the TMO is subject to change depending on the results of infiltration testing. Please clarify when these test results will be available, and the design finalised.

20.) General comment when referring to SZC's DCO:

When referencing anything from SZC's DCO, please provide confirmation of the specific/relevant section, paragraph, and/or page(s). Please provide clarifications for the following six instances to confirm where this agreement is confirmed:

- a) **Main supporting report – Section 4.1.6, page 48 (paragraph 1):** *Discharge volumes and flow rates have been calculated based on the greenfield run-off rates provided for the catchment areas, where applicable, which was agreed at the DCO stage of the proposed development.*
- b) **Main supporting report – Section 4.6.1, page 60 (paragraph 2):** *This has been designed so as not to exceed the greenfield run-off rate agreed at the DCO stage.*
- c) **Main supporting report – Section 4.10.1, page 67 (paragraph 2):** *Flow rates have been calculated using the greenfield runoff rate (2 l/s/ha) agreed at DCO stage.*
- d) **Main supporting report – Section 5.1.1, page 75:** *All run-off will be restricted to greenfield rates where this requirement applies (as agreed at DCO stage).*
- e) **Appendix K – Section 3.2.1.2, page 9:** *Maximum discharge rates have been defined by the greenfield run-off rates, defined by catchment areas (as agreed at the DCO submission stage).*
- f) **Appendix K – Section 5 (table 5-1) page 21:** *Discharge rates are in accordance with the greenfield run-off rates approved within the DCO application (2 l/s/ha)*

21.) Queries relating to H1 surface water risk assessments provided in support of the permit application under Appendices M (101222451), N (101222809) and O (101222813) in support of proposed discharge streams A, B, D and E

We require electronic versions of underpinning calculations, raw data and data analysis you have used to complete the surface water H1 risk assessment screening tests/steps to support the CWDA18 permit application.

This information is required to ensure that we can audit and repeat the calculations you have completed to demonstrate clearance through the various H1 screening tests (to ensure that we can review the data, replicate the same outcomes you have reported, and ensure that the same/correct background data/numbers have been utilised).

The requirement to provide the above data is stated within our permit application form (via Part B6 for questions 8b and 8c), the application form B6 guidance document (via the response for Part B6 questions 8b and 8c), and our GOV.uk website:

- **B6 (Question 8 and 8b) states:** *You may need to carry out an environmental risk assessment or modelling to support your application. Please answer all the questions that are relevant to your discharge. If an environmental risk assessment or modelling is required, you must send it to us with your application...send us the completed screening tool, along with the raw data used to create the summary statistics.*
- **Permit variation application form (Part B6):** https://assets.publishing.service.gov.uk/media/61af516fd3bf7f055eb9b7f4/Application_for_a_new_environmental_permit_part_b6_new_bespoke_water_discharge_activity_and_groundwater_point_source_activity.pdf.pdf
- **Permit application form (Part B6) guidance:** https://assets.publishing.service.gov.uk/media/61af1d65d3bf7f0559e1db61/Guidance_part_b6_new_bespoke_water_discharge_gw_activity_point_source_discharge.pdf
- **EA guidance on GOV.uk regarding surface water pollution risk assessments for your environmental permit:** <https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit#submit-your-results>

The data required in electronic format (assumed to have already been produced by your colleagues in MS either MS Excel or Access formats) that has been incorporated in the wider CWDA18 application includes:

Appendix M (101222451): Inflow and Discharge H1 Assessments: SSSI Crossing Dewatering

Please provide the following appendices within Appendix M in electronic format (MS Excel or Access):

- 1.) **Appendix C:** Freshwater EQS screening
 - a) C.1. MBAT Assessment (pages 49 to 55 of App M)
 - b) C.2. Freshwater EQS screening Sheet (pages 56 to 60 of App M)
- 2.) **Appendix E:** Upstream surface water quality data (pages 150 to 159 of App M)
- 3.) **Appendix F:** H1 Surface water screening tests (pages 160 to 165 of App M)
- 4.) Please also address the following issues within a revised version of App M and the electronic versions of supporting data:
 - a) **Page 165:** the SW H1 risk assessment is labelled as the Phase 1, Part A screening tests, when this page actually appears to represent the Phase 1, Part B annual significant load screening tests for PHSs (priority hazardous substances). Please re-label this section of your application for clarification (which will be of benefit for

publication of the application so that members of the public and interested parties have clarification about the data and outputs being presented).

- b) Page 165:** Although Anthracene, Hexachlorobenzene, Hexachlorobutadiene, Mercury, Benzo(a)pyrene and the sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, indeno(1,2,3cd)pyrene are listed in the screening, no data has been included to demonstrate that these substances screening out of the risk assessment process. This screening test must be completed using any less than values at face value (given the LODs utilised for the analysis of the groundwater samples from the five boreholes ((C3S, C3D, C4S, C4D and P10) are all above the relevant EQSs for the substances, for example:

- Anthracene:
- Hexachlorobenzene:
- Hexachlorobutadiene:
- Mercury:
- Benzo(a)pyrene:
- Sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, indeno(1,2,3cd)pyrene

Appendix N (101222809): Dewatering Discharge Risk Assessment: AD6 Leiston Drain Crossing

Please provide the following appendices within Appendix N in electronic format (MS Excel or Access):

- 5.) Appendix C: Upstream surface water quality data (Pages 97 to 109 of App N)
- 6.) Appendix D: Groundwater data (Pages 110 to 115 of App N)
- 7.) Appendix E: H1 Surface water screening tests (Pages 116 to 120 of App N)
- 8.) Appendix G: MBAT and PNEC sheets (Pages 124 to 126 of App N)

- 9.) Please also address the following issues within a revised version of App N and the electronic versions of supporting data:
 - a.) The annual significant load test (Phase 1, Part B test) for PHSs (priority hazardous substances) does not appear to have been included within the permit application (Appendix N, section 4.4.2 states that the annual significant load test has been completed and indicates that none of the PHSs would exceed the respective significant load thresholds (for cadmium (dissolved), anthracene, hexachlorobenzene, hexachlorobutadiene, dissolved mercury low level, benzo[a]pyrene and the sum of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, indeno(1,2,3cd)pyrene). However, the annual significant load test is not actually provided within the supporting information report of Appendix N or within its Appendix E. We require the assessment evidence for the Phase 1, Part B test (annual significant load test) to be provided with the permit application at submission to support the outcome states within section 4.4.2 of your report.

Appendix O (101222813): TMO GW Discharge Risk Assessment Temporary Marine Outfall

Please provide the following appendices within Appendix O in electronic format (MS Excel or Access):

- 10.) Appendix D: Groundwater screening data (pages 325 to 333 of App O)
- 11.) Appendix E: Groundwater discharge coastal and estuarine waters H1 screening assessment (pages 334 to 341 of App O)

12.) Please clarify the following query regarding the number of groundwater samples used (query relates to Appendix O, Section 5.2.3 (Groundwater quality)):

The first paragraph of section 5.3.2 states that twenty-two (22) groundwater samples were screened from seven (7) different borehole locations, which are summarised within table 5-4 (page 18).

However, Appendix D (Groundwater Screening Data, provided on pages 325 to 333) and Appendix E (Groundwater discharge coastal and estuarine waters H1 screening assessment, provided on pages 334 to 341) reference a total of twenty-one (21) groundwater samples. Table 5-5 (pages 19 and 20) also only reference 21 samples (within column “no. of exceedances”). Please clarify in 22 or 21 groundwater samples are used within your screening assessment and update your supporting document’s wording accordingly.

Please send the information, quoting the above application reference, **within 5 working days of this letter.**

As agreed via e-mail on 24/05/2024, the 5 working day period is from Tuesday 28th May 2024 until Monday 3rd June 2024.

You should send the information requested in this letter by email to:

- [REDACTED] (Senior permitting officer) e-mail address:
[REDACTED]
- Integrated Permitting Services (IPS) e-mail address for water discharge activity permit applications: PSC-waterquality@environment-agency.gov.uk

Postal address if you do not have access to email:

- Environment Agency
- Permitting and Support Centre – Water Quality
- Quadrant 2
- 99 Parkway Avenue
- Parkway Business Park
- Sheffield
- S9 4WF

If we don’t receive the information, we must return your application.

When we receive the requested information, we’ll continue to check your application. We’ll check to see if there’s enough information for the application to be ‘duly made’.

Duly made means that we have all the information we need to begin determination. Determination is where we assess your application and decide if we can allow what you’ve asked for.

We’ll let you know whether your application can be duly made. If it can’t be duly made, we must return your application to you.

If we return your application to you, we’ll send you a partial refund of your application payment. We’ll retain 20% of the application charge to cover our costs in reviewing your application and requesting information.

The maximum amount we'll retain is capped at £1,500. Further information on charging can be found at: <https://www.gov.uk/government/publications/environmental-permitting-ep-charges-scheme>

If you have any questions, please phone me on [REDACTED] or email [REDACTED].

Yours sincerely,

[REDACTED]

[REDACTED]
Senior Permitting Officer (National Infrastructure Permitting team)
National Permitting Service (Part of National Operations)
Environment Agency, Richard Fairclough House, Knutsford, Warrington, WA4 1HT