From:	Together Against Sizewell C
To:	SizewellC
Cc:	[redacted]@tasizewellc.org.uk
Subject:	TASC IP no. 20026424 Deadline 10 submission: TASC's summary of issues and observations at the close of the SZC DCO Examination
Date:	12 October 2021 20:32:19
Attachments:	mapjaogbifaiidap.png D10 Review of DCO process to date FINAL.pdf

TOGETHER AGAINST SIZEWELL C

Dear Sizewell C Team,

Please find attached TASC's summary of issues and observations at the close of the SZC DCO Examination

Best wishes

Chris Wilson

Together Against Sizewell C

Deadline 10 Submission TASC IP no. 20026424

TASC's summary of issues and observations at the close of the SZC DCO Examination

TASC believes that over the duration of the inquiry, the IPs made an overwhelming case against the development at Sizewell. Against the significant disadvantage created by the Applicant's lack of detailed information in its documentation, its repeated reliance on the 'urgency' argument in the face of cogent rebuttals, its prevarication on key issues, its changes to the DCO and, in a number of areas, downright contradictions, the development was exposed as being something that would be, should it be granted permission to proceed, an incongruous and mystifying decision, a disaster for the East Suffolk environment and, in hindsight, a serious error of judgement.

Among the long list of reasons why the application should be rejected, the following key issues support TASC's view:

- The EPR design is unproven;
- The Applicant is unable to demonstrate fiscal probity;
- The development cannot go ahead without massive public subsidy;
- The development will not make the required urgent contributions to reducing greenhouse gases;
- Its electrical output can be met by other means far more quickly and cheaply;
- The site is too small;
- The coast is eroding;
- The AONB will be significantly compromised;
- An SSSI will likewise be threatened;
- There is no coherent transport strategy;
- 12 million tonnes of aggregate will be transported from one side of the UK to the other, mostly by road;
- The construction phase will lead to 24/7 light, noise and air pollution;
- The health impacts are unknown and no quantification by the Applicant;
- There is no viable potable water strategy;
- The construction phase of a £23bn plant will rely on tankered water supplies followed by a desalination plant with no fall-back strategy in the event of the desalination plant failing;
- There is no guaranteed and identified long-term potable water supply for the plant;
- Desalination technology has already been dismissed as inappropriate by the Applicant;
- The desalination plant will add to the marine impact of the plant and to air pollution;
- The cooling seawater system will devastate fish populations in the Sizewell Bay;
- There are serious uncertainties about the long term stability of the geomorphology of the East Suffolk coast;

- Climate change predictions leave coastal developments vulnerable to more extreme weather events, storm surges and accelerating erosion.

TASC examines a selected number of these issues in more detail below, following a statement:

When preparing this document, TASC first turned to its extensive list of issues that were recorded as concerns in our Relevant Representations [RR-1231]. Of over 70 issues listed by TASC, it is our view that none of them were examined or resolved to our satisfaction. During the course of the inquiry, every opportunity the government had to announce its full support for Sizewell C went begging: even the energy White Paper, could only muster lukewarm support for 'large nuclear', support which was caveated by the need to demonstrate 'value for money' which will surely rule out SZC given its cost comparison to renewables plus storage.

TASC, as with most IPs, approached the inquiry from a position of disadvantage. They worked in isolation due to Covid 19 restrictions whereas the Applicant's personnel, as part of a business, were allowed to work alongside each other. This gave the Applicant and its team a distinct advantage. IPs were also hampered by the shortage of funds. The Applicant, by contrast, had backers with very deep pockets. Such is the nature of British democracy in the 21st century.
What TASC find particularly disturbing is that the original issues listed in RR-1231 not only remain of concern, but many of them have also become matters of even greater concern than originally anticipated, as a result of information that has slowly emerged during the DCO examination. TASC consider it is worth listing the major areas where we believe we are justified in having even greater concerns than originally expressed. These include:-

<u>Potable Water</u>

The issues related to the absence of a potable water supply are well rehearsed, so TASC have just prepared a bullet point list:-

- The volume of water acknowledged as required for construction has increased substantially from that in the original documentation,
- The volume of water acknowledged as required for operation has increased substantially from that in the original documentation,
- The Applicant has had over a decade to identify a sustainable source of potable water. The Applicant's failure to do this is either incompetence or realisation that such a source is not sustainable nor acceptable,
- To overcome the lack of a potable water supply, the Applicant has at the eleventh-hour, had to resort to an environmentally damaging desalination plant,
- The 'bail out' represented by the temporary desalination plant has opened up the prospect of SZC being built and inevitably becoming a partly completed development which is deemed to be 'too big to fail'. The Applicant's complacency has potentially resulted in the need for an environmentally-damaging, unsustainable source of water to be found, such as a desalination plant elsewhere on the Suffolk coast or from abstraction from a source that compromises local wildlife habitats, for the 60 year operational and subsequent decommissioning phases. This will not only add to the negative

environmental footprint of the development, but will also compete for and risk potable water supplies to domestic/business users over a period during which worsening climate change predictions forecast diminishing drinking water availability.

Adverse Impacts on Marine Ecology

TASC's concerns about the impact of SZC on the marine environment have grown exponentially during the examination process. Our original anxieties about the damage to marine biota when drawn into the cooling water system (CWS) arose from the knowledge that there no plans to follow Best Available Techniques i.e. cooling towers or an Acoustic Fish Deterrent (AFD) and that chemicals, trace radiological particles and other debris emitted from the outfall pipe with the heated sea water would result. TASC were however unprepared for the true horror of environmental damage that the cooling water system would inflict on the Sizewell Bay area and beyond, thereby impacting designated sites and protected species: -

- TASC started by looking at fish likely to be impinged on the 10mm grilles on the SZC CWS, which resulted in the preparation of the schedule filed at REP2-247 which showed, based on records of fish actually impinged at SZB, **an estimated 20 million fish per year would be impinged at SZC**, and based on an assumption of SZC and SZB operating for 20 years from **2036 to 2055 cumulative fish impingement over the 20 years in excess of half a billion,**
- TASC then engaged marine ecologist, Dr Peter Henderson, a power station specialist with 40 years of experience, who has worked on the SZB CWS. He advised that the fish impingement figures were only the 'tip of the iceberg' because many more fish, together with other marine biota, were not impinged on the 10mm grilles but were sucked straight through ('entrained') the 3-kilometre CWS to their deaths, either because of their small size or because they were long, thin fish for which the grilles were ineffective. Worse still, is that this mortality goes unrecorded as the 'pump sampler' system that is used to monitor entrainment (such as at SZB) was only designed to record egg and larval entrainment and did not record swimming fish.
- Dr Henderson prepared a written representation for TASC [REP2-481h] and this disclosed that, based on hands-on research at SZB, in his professional opinion, together with the work of other marine ecologists looking at the HPC plant, the number of fish entrained is huge. On page 13 of REP2-481h Dr Henderson shows that the Applicant's consultants, CEFAS, show an entrainment and impingement estimate at HPC for sand goby of 153 million per year whereas the corrected figure has been calculated as over 800,000. Similar results are anticipated at Sizewell and are assumed to apply equally to sprat as well as to many other species where mortality rates are vastly underestimated by CEFAS/the Applicant, many of these being prey for protected species.
- Dr Henderson also set out the impacts from biofouling and use of chlorination. Further reports were prepared by Dr Henderson setting out additional observations [REP7-247 and REP8-284]. **All in all, the expectation is that mortality of fish and other marine biota is expected to run into billions each year.** TASC have great concerns that this may have been overlooked in the examination process.

Impact on the Suffolk Coast and Heaths AONB

A major TASC concern from the very beginning has been the adverse impacts on the attributes that support the AONB's designation. These concerns have heightened since the DCO application was made including, but not limited to:-

- a second jetty introducing additional built environment on the Heritage Coast,
- more ships creating more noise and disturbance to wildlife and recreational users,
- proposal for a desalination plant and its marine infrastructure,
- sea defences encroaching further seawards onto the Heritage Coast causing greater coastal squeeze and impacting on the coast path,
- sea defences permanently changing the appearance of the coastal landscape,
- use of Aldhurst Farm for recreational purposes, rather than solely to mitigate for the environmental damage SZC will inflict on the AONB.

Transport Strategy

The impact of SZC traffic has always been a major concern to the local communities. At this late stage, the proposed transport strategy has not been demonstrated to be achievable and the attempt to take vehicles off the road has come at the expense of the AONB with another jetty on the beach and additional shipping. Major adverse impacts will arise due to:-

- Increased number of workers, resulting in more associated traffic,
- Failure to build traffic 'mitigation' measures such as the SLR, 2VB, Park and Rides, the green rail route and accommodation before construction activities begin, will still leave unacceptable adverse impacts in the 'early years' on those living and working in the vicinity of the existing inadequate rural infrastructure e.g., those living alongside the B1122 or alongside the Saxmundham to Leiston branch line,
- More night trains will lead to additional disturbance to local residents from noise and vibration.

The revised traffic proposals have, in essence, just moved the problems from one community to another and have left us with proposals that demonstrate a project on the scale of SZC is totally inappropriate and unacceptable for a rural area with infrastructure more suited to the occasional tractor rather that hundreds of HDVs and thousands of cars and vans each day.

Carbon Debt

The Applicant has refused access to their detailed carbon footprint calculations, so TASC remain concerned about the true level of the carbon debt from the full lifecycle of SZC but it is clear that carbon produced from the project will have increased from:

- the greater scale of the cut-off wall from that first envisaged;
- HGVs travelling from further distances;
- more shipping;
- the construction, operation and waste disposal related to the temporary desalination plant;
- construction of a new water main from a different area/a permanent desalination plant; water being taken to the site in tankers;

- greater scale and the need for SCDF replenishment and potentially adaptation of the sea defences.

Inability to help meet the UK's carbon targets

Since the DCO application was submitted, the UK has committed to a net zero carbon electricity supply by 2035. SZC will not help meet this goal as the earliest it can deploy is 2035, in fact, its large carbon debt from construction will hinder. Also SZC will take investment away from low carbon alternative means of electricity production which could deploy before 2030.

In ability to demonstrate that the site can be protected for its full lifetime

TASC still have no confidence that the site can be protected for its full lifetime as a result of:-

- The Applicant's failure to produce final designs for the sea defences;
- Modelling only extending to 2140 when the full lifetime will be to the late 2100s;
- Modelling not assessing successive storms of sufficient strength;
- The Applicant's insistence that loss of the Dunwich-Sizewell banks would reduce wave heights on the coast, calling into doubt the integrity of the modelling data.

Impact on designated wildlife sites and species

Additional concerns include, but are not limited to:-

- Loss of acres of forest on Goose Hill;
- Loss of the vegetated shingle on the coast;
- Loss of additional land within the Sizewell Marshes SSSI;
- Failure to ensure mitigation wildlife sites are established and fulfilling their required purpose before the original habitat is destroyed;
- The Applicant's overstated claims of net biodiversity gains;
- The fact that many of the potential biodiversity clawbacks will not be realised for decades;
- The UK is one of the most nature-depleted nations on earth, the UK cannot afford the biodiversity losses that the Applicant's SZC project will inflict on Suffolk Coast and Heaths AONB and the many national and internationally designated sites.

The EPR Design

Further doubts about the safety of the EPR design have surfaced since the DCO application in May 2020, including:-

- The two original European EPR projects at Olkiluoto, Finland and Flamanville, France remain non-operational despite construction starting in 2005 and 2007 respectively;
- One of the two EPRs built to Chinese regulatory standards, has had to be switched off over safety fears;
- Vibration problems have been identified in all the EPR reactors;
- As set out in TASC's comments on the EPR design (see TASC comment on ExQ Al.1.7 'Reactor Design' in REP6-076) various issues of concern exist.

DCO provisions/requirements

TASC are concerned that DCO provisions and requirements are being concluded while many issues remain outstanding and, in some cases, without a detailed impact assessment.

Conclusion

TASC conclude that the above issues, combined with the many others identified by TASC and other IPs clearly demonstrate the Applicant's SZC project is not suitable for the site and calls into question the viability of the whole SZC project, the suitability of the technology and the competency of the developer.

TASC's Review of the DCO process

In addition to comments on the project, we believe it would be useful for TASC to comment on the DCO process, as follows:-

- The reluctance of PINS to dissect the 'urgency' claim which underpinned all of the Applicant's arguments against early years mitigation;
- The reliance on EN6 as a justification of need;
- PINS insistence that in the Applicant has to have the last word at ISH's in the need for 'natural justice' has led to many situations where the Applicants were allowed to make statements that naturally lead to further questions but those were not allowed to be voiced. TASC do not feel that natural justice is served by not allowing IPs to verbally respond to statements that they believe to be misleading or which need clarification.

    - The feeling of being swamped by the process - wave upon wave of documents for IPs (including the statutory environmental organisations) to assess, evaluate and respond to in short order with little or no resources - i.e., the imbalance of the process stacked in favour of the applicant;
    - The focus on giving the applicant any amount of time to develop their argument while cutting IPs short at the ISHs;
    - The lack of detail in the Applicant's documentation;
    - Very poor quality of maps and diagrams with many being unreadable/undecipherable;
    - The shoddy treatment of experts, particularly Dr Peter Henderson, in terms of the expert evidence he gave which we are concerned has been ignored.