

6 Hillcrest Road
Weymouth
Dorset
DT4 9SP

14 December 2023

Dear Mr Griffiths

I am sorry that I cannot attend the inquiry today to air my views personally. As I am concerned that public comments were not listed in your Core Document lists, I attach for your convenience and consideration my submissions to this inquiry and the planning application. All attached documents have been previously submitted formally online.

My verbal summary to you today would have been that this development is:

"The wrong solution, to the wrong requirement, in the wrong location."

Yours sincerely

MOTJ

Michael Toft

MBA, CEng

Written submission

6 Hillcrest Road
Weymouth
Dorset
DT4 9JP

The Planning inspectorate
Temple Quay House
2 The Square
Bristol
BS1 6PN

25 September 2023

Dear Planning Inspectorate

**Representation On Appeal APP/D1265/W/23/3327692 For Planning Application
WP/20/00692/DCC**

1. As a Weymouth resident I have raised my strong objections to the ERF proposed in the subject Planning Application. I have reviewed and commented on the numerous iterations of documents submitted by the Applicant/Appellant and I remain strongly opposed to this development. I was therefore very pleased when, during a period of great political divide in this country, a cross party committee of councillors voted unanimously to reject this application. Their decision represents the best interests for all residents of Weymouth and Portland. It reflects the commonly held belief that this development is completely inappropriate for the proposed location and, despite the assertion of the Appellant, will bring serious disadvantages to those residents. Consequently, **I am against the appeals proposals.**

2. I have previously highlighted that the Appellant's submission contained many impactful errors, omissions and misrepresentations over several iterations which raise doubt about the validity of their Application. I have now read the Statement of Case submitted by the Appellant and note that it also contains questionable statements and new information, none of which justifies their over-optimistic assessment that the original Application should be approved. I believe my previous comments remain relevant and I wish them to be considered as part of your review of this case.

3. The Appellant's Statement of Case does not sufficiently gainsay the unanimous decision made by the Strategic Planning Committee. In fact, it further strengthens many points highlighted by me and others over the extended period of consideration for this Application. Rather than repeat previously stated evidence, I would like to draw your attention to these three key misrepresentations I believe are contained within the Statement of Case:

- a. Power
- b. Transport
- c. Location

4. Power.

a. To the best of my knowledge every document submitted in the Application has indicated that the ERF will produce 18.1MW and will have a parasitic demand of 2.9MW resulting in an available power output in steady state of 15.2MW. As the Appellant insists that heat provision (0.4-1.6MW) should be considered as a benefit of this development then the

available output becomes **13.6-14.8MW**. (It should be noted that the likely provision of heat to external customers is contentious)

b. The Appellant claims that waste management and shore power are the main benefits of this development. The Appellant's updated Shore Power Strategy Report dated August 2021 states in the middle of the "Grid Connected Options" paragraph that "For Portland Port to deliver Shore Power to the largest cruise ship and an RFA ship simultaneously, additional capacity of circa **15MW** would be required." I have contended previously that the Appellant's proposal is therefore **incapable** of meeting its main customer's likely demands, especially noting that the physical size (and therefore demand) of cruise ships visiting Portland Port is increasing.

c. Clearly the Appellant now recognises that it has underestimated the requirements of its prime customer as the Statement of Case now states:

1.13 Electrical distribution cables would be provided to the berths at Queens Pier and Coaling Pier to allow the provision of shore power to moored ships. Up to 20.2 megawatts of power would be available for berthed ships as a result of the project (being the 15.2 MW generated by the Portland ERF and **5 MW of import capacity controlled by the project**). This would obviate the need for moored ships or similar to continue to run their engines to generate power, with associated emissions.

d. Using 5MW of "import capacity" in this way is a significant change to the Appellant's Application submissions, which casts yet more doubt on the data and modelling previously presented by the Appellant. In case the Appellant wishes to argue otherwise I reference:

i. "The ERF will have a 5MW grid connection, so Shore Power will be delivered from the grid during the ERF's annual maintenance shutdown. In addition, in the **unlikely short-term** event that more Shore Power capacity is needed that (*sic*) the ERF can generate, the grid will be able to supplement the capacity. However, for most of the time the ERF will export to the grid as well as provide Shore Power for shipping." Section 4 Shore Power Strategy Report

ii. "Up to 15 megawatts of power will be available for berthed ships, depending on requirements, although the maximum demand is only likely to be reached when a large cruise ship is docked."

NTS 20 Environmental Statement Non-Technical Summary

The Appellant would now appear to be using the 5MW of "import capacity" as a permanent element of the Shore Power solution and as this is National Grid supply, I contend it has a **critical impact on the energy security of the Isle of Portland**. (The 5MW should also be taken into consideration in the Appellant's carbon models and other reports as 25% of the provided power is now from the Grid, not from the development)

d. The Appellant identifies (para 1.5.2.3 Appendix F2 to EIA) that the Isle of Portland currently has a maximum demand of 10.72MW with a spare capacity of **7.28MW**. They confirm that "...reasonable domestic growth needs (driven by the construction of additional dwellings for instance) could be accommodated in the medium term...". In other words, without this development Portland has sufficient power supply for many years. The Appellant is now confirming that by introducing this development, the Isle of Portland's spare electrical capacity will be **reduced by nearly 70%**. This will drive the need to upgrade

Grid supplies from Chickerell to Portland, an upgrade which the Appellant claimed would be avoided by the development. It seems that the development will accelerate the need for the very costly upgrade and in doing so means the ERF would no longer be needed to provide power to the Isle or Portland Port.

e. As it is not clearly expressed in the Statement of Case, I would like to remind the Planning Inspectorate that this development is likely to provide power for only 2 ships at any time. The Appellant quotes 1 cruise ship and 1 RFA will receive shore power, but as a thriving port, Portland has many more ships alongside at any one time. It is now regularly receiving 2 cruise ships at the same time and with an estimate cruise ship shore power requirement of 8-12MW (Section 3 Shore Power Strategy Report), supplying 2 cruise ships will be questionable even for the "new" output power of 20MW. The reduction of ship emissions is therefore not as significant as the Appellant would like us to believe, considering the nature of the toxic emissions the ERF itself will be adding to the Portland atmosphere.

f. I contend that any Planning Application which undermines the energy security of 13,000 members of the community should not be allowed to progress and that the original unanimous rejection should be upheld.

5. Transport.

a. The Appellant's submissions have not been clear on where or how the RDA for the ERF will be sourced. The Statement of Case however seeks to convince us that the ERF will be addressing Dorset's waste management needs and this would mean that RDA would need to be delivered by road from Dorset processing sites, rather than by sea. This is somewhat confirmed by the EIA, which assumes 80 HGV transits per day.

b. I, and others, have previously raised concerns that this weight of traffic is unsuitable for transit through Weymouth's narrow road infrastructure and Portland's single point of access. At that point the Appellant had not confirmed any transport regime, so I noted that a 24-hour delivery rota would result in 1 vehicle every 18 minutes. The Statement of Case now confirms that HGVs will travel between 0700-1900 for 363 days of the year. This 12-hour period (covering morning and evening rush hours) would see 1 vehicle in transit every 9 minutes.

c. I contend that this is an unacceptable frequency noting the fragility of the nominated roads proposed for southbound and northbound transit on arrival at Weymouth. Both routes have significant bottle necks and experience frequent delays from tourist, commercial and commuter traffic, which I highlighted in my previous representations.

d. Portland Beach Road is the single route onto and off the Isle and is particularly susceptible to closure through accidents, roadworks or weather. This presents a clear threat to the supply chain for the development, which if not fuelled will run less efficiently compromising the Appellant's modelled emission data. Whilst there will be buffer stock held, this would need to be replenished, resulting in an increase of HGV traffic and further worsening emissions output.

e. As a growing business Portland Port is already increasing the amount of traffic on Weymouth and Portland's congested roads, from cruise ship coaches to HGVs. The Statement of Case confirms that near continuous HGV traffic will be created, which I contend will impact "human sensitive receptors" (aka schoolchildren and residents) along the entirety

of the route. I would urge the Planning Inspectorate to visit the affected routes during rush hour, if at all possible, to better understand the road infrastructure issues that make this development unsuitable for its Portland location.

6. Location.

a. The information presented in the Statement of Case appears to present conflicting arguments in the context of location. On the one hand it suggests that the Proximity Principle is being misinterpreted by the Planning Committee, in that it is acceptable for waste to be treated in locations far removed from its source (para 2.21) and yet in other arguments (para 1.49 bullet 3) it is implying that Dorset's use of existing facilities outside Dorset is somehow undesirable and should be used as justification for the Portland development.

b. In keeping with the Waste Plan, Dorset has proposed allocated sites for waste management purposes which, whilst not exclusively considered, are favoured for development. The Appellant disagrees with this view and puts forward a number of reasons why the allocated site locations are inferior to this development (paras 1.46 and 2.15.i), notably proximity to Green Belt, protected habitat and new homes. The Appellant does not seem to accept that its own proposal is within 10km of 18 internationally and nationally recognized areas, within 2km of 6 sites of Nature Conservation Interest and overlooked by an AONB. It is within 1km of existing homes which sit below, at the same height and above the exhaust stack. In addition, this unusual topography for an ERF with an exhaust stack of 80m adjacent to land rising to 140m situated within Portland's unique meteorology, raises concerns over the validity of the modelled emissions data. I suggest that this development's location is justifiably less suitable than those already allocated in the Waste Plan.

7. **Summary.** I strongly believe that Dorset Council made the correct decision in refusing this application. In an era where the evidence of climate emergency is strengthening and the case for burning rubbish is weakening, an ERF development within Portland Port brings far more disadvantages than benefits. An ERF will emit toxic exhausts, increase HGV traffic in residential areas and compromise the status of World Heritage and protected sites on land and at sea. It will create limited job opportunities, provide a bare minimum of shore power and cannot guarantee that it will improve Dorset's waste management strategy, which is one of the best in the country. I trust that the Planning Inspectorate will recognize the refusal of this planning application as a success for our democratic processes and dismiss the appeal.

Yours Sincerely

Michael Toft
MBA, CEng

Dear Planning Team A

Thank you for notification of new and updated documents regarding this Application. I have provided detailed comments below but I am concerned that under the deluge of information, errata and addenda, sight is being lost of the simple fact that this proposed development brings minimal benefit to Weymouth and Portland, at a huge potential cost to the surrounding area. This cost will only be truly understood when it has impacted, at which point it will probably be irrevocable.

Portland does not need additional power. Portland does not need additional heat. Dorset has an effective and evolving waste management strategy. The world does not need more toxic emissions.

Best Regards

Mike Toft

20 February 2022

Planning Application WP/20/00692/DCC Updated Document Comments January 2022

These comments should be considered in conjunction with my previous submitted comments dated 13/9/21 and 3/12/21.

Summary

1. Twenty two new or updated documents have been uploaded to the Portal for this Application. Nothing in these documents reverses my previous comments and strong objection to this proposed development. In fact this documentation highlights yet more errors, omissions and process contributions approaching or exceeding accepted levels. Key examples of these are:

- a. Omitting an 8m exhaust stack in drawings (2nd ES Addendum, NTS17)
- b. Increase in traffic of 18% considered “negligible magnitude” (2nd ES Addendum, NTS44) but shown as 75% in some cases (App 10-1 sect 7)
- c. Incorrect main stack dimensions (App 3-2, Table 7)
- d. Incorrect stack emissions (App3-2, Table 8)
- d. Annual mean nitrogen deposition on Chesil and Fleet remains greater than 1% more than 50m from the road (App 3-5, Graph 19)
- e. Children’s ingestion of Cadmium, Chromium and Nickel exceeding Tolerable Daily Intake by up to 177% (App 5-2, Table 5)

2. The updated documentation makes no further contribution to any justification for the proposed development. In my view the documentation reinforces previous concerns that this Application remains inaccurate and highly inappropriate, delivering minimal benefits when compared to the significant detriment impacting our lives and environment.

Discussion

3. 2nd ES Addendum. This provides summary comments of the submitted Appendices. Key notes:

- a. NTS 17. An 8m high exhaust stack has been omitted from previous documentation.
- b. NTS 28. The addition of an 8m stack and generator will have negligible visible impact in relation to the main ERF building. Or in my words “the new exhaust will be dwarfed by the monstrosity beside it”. It is taller than a house.
- c. NTS 44 – 47. Having stated that increases in traffic of less than 10% can be considered insignificant, the Applicant then tries to justify an increase of 18% at

Castletown as “insignificant”. The Applicant also seems to have picked up on previously provided comments that 80 HGV transits a day equates to 1 vehicle transit every 18 minutes. The Applicant therefore seems to be confirming that HGVs will be rolling through Weymouth and Portland throughout all hours of day and night. This will probably not be acceptable to residents in close proximity to the road, of which there are many. Alternatively if night-time transits are to be curtailed, then the volume of new traffic rises significantly. As I previously observed if a 12 hour day is assumed this equates to 1 vehicle every 9 minutes, which presumably raises the “negligible” Castletown increase from 18% to over 30%. It is not clear how the modelled results of 75% increase at Castletown shown in Appendix 10-1 are discounted as “negligible”.

d. NTS 55. Employment and business benefits are de-scoped from “slight to moderate” to “slight and not significant”. Further indication that this Application brings little benefit to the region and should not be approved.

4. 2nd ES Addendum Appendix 3-1 Diesel Generator.

a. Running of the emergency generator will be conducted for testing purposes and in emergency conditions, nominally loss of National Grid supplies. As the generator will be predominantly running up or shutting down, it will not be as efficient as it should be at minimising exhaust emissions. This appendix argues that this contribution should be disregarded, however Table 6 shows that Maximum PEC as a percentage of Critical Level is either 96.5% or 81.9% at Portland SSSI. The lower level appears to be submitted as the Applicant is arguing against the DEFRA provided background levels as being “very high”. Regardless the proposed development is clearly introducing more pollution into the area and pushing it close to recommended tolerances.

b. The introduction suggests that emergency operation is unlikely as there have only been 3 outages in the last 6 years. This is not a valid assumption. The UK is facing increasing fragility in its electrical infrastructure with the National Grid recently warning of a plan to ration household supplies in order to cope with peak demand. Since the proposed development itself is pushing Portland’s electrical load closer to its limits (it will use some 40% of current spare capacity (see my comments dated Sep 21)), there will be an increased likelihood of loss of power.

c. The Applicant has not considered the contributions made by other power sources required to start up if the ERF has an emergency or operational shutdown: ship’s generators will need to be restarted if they lose shore power; Portland businesses may need back up power if supplied by the ERF; heat services may need to be provided if the district heating option is in service.

5. 2nd ES Addendum Appendix 3-2 Modelling Uncertainty.

- a. Further “typographical errors” in tables 7 and 8 are identified.
- b. Model validation is provided, presumably in response to previous comments noting Portland’s unusual geological and meteorological conditions and their impact on modelling. It is notable that of the 7 validation studies considered, only 1 is deemed representative. This representative study, Lovett Power Plant, Tomkins Cove, NY State, has a stack of 145m with ground rising to 270m behind it (130m difference); Portland ERF has a stack height of 80m with cliffs rising to 140m behind it (60m difference). Examination of Google maps reveals that Lovett Power Plant is situated on the banks of the Hudson River estuary, surrounded by landmass. Portland ERF is on a steep rising island surrounded almost entirely by water. These two sites seem very different to me and I would be interested to know how often the hills of Tomkins Cove are completely covered in cloud in comparison to Portland.
- c. I also note that the validation study chosen to support the Portland ERF modelling is for a power plant that has subsequently been closed down for failing to limit emissions!

6. 2nd ES Addendum Appendix 3-3 PM2.5

- a. This addendum is in response to the proposed drastic reductions of PM2.5 emissions from the current UK level of 20µg/m³ to a proposed WHO target of 5µg/m³.
- b. In order to justify the reported Portland ERF modelled figures, the Applicant refers to results from an in-service facility – Four Ashes ERF. This facility is quoted as using the same combustion and abatement technologies as the proposed Portland ERF development. The figures provided from Four Ashes support the Applicant’s assertion that the Portland ERF should fall within the tougher future targets that may be introduced. However reading the Four Ashes ERF Non-Technical Summary available on line, there appear to be some controls and mitigations which I have not observed in the Applicant’s proposal for the Portland development. Most notable were:
 - i. The ERF will use a dry Flue Gas Treatment (FGT) system to reduce emissions to the atmosphere. The acid gases generated by the combustion of waste will be neutralised and the resulting particulate matter separated out in a bag filter. Emissions of nitrogen oxides will also be reduced, through the use of a Selective Non-Catalytic Reduction (SNCR) de-NOx treatment. In addition to process logic controllers, the Facility also utilises various process control and monitoring mechanisms to minimise emissions to air.

ii. The furnace temperature is continuously monitored to ensure optimal combustion and reduce the formation of dioxins and nitrous oxide (a greenhouse gas) in the flue gas.

iii. Continuous in-stack monitoring of key pollutants is conducted whenever the ERF is in operation. If emissions to air are detected to be approaching the prescribed set point concentrations, an alarm will sound, and the Operator will **take corrective action or shutdown the plant** until the problem can be corrected.

iv. Providing a "living roof" for the facility.

v. Diverting ERF traffic around a sensitive village location.

c. For the comparison to be effective then I suggest similar commitments and mitigations should be included in the proposed Portland ERF, but most significantly I have not identified a commitment by the Applicant to monitor and stop operations as stated at para iii above. In fact the Portland ERF Non-Technical Summary states at para NTS 21:

"The emissions from the stack will be continuously monitored and real-time data will be available to Dorset Council and the Environment Agency at all times."

This is not the same as continuous monitoring and intervention and the Applicant should be requested to provide clarification.

7. 2nd ES Addendum Appendix 3-5 Road Emissions

a. As highlighted above it is not clear how the traffic volumes associated with the ERF are profiled - 24 hour operations or less. If not 24 hours then volume of ERF traffic will increase significantly and this will impact the emission data.

b. If 40 lorries are to pass through the Boot Hill location every 24 hours or less, I question that this will not noticeably increase the emissions at this area. Does the model take account of the fact that Boot Hill has traffic lights that require the HGVs to stop and start on a very steep hill? The Applicant reports at para 5.1 that the PEC is predicted to exceed the AQAL and the impact is moderate adverse. This will only be reduced if assumptions are made on fleet mix and emission improvements, but should this not be a commitment by the Applicant to only use low emissions vehicles as part of its supply chain?

c. Graph 19 continues to show >1% of annual mean nitrogen deposition more than 50m from the road for Chesil and The Fleet, which I believe is an exceedance. The Applicant references further discussion of this in ES ch10 and the shadow

appropriate assessment, but the updated shadow assessment appears unclear in its argument. Para 7.26 clearly confirms that alone the contribution of the traffic and emissions from the plant will result in greater than 1% nitrogen deposition. Subsequent paras then seem to suggest this won't harm the integrity of Chesil or the Fleet. If this is so, why is there a stated tolerance level?

8. 2nd ES Addendum Appendix 5-1 Dioxins

a. The reasoning behind the conclusions of this appendix is not clear to me from the data presented. As I understand it, Table 2 suggests that a child at the worst impacted location on Portland (which appears to be receptor R1, Fortuneswell) will be exposed to a Mean Daily Intake of Dioxins and Dioxin-like PCBs that is more than 90% of the Tolerable Daily Intake. As this value is below the tolerable level, I could understand that an adult exposure might be considered negligible, but for a child in its formative stages to be exposed to 90% of the tolerable level and be declared negligible seems concerning to me. Have families in Fortuneswell been made aware of this threat from the ERF and do they consider it to be negligible?

9. 2nd ES Addendum Appendix 5-2 Metals

a. This Appendix is even more concerning than the Dioxins Appendix as it appears to indicate that children in Fortuneswell are already exposed to a Mean Daily Intake of cadmium, chromium and nickel that significantly exceeds the Tolerable Daily Intake. The Applicant then tries to make a case for these levels being negligible as far as the ERF is concerned, but it cannot be discounted that the proposed ERF will be making a poor situation even worse if it is approved. I also find it of concern that para 4.1.1 tries to argue that exposing a child to this degree is okay as the figures are averaged out over a lifetime exposure. Firstly many people live on Portland their whole life, so will be constantly exposed; secondly, as above, a child must surely be more susceptible to this level of exposure in its formative stages, much more so than an adult?

10. 2nd ES Addendum Appendix 9-1 MCZ Assessment

a. This Appendix gives further details of pollution impact from the proposed ERF on the sensitive maritime environments which surround the site. Whilst I note the assertion that no impact is predicted and I accept the principles of volume dilution, I wonder what Dorset Council's view would be if I stood beside the sea and poured 1.72 grams of mercury into Portland harbour, every single day, 365 days a year for let's say the next 10 years? Over 6 kg of mercury into Dorset's prime asset for aquaculture and tourism - seems to be wrong to me if we have the option to introduce no pollution at all by not approving this application.

11. 2nd ES Addendum Appendix 10-1 Traffic Assessment

a. As I have already commented above it remains unclear how steady state traffic for the ERF will be distributed over 24 hours and I could not find confirmation in this paper. The overarching 2nd ES Addendum suggests continual 24 hour operation, this appendix refers to an AM/PM split. The more the working day is reduced the less time between HGV transits (every 9 minutes for a 12 hour day).

b. Although the 2nd ES Addendum NTS 44-47 references an 18% increase in traffic through Castletown, every table in section 7 of this Appendix quotes a 75% increase in either inbound or outbound HGV traffic. This mismatch in presentation between the Applicant's documents is of concern especially when considering the narrow nature of the Castletown road layout.

12. Updated Shadow Appropriate Assessment

a. The Updated Shadow Appropriate Assessment reviews the updated and extant documentation to advise that the proposed ERF will have a significant effect on the Isle of Portland. Unsurprisingly it assesses that the ERF will have no adverse effects on the local environment as long as mitigation measures are undertaken.

b. I contend that there is sufficient inaccuracy and uncertainty within this application, combined with growing international concerns on the impact of incineration, to have any confidence that this development will not have an irrevocable, adverse impact on the area. I trust that the Planning Authority will undertake its own independent assessment to arrive at their decision.

13. Miscellaneous Updated Documents

a. Various documents have been re-issued acknowledging errors and omissions which support the lack of confidence expressed above.

Dear Planning Team

I have received notification that five documents have been amended by the Applicant for Reference WP/20/00692/DCC.

I am very disappointed that it seems to be permissible for the Applicant to be able to use the planning application process as a method to obtain external proof-reading input and additional time to amend documents without any clear justification or audit. This significantly increases the burden on all reviewers and is creating a confusing labyrinth of application documents; which may of course be what the Applicant intends.

These amendments further support my previous comments that the Applicant shows a woeful lack of diligence in their approach to this installation and is now submitting corrected copies of corrected copies. I would ask the Planning Committee to consider how they can have faith in any of the Applicant's submitted forecasts or design intent based on their poor performance so far.

I would like to point out that there is no visible justification for these "transcription errors" and the subsequent change of figures in tables. I feel tempted to submit my own tables of figures for the facility which highlight all legislative levels will be exceeded by the installation and trust that it will be taken equally in good faith by the Committee!

For clarity below is my understanding of these changes:

1. "**Portland_ERF_ES_Addendum_Erratum_Copy**". This is a correction to the document previously released as "0_es_addend". The amendment changes a statement that Nitrogen deposition on Chesil Beach will be "less than 2kgN/ha/yr" to "less than 2% of the critical level". Similarly it changes cumulative impact from "18kgN/ha/yr" to "18% of the critical level". This error has been pulled through from:

2. "**Portland_ERF_ES_Addendum_Appx_3_1_Additional_dispersion_modelling_erratum_copy**" which corrects the same errors that were published in "es_addend_3-1".

Unfortunately for the Applicant, I believe these amended statements to still be incorrect. According to APIS (http://www.apis.ac.uk/critical-loads-and-critical-levels-guide-data-provided-apis#_Toc279788063) "It is important to distinguish between a critical load and a critical level. The **critical load** relates to the quantity of pollutant **deposited** from air to the ground, whereas the **critical level** is the gaseous **concentration** of a pollutant in the air." The Applicant has referred to Critical Levels throughout these amended documents in particular referencing Critical Levels for Nitrogen deposition which I believe should be assessed against Critical Load. So, as those documents stand, I have no confidence that the Applicant has applied the correct methodology to their calculations.

In attempting to understand what Critical Level (or Load) has been used by the Applicant, I referred to the ES Technical Appendix D2 and note that para 5.3 quotes "If the PC is less than 1% of the relevant Critical Level or Load the emissions from the application are 'not significant';" Since the Applicant's amended statement can only assert to less than 2% and Figure 16 of Appendix 3.1 shows that Nitrogen deposition is above 1% (up to 2.4%) until at least 100m away from the road, I assume this pollution contribution should be deemed significant and count strongly against the application.

3. "Portland_ERF_ES_Technical_Appendix_G_Health_erratum_copy"

According to the Applicant a "transcription error" has been made in Tables 3.3 and 3.4 of Appendix G that changes the figures in those tables. This is repeated in:

4. "Portland_ERF_ES_Chapter_6_Community_health_and_economic_effects_erratum_copy".

The Applicant states that "whilst the figures in Tables 3.3 and 3.4 have increased they remain materially below the thresholds for significance for both carcinogenic and non-carcinogenic risks and so there is no change to the conclusion that "the risks to health due to emissions from the ERF plant are negligible...."

Examination of these figures suggests to me that what the Applicant is now stating is that a child living on Hamm Beach Road, Portland (R4) or Redcliffe View, Weymouth (R7) is **now five and a half times more likely to develop cancer** than was previously stated. Most of these amended figures show an increased risk of between two to **seven times greater** than previously stated. This scale of error significantly reduces confidence in any of the data provided by the Applicant.

5. "Portland_ERF_ES_Technical_Appendix_D2_Process_Emissions_Modelling_erratum_copy". This describes yet another "transcription error", whereby 2 random numbers have been decreased in Table 8. The Applicant asserts that the "correct" numbers were used in the modelling, so that's alright then!

Based on the cumulative number of errors that have been amended and those which have been identified but still remain (see my previous comments) I strongly suggest that the Planning Committee places low confidence in any of the modelling done for this Application and rejects it outright for the greater good of Portland, Weymouth and Dorset.

3 December 2021

Planning Application WP/20/00692/DCC Comments

1. I would like to register my strong objection to the proposed development of an Energy Recovery Facility (ERF) as made in Planning Application WP/20/00692/DCC. This does not make a compelling case for Planning Approval. ERFs are only truly beneficial when maximum benefit can be gained from their delivery of energy to persistent customers. This cannot be guaranteed in the case of Portland and serves only to jeopardise the surrounding high-quality environment area into which the ERF is proposed.

a. Currently:

- i. there is no waste incineration on Portland;
- ii. there is adequate power supply to deliver anticipated demand on the Isle for the medium term;
- iii. Portland Port has a growing commercial shipping business, with no firm indications that it will decline;
- iv. the area is renowned for tourism, water sports and natural environment.

b. Installation of an Energy Recovery Facility will

- i. introduce toxic emissions where there were none;
- ii. increase waste transit routes across Dorset;
- iii. provide heat energy which will not be used without considerable investment by an unspecified third party;
- iv. provide electrical energy which may not be sufficient for Portland Port's needs or be distributed for maximum benefit;
- v. impact the vista of Portland from many local vantage points;
- vi. provide on average only slight benefit according to the Applicant's own assessment.

2. This application has resulted in a plethora of submitted documents, amendments, representations and counter-representations which makes it difficult for residents of Weymouth and Portland to fully review, understand and comment on meaningfully. I have done my best to review the documentation based on my experience as a Chartered Engineer and have set out my concerns and observations below.

3. Benefits. There is no ERF currently located on Portland, so this application represents a completely new development rather than superseding an obsolescent facility. The benefits derived must therefore make a completely new case that outweighs any dis-benefits that the installation creates. From my understanding of the documentation provided by the Applicant, there are five tangible benefits to be derived from approving this installation:

- a. Provision of waste management;
- b. Provision of electrical power, derived from waste incineration;

- c. Provision of heat energy, derived from waste incineration;
- d. Socio-economic benefits;
- e. Financial benefit to Powerfuel shareholders. This is my assumption otherwise there is no rationale to build, as the ERF has to be a going concern.

4. In the view of the Applicant these benefits and supporting information make a "compelling case" and "The benefits of the proposed ERF are significant and should be afforded significant weight, outweighing any identified adverse effects, such that the planning balance permission should be granted." This is a subjective view, of course, which I do not believe is justified for the reasons discussed below, and which I trust the Planning Authority will take into consideration for this Application.

5. Waste Management.

- a. The Applicant has correctly identified that the UK has a shortfall in its ability to manage waste sustainably and effectively and the drive to move up the waste hierarchy. Dorset has performed well in its ability to adopt the higher levels of the hierarchy (recycle/re-use) but has a notable lack of facilities to handle the disposal of residual waste which is predominantly exported out of county. The Applicant has focused on this and tried to represent the requirements, needs and objectives in the Dorset Waste Plans and earlier documents to support a need for an ERF at Portland. Several, sometimes conflicting positions are cited in the Waste Need Statement and further detailed in the Consultation Response Summary Document.
- b. None of the quoted policies and plans state a need for an ERF facility in Portland. I strongly assert that Portland is the least appropriate location for an ERF situated as it is at the southernmost extreme of Dorset and surrounding counties which will mandate ever longer transit paths of waste. This in turn will increase large vehicular movements of waste across the whole of Dorset culminating in a single road access route. Policy documents highlight the need for self-sufficiency in waste management and the adoption of a proximity principle, which, from my interpretation of the Dorset Waste Plan 2019, is what has driven the selection of allocated sites identified in the Plan and does not include Portland.
- c. The proximity principle seems to be argued ambiguously by the Applicant, sometimes referring to the ERF as a Dorset based facility for Dorset waste, but then proposing that handling of waste imported from further afield is also a necessity under the proximity principle on a national level. My understanding of the Dorset Waste Plan is an aspiration to take responsibility for our own waste, although where this is not possible, for example residual waste, to enter into bi-lateral solutions with adjacent counties to mutual benefit in improving waste management. That strikes me as a valid execution of the proximity principle. According to the Dorset Waste Plan 2019 accessible online, "...Dorset is a net importer of waste – importing more waste than is exported." (para 2.38) This suggests that although the majority of Dorset residual waste is sent for handling out of county, Dorset takes in more waste from outside the county by return. This again seems to be a sensible use of available facilities on a proximity basis. Interestingly the Applicant states that "...Dorset is a net

exporter of waste...” (Waste Need Statement section 2.3.3 bullet 6) quoting a 2017 DWLP Background Paper.

d. I do not find the application to be clear on sourcing of RDF, which perhaps adds to the confusion regarding the proximity principle. The application references 321,000 tpa of Dorset’s current residual waste requiring to be managed, which is obviously far in excess of the 183,000 tpa optimal capacity of the Portland ERF hence implying that the ERF will be to full capacity with Dorset waste. However the Dorset Waste Plan identifies that at 2023 figures 320,00 tonnes will arise, with an identified shortfall of 178,000 tonnes, which rises to 234,000 tonnes shortfall by 2033. Therefore regardless of a proposed Portland ERF, existing methods of recovery will still have to be used by Dorset. The Applicant’s discussion of diverting RDF from current contracted facilities (Consultation Response Summary Document para 1.12) does not make sense, as that is presumably tonnage already included in the existing capacity of 142,000 which must continue to be used. If the RDF is based on Dorset waste, then there is no benefit in being sited by a port. Similarly as the shortfalls are at or exceed Portland’s proposed capacity, there ought to be no requirement to divert non-Dorset seabound RDF to Portland Port, as suggested by the Applicant. If that is the case then there is absolutely no benefit in managing this waste at Portland; an ERF should be sought more centrally within Dorset to reduce road transit times of the RDF and IBA.

e. Having noted that the delivery of RDF by sea is unlikely and accepting the Applicant’s worst-case estimates of 40 HGV transfers to the ERF and 40 HGV transfers away from the site, the suitability of Portland’s road infrastructure must be raised. This suggests that an HGV transit occurs every 18 minutes if a 24 hour delivery window is required. If one assumes a 12 hour window then a transit will occur every 9 minutes. Whilst this is a worst-case assumption, I suggest that this is an unacceptable frequency noting the fragility of the nominated roads proposed for southbound and northbound transit on arrival at Weymouth. Both routes have significant bottle necks and experience frequent delays from both tourist and commuter traffic. Specific instances from experience as a resident are:

Southbound

- i. Asda traffic lights
- ii. Boot Hill traffic lights
- iii. Buxton Road/Rodwell Trail bridge crossing. HGVs and buses are unable to negotiate the kink in the road without causing oncoming traffic to stop.
- iv. Foords Corner roundabout

Northbound

- v. Foords Corner roundabout
- vi. B3156. Narrow with a kink, again resulting in stoppage of oncoming traffic

vii. Wyke Road/B3156 mini roundabout. Ninety degree turn requiring HGVs to negotiate into oncoming traffic.

Whilst discussions are rife regarding modelled impacts, baselines and approvals I suggest this application generates a significant actual increase to HGV traffic which will impact "human sensitive receptors" (aka schoolchildren and residents) along the entirety of the route.

f. By proposing to manage waste through incineration the Applicant is selecting the minimal possible step up the waste management hierarchy and creating perhaps the most divisive element of this proposal: exhaust emissions. The Applicant has made a separate application to the Environment Agency upon which I have also commented and attached at Appendices 1 and 2 of this document. I believe there are several material points pertinent to the Planning Application, which highlight why selection of Portland for an ERF is not appropriate. I would draw your attention to the fact that the EA submissions refer to a stack height of 90m, rather than the 80m proposed here.

g. Installation of an ERF will introduce toxic emissions where previously there were none (see Table 2). The precise make-up of these toxins cannot be known, as it is totally dependent on the nature of the waste being burned. These emissions are claimed by the Applicant to be better than the emissions of one cruise ship and one RFA which will be placed on shore power provided by the ERF. According to Wartsila's website, exhaust emissions from marine diesel engines comprise nitrogen, oxygen, carbon dioxide (CO₂), carbon monoxide (CO), oxides of sulphur (SO_x), nitrogen oxides (NO_x), hydrocarbons, water vapour and smoke. The Applicant's modelling suggests that NO_x and SO_x levels might be improved, however I would suggest that the pollutants shown in Table 2 (mercury, cadmium et seq) are not components of ship emissions (particularly new IMO compliant cruise ships) so the ERF is introducing unnecessary additional pollution not reducing it.

h. Although not part of the UNESCO designation, Portland sits at the heart of the Jurassic Coast and where currently there are zero incineration emissions, this proposal will exhaust toxic components into the air. The development site is surrounded by areas that have been designated for special protection, both on the land and sea. The total number of sites that fall within the 10km study area is approximately 18 nationally and internationally recognised areas:

- Chesil and The Fleet – Site of Special Scientific Interest
- Chesil and The Fleet – Special Area of Conservation
- Chesil and The Fleet – Special Protection Area
- Chesil and The Fleet – Ramsar Site
- Crookhill Brick Pit - Site of Special Scientific Interest
- Crookhill Brick Pit - Special Area of Conservation
- Radipole Lake - Site of Special Scientific Interest
- Lorton - Site of Special Scientific Interest
- Lodmoor - Site of Special Scientific Interest
- Portland Harbour Shore - Site of Special Scientific Interest
- South Dorset Coast - Site of Special Scientific Interest
- Isle of Portland to Studland Cliffs – Special Area of Conservation

- Studland to Portland – Special Area of Conservation
- Isle of Portland - Site of Special Scientific Interest
- Nicodemius Heights - Site of Special Scientific Interest
- Studland to Portland – Special Area of Conservation
- Chalbury Hill and Quarry - Site of Special Scientific Interest
- White Horse Hill - Site of Special Scientific Interest

There are also six Sites of Nature Conservation Interest within 2km of the proposed development, which is also overlooked by an Area of Outstanding Natural Beauty.

i. I suggest our stewardship of all these sites must weigh heavily against the Applicant's perceived "compelling case" for planning approval. When taken holistically the region does not benefit from an ERF which emits regulatory compliant toxic gases. As identified in my Appendix 2, the Applicant's modelling identifies impact on The Verne "cannot be screened out as insignificant" and this is based on modelling of estimated emissions which may not take into account the particular topography and meteorological conditions experienced by the Isle. The transfer of residual waste from across the county, country and internationally to be burnt at the heart of the Jurassic Coast does not reflect the proximity objectives key to delivering sustainable waste management or sound custody of the surrounding areas defined locally, nationally and internationally for preservation.

6. Electrical and Heat Provision

a. Based on the Applicant's submitted documentation, I understand the main justification for the proposal is for waste management activities discussed above. In order to gain approval in line with the Dorset Waste Plan, incineration applications must demonstrate they provide combined heat and power, or if this is demonstrated to be impracticable, they recover energy through electricity production and are designed to have the capability to deliver heat in the future. The Applicant has identified that electrical power generated could be used to provide Shore Power facilities to Portland Port and support growth of their cruise ship business. Additional capacity could be used to supply power to other users. It is proposed that heat can be generated and supplied to potential customers, nominally the prison facilities located above the proposed development. I do not believe that the generation and proposed use of energy makes a sufficiently compelling case to justify incinerating waste with resultant toxic emissions at the heart of the Jurassic Coast.

b. The Applicant identifies (para 1.5.2.3 Appendix F2 to EIA) that Portland currently has a maximum demand of 10.72MW with a spare capacity of 7.28MW. They confirm that "...reasonable domestic growth needs (driven by the construction of additional dwellings for instance) could be accommodated in the medium term..." They suggest that any new customers with large demands may require the power infrastructure to be upgraded at prohibitive cost (Chickerell Bulk Supply Point). However the Applicant then provides a confusing description, which does not clarify how the provided energy brings the predicted benefits or to my mind who will actually use the ERF power other than Portland Port:

i. The paragraph identifies that any power from a private supplier providing power to the SSE distribution grid will need to be backed up by the SSE. If the power is supporting the hypothesised future large demander, then SSE will still need to undertake the costly upgrade to assure the supplies.

ii. The Applicant then describes that a Private Wire facility is being discussed which does not require SSE back up, requiring other undescribed "alternative agreed arrangements". These are presumably diesel generators and I would suggest those need to be included in any carbon calculations, as well as emission calculations. Presumably these alternative arrangements also have a cost associated with them, which will still undermine any business decision to locate on Portland.

iii. As a result I question whether all of this energy, both electricity and heat, is actually being used. The ERF is quoted as producing 18.1MWe with an internal demand of 2.9MWe. To me this suggests that when starting up or running down (possibly when inoperative?) the ERF will be taking up 40% of Portland's spare capacity. This appears to be a large burden, pushing Portland's infrastructure towards the point that the costly SSE upgrade will need to be done anyway.

iv. In steady state the plant will deliver 15.2MW. If the heat exchange facility is used then this figure is reduced by 0.4 to 1.6MW (CHP heat plan) giving a minimum available output of 13.6MW. Noting that there is currently no plan to deliver the heat energy due to lack of infrastructure I do not believe that the ability to provide heat should be included in consideration for the planning balance. Since the Applicant claims that the heat provision should be taken into consideration then I would argue that consequently the minimum available electrical power should be used throughout the documentation ie only 13.6MW is available for output from the ERF.

v. Portland Port is identified as the main user of the ERF output, to deliver shore power to berthed shipping. The updated Shore Power Strategy Report dated August 2021 states in the middle of the "Grid Connected Options" paragraph that "For Portland Port to deliver Shore Power to the largest cruise ship and an RFA ship simultaneously, additional capacity of circa 15MW would be required." This surely indicates that more demand is being imposed on the existing infrastructure, again using Portland's valuable headroom, rather than filling a power need? Even allowing for 15.2MW nominal power output, the demand is very close to the limit and I would question how consistently this 15.2MW output is delivered. At 13.6MW output the ERF is not meeting the need of its one stated customer.

vi. I could not identify a practical usage profile for shipping within the documentation to give an indication of the fluctuations in planned power usage. The above quote suggests that only 1 large cruise ship and 1 RFA can be provided shore power under this scheme. What happens to the other RFA vessels that are alongside at that point? They presumably have not been provided power and therefore are not deriving any benefit either economically

or environmentally, which I hope has been taken into account in the Applicant's modelling data.

vii. As power is only provided to 2 piers and cruise ships will not be alongside every day of the week (65 visits by 2025), how is any excess power used to advantage or is it actually wasted? From my limited understanding, Table 5.10 of ES Chapter 5 suggests that the amount of shore power used in 2024 will be 20,328 MWh and the amount available for "electricity output to grid" is 98,489MWh. If I understand correctly some 99,000MWh need to be distributed to users otherwise the energy is wasted. Despite the Applicant raising the points I highlight at para i. and ii. above, Figures 10 and 11 of the Energy Need Statement dated September 2020 and the Grid Connection Paper dated August 2021 imply a connection to the Portland distribution network operated by SSE. I have not been able to obtain a response from SSE on the following concerns:

- I query whether 13.6MW fed onto the local distribution network is able to be transferred off the Isle to Chickerell, noting the Applicant's statements that a major uplift costing £20M would be needed to get this additional amount of power onto the Isle. How much, if any, surplus power can be fed back to the National Grid?
- If the surplus can only be used locally, this implies that the current 10.72MW demand is met by the ERF. The power fed from the ERF will fluctuate depending on the amount provided to Portland Port shore supply, which presumably has priority, necessitating power to be provided once more by SSE. Does this create SSE network management issues or is that a function of the normal management (noting that it is quite a large amount to be coming and going)? Have these periods of SSE provision been removed from Carbon calculations?
- Even at maximum demand from Portland the ERF is producing an additional 2.88MW if there is no shore power requirement at that time. Where does that power go?
- In short is it not an incorrect assumption to say that the ERF will bring all the benefits of 15.2MW of power provision?

viii. The Applicant draws from the West Dorset and Weymouth Portland Local Development Plan (LDP) (Energy Need Statement 2020) to support the provision of the ERF as helping to meet the 7.5% of energy demand required from locally generated renewable energy projects. Firstly, I would contend that the consideration of Energy from Waste (particularly incineration) as a renewable energy is being challenged nationally and internationally as the climate emergency escalates. Even the Department of Energy and Climate NPS EN3 from 2011, referenced by the Applicant, notes "*For the majority of the AoS objectives, the strategic effects of EN-3 are considered to be neutral for onshore and offshore wind, while biomass and EFW were associated with a greater number of negative effects*". Secondly, I note that the LDP states "*There is considerable potential to generate renewable energy from within the*

plan area due to the wealth of accessible renewable energy resources” which I suggest is referring to natural resources such as wind, wave, tidal and solar and not incineration. It also states “The high quality environment of the plan area is a major asset and presents challenges in ensuring that renewable energy systems are carefully planned. Their individual or cumulative impact on the local environment, including the impact on the landscape character and rural amenity of the countryside or resident population will need to be considered, particularly in areas sensitive to change.” In reviewing the impact of the ERF’s power provision, I was reminded that the National Grid is spending £500M on the Visual Impact Provision project to bury overhead power cables in key areas of the UK. The first of these is currently underway across the Dorset AONB. Following consultation with stakeholders it was decided that “burying the cables underground was the preferred option with stakeholders and members of the public that attended the event. It was felt that screening or camouflaging pylons would not have sufficient impact.” It seems ironic that we are willing to undertake this three-year project, at great cost, to reduce human impact on our county’s visual appeal and yet are currently considering whether it is appropriate to put a waste incinerator with an 80m (or 90m) chimney exhaust at the heart of the Jurassic Coast. This application should not be considered a compelling case.

7. Socio-Economic Benefits

a. The Applicant attempts to demonstrate a “compelling case” of benefits in the Environmental Statement Technical Appendix F: Economic Effects. I have summarised these assessments in the table below, as I understand them.

Economic Area		Assessment
Construction on Business	Local	Slight and not significant
	National	Negligible
Construction on Employment	Local	Slight
	National	Negligible
Operation on Business	Local	Slight
	National	Negligible
Operation on Employment	Local (Level1/Level 1&2)	Moderate/Slight
	National	Negligible
Power Supply		Moderate & significant
Shore Power		Slight
Heat		Slight
Local Waste		Moderate
Monetisation of Carbon	Level 1	Substantial
	Level 1&2	Moderate
	National	Negligible
Site re-use		Slight

Table 1 – Applicant impact summary

b. This does not appear to me to be a compelling list of benefits; the vast majority being considered slight or negligible.

i. Power Supply. As discussed above I suggest the benefits of power provision need greater clarification to ensure that whatever power is produced

is being used efficiently and effectively to actually deliver the benefits being claimed.

ii. Local Waste. Whilst there is a clear requirement to better manage local waste, my discussions above suggest that Portland may not be the most efficient place to locate an ERF and the incinerated waste may not actually be “local”.

iii. Monetisation of Carbon. This feels to me like a spurious argument to demonstrate benefit and very dependent on the accuracy of assumptions: how efficiently will the ERF run, where does the RDF come from, will the heat be used, will the electricity be used, are cruise ship emissions actually less than the ERF, when and how many ships will use shore power? Viewed holistically I would suggest there is better value in upgrading Portland’s electrical supplies through SSE for £20M to access the truly renewable energy of the National Grid, rather than installing a £90M incinerator with questionable carbon credentials.

c. Against these benefits, I have not identified a discussion of the dis-benefits that a waste burning plant situated on Portland might create. Whether real or perceived, there is a connotation associated with waste incineration that is likely to detract from an area associated with blue flag beaches and coastal heritage.

i. Tourism. In 2019 tourism generated £209,560,000 for Weymouth and Portland (visit-dorset.com), with ongoing efforts to grow this revenue. There is a risk that this installation will have a negative impact for tourism in the area, which could far exceed the reported benefits of 30 jobs and additional power/heat provision. Notably efforts are ongoing to regenerate Castletown, which incorporates Portland Castle and the D-Day Museum. Visual impact on the coastline and concerns over pollution (whether unfounded or not) are unlikely to enhance the destination for tourism.

ii. Aquaculture. Dorset has recently won a Department for International Trade High Potential Opportunity for Aquaculture. The Dorset region is being promoted globally as having an unrivalled ecosystem with excellent water quality, warmer sea water and less aggressive tidal flows than some other sites. Specific examples relevant to the application are Jurassic Sea Farms based in Portland Harbour for seaweed and shellfish (A quoted success from the great.gov.uk webpage), as well as the Crab House Oyster Farm based in the Fleet. I note that in re-submitted data from the Applicant (Potential Marine Impacts) it considers that the ERF worst case for mercury release is 1,720mg per day (over 40km²)! I do not think this is conducive to promoting a growing aquaculture business in the region or in keeping with the spirit of the Environment Agency’s agenda for reducing mercury contamination as expressed in “Mercury: sources, pathways and environmental data” dated October 2019.

8. Powerfuel as a Business

a. Whilst I believe business performance is not normally a consideration for Planning Approval, the viability of this project requires it to be managed to the highest levels in order to make it efficient and cost effective. Contracts will need to be won competitively in order to achieve a sustained throughput of RDF, without which the ERF will not meet the outputs claimed or the benefits. If the ERF is not run efficiently then my understanding is that not only will the described power benefits be reduced, but the level of emissions will increase. The Applicant has also submitted that it will undertake heritage mitigation activities and implement carbon offsets, which will require expenditure which presumably necessitates a profitable enterprise. All this requires a robust business model sustained by an experienced and capable management team. Powerfuel Ltd was only incorporated in 2019 and has no filed full accounts on record, merely a 2020 balance sheet for £1000. As such it has no visible track record of running an ERF successfully and the submitted documentation does not provide any confirmation of individuals currently in the team who are experienced in building and running a successful ERF or any proposal on how a successful team will be put together to deliver the same. Without such evidence I believe there is a high risk that the proposed development will not deliver on its stated promises and result in an installation which will be to the detriment of Weymouth and Portland for many years to come.

Pollutant	Annual mean concentration	Unit
NO ₂	22.01	µg/m ³
SO ₂	3.32	µg/m ³
PM ₁₀	14.74	µg/m ³
PM _{2.5}	8.68	µg/m ³
Carbon monoxide	209	µg/m ³
Benzene	0.27	µg/m ³
1,3-butadiene	0.09	µg/m ³
Ammonia	0.82	µg/m ³
Hydrogen chloride	0.71	µg/m ³
Hydrogen fluoride	2.35	µg/m ³
Mercury	2.8	ng/m ³
Cadmium	0.57	ng/m ³
Arsenic	1.10	ng/m ³
Chromium	39.00	ng/m ³
Cobalt	0.92	ng/m ³
Copper	33.00	ng/m ³
Lead	9.80	ng/m ³
Manganese	36.00	ng/m ³
Nickel	2.70	ng/m ³
Vanadium	1.70	ng/m ³
Dioxins and furans	32.99	fg/m ³
Dioxin-like PCBs	126.98	pg/m ³
PAHs	0.98	ng/m ³

Table 2 – Applicant Emissions Summary

Appendix 1

Response to EPR/AP3304SZ/A001: Environmental Permit Consultation

From my understanding of the provided documentation, I believe the application falls short in consideration of a number of significant areas which are key to the socio-economic development of this part of Dorset. I note that the provided information indicates regulatory compliance can be achieved, although the final design of the installation has yet to be completed, however the documentation does not provide assurance that the following issues can be adequately addressed.

1. The emissions to air modelling undertaken does not sufficiently represent the unique aerodynamic conditions created by the Isle of Portland. Eddying and turbulence caused by the steep cliffs of the Isle result in conditions that are not captured by the model predictions. Whilst I have not been able to access quantitative papers on the conditions, empirical evidence has been provided thanks to the prolonged visits of cruise ships to Portland Port over the Covid period. I attach 2 photographs. Photo 1 shows emission capture remaining over the Port and Castletown from MSC Virtuosa on 30 May 21. Despite wind conditions of 16 mph, the pall remained over the duration of its visit. Reference to the cloud can be found in several on-line blogs of the ship's visit to Portland. It is noteworthy that MSC Virtuosa exhaust height is 75.5m, comparable to the 80m stack height proposed for this installation. Photo 2 shows the same ship on 13 June 2021 with winds of 9mph, again capturing an emission cloud above Portland Port and Castletown.

Whilst interpretation of the diagrams provided at Appendix D2 Process Emission Modelling is not easy to the layperson, it does not seem to reflect extended duration of emissions over the Port and Castletown, rather it implies peak levels are laid off to the North East of the installation, conveniently removed from inhabited locations. If these conditions have visibly occurred twice within two weeks, then I suggest further consideration is required of the impact of the installation on local residents and ecological sites, beyond that which has been provided.

2. Whether the full impact of emissions have been considered on nationally and internationally protected areas. The first unreferenced diagram in Appendix B to the SRA provides an excellent summary of why the proposed installation is inappropriate for this region, sitting as it does at the heart of more than ten protected sites.

a. That aside, the SRA and appendices focus on transmission of contaminants from air to land. The protected sites contain large tracts of water and marine life within them. Numerous scholarly articles exist which demonstrate the transfer of airborne contaminants into the marine domain and the bio-accumulation of those contaminants within flora and fauna, especially heavy metals. Rare species exist within the Fleet, Weymouth Bay and round to Studland, one example of which is the spiny seahorse (*Hippocampus guttulatus*) listed as vulnerable on the International Union for Conservation of Nature's Red List. Studies in the Black Sea demonstrate accumulation found in *Hippocampus guttulatus* of five heavy metals (Cu, Cd, Pb, Ni, Cr) and potential for species harm as a result (Bioaccumulation of heavy metals in seahorse tissue at the Romanian Black Sea coast, Rosoiu et al, 2014). All five (and more) of these metals are referenced as emissions in the application's Supporting Information document, but I have not found any assessments within the application

advising on the impact of emissions into the marine domain. The only considered vectors appear to be from water drainage and spillage. APIS notes that “Combustion processes are the most important sources of heavy metals, particularly, power generation, smelting, incineration and the internal combustion engine (Battarbee et al 1988; Duce et al. 1991; Galloway et al. 1982; Hutton & Symon 1986; Nriagu 1989; Nriagu & Pacyna 1988)”.

b. The Shadow Appropriate Assessment (SAA) document concludes that, in the absence of avoidance and mitigation measures, the project was likely to result in a significant effect on the Isle of Portland to Studland Cliffs SAC and Chesil and the Fleet SAC. The assessment deduces that full implementation of measures should reduce impacts to an acceptable level.

i. Firstly the assessments have been made on historical background data (APIS mean of 2016 - 2018?). Even so the SAA records several areas which will be impacted by greater than 1% of critical levels eg paras 5.25, 5.27, 5.36. Whilst the application seeks to discount these excesses, I suggest the modelling which demonstrates compliance could be invalidated as background levels rise inevitably from other sources known to be growing in the area ie not related to the installation. These sources include increased traffic (notably tourists) and shipping (a well-documented atmospheric contributor) of which Portland Port has seen significant increase and is targeting more.

ii. Secondly the SAA notes the implementation of “additional technologies to the process to reduce these emissions (particularly nitrogen and ammonia) on relevant areas of the European sites”. It is not clear to the layperson how the use of Ammonia as a NOx mitigation (para 1.4.4 of Supporting Information) and the stated intent to have lower Ammonia emission targets will ensure the reduced impacts desired. Surely lower ammonia emissions will require less ammonia to be used and hence less effective mitigation of NOx.

3. Socio-Economic Impact

a. Tourism. In 2019 tourism generated £209,560,000 for Weymouth and Portland, with ongoing efforts to grow this revenue. There is a risk that this installation will have a negative impact for tourism in the area, which could far exceed the reported benefits of 30 jobs and additional power/heat provision. Notably efforts are ongoing to regenerate Castletown, which incorporates Portland Castle and the D-Day Museum. Visual impact on the coastline and concerns over pollution (whether unfounded or not) are unlikely to enhance the destination for tourism.

b. Aquaculture. Dorset has recently won a Department for International Trade High Potential Opportunity for Aquaculture. The Dorset region is being promoted as having an unrivalled ecosystem with excellent water quality, warmer sea water and less aggressive tidal flows than some other sites. Specific examples relevant to the application are Jurassic Sea Farms based in Portland Harbour for seaweed and shellfish (A quoted success from the great.gov.uk webpage), as well as the Crab House Oyster Farm based in the Fleet. Noting from above the lack of reference to emissions impacting marine flora and fauna in the application, as well as the stringent toxicity requirements for seafood I recommend that the impact of the installation upon this key strand of Dorset Council Strategy be considered.

4. Flooding. Portland and the Chesil Beach road are renowned for flooding over many years. The application dismisses the risk of flooding as low risk for the installation; however this appears to be only in relation directly to the facility itself. Chesil Beach Road is a high risk flood zone and I believe elements of Portland Port are also at risk of flooding. When flooded this will cut the installation's access to waste deliveries and presumably necessitate cessation of operations. The application indicates emissions are minimised when under normal operation, suggesting that emissions will increase if operations are disrupted. Flooding in conjunction with rising sea levels are an ongoing concern in the Weymouth and Portland area and the application should consider the impact this could have on the installation's logistic chain and knock on to efficient running.

I have commented on the application documents as best I can as a layperson; however fundamentally I object to this application. If an installation of this type is developed it represents an appalling lack of stewardship of the many adjacent and unique natural sites and does not reflect the best interests of the local population. In its optimum configuration the application already acknowledges that some recommended levels will be exceeded. No matter how good the technology or the processes, failures can and do happen, which for an installation in this position could have catastrophic impact on sensitive flora and fauna. In a period where the UK's ability to conserve heritage sites is under question and where very hard targets to reduce emissions are being driven by Government, approval of this installation seems perverse.

4 August 2021





Appendix 2

Addendum Response to EPR/AP3304SZ/A001: Environmental Permit Consultation

1. Thank you for sight of the additional documentation regarding this application. Fundamentally it does not change my previously stated views (ANON-SF2Z-V4FC-R) that this installation is entirely inappropriate for the chosen location. The provided document however raises additional concerns regarding the methodology used to predict impacts, that fails to account for the specific geography of the Isle of Portland.

2. Excess Cadmium Levels. From my understanding, Table 5 of S2953-0320-0012RSF dated 7 May 21 appears to indicate a maximum impact level of 0.09 micrograms per cubic metre (or 90 nanograms per cubic metre) annually of Cadmium at site R4 under the "Process Contribution-screening". If correct this is somewhat alarming as the Environment Agency advised target (AAD Target Value) is only 5 nanograms per cubic metre annually for Cadmium and therefore the application should be rejected immediately! Sadly I suspect that this is a very careless typo caused by cursory cut and pasting of tables, however it suggests a concerning lack of diligence by the applicant and draws into question what other "errors and omissions" have occurred in creating the Air Quality Analysis data.

3. Local Topography. The additional document is assessing the impact of toxic emissions on human health receptors at designated positions (R1 to R5). This translates to how much of the emissions will fall on the Portland residents of Castletown, Coronation Road, East Weare Road, The Verne and Tillycombe Road; some 480 people according to the most recent census data and including Amelia Close which is directly adjacent to East Weare Road. These impact areas are increasing in height above sea-level from Castletown to The Verne as follows:

- a. Castletown – 7m
- b. Coronation Road – 27m
- c. East Weare Road – 66m
- d. Amelia Close – 83m (not included in assessment)
- e. The Verne – 141m
- f. Tillycombe Road – 78m

In re-reviewing the application in light of this new document, it became apparent that there is a discrepancy between documents on what the actual stack height will be. The Non-Technical Summary and Supporting Information suggest that the stack will be 90m high, however the modelling assumptions and recommendations (S2953-0030-0005RSF Appendix D2) have been made for an 80m stack. This supports my comments above regarding lack of diligence and a lack of confidence in the plans being presented and modelled.

It is not clear to me whether the modelling has accounted for the differing elevations of the impact areas. R3, R4 and R5 are all very close to or above the modelled 80m stack height, but there is no reference to elevation in the document, just x,y coordinates. If there is no z coordinate input into the

model then I suggest the results will not reflect the reality of Portland's topography and the emissions received by the residents of Portland will be notably greater than predicted here.

It is also worth noting that The Verne is a prison with an estimated occupancy of 595 which I do not think includes the attending staff. This prison is built within the enclosed embankments of a Napoleonic era fort which I suggest will affect the dispersion of emissions within the accommodations to the detriment of those inside. The Applicant's own modelling already highlights The Verne's exposure "cannot be screened out as insignificant" and I suggest this may be further exacerbated as it sits some 60m above the modelled stack height.

As I write this, I also note that the top of Portland (including The Verne) is covered by a cloud. This is a regular occurrence. It strikes me that a stack emitting into a cloud must also significantly impact the dispersion of emissions, although I am not qualified to assert this. Presumably data exists to show the frequency of the unique cloud cover on top of Portland and how this would affect dispersion; I recommend it is a consideration to be investigated.

4. I do not support this application and further suggest that it lacks rigour in its modelling to take account of Portland's unique geography which should prevent it being approved.