

Submission on Notified
Resource Consent
PL241234961

165



1 Dunorling Street
PO Box 122, Alexandra 9340
New Zealand

03 440 0056

Info@codc.govt.nz
www.codc.govt.nz



Submission on Notified Resource Consent

Reference: PL241234961 Submitted: 19 Dec 2024 03:52

Notified Submission

SUBMISSION ON NOTIFIED APPLICATION CONCERNING RESOURCE CONSENT

(Form 13)

Section 95A (public) Resource Management Act 1991

To: The Chief Executive
Central Otago District Council
PO Box 122
Alexandra 9340

This is a submission on the following resource consent application:

Resource Consent Number	240065
Valuation Number	2828012800
Applicant	Helios OTA Op LP
Location of Site	48 Ranfurly-Naseby Road, Ranfurly
Brief Description of Application	Land use consent to construct, operate and maintain a 300MWac solar farm
Submissions Close	19 December 2024

Writing a submission

The following will be required during this process:

- Your full name and address, telephone number and email address
- Whether you support or oppose the application for resource consent
- The reason for your submission
- The decision you wish the Council to make, including any conditions sought
- Whether you wish to be heard.

Important information so you don't lose your data

If you wish to take some time completing this form, we strongly recommend that you **create a [login](#) and log in to your account prior to starting to complete the form**. This gives you the ability to save a draft and return to it later.

If you are a club or organisation, please use an email that is associated with the club rather than your work or personal email.

Logging in before starting to enter information into the form also means you won't lose your information if the form times out, or if you accidentally navigate away from the screen you're working on.

You cannot save your information and return to it later unless you log in before you start the form.

Regardless whether you are logged in, once you have completed and submitted the form, you will receive a copy of your submission to the email address you specify in the form.

Either go to our [Online Services](#) page to create an account (or log in if you already have an account) or continue below to start without logging in.

Privacy

The information you provide is official information and is used to help process your application. The information is held and used in accordance with the Local Government Official Information and Meetings Act 1987 and the Privacy Act 2020. This means that your information may be disclosed to other people who request it in accordance with the terms of these Acts. Under the Privacy Act 2020 you have the right to see and correct any personal information that Council may hold about you.

Declaration

By continuing with this application you certify that: The information you provide is true and correct to the best of your knowledge. Yes

Notified Submission

Notes to submitter

1. If you are making a submission to the Environmental Protection Authority, you should use [form 16B](#).

The closing date for serving submissions on the consent authority is the 20th working day after the date on

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which public or limited notification is given. If the application is subject to limited notification, the consent authority may adopt an earlier closing date for submissions once the consent authority receives responses from all affected persons.

2. You must serve a copy of your submission on the applicant as soon as is reasonably practicable after you have served your submission on the consent authority.
3. If you are a trade competitor, your right to make a submission may be limited by the trade competition provisions in [Part 11A](#) of the Resource Management Act 1991.
4. If you make a request under [section 100A](#) of the Resource Management Act 1991, you must do so in writing no later than 5 working days after the close of submissions and you will be liable to meet the additional costs of the hearings commissioner or commissioners, compared to our hearing panel. Typically these costs range from \$3,000 - \$10,000.
5. Please note that your submission (or part of your submission) may be struck out if the authority is satisfied that at least 1 of the following applies to the submission (or part of the submission):
 - it is frivolous or vexatious:
 - it discloses no reasonable or relevant case:
 - it would be an abuse of the hearing process to allow the submission (or the part) to be taken further:
 - it contains offensive language:

It is supported only by material that purports to be independent expert evidence, but has been prepared by a person who is not independent or who does not have sufficient specialised knowledge or skill to give expert advice on the matter.

In lodging this submission, your submission, including contact details, become public information and will be available for anyone to view.

DETAILS OF SUBMITTER

Full name	Sarah Dunckley
Contact person (if applicable)	Sarah Dunckley
Electronic address for service of submitter:	sddunckley@hotmail.com
Phone number - day time	0212426996
Postal address (or alternative method of service under section 352 of the Act):	67A Waipapa Avenue, Diamond Harbour 8972

Your Application

Please select one regarding the application	I oppose
Do you wish to be heard in support of this submission?	Yes - I wish to be heard
Are you a trade competitor for the purposes of section 308B of the Resource Management Act 1991?	I am not
I would consider presenting a joint case if others make a similar submission	Yes

Details of submission

The specific parts of the application that my submission relates to are:	1. Toxic Substances 2. Wetland Area Preservation 3. Noise Levels
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The submission - include:

- **whether you support or oppose the specific parts of the application or wish to have them amended; and**
- **the reasons for your views.**

4. Landscape values

5. Naseby Dark Sky Status

1. Toxic Substances. The application does not in any way address the risk of hydrogen fluoride exposure during lithium ion battery fires. The risk of such a battery fire happening is increased at this site due to the large amount of Battery Energy Storage System (BESS) units within this design. This proposed solar installation, if installed, will be one of the largest solar installations in the world and has a huge battery storage proponent containing the equivalent of 32 shipping container sized battery packs. There have been several recent battery fires around the world in similar battery packs.

Such fires create toxic hydrogen fluoride gas which can cause skin and lung burns. In a September 2024 BESS fire in Escondido, California, required the evacuation of schools up to 5 kilometers away from the fire due to the risk of exposure.

I am not opposed to BESS units when they are used in the right place. However it is concerning that the location of these BESS units is very close to the towns of Naseby and Ranfurly and because this installation is a very large one and therefore carries a higher risk of BESS unit fires occurring in any given year.

In addition, it would be prudent to locate the BESS units well away from the wetlands on the site in order to reduce the risk of environmental contamination from any BESS fires. The application does not show the location of the BESS units in its site maps, and therefore it is impossible to see where in the site the BESS units will be located. They should also be located far away from any nearby dwellings.

From the Tesla NZ Website, each one of the 32 Tesla Megapacks proposed for installation is able to store 39MWh of energy. From scientific studies, a fire in just one of these Megapacks would lead to between 78kg and 780kg of hydrogen fluoride to be released (depending on the battery state of charge)*. This is because the quantity of hydrogen fluoride produced is proportional to the storage capacity of the battery banks. The addition of water to lithium ion battery fires does not alter the total amount of hydrogen fluoride produced. The usual prevailing wind direction at the site is not mentioned in the application anywhere and needs to be known to assess the risk to the nearby towns and the site wetlands. The immediate dangerous to life or health (IDLH) level for HF is 0.025 g/m³ (30 ppm) and the lethal 10 minutes HF toxicity value (AEGL-3) is 0.0139 g/m³ (170 ppm)*. In addition, when water is used on lithium ion battery fires, hydrofluoric acid is formed*, so there would need to be a way of ensuring that this toxic substance did not enter

the on-site wetlands.

(* Larsson, Fredrik & Andersson, Petra & Blomqvist, Per & Mellander, B.-E. (2017). Toxic fluoride gas emissions from lithium-ion battery fires. Scientific Reports. 7. 10.1038/s41598-017-09784-z.)

In 2019 in Arizona, four firefighters sustained serious injuries from a BESS unit fire.

There would need to be some assessment as to whether local medical facilities are able to offer adequate trauma treatment for hydrogen fluoride burn victims, if a battery fire does cause burns to somebody. It is important that hydrogen fluoride burn victims may not be able to get treatment promptly.

2. Wetland Area Preservation. I oppose the proposal to allow the solar panels to be located up to 10m away from the two larger wetlands with indigenous vegetation. The standard distance in the RMA is 20m, and this would be far more acceptable. One reason for this view is that if the panels are damaged in a storm, then there is less likelihood of significant amounts of broken solar panels entering the wetlands. In 2024, a solar farm in Llanbadrig, UK, was severely damaged in a storm with hundreds of panels thrown off their mountings. The other reason for my view is that I am concerned about the effects the reflections of the solar panels may have on insects and birds. There has not been a lot of scientific research into such effects.

3. Noise. The application is misleading, in that it brushes over the fact that the transformers will be run in reverse charging the BESS unit batteries overnight from the cheap power that is available at that time of day on the grid. The energy stored at nighttime will then be sold back to the grid during the morning peak (approximately 7am - 9am). And therefore, the transformers, inverters and batteries will be making some noise overnight.

In addition, the climate is stated to not be hot at this location. However, the average maximum daily temperature in January and February is 25 degrees, and 30 degree days are common. In addition, temperatures are likely to continue to increase due to global warming. The fans on the transformers, inverters and BESS units are likely to be running faster (and therefore generating more noise) when the ambient temperature is higher and when there is more power flow through the equipment (or in the case of the BESS units, when charging and discharging is occurring).

The proposal states that the noise levels will need to be worked out during the design stage, however I feel that it

is very important that the noise levels stay within the district plan limits. In addition, it is overly difficult for people to oppose any non-complying noise levels when they are not adequately calculated or summarised at this Resource Consent documentation stage.

4. Landscape Values. This proposed solar farm is located in a popular tourist area, being located close to the historic settlement of Naseby and close to the Central Otago rail trail. The area has a lovely quiet rural feel, and the landscape will be changed dramatically by the installation of the solar farm.

5. Naseby Dark Sky Status. There has been no assessment in the proposal as to whether the reflectivity of the solar panels at night will impact on the Naseby Dark Sky Status. The application for Dark Sky Status at Naseby was submitted to the Environment Court in August of this year, but I am not aware of the current status of this. Because the solar installation is so large, I suspect there may be some effect, but as this has not been assessed I do not know.

[Photos of Welsh Solar Farm after storm - which is relevant to the distance they are placed from the larger two wetlands.docx](#) (316 kb)

I seek the following decision from the consent authority.

Give precise details, including the general nature of any conditions sought

That the solar farm and battery proposal is not accepted, due to the lack of relevant environmental and operational information, and the impact it will have to the landscape and Naseby Dark Sky Status. The environmental information relates to the risk of hydrogen fluoride gas in the event of a BESS fire. The operational information relates to information not being available about charging of the BESS units overnight and the noise that the transformers, inverters and BESS units will emit overnight during the battery charging operations (when charging from the grid using cheaper off-peak rates). There is also no consideration of the Naseby Dark Sky status application.

If it does end up going ahead anyway, then distances to the main two wetlands should be increased to 20m, as per the standard RMA distance. Also, in the case it does go ahead, it would be desirable to reduce the number of BESS units to reduce the likelihood of fire and therefore the resulting risk to the towns of Naseby and Ranfurly from hydrogen fluoride gas. And also ensure that the BESS units are situated as far as possible from the wetlands and nearby dwellings. They would also need to ensure that water used to firefight BESS fires is not able to drain into the wetlands or any other waterways.

Select below - Pursuant to [section 100A](#) of the Act, that you delegate your functions, powers, and duties to hear and decide the application to 1 or more hearings commissioners who are not members of the local I do not request

authority. "See note 4 (second tab) as you may incur costs relating to this request."

Any other comments?

In lodging this submission, I understand that my submission, including contact details, are considered public information, and will be made available and published as part of this process.

Yes

Please sign (click on the words CAPTURE)

A handwritten signature in black ink, appearing to be 'S. P. King', written over a light blue horizontal line.

Date signed:

19/12/2024

Photos are from the following source:

[Storm Darragh leaves UK solar farm in pieces in blow to green energy | Daily Mail Online](#)



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