

Submission on Application
Development Act 1993
Section 46B – Environmental Impact Statement – Major Development

Scan and email to spcreps@sa.gov.au or post to Minister for Planning and Local Government, GPO Box 1815, Adelaide SA 5000

Applicant:	SouthernLaunch.Space Pty Ltd
Development Number:	932/P007/19
Nature of Development:	Whalers Way Orbital Launch Complex Proposal
Assessment Level:	Environmental Impact Statement
Subject Land:	Lot 101 Right Whale Road, Sleaford
Phone Number:	1800 752 664
Close Date:	16 September 2021

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Affected property (if different from postal address)	
<i>You may be contacted by your nominated method of contact for further clarification or notification of a decision.</i>	
My interests are (tick or circle):	Owner of local property
	Occupier of local property
	A representative of a company/other organisation affected by the proposal
	A private citizen
Other:	The Nature Conservation Society of SA (NCSSA), a community organisation dedicated to nature conservation

**Submissions will be made available for public inspection on the PlanSA Portal and will be addressed in the proponent's Response Document (to be released for public information at a later date).

The aspects of the proposal I wish to make comment on are (add pages as required):

The Nature Conservation Society of SA (NCSSA) has been concerned about the proposed developed of a rocket launching facility in the nature conservation area of Whalers Way since becoming aware of it in September 2020.

The NCSSA visited the site in April 2021, hosted by the applicant, to better understand what was planned. Further details about the proposal are now available through the public exhibition of the Environmental Impact Statement (EIS).

On reviewing the EIS, the NCSSA believes this development application should be **refused** given the extent, nature and significance of expected environmental impacts. They are, on balance, **unacceptable**, even when taking into account the proposed "mitigation" strategies.

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The EIS repeatedly understates and misrepresents the likely environmental impacts of this proposed development as they relate to nature conservation, and it does not deal adequately with the critical risks identified in the *Guidelines for the preparation of an Environmental Impact Statement: Whalers Way Orbital Launch Complex* (the *Guidelines*).

An independent review of possible locations for this facility is required

The State Planning Commission should commission an **independent review of possible locations** for this launch complex. Siting this development in a more appropriate location would avoid many of the problematic environmental issues detailed in the EIS.

The NCSSA understands an independent review of possible locations was undertaken to support the assessment of the development application for the Kangaroo Island Timber Port.

The EIS states that ‘Whalers Way was identified as the preferred location of the launch complex through an extensive review of potential locations across Australia, undertaken by Southern Launch’.

The EIS then provides some details of this ‘extensive review’ and lists the key requirements of potential sites. Apparently, one of the criteria was the site being ‘assessed as not having an unreasonable impact on environmental values, including threatened species’ (page 142).

However, the resulting proposal from the applicant is for a facility that will sit right on top of an important population of the threatened Southern Emu-Wren (Eyre Peninsula), of which there are thought to be less than a total of 1000 individuals known from just a handful of sites on Eyre Peninsula, as well as negatively impacting on a range of other threatened species.



Southern Emu-Wren (Eyre Peninsula). Photo by Dion Thompson

This result may be explained, at least in part, by the applicant’s view that “whilst a basic understanding of environmental values can be gained from a high-level review of a site, a detailed understanding can only be gained from a more detailed ecological investigation, including on-site investigations” (page 143).

The NCSSA disputes this statement, since Whalers Way’s value as a nature conservation area is obvious even to the casual visitor (from the ‘welcome to the Wilderness Park’ signage). Its status at a formally protected Heritage Agreement, as well as its importance as habitat for threatened species recognised at both the state and national levels, can be gained from searching easily accessible, publicly available databases.

In the EIS, the applicant has ruled out large areas of the southern Australian coastline by stating that ‘it is important that the site is within commuting distance, defined as one (1) hour, from an appropriately sized service centre’ (page 144). Effectively, this rules out any ‘remote’ location, a decision which the NCSSA believes requires further review since current rocket launch facilities in SA operate successfully located in areas remote from human populations, including the Koonibba facility operated by this applicant.

The significance of the ‘occlusion’ of launch trajectories, a key reason many other potential sites were ruled out, including Portland in Victoria and Cape Jervis in SA, needs to be reviewed by suitably qualified, independent experts.

Even if only considering potential sites on the Eyre Peninsula, the argument presented in the EIS against ‘hypothetical site 1’, immediately north of Whalers Way, is unconvincing (Figure 1). It was ruled out due to occlusion caused by the nearby windfarm, which appears minor particularly when compared with the launch angles provided elsewhere in the EIS (Figure 2). The other stated reason was because Whalers Way would need to be cleared for launches, which is the case for the current site selection.

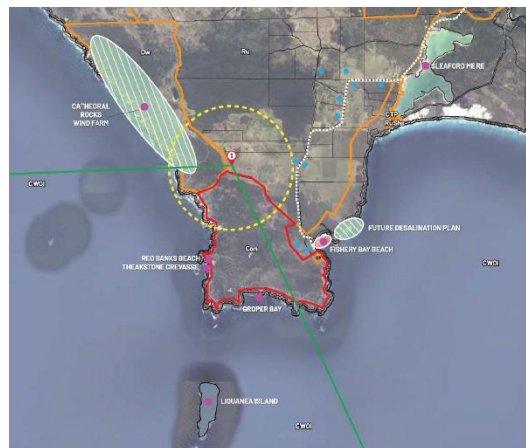


Figure 1. Hypothetical site 1, as mapped in the EIS (page 161), showing minor occlusion of launch trajectories due to Cathedral Rocks Windfarm

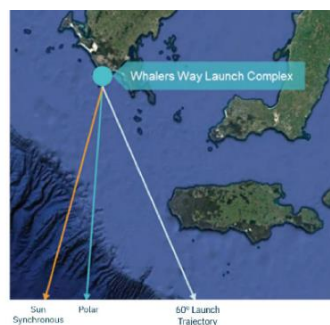


Figure 2. Launch angles as provided on page 44 of the EIS

These statements from the EIS underscore the need for independent review of alternatives:

‘The clearance of 23.76 hectares to enable the Project to proceed has been balanced with the need to undertake the Project, and the lack of suitable alternative sites on which the impacts would be less’, and

‘Proceeding with the Project in another location would result in the removal of the direct, indirect, and induced impacts of the proposal on this locality and would result in these impacts occurring elsewhere.’

This would only be the case if another, equally environmentally sensitive site, were selected. An **independent review** of the applicant’s site selection process, undertaken by suitably qualified individuals that can critique both the launch related issues such as occlusion as well as better identify and prioritise environmental values at potential sites, is therefore clearly required.

Impacts on protected native vegetation unacceptable

The NCSSA believes the impacts on native vegetation at the site, coupled with the precedent it would set for clearing land formally protected as a Heritage Agreement, render this development application unacceptable.

Whalers Way is formally protected as a Heritage Agreement under the *Native Vegetation Act 1991*. Heritage Agreements, held by over 1600 landowners in South Australia, represent a long-term commitment to protect a given area for nature conservation. Recently, the Marshall Government has invested in the revitalisation of the Heritage Agreement program¹.

Excising areas from a Heritage Agreement to allow for the construction of a major industrial facility therefore sets a dangerous planning precedent.

The areas to be excised from the Heritage Agreement to facilitate this development application are, in the majority, good quality native vegetation. This particularly the case for proposed Launch Site A, which is intact, coastal heath currently providing habitat for threatened species.

The EIS consistently misrepresents the impact of the application on the Heritage Agreement, for example by stating:

‘The site was largely covered with remnant vegetation, however previous recreational uses had resulted in some degraded areas of vegetation. The site was the subject of a Heritage Agreement; however, some areas of the site were specifically excluded from the agreement. (page 154)’

Whilst there are some areas of degradation within the Heritage Agreement, the sites selected for this development do not correspond with them, apart from the proposed Site D. The areas selected also do not correspond with the current exclusions, which the NCSSA agrees are not logical from a conservation perspective.

The NCSSA understands that ‘in principle’ agreement has been given to amend the Heritage Agreement to facilitate the development. The EIS is inadequate because it does not ‘identify any changes required to the Native Vegetation Heritage Agreement’ in any detail, as required by the *Guidelines*. It does not contain a map of the proposed amended Heritage Agreement, outlining the areas to be excised from protection to facilitate the development and the areas that will be ‘added’ to the Agreement.

¹ <https://www.environment.sa.gov.au/topics/native-vegetation/protecting-enhancing/heritage-agreements>

In any event, changing lines on a map to 'protect' areas currently not 'protected' is meaningless for nature conservation if the net effect is loss of native vegetation and habitat for threatened wildlife, which it will be if this development application is approved.

The EIS also understates the impact on the vegetation by misleadingly qualifying the indisputable impacts, as follows (qualifications emphasised):

'Clearance and project activities have the potential to result in a variety of impacts that may affect the condition of native vegetation on the site in both the short and long term. These impacts include direct loss of vegetation through clearance; degradation of vegetation condition through indirect impacts such as edge effects, habitat fragmentation, irrigation effects, and dispersal of pest plants; and fire risk.'

Native vegetation will be lost and degraded by this development through the processes identified.

The NCSSA believes that the native vegetation clearance required for the development has been underestimated, since the statement "the Project will require clearing 23.76 hectares of native vegetation for construction including launch pads, access tracks and associated laydown areas" does not seem to account for all clearance that will be required at the site, including for temporary construction zones and for adequate bushfire protection.

It is also misleading to state, as the EIS does, that:

'The Project Area has been refined during the design phase to reduce the amount of native vegetation to be cleared in areas of lower condition rating as far as practicable.'

Rather, it would seem the number of proposed launch pads has been reduced from the concept map issued in the *Guidelines* from 6 to 2 at this time. However, the applicant clearly intends to further develop the Launch Complex, which will result in further clearance in future.

The current siting will impact vegetation that is in high condition as the applicant has deemed is 'not practicable' to avoid these areas.

Impacts on threatened species unacceptable

As stated in the EIS in relation to the Southern Emu-Wren (Eyre Peninsula), 'the highest frequency and broadest geographical section for critical habitat is found in the south-western section of Whalers Way near the Launch Site A'. In other words, Launch Site A is proposed for the location where the most records for the Southern Emu-Wren (Eyre Peninsula) at Whalers Way have been made, meaning it represents prime habitat and a 'hotspot' for this important population.

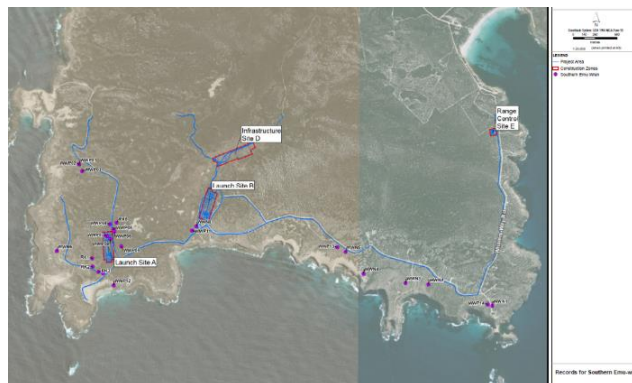


Figure 3. Figure 6 from Attachment P: Terrestrial Biodiversity Technical Report, showing Southern Emu-Wren records relative to the proposed Site A



Figure 4. Close up of Figure 6 from Attachment P: Terrestrial Biodiversity Technical Report, showing Southern Emu-Wren records relative to the proposed Site A

This siting is in direct contravention of the recommendation from the proponent’s own consultant’s report as included in the EIS, which stated:

“In the first instance, it is recommended that avoidance of all critical habitat for Southern Emu-Wren is prioritised due to the low distribution and narrow band of habitat available”.

If the siting of Launch Pad A cannot be amended by the applicant, the development application should be **refused outright** since it will have an unacceptable impact on the threatened Southern Emu-Wren (Eyre Peninsula) population at Whalers Way. The combination of direct habitat clearance for the launch pad infrastructure with the likely high impact of launch noise on this shy and secretive species will render a large portion of Whalers Way completely uninhabitable for this bird.

The EIS comes close to briefly acknowledging this by stating (emphasis added):

“A total of 18 individuals were recorded within the Project Footprint during the targeted survey and it is estimated the overall population is under 100 individuals in the Whalers Way area from Cape Wiles to Cape Carnot making the Whalers Way Peninsula population tenuous to the impacts detailed in preceding sections”

The EIS does not quantify well the expected impact of launch noise on any of the threatened species at the site and particularly over-emphasises uncertainty regarding the likely impact of rocket noise on birds.

The EIS states that:

‘Rocket launch and testing events have the greatest potential to disturb and cause an adverse physiological or behavioural impact on the local wildlife. Noise levels above the measured ambient level at distances further than 5.0 kilometres from the launch are predicted. 140 dB(A) has been identified by AECOM as the permanent hearing damage threshold for wildlife. No wildlife is predicted to be exposed to these levels.’

Permanent hearing loss is only one issue for wildlife. Far more worrying is the prediction of launch noise causing disturbance to wildlife over several kilometres. As the EIS points out, high levels of noise disturbance will cause sudden nest abandonment leading to a loss of eggs or chicks through breakage, trampling, chilling, and predation. This means a large area of Whalers Way will become unsuitable for breeding, particularly as the number of launches increases to the planned 42 per year.

For the Southern Emu-Wren, the EIS states:

‘The Southern Emu Wren (Eyre Peninsula) is sensitive to discrete, unpredictable disturbances such as sudden loud noises that can cause physiological effects, such as stress, avoidance and fright-flight responses. The Project is likely to reduce the area of occupancy for this species’.

However, the EIS understates the likely impact for another threatened bird at the site, the Western Whipbird, by stating that:

‘Noise may displace individual Western Whipbird (eastern) species in the area. These impacts are anticipated to be localised and of short duration therefore should not reduce the area of occupancy for an extended period in the local vicinity.’ (page 337).

There is no evidence presented to support that statement, and it contradicts the statement which immediately follows:

‘Although there is suitable habitat and known populations in nearby national parks the potential operational noise impacts has the potential to lead to a long-term decrease in the size of the population of a species.’ (page 338).

The EIS understates the impact of fragmentation that will result for the threatened species at the site from the development, by stating:

‘Vegetation clearance may result in fragmentation of habitat. The habitat in the local area is contiguous and provides ample connectivity across Whalers Way. Most species in Whalers Way are mobile and able to traverse the distance of cleared areas. Fragmentation is therefore considered limited and unlikely to be considered significant’.

Fragmentation of habitat is a major impact that will result if this development application is approved and is one of the key threats to the threatened bird species at the site.

The NCSSA notes that conservation status of the Southern Emu-Wren (Eyre Peninsula) and the Western Whipbird should be ‘endangered’ rather than ‘vulnerable’, a higher category of threat, according to the latest assessment in the Action Plan for Australian Birds 2020 (by Stephen Garnett and Barry Baker)².

The NCSSA is deeply concerned that this development application, if approved, would also impede the recovery of the endangered White-bellied Sea Eagle and Eastern Osprey, and negatively impact endangered Australian Sea Lions and Southern Right Whales in the near area.

The NCSSA does not agree with the statement in the EIS that:

‘The management of public access and recreational activity on the site arising from the Project will eliminate the historical dumping of waste left on the site for extended periods, which is a major cause of attracting pest fauna species. The Project should therefore have a positive effect in reducing the distribution of pest fauna species in the area’.

Whilst preventing further dumping of waste and removing dumped waste from Whalers Way is desirable, the extent to which this waste currently harbours pests is questionable. Setting

² <https://www.publish.csiro.au/book/7905/>

up facilities that include accommodation for staff, and the associated waste disposal issues, may in itself attract pests.

Mitigation strategies and 'offset' commitments inadequate

The NCSSA believes that the 'mitigation strategies' outlined in the EIS are inadequate. True mitigation for this development application would be to select a less environmentally sensitive site since there is no feasible way to 'replace' the important habitat for threatened species that will be destroyed and damaged.

No specific plans are presented regarding how the company will "offset" the impact of this proposal and the scant information available is inaccurate and unacceptable. For example, this EIS does not provide any detail as to how 'offsets' to the full range of State listed species that will be impacted, simply stating:

'Direct impacts to State listed species are to be offset through a biodiversity offset program developed in accordance with NVC.'

Inaccurately, the EIS states that "Most impacts are constrained to areas immediately surrounding the Project Footprint and their impact can be offset through appropriate mitigation and management strategies". This is clearly not the case since the impacts of noise and vibration on threatened species will impact animals several kilometres from the launch site.

The EIS documents a calculation of the Significant Environmental Benefit, which is required for clearance under the *Native Vegetation Act 1991*. The NCSSA disputes that the figure of \$965,047.76 is correct. The 'loading' which should be applied to this calculation, designed to increase the cost of clearing recognised conservation areas like Whalers Way, has been removed from the formula, as stated on page 296 of the EIS. The applicant has justified this due to the 'in principle' agreement to excise the areas identified by the applicant as needed for this development applicant, from the Heritage Agreement. This is deceptive, pre-emptive and unacceptable.

The Native Vegetation Data Report (Appendix Q) briefly mentions a predator proof fence to allow for the eradication of cats and foxes from Whalers Way, however, no firm commitment has been made or legal requirement to deliver on this plan has been established.

Fire risk unacceptable

The NCSSA believes that the risk of bushfire at this high-risk site has been inadequately addressed, and therefore the development application should not be approved.

Firstly, there does not seem to have been a step in the assessment process where the question "is this an appropriate development for a high bushfire risk site?" has been asked. It is therefore incumbent on the State Planning Commission to ask that question, and bear in mind the increasing risks and lengthening fire seasons expected with an increasingly changed climate regime. The legal responsibility for any escaped fire, and its impacts on life and property, should also be considered.

Secondly, it is unacceptable for the Bushfire Management Plan for the development to have been redacted prior to public consultation, especially given that the applicant intends to rely on volunteer fire fighting resources that would otherwise be available to the community.

The EIS seems to suggest that managing fire at the site is merely a matter of responding to any unplanned ignition, as indicated by the following paragraph:

5.9.2.5 Bushfire Management Plan

A specific Bushfire Management Plan has been drafted and is included within the Emergency Management Plan. This plan will outline what actions are to occur and what arrangements for seeking refuge, evacuation and relocation are available. It will also highlight potential issues to be considered when taking appropriate action in the event of a bushfire approaching the site.

However, this fails to recognise the full range of requirements relating to bushfire, including preventing ignition from launches as well as other activities that will take place at the site (like construction, grinding etc), it does not address that a failed launch or a launch that is only partially successful presents a serious fire risk and it omits the need for 'asset protection' that will be established if structures are permitted in this high-risk area.

The NCCSA is aware of other developments where limited asset protection was undertaken initially, and this was heralded as minimising vegetation clearance, but subsequently asset protection zones were established. Ultimately, these zones were inadequate in any event and the structures were burnt to the ground in 2019 (Figure 5).

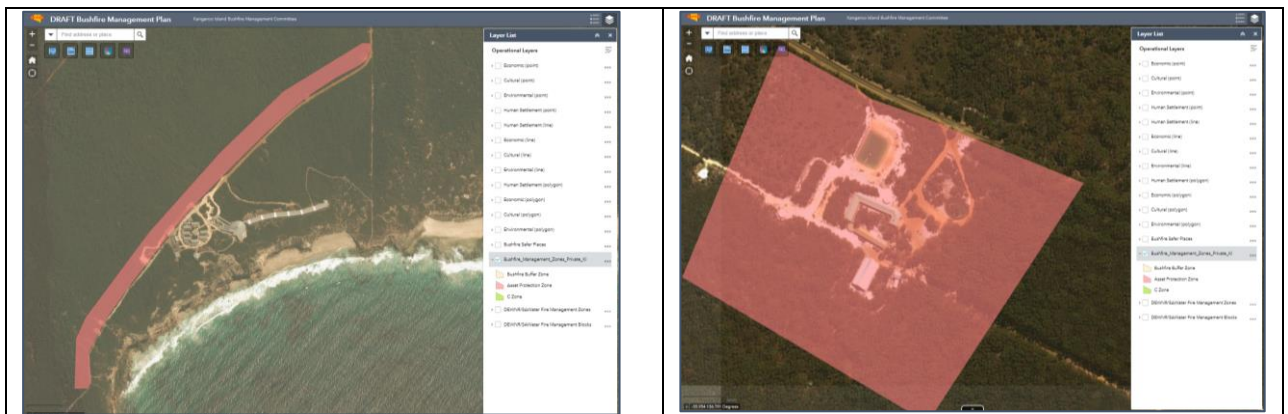


Figure 5. The Southern Ocean Lodge (left) and KI Wilderness Retreat (right), showing asset protection zones that were added post-approval. Both these structures were burnt in the 2019 fire.

The approach to asset protection outlined in the EIS is totally inadequate. A 5 metre buffer or setback area is not sufficient to protect any structure, nor is it sufficient to protect native vegetation from fire ignitions from building or site activities. Typically, according to the South Australian *Fire Management Zone Standard and Guidance for Use 2020*, the defensible space around an occupied structure is 20 metres without any approval required, and can be up to 100 metres.

The NCCSA therefore believes that clearance of native vegetation will be far greater once the true requirements for asset protection are identified.

The risk to wildlife from bushfire resulting from this development application has not been accurately identified, as required under 3.4 of the *Guidelines*. Bushfire is a critical risk, particularly to the threatened fauna at the site. A population of the Southern Emu-Wren (Eyre Peninsula) was completely wiped out by a fire in the Koppio Hills in 2005. The Western Whipbird is also thought to be fire sensitive, and much of its habitat in Lincoln National Park was burnt in 2015³.

It is also disingenuous to characterise clearance along fence lines as:

“Firebreaks incorporated along fences to protect and mitigate one of the primary threats to EPBC listed species present.” (page 297)

³ <https://www.abc.net.au/news/2015-10-06/lincoln-national-park-closed-to-new-visitors-as-fire-burns/6829868>

... since this clearance would be inadequate for bushfire control and simply represents greater habitat loss for these species from the development application.

Further expansion

There is a clear desire to expand this facility in future, should this initial development application be approved, as stated in the EIS:

‘The precise nature and design of additional launch facilities is still under evaluation at this time, and subject to emerging technologies and market requirements. Any future facilities beyond those detailed in this EIS will be the subject to a further application and assessment process, subject to relevant regulatory requirements, at the time they are proposed in future.’

Therefore, if this development application is approved, it is highly likely that the applicant will seek to expand in future, which will increase and exacerbate the impact and threats to nature at this sensitive site.

Inconsistent with relevant planning policy

This development is clearly inconsistent with the relevant planning policy for this area, rather than ‘substantially compliant’, as the EIS states.

For example, the provisions of the Conservation Zone are:

“The conservation and enhancement of the natural environment and natural ecological processes for their historic, scientific, landscape, faunal habitat, biodiversity, carbon storage and cultural values and provision of opportunities for the public to experience these through low-impact recreational and tourism development.”

This development will negatively impact on the natural environment and will prevent the low-impact visitation currently taking place.

It is also inconsistent with the Hazards (Bushfire - High Risk) Overlay, which seeks to:

‘ensure development responds to the high level of bushfire risk by siting and designing buildings to mitigate threat and impact of bushfires on life and property, facilitating access for emergency service vehicles and situating activities that increase the number of people living and working in the area away from areas of unacceptable bushfire risk.’

This development application would clearly increase the number of people working in an area of unacceptable bushfire risk.

It is also inconsistent with the State Significant Native Vegetation Overlay, which seeks to ‘protect, retain, and restore significant areas of native vegetation’, such as that found at Whalers Way.

More broadly, the *Planning, Development and Infrastructure Act 2016* aims to support the State’s liveability and prosperity ‘in ways that are ecologically sustainable...’. This proposal is not ecologically sustainable, as it will have unacceptable and permanent impacts on nature at Whalers Way.

Particularly, approval of this development would be inconsistent with the State Planning Policy for Biodiversity⁴, which seeks to:

'Minimise impacts of development on areas with recognised natural character and values, such as native vegetation and critical habitat so that critical life-supporting functions to our state can be maintained.'

The native vegetation of Whalers Way, which provides critical habitat for the Southern Emu-Wren and other threatened species, would be protected from the impact of this development by the selection of a more appropriate site.

'Test' launches from 'temporary' facility have not yet taken place

In June 2021, the State Planning Assessment Panel gave the applicant permission to construct a 'temporary' launch pad and fire up to three 'test' rockets.

In granting approval for the "tests", the SCAP was advised that 'the specific and limited purpose of the development is to inform the Environmental Impact Statement (and the validation of current modelling) under a major development process'.

However, the EIS has been released prior to the 'tests' taking place.

The applicant themselves identified that, without validation, computational modelling of the likely impacts on wildlife of launch noise suggests the development should be refused by stating in their application documentation for the 'temporary' facility:

Should the State Government apply the precautionary principle, a reliance on computational modelling to determine the impacts on local fauna without empirical validation may result in the proposed development being refused, or further empirical validation details being requested (which may ultimately require a test campaign) before a decision can be made and the proposal.

The NCSSA believes no further consideration of this major development application should be made until the 'tests' are concluded and the data made publicly available for independent review.

At the time of writing (Thursday 16 September 2021), two failed attempts of the first 'test' launch had occurred. The second, recorded at 2:18pm on Wednesday 15 September, concluded in a huge plume of smoke. This is further evidence of the danger of experimental, explosive technology in a fragile conservation area that is at high bushfire risk.

Summary

The NCSSA believes this development application should be refused because:

- The impacts on protected native vegetation will be unacceptable, and it will set a dangerous planning precedent for other Heritage Agreements holders in South Australia,
- The impacts on threatened species will be unacceptable, particularly for the Southern Emu-Wren and Western Whipbird, as well as a range of other threatened species at the site,

⁴ https://plan.sa.gov.au/data/assets/pdf_file/0005/552884/State_Planning_Policies_for_South_Australia_-_23_May_2019.pdf

- The mitigation strategies and 'offset' commitments put forward in the EIS are inadequate,
- The development presents an unacceptable bushfire risk,
- The high likelihood of further expansion will further damage the fragile environment and threatened species at Whalers Way, and
- It is inconsistent with relevant planning policy.

The NCSSA notes that 'test' launches from 'temporary' facility have not yet taken place, despite having been approved for the specific purpose of informing the EIS.

If consideration of the development application is to continue, the State Planning Commission should commission an **independent review of possible locations** for such a launch complex.