



# ENGAGEMENT DOCUMENT

Stage 3 Engage

ADS-B for the LRMZ  
CAP 1616 – Airspace Change Proposal  
ACP-2023-006

Land's End Airport

# Contents

- i. Glossary of Terms ..... 2
- 1. Introduction ..... 3
- 2. Overview ..... 3
- 3. Why do we need a change? ..... 3
- 4. Stakeholders ..... 5
- 5. Justification and Objectives Summary ..... 5
- 6. Options for Engagement ..... 5
- 7. Current Airspace: The Do-Nothing Option..... 6
- 8. Proposed Option – Combined RMZ and ADS-B TMZ for the LRMZ ..... 6
- 9. Qualitative Assessment of Impacts ..... 7
- 10. How to respond to this engagement ..... 8
- 11. Reversion Statement ..... 9
- 12. Compliance with the Airspace Change Process ..... 9
- 13. What happens Next?..... 10
- Appendix A..... 11
- Appendix B..... 12

## i. Glossary of Terms

ACP	Airspace Change Proposal
ADS-B	Automatic Dependant Surveillance – Broadcast
AIAA	Area of Intense Aerial Activity
AMS	Airspace Modernisation Strategy
ATC	Air Traffic Control
ATCU	Air Traffic Control Unit
CAA	Civil Aviation Authority
EFB	Electronic Flight Bag
eVTOL	Electric Vertical Take-off and Landing
FID	Flight Information Display
GA	General Aviation
LRMZ	Land’s End Radio Mandatory Zone
MOD	Ministry of Defence
NOTAM	Notice To Aviation
IFR	Instrument Flight Rules
PinS	Point in Space
RMZ	Radio Mandatory Zone
RNAS	Royal Naval Air Station
RNAV	Area Navigation
SAR	Search and Rescue
SSR	Secondary Surveillance Radar
TCAS	Traffic Collision Avoidance System
TMZ	Transponder Mandatory Zone
UAV	Unmanned Aerial Vehicle

# 1. Introduction

- 1.1. This document forms part of the document set required in accordance with the requirements of CAP1616 airspace change process.
- 1.2. For previous stages of the airspace change process, including the statement of need and design options, please see the [CAA Airspace Change Portal](#) detailing the progress of this proposal.
- 1.3. Although many of our stakeholders are well versed in aviation matters there are also many that are not and so we intend to issue engagement documents in plain English.

## 2. Overview

- 2.1. This airspace change proposal (ACP) is sponsored by Land's End Airport Ltd, the author of this document, and supported by St. Mary's Airport and Penzance Heliport who are both situated within the Land's End Radio Mandatory Zone (LRMZ). Whenever the term Sponsor is used in this document it is referring to Land's End Airport Ltd.
- 2.2. The sponsor intends to introduce a change to the LRMZ to improve safety standards.
- 2.3. The proposal is related to improving the safety of the airspace and not about stimulating new traffic or altering any existing routes.
- 2.4. The purpose of this document is to provide information to stakeholders and allow them to respond effectively.
- 2.5. The sponsor is seeking feedback from stakeholders who may be affected by the proposal. This is likely to primarily be users of the airspace and other aviation stakeholders. However, feedback is welcomed from any interested parties.
- 2.6. You have the opportunity to provide relevant feedback, which may conflict with that of other stakeholders. After the engagement has ended, we will consider all your feedback and produce the final design proposal, which may differ from those described in this document.
- 2.7. You have a crucial role in providing significant and timely feedback to us in the form of your views and opinions on the impact the proposal might have on your operation, as well as any mitigations you might suggest, supported by evidence where possible.
- 2.8. We intend to conduct this engagement over an 8-week period, starting on Wednesday 26<sup>th</sup> June 2024. We consider this an adequate period considering the mainly technical nature of the proposal and the lack of environmental impact.

## 3. Why do we need a change?

- 3.1. The LRMZ airspace can be a busy environment - Land's End Airport recorded nearly 13,000 air traffic movements in 2023 - averaging nearly 1,600 a month between May and September. In addition, St. Mary's Airport recorded almost 9,000 movements and there were approximately 3,500 Penzance Helicopter movements. All these movements are funnelled into a narrow corridor that is only 4,000ft in its vertical extent.
- 3.2. Many different types of operators, using a variety of aircraft, use the airspace. Users include Commercial Air Transport (CAT) operators Skybus and Penzance Helicopters - both based within the LRMZ; Military aircraft primarily from nearby RNAS Culdrose; SAR (Search and Rescue) & Helimed; Trinity House; Air Charters; GA (General Aviation - locally, domestically, and internationally based) with a range of pilot experience levels. An ADS-B TMZ would provide the best possible protection to the regular scheduled CAT aircraft movements (approx. 10,000pa), at a sustainable cost.

- 3.3. The LRMZ requires aircraft to be in two-way radio contact before entering the airspace. The ATS providers knowledge of the location of aircraft within the airspace, is dependent on the accuracy of reporting by the individual users – it is known from pilot and ATCO observations that these position reports can be inaccurate. The accuracy of pilots reporting can be affected by many factors including weather conditions, experience levels, pilot workload and familiarity with local area and airspace. An ADS-B TMZ would increase the confidence of position reports, allowing ATS providers to give more accurate and complete traffic information reducing the chance of the risk of a mid-air collision or a CFIT (Controlled Flight Into Terrain) incident. In addition, any aircraft infringing the LRMZ and not talking to the required Controlling Authorities, may be detected (if EC equipped) and other traffic warned.
- 3.4. Airspace users fitted with systems capable of ADS-B In, such as TCAS, would have a more complete air traffic picture. TCAS can obtain the target's position and velocity information directly broadcasted from the ADS-B and determine whether the target aircraft enters into the TA (Traffic Advisory) or RA (Resolution Advisory) protected areas.
- 3.5. The CAA have published an [Airspace Modernisation Strategy](#) in which they detail the ways in which airspace within the United Kingdom may be improved and modernised in line with government expectations and requirements. Within this document there is a section regarding uncontrolled airspace and the initiative for encouraging more aircraft to utilise electronic conspicuity. Aircraft carrying and utilising transponders features in this initiative and so introducing a TMZ to the existing RMZ would increase safety levels and complement the CAA Airspace Modernisation Strategy (AMS). The CAA has recently updated policies to allow the introduction of TMZ's based on ADS-B rather than more established Secondary Surveillance Radar (SSR) equipment with Mode S.
- 3.6. The reduced cost of ADS-B transponders compared to SSR Mode S along with the availability of self-contained & self-powered units such as SkyEcho 2, means that electronic conspicuity is much more accessible to all users and aircraft types.
- 3.7. In a CAA survey, 89% of 1,600 pilots thought Electronic Conspicuity, such as ADS-B, would benefit safety ([CAA Clued-Up, Autumn 202, Page 4](#)).
- 3.8. With many pilots often stating that “My Lookout is Pretty Good”, detailed research was conducted in the USA. The research found that when pilots used an Electronic Conspicuity device, they were 8x more likely to spot a conflicting aircraft ([CAA Clued-Up, Autumn 202, Page 6](#)).
- 3.9. There are several Instrument Approaches situated within the existing LRMZ. An ADS-B TMZ would assist ATS staff with an enhanced awareness of the position of any traffic using the Instrument Approach – particularly in poor or marginal weather conditions. This information would better inform other airspace users as well as to give confidence to ATS staff that the aircraft was following the correct/expected flight-path.
- 3.10. An ADS-B TMZ could also allow the integration of new aircraft, including Remotely Piloted Aircraft Systems (RPAS), within the airspace. One of the requirements to fly BVLOS (Beyond Visual Line of Sight) is to utilise an approved DAA (Detect And Avoid) system. It is widely acknowledged that to achieve this requirement, the use of EC devices (such as ADS-B) will be necessary, and a Trial is in development for this airspace using the CAA TRA (Temporary Reserved Area) Policy Concept (CAP2540). The use of RPAS has the potential to improve the life-line logistics and connection to the Isles of Scilly.

## 4. Stakeholders

- 4.1. Stakeholders are third party organisations or individuals that have an interest in the airspace change proposal.
- 4.2. Land's End has identified a number of different organisations and individuals as stakeholders. Some of these would not ordinarily have contact with an airport but have been included to ensure that they have an opportunity to have their voices heard regarding the proposed change. Given the high-profile nature of the lifeline link between Land's End Airport and the Isle of Scilly we felt it was important for as many potentially interested parties to be identified and included in the engagement process.
- 4.3. Although there is no change to the environmental impact of aviation from the proposed change environmental organisations have also been included as stakeholders.
- 4.4. A list of identified stakeholders can be found in Appendix A of this document.

## 5. Justification and Objectives Summary

- 5.1. The justification for this airspace change is that it has been identified that the safety of the airspace could be enhanced for all users.
- 5.2. The regular CAT movements within the airspace would receive better protection through an enhanced ATC service, enhanced pilot awareness using onboard systems (ie TCAS) reducing the risk of mid-air collisions and CFIT incidents.
- 5.3. Enhance ATC awareness of traffic not apparent via other means by use of a FID, including airspace infringements, and assist in verifying that stated position reports are accurate and are in accordance with ATC instructions.
- 5.4. Provide better protection (via the enhanced ATC service and onboard systems) to aircraft carrying out an Instrument Approach – particularly in poor weather and/or when flying IFR.
- 5.5. Aligns with the CAA Airspace Modernisation Strategy.
- 5.6. An ADS-B TMZ could also allow the integration of new aircraft, including Remotely Piloted Aircraft Systems (RPAS), within the airspace.

## 6. Options for Engagement

- 6.1. The following two options have been identified for engagement for this airspace change process.
  - Do Nothing – We do not prefer this option because it would not address reliance on the accuracy of reported of locations and the risks that it poses.
  - Establish a combined RMZ and ADS-B TMZ for the LRMZ – This is our preferred option as it will provide accurate location information of airspace users to ATC and other users, enhancing the safety of the airspace for all users by removing the risks posed by inaccurate reporting.

## 7. Current Airspace: The Do-Nothing Option

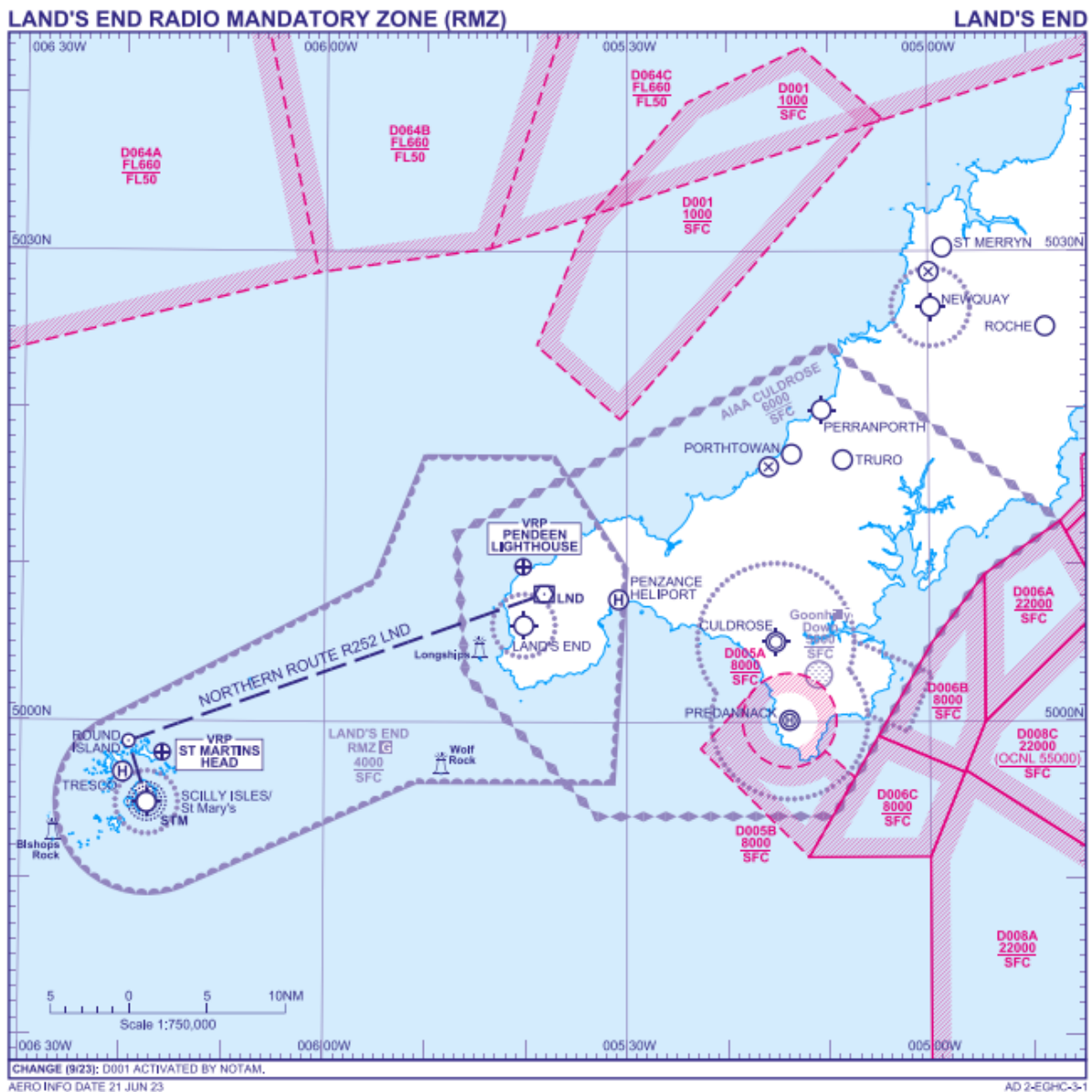


Figure 1 Current LRMZ Airspace

- 7.1. This is the current LRMZ and represents the do-nothing option.
- 7.2. This is the baseline option and does nothing to address the safety risks identified.

## 8. Proposed Option – Combined RMZ and ADS-B TMZ for the LRMZ

- 8.1. The establishment of an RMZ/ADS-B TMZ would mean that the airspace would remain Class G but would mean that any aircraft with ADS-B In capable equipment would receive information from other aircraft to help avoid mid-air collision.
- 8.2. The development of lower cost ADS-B In capable devices, such as those described in CAP1391, that are able to display traffic information when paired with Electronic Flight Bag (EFB) software

running on devices such as tablets, has made electronic conspicuity more accessible to all airspace users.

- 8.3. This proposal option would mean that any aircraft wishing to operate within the LRMZ would have to have adequate 2-way radio equipment and an active ADS-B transponder.
- 8.4. Land's End Airports and St. Mary's Airports ATCU's have begun the process of setting up ADS-B ground stations to provide local real time information for use with Flight Information Displays (FID). They will be following the process to have this equipment approved for operational use.
- 8.5. This proposal could also allow the integration of new aircraft, including Remotely Piloted Aircraft Systems (RPAS), within the airspace. A Trial is in development, led by a third party consortium, for the existing RMZ using the CAA TRA (Temporary Reserved Area) Policy Concept (CAP2540). The use of RPAS has the potential to improve the life-line logistics and connection to the Isles of Scilly.
- 8.6. The TMZ may not need to be active 24/7 and could be promulgated to coincide with the commercial operations of the airports/heliport within the LRMZ.
- 8.7. This proposal will not make any change to the size of the LRMZ.

## 9. Qualitative Assessment of Impacts

### 9.1. Option 1: Do Nothing

Subject	Scale of impact/Benefit	Evidence
Noise	None	No change to flight paths in the LRMZ
Air Quality	None	No change to flight paths in the LRMZ
CO2 Emissions	None	No change to the number of flights in the LRMZ
Capacity	None	No change to the ATC workload
Access	None	No change to the requirements for entering the LRMZ
Safety	None	No change to the safety of the LRMZ

### 9.2. Option 2: Combined RMZ and ADS-B TMZ for the LRMZ

Subject	Scale of impact/Benefit	Evidence
Noise	None	No change to flight paths in the LRMZ
Air Quality	None	No change to flight paths in the LRMZ
CO2 Emissions	Minimal impact, potential long-term benefit	There would be no expected change to the existing traffic, however, the integration of unmanned aircraft as planned by the upcoming CAA TRA would potentially lead to a small increase in traffic, though this would consist of emission free electric aircraft. Medium/Long term, this technology has the potential to decrease CO2 emissions and improve the air-bridge link between the mainland and the Isles of Scilly.



Capacity	None	No expected significant change to ATC workload
Access	Minimal	There may be a small number of aircraft that are not ADS-B out equipped. The sponsor recognises that in order to maintain access for all users, a Non-Equipped Policy will likely be required.
Safety	Enhanced	Unless otherwise agreed, all aircraft will be in 2-way radio communication with ATC before entering the LRMZ and be operating an ADS-B device in accordance with promulgated procedures. All aircraft would be visible to ATC via FID's (subject regulatory approval) and also to other aircraft equipped with ADS-B In capable systems such as TCAS.

## 10. How to respond to this engagement

- 10.1. This engagement begins on Wednesday 26th June 2024 and now ends on Wednesday 4<sup>th</sup> September 2024 – an extension of 2 weeks beyond the initial end date of Wednesday 21st August 2024. This now amounts to a total period of 10 weeks engagement.
- 10.2. All our targeted stakeholders will be emailed a link to the engagement area of the CAA website.

<https://consultations.airspacechange.co.uk/lands-end-airport/ads-b-tmz-for-the-lrmz/>

We expect this online survey to be the primary method of engagement and response gathering.

- 10.3. The engagement is not limited to aviation stakeholders, all interested parties may respond.
- 10.4. If you need a paper copy of the engagement, please write to us at the address below including a stamped self-addressed envelope.
- 10.5. If you wish to respond on paper, please send your letter recorded delivery to the address below as we do not commit to acknowledging receipt. If you require a reply, please also include a stamped self-addressed envelope.
- 10.6. Postal Address:
- Airport Manager  
ACP-2023-006  
Land's End Airport  
Kelynack  
St Just  
Penzance  
Cornwall  
TR19 7RL
- 10.7. When submitting feedback please provide the following information:
- Your name and role if you are responding on the behalf of an organisation.
  - Your contact details (email and/or postal address)
  - Your opinion on the statement: There should be an ADS-B TMZ introduced to the LRMZ.
    - Strongly Disagree
    - Disagree
    - Slightly Disagree

- Neither Agree nor Disagree
  - Slightly Agree
  - Agree
  - Strongly Agree
- Your reasons for your responses above, your feedback on any impacts that options may have on your operation, how often those impact may occur, any suggested mitigations.
  - Your opinion on the statement: There should be no change to the LRMZ.
    - Strongly Disagree
    - Disagree
    - Slightly Disagree
    - Neither Agree nor Disagree
    - Slightly Agree
    - Agree
    - Strongly Agree
  - Your reasons for your responses above, your feedback on any impacts that options may have on your operation, how often those impact may occur, any suggested mitigations.
  - Your feedback on the engagement itself.
- 10.8. We have provided a feedback form suitable for handwritten postal responses – see Appendix B. This asks the exact same questions as the online survey. Online responses will have the option of uploading a supporting document – if you wish to send more information by post then please attach it to a copy of the form in Appendix B and send them to the above address in 10.6.
- 10.9. All responses will be analysed, with any common themes extracted and summarised. We will monitor the engagement portal and will formally respond back to any queries, uploading FAQs if necessary.
- 10.10. All online responses go directly to the CAA who will moderate submissions. Responses will be publicly visible by being published on the CAA website. You will have the option to be anonymise your online response so that your identity is not publicly visible, but you cannot be anonymous to us or the CAA – we will need to see your name and contact details.
- 10.11. Postal response will be scanned, redacted, and uploaded to the CAA website.
- 10.12. All responses will be visible to us and the CAA.
- 10.13. If this proposal does not affect your operation, please respond so. That information itself is useful for us and the CAA for this process.

## 11. Reversion Statement

- 11.1. After the full engagement process has taken place, should the proposal be approved and implemented, it would be possible to revert to the pre-implementation state, however this may affect the ATC operations of all of the air traffic service providers within the LRMZ.
- 11.2. In the unlikely event that there are unexpected issues caused by the implementation of this proposal then short notice changes could be made via NOTAM.
- 11.3. All the air traffic service providers affected would then, in engagement with the CAA, carefully consider the next steps and future of the LRMZ.

## 12. Compliance with the Airspace Change Process

- 12.1. This Proposal has been confirmed by the CAA as Level 3.

- 12.2. If you have any questions or comments regarding the conduct of the airspace change process (such as adherence to the CAP1616 process), please contact the CAA. A link to the relevant CAA webpage is [here](#).

## 13. What happens Next?

- 13.1. After the engagement period closes, we will analyse the feedback and publish a report summarising the findings and how each item might affect the airspace design.
- 13.2. We will consider those findings and determine if the airspace design requires change in light of the feedback received. We will then publish a second report detailing the amended design, if warranted.
- 13.3. Lastly, we will submit an Airspace Change Proposal to the CAA based on this engagement process and the feedback received.
- 13.4. The CAA will then consider the proposal to decide if it has merit and will publish a decision on its website.
- 13.5. If the CAA approves the Proposal, we will then implement the changes.

# Appendix A

## List of Targeted Stakeholders

<b>STAKEHOLDERS</b>
<b>St Mary's Airport</b>
<b>Skybus</b>
<b>Penzance Helicopters</b>
<b>Starspeed</b>
<b>Tresco Estate (Tresco Heliport)</b>
<b>PDG Helicopters (Trinity House)</b>
<b>Isles of Scilly Council</b>
<b>St Just Council</b>
<b>Natural England</b>
<b>Environment Agency</b>
<b>Ministry of Defence</b>
<b>Newquay Airport ATCU</b>
<b>RNAS Culdrose</b>
<b>Perranporth Flying Club</b>
<b>Flynqy Pilot Training</b>
<b>Cornwall Flying Club (Bodmin)</b>
<b>Air Cornwall</b>
<b>NATMAC members</b>
<b>Cornwall Council</b>
<b>National Trust</b>
<b>Duchy of Cornwall</b>
<b>Island Partnership</b>
<b>Derek Thomas MP</b>
<b>Jetfly / Raven Air</b>
<b>Open Skies Cornwall</b>
<b>Police Air Services</b>
<b>SAR, Newquay</b>
<b>Cornwall Air Ambulance</b>
<b>Castle Air</b>

# Appendix B

## Feedback for postal responses

Your Name:	
Your Address:	
Postcode:	
Your Email Address:	
Please complete one of the following boxes as applicable.	
I am responding as an individual	I am responding on behalf of an organisation. My organisation is:  My position in that organisation is:
All response will be published online. You may ask for your name to be published or removed. Delete as appropriate.	
Publish my name along with my response.	Remove my name before publishing my response.
Which option best describes your opinion on the statement: There should be an ADS-B TMZ introduced to the LRMZ.	
<input type="checkbox"/> Strongly Disagree <input type="checkbox"/> Disagree <input type="checkbox"/> Slightly Disagree <input type="checkbox"/> Neither Agree nor Disagree <input type="checkbox"/> Slightly Agree <input type="checkbox"/> Agree <input type="checkbox"/> Strongly Agree	
Please explain your reasons for choosing the category above choice. Please consider: <ul style="list-style-type: none"><li>• Your feedback on any impacts that options may have on your operation</li><li>• How often those impact might occur</li><li>• Any suggested mitigations</li></ul> Please provide evidence. If you wish to supply more documentary evidence than would fit on these pages, enclose it with this form.	

Which option best describes your opinion on the statement:  
There should be no change to the LRMZ.

- Strongly Disagree
- Disagree
- Slightly Disagree
- Neither Agree nor Disagree
- Slightly Agree
- Agree
- Strongly Agree

Please explain your reasons for choosing the category above choice.  
Please consider:

- Your feedback on any impacts that options may have on your operation
- How often those impact might occur
- Any suggested mitigations

Please provide evidence.  
If you wish to supply more documentary evidence than would fit on these pages, enclose it with this form.

What would be your preferred option for the future of the LRMZ?

(ADS-B TMZ or Do Nothing)

What are your reasons for your preferred option?

Please consider:

- Your feedback on any impacts that either option may have on your operation.
- How often those impacts might occur.
- Any suggested mitigations.

Please provide any evidence.

Do you have any comments on the engagement itself?