

Proposed Penzance Heliport

Sloane Helicopters: Operator Site Requirements

Open Letter dated 30th October 2017

Sloane Helicopters agreed to work together with Penzance Heliport in 2016 to investigate re-establishing a helicopter service to the Isles of Scilly. The purpose of re-introducing a helicopter service to the islands was to provide the Isles of Scilly with access to a reliable year-round mode of air transport, for which there was clearly strong demand.

As part of our studies into selecting a suitable base for the helicopter, a variety of locations were considered, ranging from Newquay through to Perranporth, Portreath, Land's End and a location close to the former heliport site at Penzance.

The single most important criteria for us was identifying a site that would:

- support the most consistent level of service and reliability
- have the least possible vulnerability to weather impact

This would determine the long-term commercial viability of the service.

Each of the possible locations had their merits, but Penzance was identified as by far the best operational option. A suitable site had been identified close to the previous heliport at Penzance but agreements and planning consents meant that operations could not start there for some time.

The key criteria that were used to determine the most appropriate site were:

1. Weather – least vulnerable to adverse impacts of poor weather
2. Location – as close as possible to the Isles of Scilly but also close to main transport hubs, accommodation and other facilities
3. Commercial – the greatest possible security of the long-term tenure of a site that could support the required substantial investment into helicopters for the service, and where costs could be the most predictable and competitive

The closest potential sites to the Isles of Scilly are the heliport site at Penzance and Land's End Airport, at respectively 32 miles and 27 nautical miles from St Marys Airport in the Isles of Scilly, and therefore our studies focused most intensely on these two sites. Sites further to the east and north were considered commercially marginal for a sustainable service.



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In addition to our own assessment, we attach Annex A, which is an overview prepared by an independent industry Company, Pildo Wessex Ltd, which also clearly demonstrates the factual argument in favour of operations from Penzance as opposed to Land's End Airport.

1. Weather Impact

West Cornwall has a history of poor visibility problems from fog and low cloud, particularly on higher ground close to the coast. It was therefore essential to find a site with the least vulnerability to these factors. All the current and historical airports in Cornwall within a practical distance of Scilly are on high ground. The heliport site in Penzance represents the only low-level site that we have identified in West Cornwall that could suit the construction of a reliable heliport and is close to sea level.

The Civil Aviation Authority (CAA)/European Aviation Safety Agency (EASA) sets highly complex rules for aircraft, which define the minimum cloud height above the ground and the minimum forward visibility that must be available for an aircraft to be able to land, using either a Visual Approach, in suitably clear weather, or an Instrument Approach on occasions when the weather is not suitable for a visual approach as long as the aircraft, pilot and operator have the necessary approvals for such a landing.

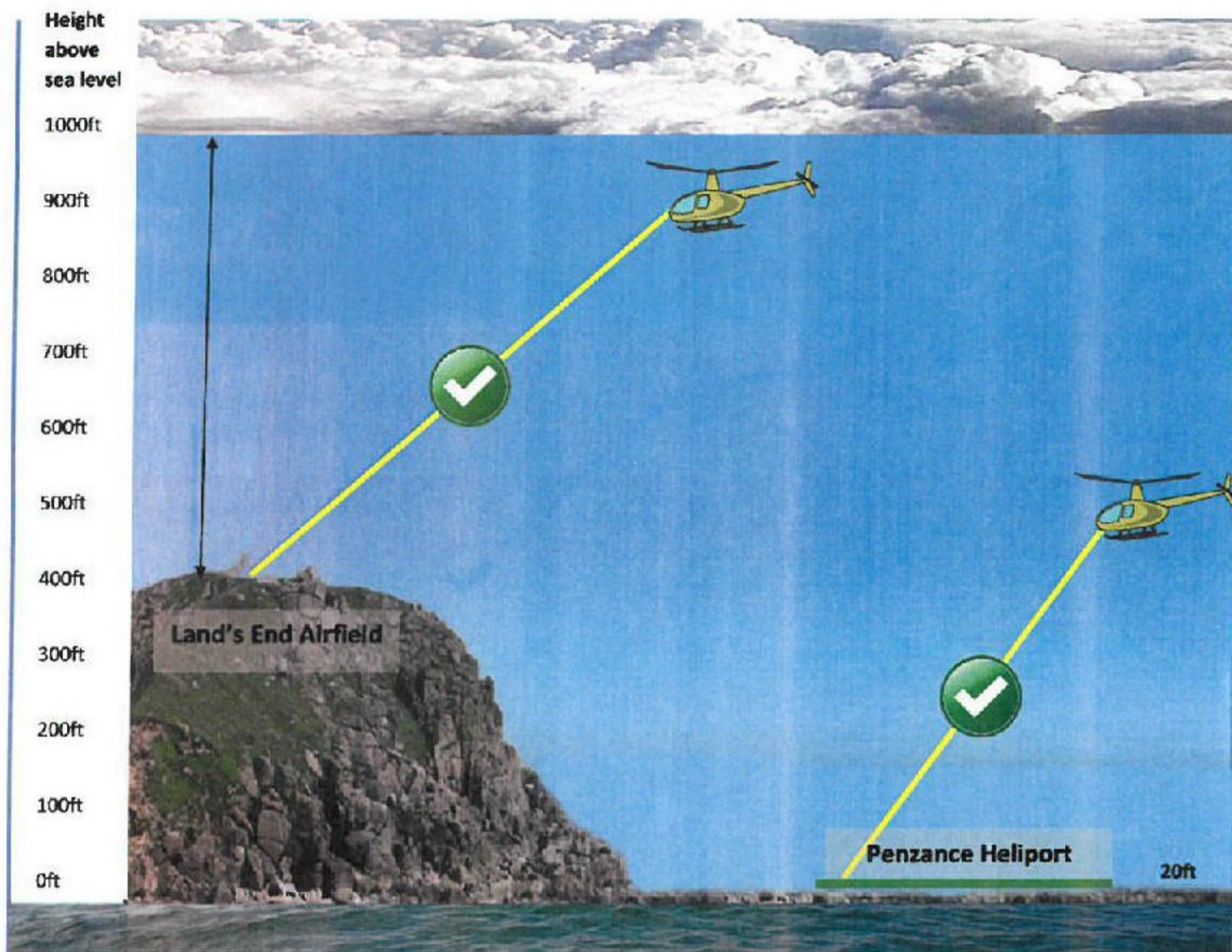
In an area prone to low cloud, the height of the airport or heliport is a key factor in determining resilience to poor weather. More detailed explanations and comparisons are set out in Annex B but below we have summarised the key impacts in words and graphically.

Visual Approaches:

Where the meteorological conditions permit flight under visual rules the aircraft will transit and then make an approach to the airfield using visual means. The rules are complex and not easily summarised but, in essence, iaw CAA Official Record Series 4 Number 1067, fixed and rotary wing aircraft require 1500 m visibility. In line with EASA Part CAT, helicopters also require a cloud base of 600 feet in order to operate visually when out of sight of land. This means that helicopter operations, when the cloud base is at 600 feet, could continue visually to and from Penzance. However, as Lands' End is approximately 400 feet above mean sea level (AMSL), the aircraft would have to carry out an instrument flight rules (IFR) procedure with the potential of the aircraft having to divert. The rules also require a flight to take place no closer than 500 feet to people or structures unless landing or for take-off and clearly a cloud base of 500 feet would not permit this when transiting from the coast to the airfield.

The diagram below in Example 1 illustrates the approximate different descent altitudes in visual approach conditions based on a cloud ceiling of 1000 feet.

Penzance v Lands' End



Example 1 – Cloud base ~ 1,000 ft – Penzance & Lands' End visual approach conditions

Instrument Approaches:

Where the meteorological conditions do not permit a visual approach, landing is by flying an approved instrument approach procedure. There are a variety of instrument approaches available at specific airfields but at Land's End, this will be by use of an approved procedure utilising Global Positioning System and aircraft based equipment. The aircraft will fly the procedure descending to a position referred to as the Missed Approach Point at which point it will need to have a variety of visual references such as runway lighting etc. The attachment at Annex A provides further clarification. The minimum height provided for this under CAP 1122 is 500 feet above the runway. There are views that this may be reduced further but at the time of writing there is no clear date when this might be achieved and that this will not be below 250 feet above ground level.

Separate from CAP 1122, the CAA is in the process of approving a Point in Space (PinS) Approach procedure specifically for helicopters. These procedures are based on a helicopter descending to a Point in Space from which the pilot will need to acquire certain visual references such as clear of cloud and in sight of surface. This is markedly different to the provisions at an airfield and helicopters can take advantage of their ability to decelerate during the final phases of the descent and make a slow careful final approach unlike an aeroplane. The current minimum cloud base is 500 feet above the surface but it is expected that this will be reduced to 250 – 300 feet by the time of approval of the first PinS in the UK.

Procedures have already been designed and validation flights carried out in respect of PinS approaches at Tresco and Penzance. Application for approval of these approaches has been submitted to the CAA and approval is expected in early 2018.

Comparison of Land's End Airport and Penzance Heliport Resilience to Weather:

Land's End Airport:

Land's End Airport is sited at approximately 400 feet above sea level and is located on the western coast of Cornwall, where the predominant weather is from the south west.

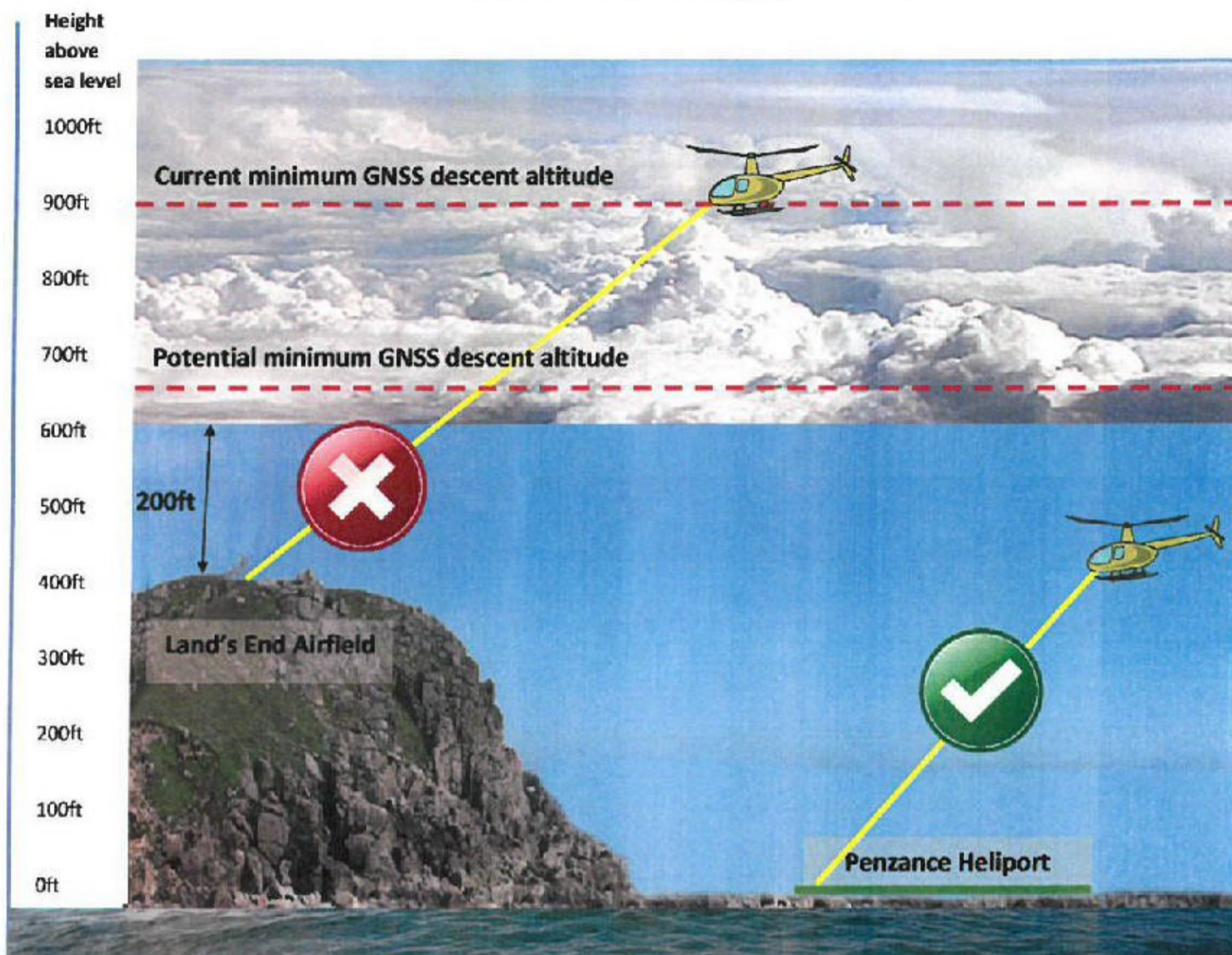
It is recognised that Land's End Airport have developed instrument approaches, which will enhance landings, when compared to a visual only option, though only one runway is currently fully operational. However, the weather factors affecting Land's End and its height means that these instrument approaches will still not resolve the constraints of Land's End location, whereas Penzance by its height, location and a PinS approach with its advantages over airfield based approaches will greatly enhance the ability of the helicopters to continue operations under visual or instrument flight conditions.

Current approaches to the different runways at Land's End vary between 860 and 1040 feet above sea level depending on the runway. The variations in the height of the different approaches are due to slightly different runway heights and obstacles affecting their approach. For example, the predominant runways based on the local weather are 25 and 34 (this is preferred during light winds as it is the longer runway) and they have approaches set at 1040 feet AMSL and 890 feet above sea level respectively. At present, although approaches exist for all runways, instrument approaches are restricted to runway 07 only; the least used runway which is not aligned with the prevailing wind.

In fact, for a visual departure from the Isles of Scilly, an aircraft Captain must ensure that there is at least 600 foot cloud base at the destination. In terms of Land's End that would require a cloud base of no less than 957 - 1000 feet or an instrument flight must be carried out. This further restricts flights to the mainland when compared to a heliport close to sea level.

The diagram below in Example 2 illustrates that with a cloud ceiling of 600 feet an instrument or visual approach and landing would not be possible at Land's End Airport but would be at Penzance.

Penzance v Lands' End Approach Limits



Example 2 – Cloud base ~ 600 ft – Penzance visual approach conditions
Lands' End below visual & instrument approach limits

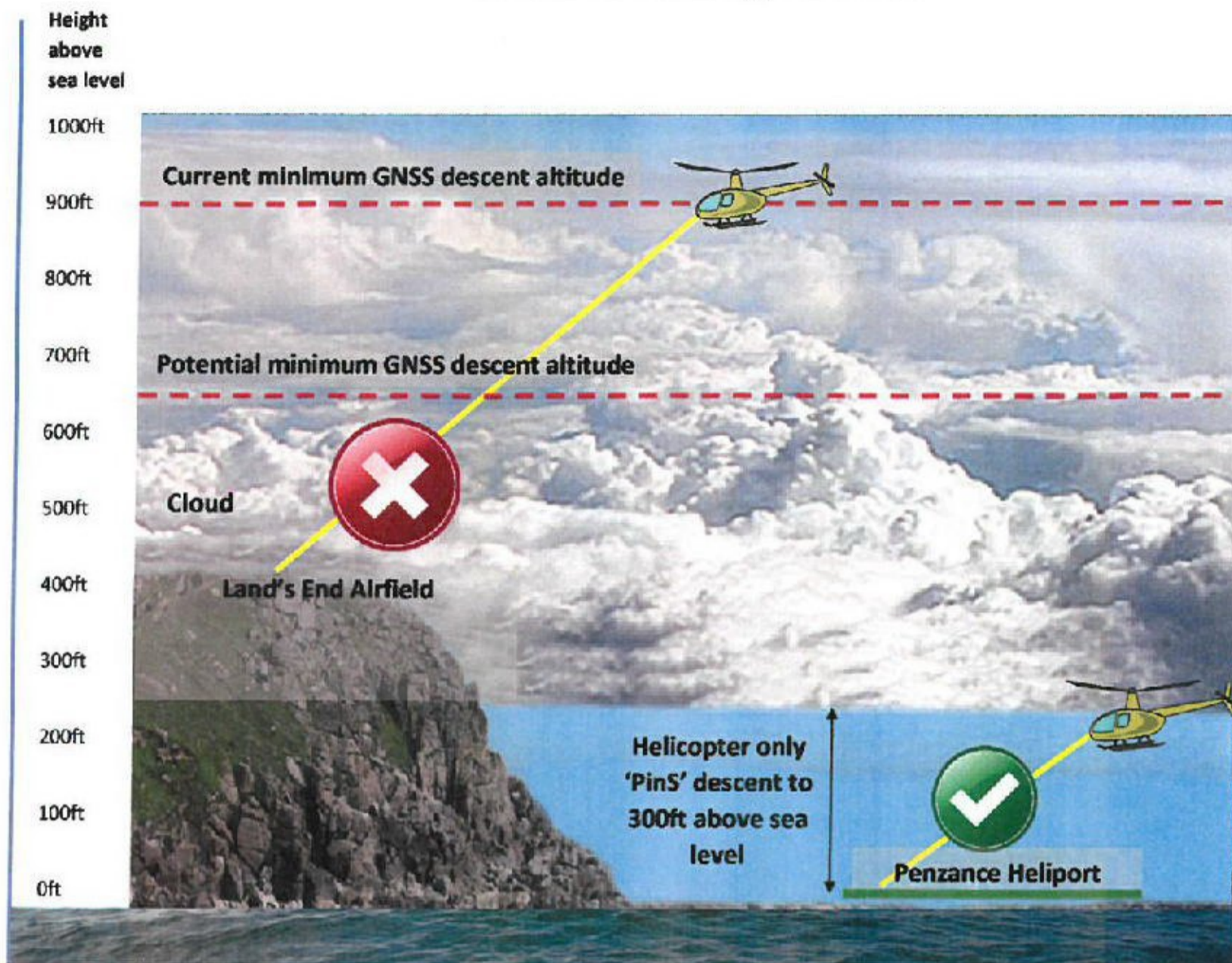
Penzance Heliport:

The heliport site at Penzance is 20 feet above sea level, and because of its positioning in the lee of the Land's End peninsular, on the sheltered side of Mounts Bay, it offers a better weather factor than Land's End Airport. It is located some 100 metres from the previous helicopter site, which successfully operated from 1964 to 2012, and which suffered consistently less from adverse weather than Land's End Airport during those 48 years.

If the weather conditions required an Instrument recovery to Penzance, this would be through a Point in Space (PinS) approach with the helicopter descending to a point at 500 feet above sea level; although this height is expected to reduce in due course. However, even at 500 feet this is equivalent to a height that is only some 100 feet above the height of Land's End Airport, which is not suitable for either a visual or instrument approach at Land's End.

The diagram below in Example 3 illustrates that with a cloud ceiling of 300 feet an approach and landing would be possible at Penzance, if a 250 feet AGL PinS based approach were approved, but the cloud ceiling would be well below the height of the runway at Land's End Airport, which would be inaccessible.

Penzance v Lands' End Approach Limits



Example 3 – Cloud base ~ 300ft – Penzance ‘Pins’ instrument approach conditions
Lands’ End below visual & instrument approach limits

Summary of key points of comparison of vulnerability to weather:

The cloud base over Land’s End tends to be at least at the same height or lower than the cloud base at Penzance, due to the Foehn effect whereby cloud bases often tend to rise as clouds move inland and over lower lying ground.

Even if one assumes that the cloud base was to be at the same height over both sites, landing at Penzance would already be possible with a cloud ceiling of 500 feet above sea level and is planned to become possible at 270 feet above sea level. Currently the cloud base at Land’s End would need to be at some 860-1040 feet above sea level to be able to land, and even if a lower height were approved in the future it would still be well in excess of that afforded at Penzance.

The Isles of Scilly Steamship Group claimed in their representation of 20th April 2017 that:

“There have been only 81 days at Land's End Airport out of 310 flying days when there was at some point (defined as at least a 30 minute period but up to all day) poor visibility weather (defined as less than 3000m visibility) affecting normal flying during 2016 (i.e. 26.1%).”

“Following an analysis of cloud height data (cloud ceiling at least 300ft), it is estimated that there would have been 45 days of the 81 that would have

benefited from the new ONSS, LPV system [EGNOS] at Land's End Airport (i.e. some flying would therefore have been likely with the new technology on 56% of the affected days representing a 15% improvement of total annual flying days). This new technology is now installed at Land's End Airport is due to become fully operational on 27 April 2017 following relevant CAA approvals."

"On only 36 days of the 310 flying days (i.e. 11.6%) would flying not have been possible due to the very low cloud or fog at Land's End Airport."

Depending on how many hours during the day and at what cloud ceiling minima were approved, it might be reasonable to surmise that of the 45 days potentially flyable per above, half might in reality be flyable, 23 days, meaning that 22 would not, so that with the 36 days above, some 58 days per year would not. This ties in with estimates we have made that 55 days in a 10 month period in 2012 would not have been flyable, as noted below.

Based on METAR reports for January to October 2012 for Penzance, and the assumptions made in attached Annex B, we estimate that during that 10 month period in 2012, there could have been only some 16 days when flying might not have been possible from Penzance Heliport with PinS approved to 250 feet AMSL compared with 55 days when flying might not have been possible at Land's End Airport, even if their new instrument approach procedures was approved down to 250 feet AGL for Land's End Airport, which is not currently possible under CAP 1122.

This would mean that Penzance could have continued on some 39 days, when operations would not have been possible at Land's End.

Depending on the time of year when flights are impacted and aircraft occupancy, and assuming a single helicopter in service, an improvement in flying days of this magnitude could equate to an average of some 6,500 passengers being able to fly to and from Penzance annually, when they could otherwise have seen cancelled flights and suffered additional costs when flying in and out of Land's. If a greater than average number of days were lost at Lands' End due to poor weather during the high season, the number of passengers affected would be substantially larger.

2. Location

Land's End Airport:

- Land's End Airport is located 8.7 miles (18 – 20 minutes in reasonable traffic) from Penzance railway station, and, after passing around Penzance and a number of roundabouts, is reached down a narrow road, which can be heavily congested in the summer season, adding considerably to the journey time and make it less predictable.
- Land's End Airport is located in a remote area with fewer facilities and accommodation.
- The distance and journey time from Land's End Airport to Penzance Quay is similar to that from Penzance Station 7.7 miles (18 – 20 minutes in

reasonable traffic) should flights be delayed or cancelled and transfers to the ferry be necessary.

- Given the large numbers of flights to and from the Isles of Scilly at Land's End and flights to and from Land's End to other Skybus operational hubs, fixed wing air traffic could impede helicopter flights.
- Lands' End airport is some 400 feet above sea level with the associated issues discussed in 1. Weather above.

Penzance Heliport:

- The proposed site is 1.3 miles (4 to 5 minutes) from the main train station and, for car drivers, is accessible directly from the A30 before entering Penzance.
- Penzance affords ample accommodation, shopping, dining and other facilities for passengers, before or after their flights.
- The heliport is only a conveniently short distance from Penzance Harbour, should flights be delayed or cancelled and transfers to the ferry be necessary.
- Penzance will have much less air traffic in the area, both on poor weather days, when only commercial traffic will be active, and also on good weather days, when pilots of low experience may be flying and visiting airports such as Land's End.
- Penzance is closer to Newquay in terms of a weather diversion and also closer to RNAS Culdrose for an emergency diversion.
- Penzance will not suffer from peak period congestion in the air or on the ground due to the dedicated helicopter specific facilities.
- Penzance heliport would be some 20 feet above sea level.

Penzance provides a much more accessible and convenient site for passengers arriving by public transport and cars, close to a thriving and growing town with significant and flexible accommodation and facilities.

Commercial Factors

Land's End Airport:

- The Isles of Scilly Steamship Group ("ISSG") own Lands' End Airport and given their actions, and our experience of them, to date, provide no comfort that they will not use this position to gain a commercial advantage in terms of pricing at the Airport and scheduling and prioritising flights between Skybus and helicopters.

- The commercial proposal provided by the Steamship Company remains more expensive than operating a dedicated heliport.
- There is no suitable hangarage available for up to two helicopters and associated engineering ground and special equipment at Land's End. Provision of hangarage was not included in the IOSSC's proposal and therefore the provision of which would make their commercial proposal even less attractive.
- ISSG's proposal is based on a Term of 5 years. This provides little security to an operator.
- Lands' End airport currently only has one runway approved for instrument approaches and that runway is not in line with the prevailing wind.
- The mix of helicopter and fixed wing traffic on a relatively small dispersal (one helicopter landing site to the north of the Terminal) could pose safety issues as well as the sequencing of fixed wing and helicopter traffic particularly during instrument recoveries.
- Airfield closed on Sundays as detailed in their AIP dated 20th July 2017

Penzance Heliport:

- Penzance would be a dedicated site with all necessary facilities for helicopters and passengers.
- The operation would have full control over its:
 - current and future costs
 - services and facilities
 - scheduling of flights
 - customer service
- The nature of helicopter operations means that runways are not required.
- The heliport will have a suitably equipped hangar adjacent to the terminal.
- The heliport will complement other facilities in the region in terms of being able to accommodate the expected increase in passenger numbers without placing undue traffic loading circumventing Penzance.
- The benefit of a separate base enhances safety in terms of deconflicting fixed wing and helicopter traffic and two separate locations yet still providing good airborne coordination through Air Traffic Control (ATC) services. Discussions have already been carried out with the main ATC services in the area including deconfliction of traffic during PinS approaches.

3. Conclusion

Sloane Helicopters as an operator has always been of the view that Penzance would provide the most efficient and effective location for providing helicopter services to the Islands.

This has view been borne out by our own and independent, subsequent studies of the relevant weather, location and commercial factors.

Following discussions with the ISSG in 2016, it also became clear that a partnership with ISSG would not be possible, given their current management team, and an apparent organisational culture of being more interested in protecting a monopolistic position than catering to the needs of the public, including their refusal to even consider Penzance as a potential location for a heliport.

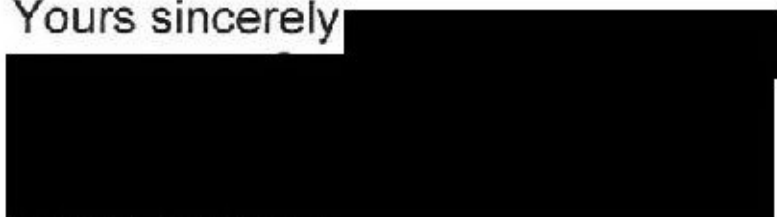
As already highlighted, the crux of the matter is that Land's End Airport is not ideal from a location, weather or cost standpoint and the management of ISSG do not appear to understand the concept of working in partnership.

By virtue of its height at sea level and with a PinS approach providing a 'decision height' lower than Lands' End Airport, Penzance offers, potentially, many thousands of passengers the chance to avoid the inconvenience and expense of delay.

In conclusion, the Company cannot commit to the sizeable investment, in terms of aircraft (some £10m each), personnel and infrastructure, required in order to provide a helicopter service to the Isles of Scilly from a relatively higher cost base, which is totally controlled by ISSG.

However, we are fully committed to operate from a commercially and operationally optimal base. A new Penzance heliport offers such a facility; Land's End airfield does not.

Yours sincerely


W J P Awenat
Managing Director
