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Comments on Responses to ExQ1 on behalf of Norfolk Gliding Club

Comments on Responses to ExQ1

The following are Norfolk Gliding Club's (NGC) comments, on the answers given by the Applicant to the Examining Authority's (ExA) initial written questions and requests for information (ExQ1):

Q1.4.1 ***a)*** *Identify all elements of the proposed development that may affect aviation interests , including solar arrays, BESS infrastructure.*

In answering Q1.4.1(a), the Applicant bullet points some of the issues relating to the imposition of the solar project but then only goes on to describe in any detail, their approach to the production of the Glint & Glare (G&G) report and does not provide any details on the other elements of the proposed development that may affect aviation interests, such as the Applicant's and National Grid's 132kV and 400kV Substations and the Pylon Realignment Project required following imposition of the National Grid (NG) Substation on the centreline of Tibenham's Runway 08.

Although not directly part of the Applicant's proposals, the 'Station Road Solar Farm' infrastructure has a impact on the Engine Failure After Take-off (EFATO) land-out options available from Tibenham's Runway 08 and should not have been ignored by the Applicant. The existence of the 'Station Road Solar Farm' was ignored in both the Applicant's G&G and High Level Investigative Reports.

This concentration on the G&G aspects of this answer, exactly mirrors the Applicant's approach to it's collaboration/consultation with NGC, which to a great extent, has only ever considered itself with G&G and not on how other aspects of the solar infrastructure proposals, particularly relating to EFATO events, would negatively affect safe operations from Tibenham airfield.

Q1.4.1 **b)** Provide a consolidated explanation of the assessment undertaken in relation to emergency landing scenarios, engine-failure-after-take-off scenarios, glider launch failure scenarios, and turbulence and wind-shear effects.

In the Applicant's response to Q1.4.1(b), they they begin by stating that *"There is no known guidance in the United Kingdom or internationally pertaining to the Engine Failure After Take-off (EFATO) and Glider Launch Failures (GLF) effects of solar developments upon aviation operations."* but then immediately highlight the existence of **Advice Note 5** from the Civil Aviation Authority's (CAA) Combined Aerodrome Safeguarding Team (CAST), which contains the exact guidance that supposedly does not exist.

In highlighting the existence of **Advice Note 5** from the Civil Aviation Authority's (CAA) Combined Aerodrome Safeguarding Team (CAST), stating that it "*outlines safeguarding considerations for solar developments but does not provide specific details or prescribe a specific methodology*". The second paragraph of the Applicant's answer then attempts to downplay one of the specific criteria that is contained in CAST Advice Note 5 – the 90 degree sector, by adding in their own unapproved 60 degree sector. The Applicant goes on to

state that they have ”*considered both the 90- and 60-degree sector in their assessment*’ which questions as to what is the use of the suggested 60-degree sector.

The third paragraph then goes on to conflate Engine Failure After Take Off (EFATO), which is a consideration only for Powered aircraft and Glider Launch Failure (GLF) which is only associated with unpowered Gliders.

They quote ‘The Glider Pilots Manual’ which considers a GLF as being a “*failure of the launch from the point after the wheels leave the ground until the aircraft reaches a height of 300ft above the ground”* and attempts to use this glider based statement in an attempt to justify an arbitrary 2km limit on the assessment of powered aircraft EFATO events without any justification or explanation as to why this factor is relevant.

In doing so the Applicant also confirms that this arbitrary 2km is their own creation. This limit is something the NGC does not recognise or accept, as it seems to have only been imposed by the Applicant to exclude a large portion of the solar infrastructure proposals together with the existence of the existing NG Pylons, from any form of assessment.

The 2km limit is also contrary to the advice given in CAST’s Advice Note 5: which says: “*Given there is no official safeguarding criteria for safeguarding against an EFATO even for licensed or certificated aerodromes, the safeguarding of this area must be considered reasonably and pragmatically by both an aerodrome operator and a solar developer.*”. Given that it has been demonstrated that EFATO events will result in aircraft landing into the fields that will be occupied by the Applicant’s Solar Infrastructure, it is NGC’s view that the Applicant’ has been neither reasonable nor pragmatic in attempting to impose this 2km limit.

The third paragraph gives a climb-out example, suggesting that an aircraft would need 1.5km to reach a height of 300ft using a climb ratio of 1:16.4 but due to “*existing roads and dwelling*”, it would not be appropriate for a pilot to fly a 1:16.4 climb ratio.
There are several factors that raise concerns regarding this paragraph / example:

- It is not at all clear as to how is this example is relevant to the attempted imposition of the arbitrary 2km assessment limit ?
- Pilots do not fly to a climb-ratio, they climb at a safe airspeed which results in a ground speed which varies, based on many factors including meteorological conditions such as wind vectors, air temperature and air pressure, gross weight of the aircraft including pilot.
- The “*existing roads and dwellings”* have been inexistence for many many years, some of which pre-date the existence of NGC. The Applicant’s Solar Infrastructure is all new and clearly presents a new and physically widespread danger to aircraft and pilots operating from Tibenham.
  The Overarching National Policy Statement for Energy EN-1 states that “*It is essential that new energy infrastructure is developed collaboratively alongside*

aerodromes, aircraft, air systems and airspace so that safety, operations and capabilities are not adversely affected by new energy infrastructure".

- No explanation has been provided by the Applicant, as to why this example does not utilise the same climb-out performance criteria as that contained within the Seething Airfield EFATO Impact Report [APP-223]

Below is an EFATO profile comparison between the ExQ1 example given by the Applicant (300ft in 1.5km) and that utilising the 'Seething Criteria' (300ft in 1.1km), which shows that both examples would result in Tibenham aircraft, landing amongst the Applicant's Solar Infrastructure with potentially fatal results.

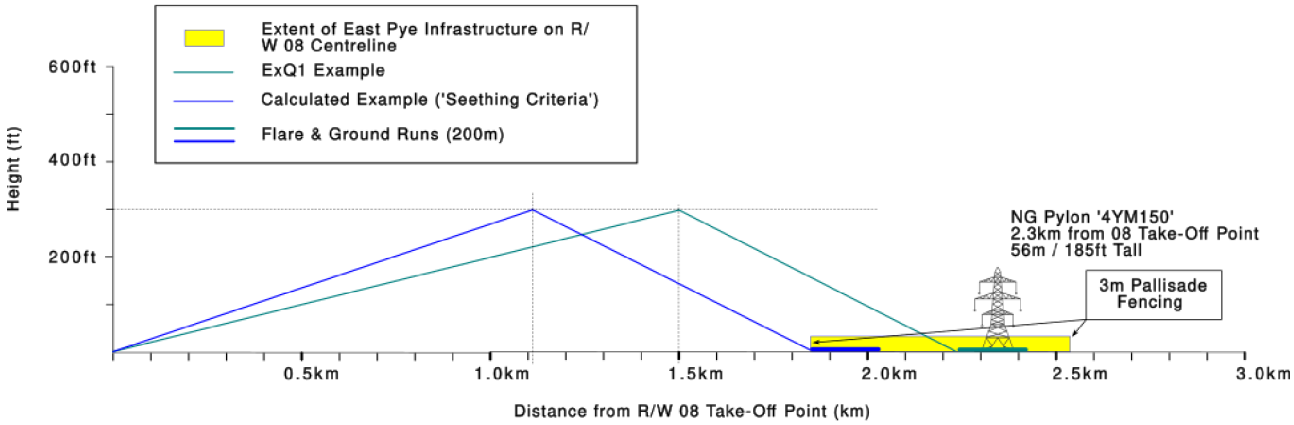


Figure 1: 300ft EFATO Event - ExQ1 Example / Seething Criteria Comparison

It should be remembered that the Applicant's infrastructure proposals will occupy open arable fields that are currently available to Tibenham based pilots as options for a forced land-out, should they experience an EFATO event.

The last paragraph of the answer to question (b) states that "*The Applicant has implemented a clearway for Seething Airfield to mitigate the impacts of EFATO from runway 24 at Seething Airfield.*".

By failing to carry out a full and proper EFATO Analysis, as was carried out for Seething Airfield, the Applicant has proposed no equivalent mitigation for Tibenham Airfield. This, even though Tibenham operates in a more complex aviation environment: Mixed power and Gliding, whilst also being constrained by the existence of the adjacent airfield at Priory Farm to the East and the National Grid Pylons and the planned and approved 'Station Road Solar Farm' to the West, together with a far more complex set of Solar Infrastructure proposals from the Applicant, consisting of Panels, multiple Substations, a BESS and a Pylon Realignment.

It has also been clearly demonstrated by the EFATO Analysis carried out by NGC, that Tibenham's Airfield's operation from Runway 08 would be severely impacted by the existence of the Applicant's proposals.

This clearly demonstrates an on ongoing disparity between the Applicant's treatment of Seething and Tibenham Airfields.

Q1.4.1 ***d)*** *Confirm whether the applicant intends to prepare and submit a consolidated standalone aviation safeguarding and aviation safety document during the examination and, if not, explain why this would not assist the ExA and the Secretary of State for Energy Security and Net Zero.*

In the answer to this question, the Applicant states that such a document would contain information already provided in the Applicant's G&G Report [AS-026 to AS-029] and the High Level Investigative Report [APP-222].

This assumes that the Applicant's G&G Report [AS-026 to AS-029] and the High Level Investigative Report [APP-222] are not in any way deficient.

It is NGC's view that the G&G Report is deficient in multiple aspects.

It purports to represent the results of G&G analysis for both Tracking and Fixed panels but only one set of results is presented. With the maps presented, only appearing to relate to fixed panels.

NGC have concerns regarding the 'field of view' utilised for the G&G results, with the consultant apparently suggesting that Pilots only look straight ahead and do not perform a comprehensive 'look out'.

The G&G results for Tibenham's Downwind Legs has been removed to a document appendix and do not fully assess the G&G issues with respect to those downwind legs.

There are also concerns regarding the shortcomings of the software modelling, in as much as it is unable to assess the many different scenarios that apply to a non-licensed GA / Gliding airfield operation.

There appears to be no evidence in the Glint and Glare Assessment [AS-026 to AS-029] to support the claim that all aspects of the circuits have been adequately modelled.

In particular

- The early part of the downwind leg as shown by the glare in the photograph submitted with NGC's WR [REP1-403]
- The ZigZag circuit where gliders fly away from and towards the airfield to adjust their height relative to the runway in use. With this manoeuvrer being

constantly used by pilots to modify a circuit based on current weather conditions.

- The fact that tug pilots use the rear view mirror to check on the position of the glider on tow and at times would be looking straight at the panels

Even though Section 6 of the Applicant's G&G Report is described as presenting "*analysis of cumulative effects of solar reflections, from the existing and proposed solar developments in the surrounding area in respect to shared receptors between the Scheme and the existing development.*", the existence of the immediately adjacent 37 hectare, 20MW 'Station Road Solar Farm' has been completely omitted from consideration within the G&G Report. This factor raises serious concerns regarding the the results of the Applicant's G&G report.

It is the view of NGC, that the deficiencies noted above, invalidate the results of the Applicant's G&G Report.

See NGC's WR Submission (*Section :08-Glint & Glare)* for a detailed rundown of the deficiencies of the Applicant's G&G Report.

It is NGC's view that the '*High Level Investigative Report*' is also deficient in multiple aspects.

It is a very high level report, makes a number of unsubstantiated misleading claims, uses an inappropriate EFATO example, references non applicable European aviation documents, omits major existing and planned energy infrastructure (400kV Pylons and 'Station Road Solar Farm'), whilst using an unacceptable, arbitrarily restrictive 2km 'baseline' area, contrary to CAA advice, whilst using photos of other solar installations in an attempt to justify the implementation of Applicant's proposals.

A subsequent planning application for an Aerobic Digester (AD), adjacent to one of the example sites suggested in the High Level Investigative Report (Beccles), was refused on appeal, with the Planing Inspectorate stating that:

> *"the AD Plant would further erode an already constrained area for a forced / emergency landing. In an environment where flying training is taking place with inexperienced pilots, that significantly increases the risk of an aircraft carrying out a forced landing colliding with the proposal, causing serious injury or a fatal accident"*

See NGC's WR Submission (*Section :04-High Level Investigative Report*) for a detailed rundown of the deficiencies of the Applicant's High Level Report.

The shortcomings noted in the two documents above, leave ample scope for the Applicant to address these deficiencies in a more appropriate and comprehensive stand-alone aviation safety document, where they could focus on the safety issues that have identified by NGC but which have been omitted from the Applicant's reports.