



PRIMARY RADAR v WIND FARMS

Safety Case Mitigation





The Issue

- **Wind Farms, within line of sight, interfere with Radar Systems:**
 - Data Overload (Clutter)
 - Overhead Obscuration
 - False Tracks & Track Seduction
 - Shadowing
- **Displayed Clutter is highly Detrimental to the Safe Provision of Air Traffic Services**



The Team

- **DTI**
- **Wind Farm Industry**
- **Military Representatives**
- **CAA (SRG)**
- **Industry (BAe Systems & Selex S.I.)**
- **AEA Technology**
- **HVR Consulting Services**



Primary Surveillance Radar (PSR) Wind Turbine Mitigation Safety Case

Objective – To demonstrate the ability to safely deploy wind turbines in the vicinity of Aerodrome PSR.

Method – using the Safety Assessment Methodology (SAM) described in Civil Aviation Authority Safety Regulation Group (CAA SRG) CAP760.



Benefits of the Safety Case

- **Recognised by CAA, NATS & Military as a method of demonstrating the Safety of a System;**
- **Provides clear documented evidence of the Safety of a System against systematically derived requirements;**
- **Highlights any limitations or shortcomings that may require further work.**



High Level Safety Plan



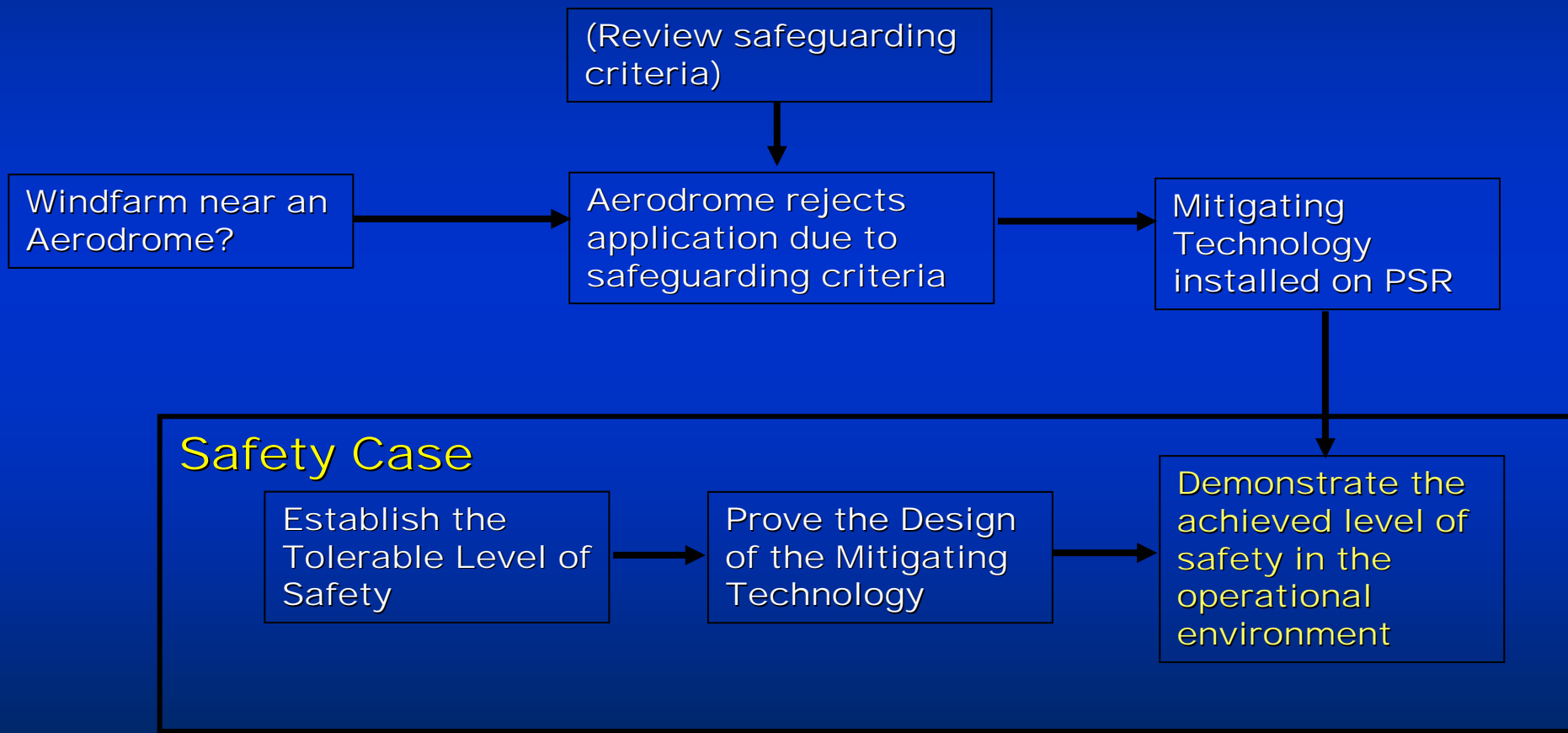
"How much interference is acceptable?"

"How well do they reduce the level of interference?"

Military "Fit for Purpose"

Civilian CAP670 & derived safety requirements

Concept Plan for Operational Aerodrome





Key Results

- **Established Suite of Derived Safety Requirements (how High is the Hurdle)**
- **Draft Baseline Safety Case**
 - Framework for producing an airfield specific safety case
- **Draft Safety Cases for Mitigating Technologies**



What it Means

- **Established mechanism to address safety concerns of airfield PSR operators when addressing Wind Farm planning applications**
- **Establishes the principles of safety case requirements for mitigating technology projects**



Remaining Work

- **MOD to publish the Flight Trial Report**
- **Draft Baseline Safety Case to be accepted by MOD and CAA**
- **Complete Safety Cases for the Mitigating Technologies**



PSR Wind Farm Safety Case

**A mutually
beneficial solution
to assist in
overcoming Radar
Service provider
objections to
Wind Farm
developments**

