

**RISK ASSESSMENT**

Summary of the process of Risk Assessment

Risk is defined as the “Severity” of the Hazard multiplied by “The Likelihood” of the Occurrence taking place

Severity (S) x Likelihood (L) = Risk Factor

Jersey International Air Display Risks have been assessed under the following criteria, depending on the possible outcome should the hazard become a reality, and have been allocated a score:

TRIVIAL	MINOR INJURY	SERIOUS INJURY	SINGLE FATALITY	MULTIPLE FATALITY
1	2	3	4	5

The Likelihood of a hazard occurring has been assessed against the following headings and allocated an appropriate score:

HIGHLY UNLIKELY	POSSIBLE	QUITE POSSIBLE	LIKELY	HIGHLY LIKELY
1	2	3	4	5

Once a rating has been calculated for each particular risk, Mitigations are put in place and a mitigating factor can be applied to either the severity, likelihood or both in order to arrive at a final Risk Assessment Rating.

The Risk Assessment Rating are deemed to have the following meanings:

- A figure LESS THAN 6 (<6) indicates a LOW RISK
- A figure BETWEEN 6 and 15 indicates a MEDIUM RISK
- A figure BETWEEN 16 and 25 indicates a HIGH RISK

A final judgement is made relating to the final risk rating. Wherever possible it is Jersey International Air Display’s policy to reduce the risk to AS LOW AS REASONABLY POSSIBLE (ALARP)

The risk assessment process by its very nature can be very subjective.

Other parties involved in various aspects of the display will have their own Risk Assessment processes. These should be reviewed by the organiser prior to inclusion in the overall event plan.

Air Display Area

HAZARD	WHO/WHAT	S	L	R	Mitigation	M FACTOR	FINAL RATING	ALARP Y/N
<p>Aircraft Accident due to:</p> <p>Faulty Aircraft, Pilot Fitness, Pilot Competency, Pilot Currency, Inappropriate Display Sequence, Aircraft flown outside normal flight envelope.</p>	<p>Risk is to the general population and property on Jersey.</p>	5	3	15	<ul style="list-style-type: none"> <li>Experienced FDD &amp; FCC established to monitor and regulate all flying display safety aspects including: <ul style="list-style-type: none"> <li>-FDD/FCC check all Pilot DA(s) and Recent Experience.</li> <li>-FDD/FCC check all Pilot Licences and Medicals</li> <li>-FDD/FDD check all aircraft documentation including C of A, Permit to Fly, restrictions, limitations and Insurance.</li> </ul> </li> <li><u>Display Sequences (or list of approved manoeuvres, or Formation Sequence) specified by Pilots, reviewed by FDD/FCC and approved for the Jersey Display.</u></li> <li><u>FCC may wish to discuss individual display sequences on arrival, clarification on Display Pilot planning, gate heights and escape manoeuvres.</u></li> <li>Display Pilots confirm that display is flown within the limits of Permit to Fly, C of A etc. <ul style="list-style-type: none"> <li>-Non DA pilots to be validated by FDD/FCC prior to display.</li> </ul> </li> <li>Emergency Services Co-ordination and Table Top Exercise completed prior to event.</li> <li>Emergency Services response to aircraft accident based upon extant States procedures.</li> <li>Minimum Heights for Run and Breaks specified to pilots prior to arrival.</li> <li>Display volume increased, which includes extended Maritime Exclusion Zone</li> <li>Routing into and out of Display Arena to be flown over the sea ideally.</li> <li>Display Datum moved approximately 750m further West to increase separation from centres of population and larger crowd concentration.</li> <li>Additional Control Measures: <ul style="list-style-type: none"> <li>Standard Aviation Emergency response plans.</li> </ul> </li> <li><u>Pilots will provide the organiser with a full list of hazardous materials, on board the aircraft. The organiser will forward this local emergency services in sufficient time for appropriate evaluation.</u></li> <li>Emergency Services advised of ejector seat mechanisms and failsafe's.</li> <li>Ports of Jersey specified as "Additional Insured" on Aircraft Display insurance policies to ensure against any shortfall in the aircraft display insurance policy.</li> </ul>	L(1)	5	Y
<p>Aircraft Accident caused as a result of Display Flying</p>	<p>Pilot/Crew Emergency Responders</p>	5	2	10	<ul style="list-style-type: none"> <li>Minimum Crew only on board aircraft taking part in the display.</li> <li>Emergency Services advised of hazardous materials on board aircraft participating in the event.</li> <li>Emergency Services advised of ejector seat mechanism and failsafe's.</li> <li>All event items will have competence vetted prior to display either through DA process or JIAD validation.</li> <li>All event items monitored by experienced FCC, with broad and extensive display experience, who can intervene if aircraft being flown in a manner deemed to be contrary to published procedures or sequence or in an unsafe manner.</li> <li>All display crews briefed on JIAD rules and composition of FCC.</li> <li>Display volume increased, which includes extended Maritime Exclusion Zone</li> <li>Routing into and out of Display Arena to be flown over the sea ideally.</li> <li>Display Datum moved approximately 750m further west than in 2015 to increase separation from centres of population and larger crowd concentration.</li> </ul>	L(1)	5	Y
<p>Aircraft crash or forced landing/ditching wholly within the defined Display Area</p>	<p>General Public/ Vessels/ JIAD Personnel/ Elizabeth Castle/ St Aubin's Fort</p>	5	3	15	<ul style="list-style-type: none"> <li>Crowd lines defined, established and maintained accordingly.</li> <li><u>Display Area (Box) volume increased, which includes extended Maritime Exclusion Zone</u></li> <li>Routing into and out of Display Arena to be flown over the sea ideally.</li> <li>Display Datum moved approximately 750m further West to increase separation from centres of population and larger crowd concentration.</li> <li><u>Beach closed to public during practice and display.</u></li> <li>Beach entrances to have physical barrier &amp; closed signs posted.</li> <li>Marshals to enforce beach closure.</li> <li>Beach concessions advised of Beach Closure.</li> </ul>	L(1)	5	Y

					<ul style="list-style-type: none"> <li>Maritime and Beach Patrols where necessary to ensure integrity of Crowd Line.</li> <li>Bird Concentration areas identified to pilots during brief.</li> <li>FDD Communication direct to pilot in order to warn of hazardous events.</li> <li>FDD able to contact display aircraft direct via RT to either stop or issue warnings.</li> <li>Weather Minima appropriate for the location have been determined.</li> <li>Elizabeth Marina Western Promenade Closed to General Public south of the bronze tree.</li> <li>Beach Closed by Order. (Note: 2016 Beach now closed in its entirety for both the practice session and display proper.)</li> <li>Maritime Exclusion Zone established in Law. (Note: 2016 Exclusion zone extended further West and south to encompass the whole bay from St. Aubin's Fort to the southern tip of the Elizabeth Castle breakwater to Ferry terminal entrance.)</li> <li>Maritime Exclusion Zone enforced by POJ Ports Staff.</li> </ul>			
Aircraft Accident due to striking a foreign object or obstacle in the vicinity of Display Area	Pilot / Crew Spectators	5	3	15	<ul style="list-style-type: none"> <li>Bird Concentration areas identified to pilots during brief.</li> <li>Location and Maximum height of any applicable cranes detailed on display maps.</li> <li>Minimum heights specified for transit over uncontrolled areas in accordance with Rules of the Air 2000.</li> <li>Restricted Airspace established to reduce the risk of Small Unmanned Aircraft incursion into display area. (POJ to raise awareness in order to reduce risk further)</li> <li>Display to be suspended in the event of any incursion.</li> <li>Non-operational Harbour Cranes to be lowered wherever possible</li> <li>Display Map to identify elevated hazards, Display Line inspection Media to be made available to Display pilots via briefing or on-line.</li> </ul>	L(1)	5	Y
Aircraft crash onto Elizabeth Castle or St. Aubin's Fort.	General Public or Air Display Personnel	5	2	10	<ul style="list-style-type: none"> <li>Crowd lines defined, established and maintained accordingly.</li> <li>Elizabeth Marina Western Promenade Closed to General Public. (Harbours)</li> <li>Beach Closed by Order. (Note: 2016 Beach now closed in its entirety for both the practice session and display proper.)</li> <li>Maritime Exclusion Zone established in Law. (Note: 2016 Exclusion zone extended further West and south to encompass the whole bay from St. Aubin's Fort to the southern tip of the Elizabeth Castle breakwater to Ferry terminal entrance.)</li> <li>Minimum essential personnel only on castle/fort.</li> <li>Contingency access plans held with Emergency Services</li> <li>Both St. Aubin's Fort and Elizabeth Castle are CLOSED to the public whenever display flying taking place.</li> </ul>	L(1)	2	Y
Aircraft crash on populated land	General Public not directly connected with the Event or congregations of spectators outside of the control of the organisers	5	2	10	<ul style="list-style-type: none"> <li>Standard Rules of the Air to be applied outside of Display Arena.</li> <li>Standard routing of display aircraft in clockwise direction around island over the sea whenever possible.</li> <li>Minimum Height specified over St. Helier Harbour, Commercial Buildings, Fuel Farm and Power Station if running in from the East.</li> <li>Display manoeuvring over Beach/ Sea</li> <li>Other know public congregation areas identified on Display Map and crews advised to avoid.</li> <li>Display crews carefully briefed on routing to/from Display Arena and encouraged to stay over the sea for the maximum time practical.</li> <li>Large Formation Display Teams to conduct their own risk assessment of the location to ascertain suitability to perform.</li> <li>Display Datum moved approximately 750m west for 2016 and realigned accordingly to permit aircraft opportunity to remain high over populated areas outside of display area, to greater safe manoeuvring area towards areas of increased crowd concentration and sufficient distance to descend to display height in the bay if entry is required from over land.</li> </ul>	L(1)	5	Y
Hazardous Materials on board Aircraft	Emergency Services responding to Aircraft Accident	5	3	15	<ul style="list-style-type: none"> <li><u>Pilots will provide the organiser with a full list of hazardous materials, on board the aircraft, The organiser will forward this local emergency services in sufficient time for appropriate evaluation.</u></li> <li>Persons on Board notified to Emergency Services</li> <li>Emergency Responders introduced to aircraft and ejector systems prior to display.</li> </ul>	L(1)	5	Y



## Jersey International Air Display 2017

This risk assessment was reviewed and updated during an air display regulatory planning meeting which took place on 26<sup>th</sup> June 2017 in Jersey ATCC: Amendments made during this review are identified by red underline.

Those present:

Les Garside-Beattie (Display Director)  
Michael Higgins (Display Organiser)  
Gus Paterson (Director of Civil Aviation)  
Les Smallwood (SATCO)  
Darren Dupré (Display Co-ordinator)