

BRAY AIR DISPLAY 2023

RISK ASSESEMENT



EVENT SITE ROLES & RESPONSIBLE PERSONNEL

A	Site Safety Officer / Site Manager
B	Event Controller
C	Tent Master
D	Fire Officer
E	Site Electrician
F	Chief Steward / Security
G	Medical Officer
H	Structural Engineer
I	Waste Management Contractor
J	Production Manager
K	Flight Display Director

Assessment	Date	Version
Mick Glynn	20.04.23	V1_0

RISK ANALYSIS CALCULATION CHART

		Severity					
		Multiple Death 10	Single Death 8	Major Injury 6	3 Day Injury 4	Minor Injury 2	None 1
Likelihood	Certain 10	100	80	60	40	20	10
	Very Likely 8	80	64	48	32	16	8
	Probable 6	60	48	36	24	12	6
	Possible 4	40	32	24	16	8	4
	Unlikely 2	20	16	12	8	4	2
	Very Unlikely 1	10	8	6	4	2	1

Ref No	Identified	Hazard & Effect	To Whom	Severity x Probability = Risk S x L = R			Control Measures	Severity x Probability = Risk (after controls)			Action Required	Owner
	Event Build, Load in & Load out	Injury	Crew Staff Patrons	8	6	48	Active health and safety policy, Site inductions for all staff, PPE to be worn, Use of licensed and ticketed machine operators. Site manager on site.	8	2	16		A
	Spills	Pollution	Parklands	6	4	24	Spill Kits on site, Staff refuel small items on hard surfaces, refilling protocol for major refuels with spill procedures	4	2	8		A
	Fuel Fire	Burns	Staff	8	4	32	Fuel retained in isolated fuel store area. Staff inducted in use of fuel. Fire extinguishers on hand. Only diesel generators permitted on site	8	2	16		A

	General Fire	Burns	Patrons / Staff	8	5	40	Supply fire extinguishers close to electrical equipment. Competent, trained staff. Ensure all staff are aware of the emergency procedures. Ensure all staff are aware of fire protection equipment and emergency response procedures.	7	3	21	Cancel event & Evacuate site. Contact fire services	
	General Attendance	Patrons disorder	Patrons / Staff	8	4	32	Profile of audience mainly families. Stewarding and security monitoring crowd for any warning signs.	6	1	6		A
	Excessive hours worked and accidents by tiredness	Injury	Staff	8	4	32	Restrictions on staff working more than 12 hours per day. Restrictions on staff generally working long hours on consecutive days	6	1	6		

	Temporary Structures collapse	Injury / Death	Staff Patrons	10	6	60	Temporary structure inspections are carried out during the build period All temporary structures visually inspected by a structural engineer prior to start of event Tent master to be available in vicinity of site at all times. Anemometer to be positioned at highest point and monitored by event controller, safety officer and tent master	10	2	20		ABCH
	Fire in litter	Injury / Burns	Staff Patrons	8	6	48	Regular litter picking, maintenance of litter area. Removal of litter from site. Regular empty of bins	8	1	8		ABDI
	Electrical Fault	Shock / Burns/ Death	Staff Patrons	10	4	40	Electrical works carried out by registered certified contractor. Correct IP rated fitting, circuit breakers and distribution used. All works certified.	10	1	10		E
1.	Cable runs, trip hazard, damage to other equipment or fixings	Injury	Staff Patrons	6	7	42	At all times close attention must be paid to the installation of cables. Where cables are at ground level they must be matted, ramped or run close to the wall to minimise trip hazard.	6	2	12		A

							<p>Where cables are run overhead, existing runs should be followed, where this is not possible discussion with the Event/Site Manager should take place as the best possible route. At no time should cables be tied off anything other than the supports installed for this purpose.</p> <p>Cables must be secured by adequate cable ties, no cord or tape should be used. At no time should cables be secured to any electrical services. Where cables run at ground level cable ramp covers must be replaced as not to present a trip hazard.</p>					
10	Viewing - Falls, Trips & Slips	Injury	Staff Patrons	5	7	35	<p>Inspect event site before event and remove all obstructions from circulation routes. Stewards monitor all routes and exits for obstructions and trip hazards.</p>	5	2	10		A

12	Movement of vehicles in Patrons areas	Injury	Staff Patrons	8	4	32	<p>Vehicles to leave site 30 minutes before events start and are not permitted to return until cleared by Event Controller at end of show. No vehicle movements permitted within these times.</p> <p>In case of emergency vehicle movements vehicle will be walked through site by stewards clearing areas in advance.</p> <p>Concessions are not permitted to move vehicles while the site is populated and can not move their stands until the site is deemed to be clear by the event controller</p>	8	1	8		ABF
13	Accident to staff and patrons	Injury	Staff Patrons	6	4	24	<p>Health and Safety Policy and nominated safety consultant</p> <p>Defined work areas</p> <p>Risk assessment statements received from contractors</p>	4	2	8		ABF

14	Fire in food service area	Shock / Burns/ Death	Staff Patrons	8	6	48	Fire fighting equipment with trained staff at each concession. Set up of concessions in code of practices. Certified gas installations on each concession	10	1	10		ABD
15	Pre-packed Food Stalls Produce	Illness	Patrons	5	4	20	All stall owners are to have the prescribed licenses, FSAI certification, and obey all of the guidelines in the preparation and sale of foodstuffs.	5	2	10		
16	Medical Incident	Death	Patrons	8	4	32	Medical plan to be implemented. First Aid on site for event day at static medical post. Ambulance to be located on site for hospital removal	4	4	16		GB
17	Mid air collision with non display aircraft outside primary & secondary viewing areas	Death	Staff Crew Patrons	10	4	40	Temporary restricted area (TRA) in at place 6mile. IAA AIP navigation warning supplement published for the event. Strict weather minima. All display pilots IAA approved and receive written & verbal briefings. Normal height restrictions on approach in effect.	10	1	10		KB

18	Mid air collision with display aircraft outside primary & secondary viewing areas	Death	Staff Crew	10	4	40	IAA AIP navigation warning supplement published for the event. All aircraft on demand routes from base airfield. Rear crowd arrival restricted manoeuvre with min speed. Strict weather minima. All display pilots IAA approved and receive written & verbal briefings. Normal height restrictions on approach in effect.	10	2	20		KB
19	Mid air collision in display formation	Death	Staff Crew Patrons	10	3	30	Experienced approved aerobatic pilots. Current training & routines are all well practiced. Strict weather minima. Written display highlights potential turbulence off coast. Team briefing conducted prior to flight. Flight Display Director (FDD) pre assessment of display act manoeuvres.	10	2	20		KB
20	Ejector seat impacts crowd	Death/ Injury	Staff Crew Patrons	9	5	45	Crowd line including secondary viewing areas at 100m from display line. No-non essential personal or occupied structures, vehicles or vessels permitted above/below aerobatic airspace. Display lines at prescribed distances.	9	2	18		KB

			Uninvolved third parties								
21	Display aircraft & debris from collision into primary & secondary viewing areas	Death/ Injury	Staff Crew Patrons Uninvolved third parties	9	5	45	Display lines at prescribed distances. Strict weather minima. All display pilots IAA approved and receive written & verbal briefings. All civil helicopters maintained & operated in accordance with C of A requirements. ATC watching approaches and in radio contact with aircraft. Fully trained emergency services on stand by. All aircraft display manoeuvres agreed with FDD. Crowd line including secondary viewing areas at 100m from display line. No-non essential personal or occupied structures, vehicles or vessels permitted above/below aerobatic airspace.	9	2	18	KB
22	Display aircraft collision with vehicular traffic	Death/ Injury	Staff Crew Patrons	10	4	40	No vehicles or vessels permitted above/below aerobatic airspace. No display flying over patron car parks. Road closure on access roads behind crowd line & primary viewing areas.	10	2	20	KB

			Uninvolved third parties									
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23	Display aircraft collision with drone	Death/ Injury	Staff Crew Patrons Uninvolved third parties	10	6	60	Temporary restricted area (TRA) in at place 6mile. All operational personal & Gardai monitoring for any potential drone activity. Event signage prohibiting drone activity. Advance notice in marketing material and to all IAA registered done operators prohibiting drone activity.	10	1	10		KB
24	Loss of power form display aircraft	Death/ Injury	Staff Crew Patrons Uninvolved third parties	8	5	40	Technical service of all display aircraft. Display pilot training & experience. Display lines at prescribed distances.	10	1	10		KB

25	Loss of control to display aircraft	Death/ Injury	Staff Crew Patrons Uninvolved third parties	10	4	40	Technical service of all display aircraft. Display pilot training & experience. Display lines at prescribed distances. Strict weather minima.	8	2	16		KB
26	Erosion of display altitude	Death/ Injury	Crew	8	6	48	Technical service of all display aircraft. Display pilot training & experience. Display lines at prescribed distances.	8	2	16		
27	Erosion of display line separation	Death/ Injury	Staff Crew Patrons Uninvolved third parties	8	6	48	Technical service of all display aircraft. Display pilot training & experience. Display lines at prescribed distances.	8	2	16		KB
28	Loss of conscious of pilot	Death/ Injury	Staff Crew	10	4	40	Current medical certification of all pilots to FDD.	10	2	20		

			Patrons Uninvolved third parties									
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28	Terrorist attack/ bomb threat placed on display aircraft	Death/ Injury	Staff Crew Patrons Uninvolved third parties	10	4	40	All display aircraft parked in secure airports overnight. Liaise & monitor with Gardaí.	10	1	10		
29	Terrorist attack/ bomb threat / arson	Death/ Injury / Burns	Staff Crew Patrons Uninvolved third parties	10	5	50	Ensure all persons are fully briefed with evacuation & emergency procedures. Liaise & monitor with Gardaí. Ensure all stewards are briefed on emergency & escape routes.	10	2	10		