

Aerotow Revival Organisational Risk List		Chris Jones, Safety Director	Version 0.3	20/04/2022 20:31:55	
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	Risk Levels	Low			
		Medium			
		High			
Area of Risk	To whom	Type of risk	Mitigation	Actions required to Mitigate	Who will carry out actions?
Flying Operations	All flyers	Conflict with other air users	NOTAM the event	Create a NOTAM for all times and location the event will cover. Liaise with Mick Hyde the airfield owner	Nigel Bray
			Those who have such devices will utilise EC/FLARM	Encourage those who have EC/FLARM devices to use them during the event.	Event Organisers
			Ensure that any HG competition start circles are located away from established circuit patterns or through routes	Competition organisers to locate start circles so risk is mitigated	Competition Safety Committee
	All flyers	Weather poses a risk to aircraft in the air	Competition Safety Committee to cancel any ongoing task	Have a means to communicate that a flying task has been cancelled	Competition Safety Committee
			Pilots manage their own risks as to whether to continue to fly or land	Non required	None
			Weather briefing each morning so the expected weather pattern can be anticipated	Obtain detailed forecasts of expected weather condition and present at the daily briefing	Competition Safety Committee
	Aerotow HG Pilots	Weather poses a risk to HG on the ground	Competition Safety Committee to cancel any ongoing task	Have a means to communicate that a flying task has been cancelled	Competition Safety Committee
			Pilots manage their own risks as to whether to continue to fly	Non required	None
	Tug Pilots	Weather poses a risk to Tug operations	Tug Pilots manage their own risks as to whether to continue to fly or not	Windsocks will be placed at key position around the airfields to assist with a continuous assessment of the weather conditions	Event Organisers
	All	Inability to cope with an emergency	Develop and Emergency Response Plan	Develop and publish ERP. Fine tune through practise Exercise during warm up days	Safety Director
All	Change of flying areas due to weather change or other. Moving on airfield may conflict with those already airborne	Do not announce a change until all tugs are on the ground	Ensure all tugs are on the ground before deciding to move to a new launch area	Event Organisers	
		Ensure route for those on the ground is safe and not in conflict with and allocated landing areas	Ensure Marshal are aware of safe route and police movement	Safety Director	
Rigging Area	Aerotow HG Pilots	Normal rigging area behaviour	Non required	Non required	None
	Pilots assistants	Normal rigging area behaviour	Pilot to ensure helpers are safe	Add note of such in registration pack stating pilots are responsible for the safety of any helpers they may bring and that said helpers should attend the daily safety briefing	Event Organisers
	General Visitors	Physical dangers	No visitors in rigging area, signage	Ensure adequate signage and appoint marshals to ensure compliance	Event Organisers
	All	Unaware of a defined area	Ensure rigging area is defined and demarcated so all are aware of its boundaries	Demarcate rigging area	Event Organisers
	All	Access to rigging area safe	Ensure that access for people on the ground to the rigging area is via a safe route	Ensure adequate signage and appoint marshals to ensure compliance	Event Organisers
			Cover rigging area access as part of daily briefing to all	Include in Daily Briefing	Safety Director
Launch Area general	Aerotow HG Pilots	Normal launch behaviour	Ensure all pilot know what is expected of them	Include in briefing	Event Organisers
	Non Aerotow HG pilots	Physical danger to pilots and non pilots	No visitors in launch area, signage	Ensure adequate signage and appoint marshals to ensure compliance	Event Organisers
	All	Unaware of a defined area	Ensure launch area is defined and demarcated so all are aware of its boundaries	Demarcate launch area	Event Organisers
Landing Area HG	Pilots	Injury to pilot or danger to HG during landing	Ensure the landing areas are designated and assessed as suitable by the Aerotow Safety Team	Appoint Aerotow Safety Team and plan to make assessments	Event Organisers
			Pilots use their skill and experience to choose a safe landing option as they normally would	Ensure all pilots are suitably qualified and have 3rd party insurance at time of registration	Event Organisers
			Ensure designated landing areas are keep clear of people, obstacles etc.	Appoint marshals to ensure compliance	Event Organisers
			Have a wind sock that is clearly visible	Provide windsocks	Event Organisers
			Include details of landing areas in registration pack and daily briefing	Produce registration pack and website. Hold briefing every day	Event Organisers
		Conflict with other air users	Ensure all Tug and HG pilots have separate circuit patterns and landing areas when landing back at the airfield in a non emergency situation	Base circuit patterns on those usually used at the airfield by motorised aircraft so that any non-event arriving aircraft will not conflict with event traffic	Event Organisers

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	Risk Levels	Low			
		Medium			
		High			
Area of Risk	To whom	Type of risk	Mitigation	Actions required to Mitigate	Who will carry out actions?
			Ensure that a ground marshal can call on SAFETYCOM any arriving aircraft and notify them of the presence and likely actions of any HG near the airfield circuit	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with inbound aircraft	Event Organisers
	All	Unaware of a defined area	Ensure landing area is defined and demarcated so all are aware of its boundaries.	Demarcate landing area. Report at the briefing if it is expected than landing areas may change during the day due to wind etc.	Event Organisers
Landing Area Tug	Tug Pilots	Injury to pilot or danger to Tug during landing	<i>As per Aerotow Hg Pilots</i>	<i>As per Aerotow Hg Pilots</i>	<i>As per Aerotow Hg Pilots</i>
		Conflict with other tugs	Ensure tug pilots know the defined circuit patterns and keep a good lookout	Ensure that all tug pilots are brief daily on the circuit patterns in use	Safety Director
			Ensure tugs are equipped with a radio tuned to SAFETYCOM so they can announce their circuit pattern calls	Ask all tug pilots to bring a functioning radio if they have one	Event Organisers
		Conflict with other air users	Ensure tugs are equipped with a radio tuned to SAFETYCOM so that airfield calls from other users can be heard	Ask all tug pilots to bring a functioning radio if they have one	Event Organisers
			For tug that do not have a radio ensure that a ground marshal can call on SAFETYCOM any arriving aircraft and notify them of the presence and likely actions of the tug	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with inbound aircraft	Event Organisers
		Incident requiring emergency landing on airfield	Have a SAFETYCOM radio available at launch so that Tugs requiring an immediate landing options can have the landing area clear	Ensure a SAFETYCOM radio is available at all times at launch	Event Organisers
			Ensure that a marshal continuous monitors tug approaches so that the landing area can be cleared if the tug is unable to communicate via SAFETYCOM	Ensure the Launch Marshals know what tug radio calls require from them	Safety Director
	All on the ground	Hit by the line flailing behind the tug	Ensure the tug landing paths is kept clear of people during a tug approach	Ensure a Marshal has responsibility to monitor tug landing approaches	Safety Director
	All	Unaware of a defined area	Ensure landing area is defined and demarcated so all are aware of its boundaries	Demarcate landing area. Report at the briefing if it is expected than landing areas may change during the day due to wind etc.	Event Organisers
	Towline	Damage to tow line by being dragged	Ensure tug pilots are aware of any areas of the site where dragging a tow line is not recommended	Include in tug pilots site briefing	Safety Director
Line Dropping Areas	All on the ground	Hit by falling line	Mark area for line dropping with a Yellow Cross as required by law and ensure lines are only dropped there unless in an emergency	Ensure a yellow cross is available and located in a area suitable for line dropping	Event Organisers
	Tug Pilots	Dangers associated with flightpath to drop the line	Ensure the line dropping area is on a safe flight path for the tug	Ensure a yellow cross is available and located in a area suitable for line dropping	Event Organisers
	Airborne HG or tug pilots	Conflict with tugs dropping lines	Ensure all Tug and HG pilots have separate circuit patterns when landing back at the airfield in a non emergency situation	Base circuit patterns on those usually used at the airfield by motorised aircraft so that any non-event arriving aircraft will not conflict with event traffic	Event Organisers
HG/Tug launching (single lane)	Aerotow HG Pilots	Incident before leaving the ground	Ensure BHPA Technical Manual procedures for aerotowing are adhered to	Appoint suitable qualified marshals to organise the launch process	Event Organisers
			Ensure trolleys are maintained and fit for purpose	Assess all launch trolley before the start of the event and only permit the use of adequate trolley	Event Organisers
			Continuously monitor the state of the launch trolleys	Appoint suitable qualified marshals to organise the launch process	Event Organisers
			Ensure the tow ropes used are fit for purpose	Appoint suitable qualified marshals to organise the launch process	Event Organisers
			Continuously monitor the state of the tow ropes	Appoint suitable qualified marshals to organise the launch process	Event Organisers
			Ensure that the launch area has adequate space for the safe recovery of any incident	Access the launch areas for suitability before the even	Event Organisers
				Access the launch areas for suitability continuously during the event	Marshalls
		Incident after leaving the ground	Ensure BHPA Technical Manual procedures for aerotowing are adhered to	Ensure all pilots are suitably qualified and have 3rd party insurance at time of registration. BHPA membership can be checked at time of online registration?	Event Organisers

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Area of Risk	To whom	Type of risk	Mitigation	Actions required to Mitigate	Who will carry out actions?
			Ensure that there are safe landing options available at all times during the launch process	Assess the landing areas for suitability before the event	Event Organisers
				Assess the landing areas for suitability continuously during the event	Safety Director
	Tug Pilots	Incident before leaving the ground	<i>As per Aerotow Hg Pilots</i>	<i>As per Aerotow Hg Pilots</i>	<i>As per Aerotow Hg Pilots</i>
		Incident after leaving the ground	<i>As per Aerotow Hg Pilots</i>	<i>As per Aerotow Hg Pilots</i>	<i>As per Aerotow Hg Pilots</i>
			Ensure that any runway chosen has bailout options should the tug need to land before gaining adequate height to make a normal approach	Assess that suitable bailout options are available for any chosen launch runway	Event Organisers
				Brief all tug pilots on the available bailout options	Event Organisers
	All Others	Injury caused by aerotowing process and equipment	Ensure launch area is kept clear of non-essential personnel	Ensure a Marshal has responsibility to control the launching area	Event Organisers
HG/Tug launching (multiple lane additional risks)	All Pilots	Misunderstanding of which launch lane a launch signal applies to	Ensure that multiple lane launch signalling can not be open to misunderstanding	Design multiple lane launch signalling method based on current BHPA standards	Event Organisers
		Physical conflicts between Tugs/HGs and the ground	Ensure there is sufficient space available for multiple separate launch lanes to operate simultaneously for in a staggered fashion	Decided on how many lanes are practical and how they may be operated, simultaneously or staggered	Aerotow Safety Team
		Physical conflicts between Tugs/HGs in the air	Ensure that flight lines are chosen to limit the possibility of aircraft conflict when towing	Decided on how many lanes are practical and how they may be operated, simultaneously or staggered	Aerotow Safety Team
Moving of runways/rigging/landing areas due to change in conditions	All	Conflict with ground or air traffic during movement on airfield	Ensure any movement of people or equipment enmasse is under the control of the Launch Manager or Safety Director	Brief everybody at the dailing brief on the process to be followed if areas change during the day	Safety Director
			Ensure weather briefing highlight the possibility of the need to move locations during the day	Obtain weather brief data before the daily safety briefing	Safety Director
Powered Aircraft aircraft arrivals	HG Pilots in the air	Conflict with arriving aircraft	Ensure all Tug and HG pilots have separate circuit patterns when landing back at the airfield in a non emergency situation	Base circuit patterns on those usually used at the airfield by motorised aircraft so that any non-event arriving aircraft will not conflict with event traffic	Event Organisers
			Ensure that a ground marshal can call on SAFETYCOM any arriving aircraft and notify them of the presence and likely actions of any HG near the airfield circuit	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with inbound aircraft	Event Organisers
	Tug Pilots in the air	Conflict with arriving aircraft	Ensure tugs are equipped with a radio tuned to SAFETYCOM so that airfield calls from other users can be heard	Ask all tug pilots to bring a functioning radio if they have one	Event Organisers
			For tug that do not have a radio ensure that a ground marshal can call on SAFETYCOM any arriving aircraft and notify them of the presence and likely actions of the tug	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with inbound aircraft	Event Organisers
	HG & Tug Pilots on ground preparing to launch	Conflict with arriving aircraft	Ensure that a ground marshal can call on SAFETYCOM any arriving aircraft and notify them of the presence of event attendees on the ground	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with inbound aircraft	Event Organisers
			If it is not possible to launch to avoid conflict, the HG, trolley, line and tug should vacate the runway until the danger from the arriving aircraft has passed	Appoint suitable qualified Marshals to organise the launch process	Event Organisers
	Arriving aircraft	Conflict with event attendees	Ensure that a ground marshal can call on SAFETYCOM any arriving aircraft and notify them of the presence of event attendees both in the air and on the ground	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with inbound aircraft.	Event Organisers
	All Others	Conflict with arriving aircraft	Ensure launch area is kept clear of non-essential personnel	Marshal has responsibility to control the launching area	Marshalls
Powered Aircraft aircraft departures	HG Pilots in the air	Conflict with departing aircraft	Ensure that a ground marshal can call on SAFETYCOM any departing aircraft and notify them of the presence and likely actions of any HG near the airfield circuit	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with departing aircraft	Marshalls
			Ensure HG pilots have separate circuit patterns when landing back at the airfield in a non emergency situation that does not conflict with any departing powered aircraft (this includes tugs)	Base circuit patterns on those usually used at the airfield by motorised aircraft so that any non-event arriving aircraft will not conflict with event traffic	Event Organisers
			HG Pilots to use airmanship and common sense to avoid any conflict	None	None

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	Tug Pilots in the air	Conflict with departing aircraft	Ensure that a ground marshal can call on SAFETYCOM any departing aircraft and notify them of the presence and likely actions of any Tug near the airfield circuit	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with departing aircraft and radio equipped tugs in the circuit	Marshalls
			Tug Pilots to use airmanship and common sense to avoid any conflict	None	None
	HG & Tug Pilots on ground preparing to launch	Conflict with departing aircraft	Normal airfield departure queue protocols will apply.	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with departing aircraft	Marshalls
	Departing aircraft	Conflict with event attendees	Normal airfield departure queue protocols will apply	Ensure a Marshal on the ground is equipped with a SAFETYCOM radio and knows how to use it to communicate with departing aircraft	Marshalls
	All Others	Conflict with departing aircraft	Ensure launch area is kept clear of non-essential personnel	Marshal has responsibility to control the launching area	Marshalls
Tug Refuelling	Tug pilot	Danger to tug and pilot when refuelling	Refuel tugs only at defined refuelling points as defined by the airfield		Event Organisers
	All	Danger to other when tug transits to the refuelling area	Ensure there is a clear route to the refuelling area		Event Organisers
Car parking (pilots)	Air users	Conflict with landing or launching aircraft	Ensure all parking is in areas where no conflict can occur	Designate parking areas and include in registration documents	Event Organisers
		Conflict with landing or launching aircraft	Police any parking not in the designated area	Marshal has responsibility to control	Marshalls
Car parking (visitors)	Air users	Conflict with landing or launching aircraft	Ensure visitors park in the normal airfield parking areas	Marshal has responsibility to control	Marshalls
Camping	Air users	Conflict with landing or launching aircraft	Ensure all camping is in areas where no conflict can occur	Designate camping areas and include in registration documents	Event Organisers
Signage not read by relevant party	Aerotow HG Pilots	Compromise of operational safety	Included in registration pack	Ensure that all necessary operational information is included in a pilots registration pack	Event Organisers
			Reiterate safety issues at the daily briefing	Ensure all pilots attend daily briefings in order to fly that day	Event Organisers
	Pilots assistants	Compromise of operational safety	Pilots asked to ensure their assistants are aware	Ensure all pilots assistants attend daily briefings in order to fly that day	Registered Pilots (both comp and free flyers)
	General Visitors	Compromise of operational safety	Signs in multiple strategic locations	Create the necessary signage	Event Organisers
Marshal availability	The Event	General risk to the event viability	Ensure there are an adequate number of trained Marshals for each type of role	Organise Marshals prior to the event	Event Organisers
			Decide on what Marshal role are required e.g. Launch, Signallers, Trolley retrieval, Queue/rigging, Air Safety (radio), General Airfield	Organise Marshals prior to the event	Event Organisers
			Ensure that the role of each Marshal is defined and known the Marshal	Decide on what functions Marshals will need to perform and how many are required for each Marshalling role	Event Organisers
			Ensure there is a rota so there are enough Marshal available when required	Set and rota to include alternates prior to the event	Event Organisers
Inadequate Marshal skill and knowledge	All	Failure of safety protocols	Ensure Marshals and provided with a document listing their responsibilities and expected actions	Produce Marshal guide document	Safety Director
			Choose Marshals that are familiar with the operations of an aerotow club	Ensure that any Marshals chosen have the correct experience	Event Organisers
Failure to SAFETYCOM/HG radio used by launch Marshal	Air users	Risk to launching and landing aircraft increased	Have a backup radio available	Ensure enough radios are available	Event Organisers
			Ensure that all radios are charged daily	Ensure adequate secure charging of radios is possible. May be possible to secure 12v supply if mains not available. Owners would need to provide 12V charging leads.	Event Organisers
				Appoint a responsible person(s) to ensure radios are charged daily	Event Organisers
Dealing with an injury on site	Anyone at the event site	First Aid required	First Aid kit will be available at in launch areas	Ensure First Aid Kits are available	Event Organisers
			People with First Aid qualifications will be available on site	Keep a list of those with First Aid qualifications and ensure at least one at all times	Event Organisers
			Ensure site location details are available should emergency services need to be called	Publish site location details that can be passed to emergency services should 999 be called	Event Organisers

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