The Scale Aviators (TSA)inc
Risk Management
2022-2023 V1.3

Potential Severity		Likely occurrence	
Trivial (no cost)	1	Highly unlikely (one a lifetime)	1
Minor Injury (Low Cost > $1000)	2	Possible occurrence (once every 10 years)	2
Serious Injury (Moderate Cost > $10,000)	3	Quite possible occurrence (once every 5 years)	3
Fatality (High Cost > $30,000)	4	Likely occurrence (Once a year)	4
Major-Multiple Deaths (extreme cost >$100,00)	5	High occurrence (Several times a year)	5

Risk Factor = Severity of Hazard x Likely hood of Occurrence.

RISK ASSESSMENT EVALUATION SCORES

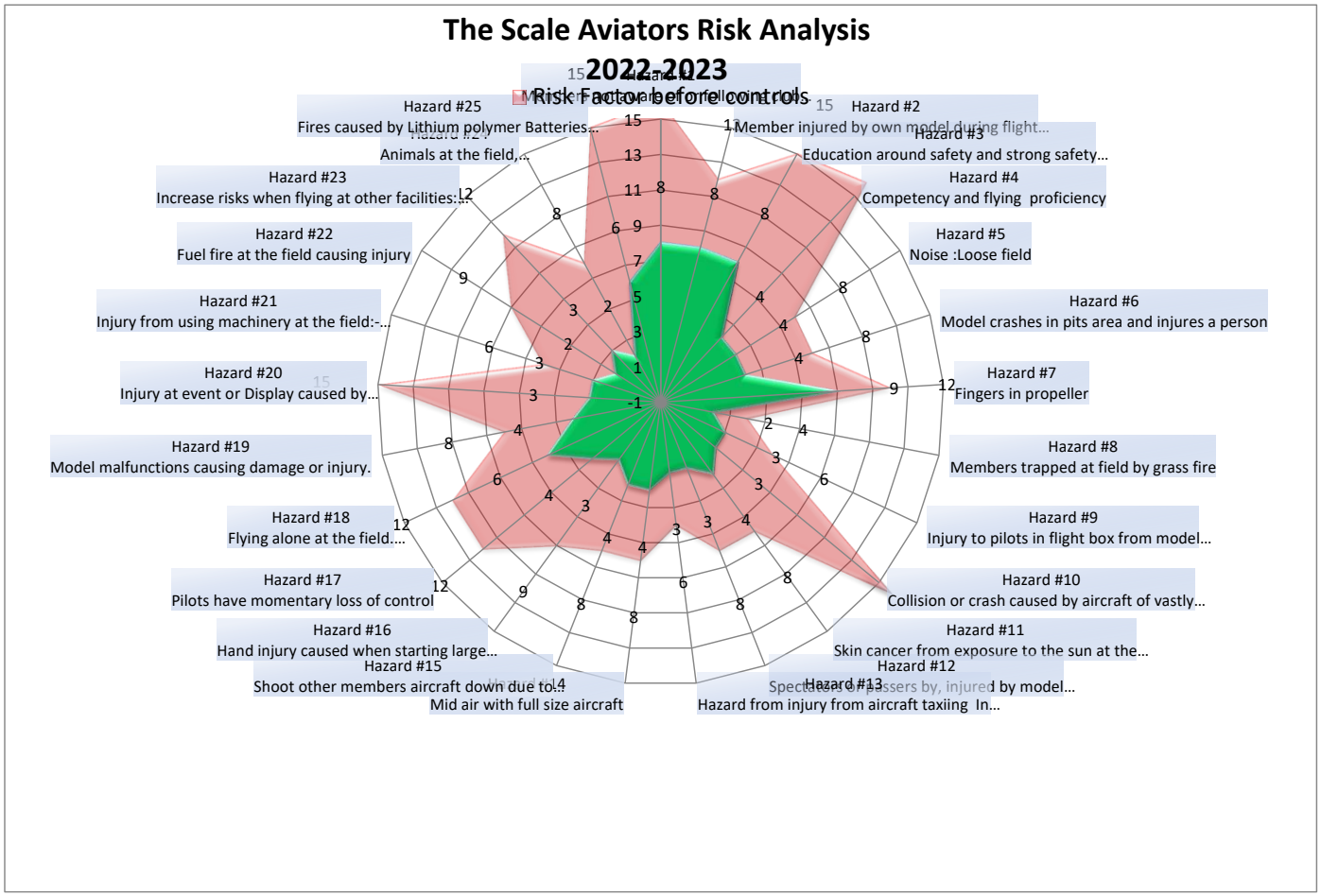
Risk Item	HAZARD	RISK DEFINITION AND CONTROL MEASURES	Severity	Frequency	Risk Factor after controls	Risk Factor before controls
1	**Hazard #1** Members not aware of or following club flying rules. (including MAAA MOPS, and CASA regulations)	**Hazard #1** Members not aware of club flying rules. **COMMENTS – CONTROL MEASURES:** All new members will be handed a joining pack containing the club rules. Access to club rules are available to member on the web site www.thescaleaviators.org.au and MAAA MOPS www.maaa.asn.au All TSA members are required to be vetted for competency. The TSA rules are regularly reviewed.. The TSA rules are strictly adhered to. It is preferable that all members have GOLD Wings before joining. All members are encouraged to be part of through TSR continual skill improvement program covering all aspects of model air safety and competence. Not limited to: Wings, instructor, large model inspection, completion.	4	2	8	16
2	**Hazard #2** Member injured by own model during flight operation.	**Hazard#2** Member injured by own model during flight operations. **COMMENTS – CONTROL MEASURES:** Control measure Enforce flying procedures manual particularly: • No standing on the strip while flying • No hovering models closer than 10 meters from self or any other individual, • No fast low passes closer than the far side of the runway. Erect model proof barrier between pilots and runway, Emphasise safe circuit and landing training for new pilots. Ensure First Aid Kit available at site.	4	2	8	12
3	**Hazard #3** Education around safety and strong safety culture and effective safety response and reporting process.	**Hazard # 3** Safety culture not acceptable or appropriate, Members not adhering to safety requirements and safety issues not being taken seriously. Safety issues not being addressed reported or managed. **COMMENTS – CONTROL MEASURES:** Appointment of appropriable skilled Safety officer Safety officer mandatory requirement. Disciplinary actions executed under the constitution if any member openly displays disregard for safety	4	2	8	15
4	**Hazard #4** Competency and flying proficiency	**Hazard #4** Hazards due to lack of experience both in flying and construction including setup and product knowledge. The TSA culture is based on excellence in aeromodelling and maintaining the highest standards. We adopt a professional approach to the sport. All members are expected and encouraged to be part of the TSR continual skill improvement program covering all aspects of model air safety and competency. Not limited to: TSR education program, Aeromodelling University, Wings, instructor, large model inspection, and continual improvement through exposure to events.	2	2	4	16

5	**Hazard #5** Noise :Loose field	**Hazard #5** Noise :Loose field **COMMENTS – CONTROL MEASURES** No current population to consider, However conformance to MAAA MOPS is required.	**4**	**1**	**4**	**8**
6	**Hazard #6** Model crashes in pits area and injures a person	**Hazard #6** Model crashes in pits area and injures a person **COMMENTS – CONTROL MEASURES** Mandatory requirement to comply with the 30 meter rule Make note in club rules to make sure that members know to call out immediate warning to all if a pilot is experiencing any difficulty. Experience Pilots to immediately offer assistance. Potential members are encouraged to have GOLD wings standard TSA member's number one priority to obtain GOLD wings standard. TSA provided instructors and is fully supportive and encourages by providing training program to achieve Gold Wings standard. TSA members average skill level is sufficiently high to provide appropriate training to all but the most advanced pilots.	**4**	**1**	**4**	**8**
7	**Hazard #7** Fingers in propeller	**Hazard #7** Fingers in propeller **COMMENTS – CONTROL MEASURES** Require all members to positively restrain aircraft either by someone else holding or mechanical stops(Assistant) Mechanical stop provided at the TSA field. Permanent starting pole provided at club for large models. At events or displays Pilots are advised to have an assistant. All Heavy models are to have assistant in attendance.	**3**	**3**	**9**	**12**
8	**Hazard #8** Members trapped at field by grass fire	**Hazard #8** Members trapped at field by grass fire **COMMENTS – CONTROL MEASURES** No action required multiple alternate exits exist. The field is kept well maintained and low fuel (Wood) supply is maintained. Grass lands are very well maintained both by mowing and sheep stock. The club house has approved fire fighting Backpack sprayer that is always ready for use. The Club house has CO2 and Powder fire extinguishes. The TSA field has water storage (Minimum 4000L) including watering pump tap and hose. There are always 6 x 20liter water containers available for use. No flying on days of total fire ban.	**2**	**1**	**2**	**4**
9	**Hazard #9** Injury to pilots in flight box from model aircraft becoming uncontrollable during take off and landing	**Hazard #9** Injury to pilots in flight box from model aircraft becoming uncontrollable during take off and landing **COMMENTS – CONTROL MEASURES** Pilots offered protection by flight box structure. Training of pilots to Gold wings standard. Standard flight line etiquette, call out commands as per TSA rules.	**3**	**1**	**3**	**6**

10	**Hazard #10** Collision or crash caused by aircraft of vastly different characteristics occupying the same area.	**Hazard #10** Collision or crash caused by aircraft of vastly different characteristics occupying the same area. **COMMENTS – CONTROL MEASURES** Club rules state that permission must be granted to fly aircraft of vastly different flight characteristics at the field. Time slot is the preferred solution and is to be encouraged by all members. When holding event: Flight line will be in waves of similar performance aircraft or solo flights if requested.	**3**	**1**	**3**	**16**
11	**Hazard #11** Skin cancer from exposure to the sun at the flying field.	**Hazard #11** Skin cancer from exposure to the sun at the flying field. **COMMENTS – CONTROL MEASURES** Shade areas erected at the field for both spectators and pilots. TSA to adopt a Slip Slop Slap culture through awareness program 2014-2015	**4**	**1**	**4**	**8**
12	**Hazard #12** Spectators or passers by, injured by model aircraft.	**Hazard #12** Spectators or passers by, injured by model aircraft. **COMMENTS – CONTROL MEASURES** Implementation of flying field layout as described in the club rules, and MAAA MOPS (30 Meter rule) No Passers by as field has no general public access. viewing area is of substantial structure and would offer considerable protection as well as providing the invited guests with very good amenities. View of site map indicating no fly zone and spectator areas. Trees planted in Pitts area will offer additional protection as they grow to size. Ensure club members aware of their responsibilities to look out for visitors(invited guests) and prevent them accessing any higher risk areas.	**3**	**1**	**3**	**8**
13	**Hazard #13** Hazard from injury from aircraft taxiing In the pits area	**Hazard #13** Hazard from injury from aircraft taxiing I the pits area **COMMENTS – CONTROL MEASURES** TRS rules state no taxing into the pit area. Starting area is outside the pit area. All Pilots are to use the starting area. Always request clearance to taxi onto the strip prior to take off.	**3**	**1**	**3**	**6**
14	**Hazard #14** Mid air with full size aircraft	**Hazard #14** Mid air with full size aircraft **COMMENTS – CONTROL MEASURES** **TRS** field to be registered with CASA when events are run and put on the NOTAM Very low density of air traffic and club complies with ceiling set by CASA Maintain visible line of sight at all times. Maintain separation with full size aircraft (minimum 1000ft) 1800ft as per TSA Instrument to be followed at all times. RPAS2017-5321 The operator must appoint at least one safety officer during club operational periods whose sole responsibility is to identify any manned aircraft that may overfly the club field lower than 1500ft AGL. The safety officer is to take action to ensure that all model aircraft in the air at the time are to be operated no higher than 400AGL whilst such manned aircraft is transiting at such low altitude.	**4**	**1**	**4**	**8**

15	**Hazard #15** Shoot other members aircraft down due to operation on same frequency	**Hazard #15** Shoot other members aircraft down due to operation on same frequency COMMENTS-CONTROL MEASURES All TSR members are currently using 2.4G	**4**	**1**	**4**	**8**
16	**Hazard #16** Hand injury caused when starting large petrol engines.	**Hazard #16** Hand injury caused when starting large petrol engines. **COMMENTS-CONTROL MEASURES** Aircraft to be restrained by starting poles. Ignition status to be called out before turning over propeller by operator. Assistant to be used when starting large/ heavy models. Petrol engines only to be started with Gold wings pilot in attendance.	**3**	**1**	**3**	**9**
17	**Hazard #17** Pilots have momentary loss of control	**Hazard #17** Pilots have momentary loss of control **COMMENTS – CONTROL MEASURES** Pilot regains control Pilots to only fly aircraft that are suitable for their level of experience. Pilot training to address radio interference of loss of control actions Pilot to call out clearly when experiencing any form of loss of control. Experience pilots to immediately provide assistance. Instruction is provided by the TSA flying instructor	**4**	**1**	**4**	**12**
18	**Hazard #18** Flying alone at the field. Injury from propeller or rotor, snake bit or other medical emergency Intermittent phone coverage.	**Hazard #18** Flying alone at the field. Injury from propeller or rotor or other . Intermittent phone coverage. **COMMENTS – CONTROL MEASURES** No flying alone permitted at the TSA field	**3**	**2**	**6**	**12**
19	**Hazard #19** Model malfunctions causing damage or injury.	**Hazard #19** Model malfunctions causing damage or injury. **COMMENTS – CONTROL MEASURES** The support and experience of TSA members and the correct culture of assisting. TSA members are encouraged to take a fully professional approach to aeromodelling. Safety first.	**4**	**1**	**4**	**8**
20	**Hazard #20** Injury at event or Display caused by additional numbers.	**Hazard #20** Injury at event or Display caused by additional numbers. **COMMENTS – CONTROL MEASURES** **TSA** will seek approval for any Display activity through State Association , MAAA and CASA. All events that meet the requirements of a DISPLAY will be conducted in accordance with MOP 019 including any relevant CASA requirements. TSA Display procedures provide protection from overload of activates. Experienced Flight line director's responsibility to limit and control the number of aircraft in the air at once. Field design has very few obstacles and plenty of landing area.	**3**	**1**	**3**	**15**

21	**Hazard #21** Injury from using machinery at the field:- Mower	**Hazard #21** Injury from using machinery at the field:- Mower **COMMENTS – CONTROL MEASURES** Only authorized and trained operators of any mechanical equipment allowed. Mower not to be operated at the TSA field alone. PPE is provided and is to be used.	**3**	**1**	**3**	**6**
22	**Hazard #22** Fuel fire at the field causing injury	**Hazard #22** Fuel fire at the field causing injury **COMMENTS – CONTROL MEASURES** TSA field is fitted with three fire fighting equipment. CO2 and Powder and bush fire back pack. TSA field also has holdings of fresh water for fire fighting purpose if required The field has a first aid kit available at all times. Several TSA members are first aid trained.	**2**	**1**	**2**	**9**
23	**Hazard #23** Increase risks when flying at other facilities: Display	**Hazard #23** Increase risks when flying at other facilities: Display (example TUMUT) **COMMENTS – CONTROL MEASURES** Only experienced and GOLD wings standard pilots to fly at Public displays. Flight envelope to be maintained well within Pilots, aircrafts and environments limitations. Display directors control of the event to maintain larger then normal safety margins. All events that meet the requirements of a DISPLAY will be conducted in accordance with MOP 019 including any relevant CASA requirements.	**3**	**1**	**3**	**12**
24	**Hazard #24** Animals at the field, Risk to animals from aircraft and aircraft propellers. Risk of injury to people due animals present at the field:- Distraction to Pilots	**Hazard #24** Animals at the field, Risk to animals from aircraft and aircraft propellers. Risk of injury to people due to animals present at the field:-Distraction to Pilots The property is an active Farmer with livestock. **COMMENTS – CONTROL MEASURES** **MAAA MOP 063 applies** Any dogs to be fully restrained at all times, and not to be a regular accurance.	**2**	**1**	**2**	**8**
25	**Hazard #25** Fires caused by Lithium polymer Batteries and or model aircraft activities.	**Hazard #25** **Bush or grass fire is started by Lithium battery packs or model aircraft activities.** **COMMENTS – CONTROL MEASURES** The Scale Aviators members are strongly requested not to use Lithium technology batteries as receiver flight pack in petrol aircraft unless specifically inspected by the safety officer and or a large model inspector. Fire extinguishers (2) as well as sand bucket and fire fighting broom are made available to put out any secondary fire from Lithium batteries or model aicraft fires. In dry conditions a standby vehicle with access to fire fighting equipment is required to be available. Members are trained in correct response to battery and fire incidents. **No flying during total fire ban conditions.** Maintain strong working relationsip with farmer and Rural fire fighting service. RFS to be invited to any events that are held during the warmer months. No high activity during December / January seasion.	**2**	**3**	**6**	**15**


The Scale Aviators Risk Analysis
2022-2023
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