

# The Federation of Astronomical Societies



## **Risk Assessment Guidelines**

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# Document History

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# Contents

1	Introduction .....	1
2	General Principles.....	1
3	Risk & Hazard .....	2
4	Society Preparation in Assessing Risk .....	2
5	Proportionality .....	3
6	Steps Needed to Manage Risk .....	3
6.1	Identify hazards .....	4
6.2	Assess the risks .....	4
6.3	Control the risks.....	4
6.4	Record your findings.....	5
6.5	Review the controls .....	5
7	Communicating Risk Plans.....	6
8	Sources of Additional Information.....	6

## **1 Introduction**

These guidance notes are intended to help astronomical societies, and by implication their committees, identify and manage hazards and risks that are in their environments and within their control. These guidelines should be read in conjunction with other FAS guidelines (available on the FAS website) such as *Guidelines on Laser Pointers*, *Child Protection Guidelines* and *General Data Protection Regulation (GDPR) for Astronomical Societies* as well as the Health and Safety Executive's information available on their website – details below.

The Federation of Astronomical Societies is acutely aware that many affiliated astronomical societies take seriously the Health and Safety responsibility they have towards their members and to members of the public when undertaking various activities such as meetings or outreach. As a result, the Federation of Astronomical Societies is, from time to time, asked if we know of, or possess any risk assessment documents that can be used by those individual astronomical societies. As a result of these requests this document has been created to assist societies in assessing risk more easily and to discharge their responsibilities in keeping both their members and members of the public safe.

Long gone are the days when an accident was seen as an event that occurred and apologies exchanged alongside checking that a person was okay. Today we are much more aware that an accident, howsoever caused, may be the start of litigation or prosecution either towards the astronomical society or individual members. This has made many astronomical societies conscious of their Health and Safety responsibilities and sometimes wary about conducting outreach or other similar activities.

In support of the individual society, the Federation of Astronomical Societies sought for its affiliated members Public Liability Insurance (PLI) cover. However, securing this cover does not absolve individual societies and their members from conducting a proper risk assessment in order to reduce the chances of an accident and consequences, should an accident occur to either a society member or to a member of the public.

In the preparation of drafting these risk assessment guidelines, the Federation of Astronomical Societies has ensured that the creator of this document has attended some insurance industry workshops, reviewed on line material and has also been in contact with the Federation of Astronomical Societies' PLI Brokers. In all circumstances they have confirmed that there is no 'standard' risk assessment document, but there is an accepted process and expectation that risk is (1) identified, (2) assessed, (3) controlled (mitigated), (4) documented and (5) reviewed and that these steps are put in place by those responsible within the astronomical society.

### **Disclaimer**

Notwithstanding the above, and as with all information given out by the Federation of Astronomical Societies, it has never purported to be the expert on the subject and these guidelines here should not be relied upon in a court.

All information is given in good faith but if the astronomical society needs to better inform itself it should seek additional sources of information and if necessary, professional advice. Some additional resources are listed at the end of these guidelines in section 8.

## **2 General Principles**

Astronomical societies should accept that there is no such thing as a risk free existence and that all activities, however benign, may carry some element of risk, however unlikely it may seem at the time.

Risk management must not simply be a paper exercise. Whilst documenting the identified risks and actions are important, a priority must be the action taken to eliminate or mitigate the risks. Neat paperwork in the absence of appropriate action is no defence should an incident occur.

All members of astronomical societies have a duty of care to each other including visitors and should be mindful and alert to any risks around them. Any identified risks that have not been previously assessed or where the previous mitigating actions are now no longer effective, should be reported to the society's Chairman (or other designated person) as soon as possible.

Astronomical societies should be mindful of the possibility of a society member or visitor wilfully exposing themselves or others to unacceptable risk. Appropriate contemporaneous action must be taken and action may need to be taken by the society regarding the individual(s) at a later date.

Copies of the Risk management plan must be made available to the society membership and an appropriate Health and Safety briefing must be given to visitors.

### **3 Risk & Hazard**

The term 'risk' in the context of these guidelines is generally covering aspects such as, Health & Safety, Fire, electrical and other general risks (see Health & Safety Executive webpage [www.hse.gov.uk](http://www.hse.gov.uk)).

A hazard is something that could cause harm to people, such as chemicals, electricity and working at height.

A risk is the chance – however large or small – that a hazard could cause harm.

There are occasions where the hazard can be removed and so the risk then becomes nil; in other circumstances the hazard may not be able to be removed so controls will need to be put into place to reduce the risk of harm occurring. These are the two aspects which will underpin your risk assessment.

Risk can be grouped into (1) risk to members, (2) risk to visitors, (3) risk to property and (4) reputational risk. The level of knowledge by society members of a particular hazard will, in all likelihood, be much greater than that of a visitor, thus the visitor may be at greater risk in respect to the same hazard and this should be born in mind when undertaking your risk assessment.

Risks/hazards can be characterised as static or dynamic.

A static risk is one that does not change; examples may be steep staircase leading to an observing platform or the night time darkness of an observatory site.

A dynamic risk is one that changes in time – sometimes this could be rapidly; an example may be pedestrians and cars in a dark carpark area of a star party or the changing weather when it may suddenly become very cold and icy. Some dynamic hazards may change only very slowly and could be considered as a 'static' risk.

Any identified risk can change, sometimes quickly, an example could be a car park which could suddenly become hazardous if there were to be a rapid change of weather and now suddenly faced with snow and ice on the surface when previously it was absent. Dynamic risks may require more frequent reassessment.

#### **Shared Risk**

An astronomical society may not be totally responsible for the risk management at a meeting or event per se, this is especially so when a hall is hired for the purposes of a meeting. It would normally be the hall's management committee who are responsible for conducting a risk assessment of their premises and managing those risks in order to make it safe to hire out. However, if a risk is identified whilst the astronomical society is in the premises, then it is the responsibility of the astronomical society to take appropriate action and also to report the matter to the hall committee/caretaker.

Similarly if an observing session takes place on someone's property/venue then there would be an expectation for a discussion to take place between the astronomical society and the venue/land owners. The astronomical society may wish to see the venue/land owner's environment risk assessment, the venue/land owner may wish to see the astronomical society's risk assessment in relation to the observing activity – these types of joint requests are increasing, especially with the use of laser pointers (see FAS guidelines on the use of lasers).

### **4 Society Preparation in Assessing Risk**

Astronomical societies should make reasonable preparations when undertaking their risk assessment. In normal circumstances the risk assessment would fall to the committee (or other governing body) to initiate and coordinate.

A wider discussion might take place across the society's membership to try and understand where the risks reside. Following wide discussion a list of areas or issues should be collated so that the risk assessment process covers all identified risks. Knowledge of previous accidents or near misses could also be valuable.

The society's committee may appoint a small team of people to undertake the risk assessment on its behalf. Care should be exercised when selecting the risk assessment team. If there are any members of the society with risk assessment expertise then they might be a natural choice for membership or coordination of the process.

There are commercial companies/individuals who could be contracted to undertake a risk assessment on the society's behalf, but they may not have the specialist knowledge of the astronomical society's activities so some collaboration with the commercial assessor may be required. Engaging a commercial risk assessor may also prove to be expensive. These are decisions that the society's committee will have to consider.

For a list of external consultants go to: Occupational Safety and Health Consultants Register (OSHCR): [www.hse.gov.uk/oshcr](http://www.hse.gov.uk/oshcr)

## **5 Proportionality**

The risk assessment process should not fall on a single member, but on a small team where they can give consensus to identifying hazards and risk and suggested mitigating actions. Ideally the team should be neutral in respect to particular personal issues and beliefs. An example of non-neutrality might be the selection of an individual who expresses strong beliefs in, for example, cleanliness and who might over-state the risks of hygiene hazards.

The team should also only be looking for hazards that you could reasonably expect to result in harm under the conditions of the environment the society operates in. For instance, if the society's observatory is near to an airport or airstrip there is no point trying to assess the risk to members of a jumbo jet crashing onto the observatory, but it would be appropriate to assess the level of lighting in the observatory.

The risk assessment team should be looking to assess the hazard/risks and suggest proportionate and reasonable measures to mitigate them. The risk assessment team should have knowledge of the resources available to the society that can be reasonably used to manage identified hazards and risks.

## **6 Steps Needed to Manage Risk**

The following (*in Italics*) is lifted from the Management of Health and Safety at Work Regulations 1999 (as of 2020 it is still in force), which states:

*...the minimum you must do is:*

- *identify what could cause injury or illness in your business (hazards)*
- *decide how likely it is that someone could be harmed and how seriously (the risk)*
- *take action to eliminate the hazard, or if this isn't possible, control the risk*

*Assessing risk is just one part of the overall process used to control risks in your workplace.*

*For most small, low-risk businesses the steps you need to take are straightforward*

Management of Health and Safety at Work Regulations 1999 also state:

Risk management is a five point step-by-step process for controlling health and safety risks caused by hazards in the environment. Some websites suggest a four step process, but essentially it covers the same issues.

In the following, the term 'work' is used, this could be taken as any 'activity' undertaken by the astronomical society.

Those steps are identified as:

1. Identify the Hazard
2. Assess the risks
3. Control the hazard/risks
4. Record your findings
5. Review the controls

## 6.1 Identify hazards

Look around your environment and think about what may cause harm (these are called hazards). Think about:

- how people work and how equipment is used
- what chemicals and substances are used
- what safe or unsafe work practices exist
- the general state of your premises or environment

Look back at your accident and committee records as these can help you identify less obvious hazards. Take account of non-routine events, such as maintenance of observatories & telescopes, one off observing events, *etc.*

Think about hazards to health, such as manual handling, use of any chemicals or unusual equipment and tools. For each hazard, think about how society members, visitors or members of the public might be harmed.

The risk assessment team should not be enticed into spending a lot of effort with the exotic and rarely occurring risks (which will nonetheless need managing) at the expense of the simple and perhaps more frequently occurring risks such as trips, slips, falls, working at height, vehicles, noise, working machinery (tools), hot/cold items and manual handling – this list is illustrative.

### Vulnerable people

Some vulnerable people have particular requirements and may present risks which may not be present with non-vulnerable people; for example young people such as Cubs/Brownies *etc.*, people with differing mobility or communication needs, people with other disabilities or particular medical problems – for example, if your observatory is on a hill and parking is at the bottom of the hill, do you routinely warn people of the walk? – a visitor may have a heart condition. There may be organisations that can help you assess any particular risk associated with a person's vulnerability.

### Talk to society members

Involve your society members; they may have good ideas or solutions that may have worked in the past. This will also inform them that a risk assessment is taking place.

## 6.2 Assess the risks

Once you have identified the hazards, decide how likely it is that someone could be harmed and how serious it could be. This is assessing the level of risk. Don't forget to consider some of the more common and maybe more frequently occurring risks such as slips, trips and falls.

Decide:

- Who might be harmed and how
- What you're already doing to control the hazard/risks
- What further action you need to take to control the hazard/risks
- Who needs to carry out the action
- When the action is needed by

## 6.3 Control the risks

Look at what you're already doing and the controls you already have in place. Ask yourself:

- Can I get rid of the hazard altogether?
- If not, how can I control the risks so that harm is unlikely?

If you need further controls, consider:

- redesigning the tasks
- replacing the materials, equipment or process
- organising your work/activities to reduce exposure to the materials, machinery or process
- identifying and implementing practical measures needed to work/observe safely
- providing personal protective equipment and making sure members wear it. This could be as simple as ensuring members wear warm clothes or reflective jackets when observing on a dark or very cold night

Put the controls you have identified in place. You're not expected to eliminate all risks (*e.g.* bring risk to zero) but you need to do everything 'reasonably practicable' to protect people from harm. This means balancing the level of risk against the measures needed to control the real risk in terms of money, time or trouble. This is known as 'proportionality'.

You must provide safety signs if there is a significant risk that can't be avoided or controlled in any other way. An obvious example would be to indicate the danger from electricity on the outside of an electrical box indicating '**Danger of Death Electricity 240 Volts**' or similar, sign.

You can find more detailed guidance in the links provided in the Section 8 of these Guidance Notes titled 'Sources of Additional Information'

## 6.4 Record your findings

You must record your significant findings, including:

- the hazards (things that may cause harm)
- The likelihood of harm occurring (risk)
- who might be harmed and how
- what you are doing to control the risks

To help you, the FAS has provided a risk assessment template and examples which can be found in the appendices of these guidelines. Other risk assessment templates exist, you should use one that you are comfortable with and which allows you to record your assessment and actions. Do not rely purely on the paperwork and feel your assessment is complete; your main priority should be to control the risks in practice.

## 6.5 Review the controls

You must review the controls you have put in place to make sure they are working. You should also review them if:

- they are no longer effective
- there are changes in the environment that could lead to new risks such as changes to:
  - different members
  - a process changes
  - the substances or equipment used changes
  - other material/environmental changes

Also consider a review if your members have spotted any problems or there have been any accidents or near misses. It is good practice to also take a periodic review of the risk assessment and report the findings back to the committee even if the assessment has been recently reviewed in the light of changes described above.

Update your risk assessment record with any changes that are made and ensure that these are available to the membership.



## **7 Communicating Risk Plans**

Once the hazards/risks have been identified and action put in place to manage them, the actions will need to be communicated to your society's membership and where appropriate, visitors.

This can be in the form of briefings, descriptions in the society newsletter, individual briefings and specific training. As each society is unique in structure and in size of membership, the risks for each will also be unique and specific to that society. Therefore it is difficult to prescribe any particular method of communication, other than to say the committee should ensure it is communicated.

## **8 Sources of Additional Information**

1. Health and Safety Executive, [www.hse.gov.uk/simple-health-safety/risk/index.htm](http://www.hse.gov.uk/simple-health-safety/risk/index.htm)
2. [worksmart.org.uk/health-advice/health-and-safety/hazards-and-risks/what-are-five-steps-risk-assessment](http://worksmart.org.uk/health-advice/health-and-safety/hazards-and-risks/what-are-five-steps-risk-assessment)
3. Health & Safety Executive Risk Assessment Toolkit (note this document is 103 pages long), [www.hse.gov.uk/pubns/priced/hsg268.pdf](http://www.hse.gov.uk/pubns/priced/hsg268.pdf)
4. Risk Assessment a brief guide Risk assessment: Leaflet INDG163(rev4) HSE Books 2014, [www.hse.gov.uk/pubns/indg163.pdf](http://www.hse.gov.uk/pubns/indg163.pdf)
5. DEFRA, [adlib.everysite.co.uk/adlib/defra/content.aspx?id=000IL3890W.19ENXXL41J23L4](http://adlib.everysite.co.uk/adlib/defra/content.aspx?id=000IL3890W.19ENXXL41J23L4)
6. Control Of Substances Hazardous to Health (COSHH), [www.legislation.gov.uk/ukxi/2004/3386/contents/made](http://www.legislation.gov.uk/ukxi/2004/3386/contents/made)
7. Flammable/explosive substances guidance, [www.hse.gov.uk/fireandexplosion](http://www.hse.gov.uk/fireandexplosion)
8. Electrical safety and you: A brief guide Leaflet INDG231(rev1) HSE Books 2012, [www.hse.gov.uk/pubns/indg231.htm](http://www.hse.gov.uk/pubns/indg231.htm)
9. Manual handling at work: A brief guide Leaflet INDG143(rev3) HSE Books 2012, [www.hse.gov.uk/pubns/indg143.htm](http://www.hse.gov.uk/pubns/indg143.htm)
10. Personal protective equipment (PPE) at work: A brief guide Leaflet INDG174(rev2) HSE Books 2013, [www.hse.gov.uk/pubns/indg174.htm](http://www.hse.gov.uk/pubns/indg174.htm)
11. Preventing slips and trips at work: A brief guide Leaflet INDG225(rev2) HSE Books 2012, [www.hse.gov.uk/pubns/indg225.htm](http://www.hse.gov.uk/pubns/indg225.htm)
12. Working at height, [www.hse.gov.uk/work-at-height](http://www.hse.gov.uk/work-at-height)

<b>&lt;Name of Society&gt; Risk Assessment</b>			Calculate: <b>Probability</b> multiplied by <b>Severity</b> for control scores. NB: For scores of 10 (High) or more - implement extra controls					
<b>Location:</b>			<b>Severity</b>	<b>Minor Injury</b>	<b>Ill Health</b>	<b>Major Injury</b>	<b>Perm Disability</b>	<b>Fatal</b>
			<b>Probability</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Task/Activity/Area:</b>	<b>Highly Unlikely</b>	1	1	2	3	4	5	
	<b>Unlikely</b>	2	2	4	6	8	10	
<b>People at risk:</b>	<b>Possible</b>	3	3	6	9	12	15	
	<b>Probable</b>	4	4	8	12	16	20	
<b>Date of Risk Assessment</b> <Date>	<b>Date of Review</b> <Planned Review Date>	<b>Certain</b>	5	5	10	15	20	25
<b>Comments:</b>								
<b>Person responsible:</b> <Printed Name>			<b>Signature:</b> <Signed Name>					

<b>Area</b>	<b>Identified hazards or Injury causes, highlighting risks</b>	<b>Control Score</b> No controls (Probability x Severity = calculation)	<b>Current Controls/Procedures</b> <b>(existing controls, information, training etc)</b>	<b>Control Score</b> With Controls (Probability x Severity = Calculation)	<b>Further Controls</b>	<b>Action Priority (H/M/L)</b>

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<b>&lt;Name of Society&gt; Risk Assessment</b>		Calculate: <b>Probability</b> multiplied by <b>Severity</b> for control scores. NB: For scores of 10 (High) or more - implement extra controls				
<b>Location:</b> In this box you will simply state the location of where the risks are. Such as the address of the observatory or location of the observing area or meeting hall etc.	<b>Severity</b>					
	<b>Probability</b>	1	2	3	4	5
<b>Task/Activity/Area:</b> In this box you will state the specific areas or the type of activity such as public outreach observing session or use of observatory for observing.	Highly Unlikely	1	2	3	4	5
	Unlikely	2	4	6	8	10
<b>People at risk:</b> In this box state who is at risk. For example, society members or members of the public etc.	Possible	3	6	9	12	15
	Probable	4	8	12	16	20
<b>Date of Risk Assessment</b> <Date>	<b>Date of Review</b> <Planned Review Date>	Certain	5	10	15	20
<b>Comments:</b> For example, first assessment .....or the 1 <sup>st</sup> / 2 <sup>nd</sup> review etc .....or any other comment that you feel is necessary						
<b>Person responsible:</b> <Printed Name>			<b>Signature:</b> <Signed Name>			

Area	Identified hazards or Injury causes, highlighting risks	Control Score No controls (Probability x Severity = calculation)	Current Controls/Procedures (existing controls, information, training etc)	Control Score With Controls (Probability x Severity = Calculation)	Further Controls	Action Priority (H/M/L)
In this box state the area that the risk assessment relates to  (See examples below)	In this box state the risks you have identified. State clearly what the risk are e.g. tripping etc. .. and the likely cause  (See examples below)	<b>See note 1 at end of this appendix</b>  (See examples below)	In this box state what controls <u>already exist</u> . You may be surprised at how well you already manage risks as it is often in our 'DNA'.  (See examples below)	<b>See note 2 at end of this appendix</b>  (See examples below)	In this box you will state what additional controls you will put in place to further bring down the score. (Note: if you already have a low score –in the green– this may be unnecessary <b>(see note 3 at end of Appendix)</b>  (See examples below)	In this box decide on the priority (see note 2 at the end of this appendix)  (See examples below)
Observing Ground	Slips trips and falls  Risk to members and visitors of slipping on ice/snow in winter or stumbling on uneven surface.	<b>4x3 = 12</b>	<ol style="list-style-type: none"> <li>All members and visitors made aware of conditions on site when they arrive.</li> <li>Society members meet and greet as members of public arrive</li> <li>Provide assistance to people who need/request it when walking on site</li> <li>Grit &amp; salt when necessary in winter</li> <li>Remove ice from ground if possible</li> <li>Portable lighting such as torches to illuminate ground</li> <li>Ensure First Aid equipment is available</li> </ol>	<b>2x1 = 2</b>	<ol style="list-style-type: none"> <li>Cancel events in the event of bad weather – (when the temperature falls to zero or below or if there is residual snow/ice on the ground)</li> <li>Produce signs for display stating '<b>Uneven Ground</b>'</li> </ol>	M
Observing	Risk of blinding and eye damage to society members and especially to members of the public when solar observing in an outreach situation.	<b>4x4 = 16</b>	<ol style="list-style-type: none"> <li>Solar safety briefing is given to all visitors when solar observing at the beginning of the visit.</li> <li>Volunteers assisting public must be trained on use of solar equipment.</li> <li>Solar telescopes must never be left unattended when visitors are present.</li> </ol>	<b>1x4 = 4</b>	'Home made' solar telescopes not to be used but only proprietary equipment to be used.	M

**Note 1.**

Make an assessment of the likelihood of the risk occurring and the consequence. Use the scoring on the front sheet. Multiply the likelihood with the consequences to obtain the final score. Remember you are making a judgement; this is not an exact science. The initial score in this box should describe the risk without any controls at all. This will inform you on how inherently hazardous the risk is.

For example: If you had a large dome and members had to work at the top to repair it, your initial score would reflect that there were no safety controls e.g. no harnesses, no scaffold, no working at height controls at all etc. etc.. Your assessment of the likelihood of the risk of injury and the type of injury (or death) reflects the actual hazard – this will be the baseline for that hazard.

You will be describing in the next adjacent box what controls you have to avoid the risk event from occurring.

**Note 2.**

Once again, but now with the controls you already have in place, assess what is the likelihood and the consequence of the risk event from occurring. The Control Score should be much reduced as a result of your actions.

If you feel that more can be done to reduce the risks then you have the opportunity to plan and add further controls in the 'Further Controls' column. You can decide whether the extra controls have a High/Medium or Low priority. The higher the Control Score the higher you allocate as a priority. If the score is still above 10, then you must put further controls in place.

Remember to be 'proportionate' about this and always work on the highest scores first.

**Note 3.**

When you reassess the risk at a future date, these additional measures will be put into the Current Controls column. You may consider that even more controls need to be added in the light of experience.