



Management Plan for Artificial Sources

Background

This document gives guidance of what should be included in a plan for the control of exposure to Artificial Sources of UV radiation. The plan is one of the requirements of the ARPANSA Radiation Protection Standard for Occupational Exposure to Ultraviolet Radiation.

EXTRA INFORMATION

For those person(s) responsible for developing a plan, a Supplement is available on the ARPANSA website ([link to ARPANSA website](#)). The Supplement contains extra information that will enable you to develop a protection plan for artificial sources to suit your specific work environment.

Elements of a UV Protection Plan

1. Purpose and Objective

The plan should have a purpose and objective which should cover the following:

- The dangers of overexposure to UV i.e. skin cancer and eye damage.
- Who it is aimed to protect.
- How this plan will protect them.

2. Duties and Responsibilities

The plan should assign duties and responsibilities which could include the following:

- Who is responsible for creating/writing a plan.
- Which employees, contractors etc. should follow the plan.
- Who is responsible for ensuring those employees, contractors etc. follow the plan.
- Who is responsible for performing risk assessments.
- Who is responsible for implementing control measures.
- Who is responsible for taking measures after an overexposure to UV.

3. Assess the Risks

The plan should include information on performing a risk assessment and could include the following:

- When or how frequently a risk assessment should be conducted.
- Which employees, contractors etc. should be identified in the risk assessment
ascertaining:

- whether they have been overexposed in the past.
- how they operate the source.
- whether they use control measures (if any) when operating the source
- where potential exposures could occur and to what parts of the body.
- how far away they are from the artificial sources.
- whether the environment surrounding the source reflects UV.

Other parts of the risk assessment should focus on the UV source itself such as:

- Whether the UV source is working properly.
- How often it needs servicing.
- What wavelengths are emitted by the artificial source and at what power.

4. Implement Appropriate Control Measures

The plan should include information on when, what and how control measures will be implemented.

In deciding which control measures are appropriate, the plan should take note of secondary hazards that can be created by some control measures.

In describing when control measures should be implemented, the plan should include information such as the following:

- that control measures should be implemented in order of priority i.e. elimination first, then substitution, then engineering controls, then administrative controls, and finally PPE;
- who and when control measures should be implemented.

The following are examples (in priority order) of the control measures that could be implemented:

- Elimination: means eliminate a person's exposure i.e. if workers are playing soccer outdoors next to someone doing arc welding.
- Substitution: means substitute a low exposure for high a exposure i.e. if someone is doing carpentry next to someone doing arc welding when they could be doing the same job elsewhere or further away.
- Engineering Controls: physical changes to the workplace or work environment i.e. putting up a polycarbonate safety screen to protect workers from an artificial source such as a germicidal lamp.
- Administrative Controls: actions or behaviours employers and employees can take to reduce to their exposure i.e. ensure workers keep safe working distances when handling or using artificial sources.
- Personal Protective Equipment: equipment that you wear to protect yourself against artificial sources of UV i.e. eye protectors, welder's masks, thick overalls.

5. Post Incident Exposure Management

The plan should also have some provision of what to do in case of an over-exposure such as:

- How the exposure should be investigated i.e. to determine the level and extent of the exposure.
- What appropriate changes to procedures and plant or equipment will be instituted as soon as reasonably practicable after an over exposure.

The plan should also outline how any proposed changes aim to prevent future overexposures to employees working in similar situations.

Some of the actions that could be considered in the event of over-exposure to the eye include the following:

- How first aid would be obtained from the nearest first aider, doctor or hospital.
- How employers will arrange for those overexposed to be medically assessed.
- How and who will advise and ensure the employee understands the nature of his/her exposure.

With regard to reporting an incident to the relevant regulatory authority, the plan should have information about the following:

- How the incident will be reported.
- Who will report the incident and to whom i.e. the regulatory authority.
- What will be reported about the incident.
- When the report will be finalised and submitted to the relevant regulatory authority.

6. Other

Implementation of the plan should include some provision for employees and employers to sign a document where they acknowledge they have read, understood and will comply with relevant parts of the plan.