#### National Space Centre - Risk Assessment Form

#### General Risk Assessment Reference – G396

| **Location** | National Space Centre |
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| **Equipment or Activity to be assessed** | IR Camera and Demonstration |
| **Description of Activity** | Investigating electromagnetic radiation via an infrared camera. Showing people how different things look in IR, view water mixing between hot and cold and investigate material properties using infrared energy.  This experiment is about the James Webb telescope, which uses IR to look at things. The Hubble looks at things with visible light, i.e., a cloud of gas / nebula with stars behind it, the Hubble would not be able to see past the dust. IR passes through that dust. If you put a black bin bag on a person, then you can’t see them, if you point an IR camera at them, then you can. |
| **Date of assessment** | 02/10/2024 |
| **Last review date (if applicable)** | 22/04/2024 |
| **Next review date** | October 2025 but earlier review date required following outcomes of accidents, absences and near misses, or changes to processes, work methods, materials, technology, equipment or legislation. |
| **Risk Assessment created by [name / date]** | Sophie Allan [02/10/2024] |
| **Authorised by Line Manager [name / date]** | Sophie Allan [02/10/2024] |
| **Authorised by Health and Safety Manager [name/ date]** | Katrina May Neve [02/10/2024] |

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| **What are the hazards?**  *Something with the potential to cause harm* | **Who might be harmed and how?** | **Control Measures**  *What is already in place to reduce the risk?* | **Additional Control Measures**  *What needs to be put in place to further reduce the risk?* | **Risk Rating**  *Refer to risk matrix below* | **Authorised by Health and Safety Manager** |
| Trip hazard – cables, mylar and plastic bag | **Who**  NSC staff member, volunteering participants  **How**  Cuts, bruises | Ensure people are aware of trailing cables.  Minimise participant movement when wearing mylar and sheet plastic. |  | Likelihood: 2  Severity: 2  Risk Rating: 4  [Low] | Katrina May Neve  Health and Safety Officer  [02/10/2024] |
| Water spillage | **Who**  NSC staff, participants  **How**  Cuts, bruises | Water used in small quantities and contained in trays.  Any spillages to be immediately mopped up. |  | Likelihood: 2  Severity: 2  Risk Rating: 4  [Low] | Katrina May Neve  Health and Safety Officer  [02/10/2024] |
| Electrocution due to water spillage | **Who**  NSC staff, participants  **How**  Electrocution | Infrared camera kept away from water.  Only the presenter should handle the IR camera.  All electrical equipment PAT tested on a rolling annual basis. |  | Likelihood: 1  Severity: 5  Risk Rating: 5  [Low] | Katrina May Neve  Health and Safety Officer  [02/10/2024] |
| Suffocation from wearing the plastic bag | **Who**  Staff, volunteers  **How**  Suffocation, increased levels of stress, anxiety | Consent is obtained from any volunteer.  Bag to be avoided putting over people’s heads, and only cover hands / from shoulder downwards where practical.  Staff member aware of all risks.  Person is standing up and monitored, constantly spoken to.  The bag is large enough to remove easily, and there is a lot of oxygen available.  The bag is loosely put onto the person – ensuring they have enough room to move.  Holes put in corners of the bag to prevent suffocation hazard. |  | Likelihood: 1  Severity: 5  Risk Rating: 5  [Low] | Katrina May Neve  Health and Safety Officer  [02/10/2024] |

**Risk Rating Matrix**

**Risk = Likelihood of injury x Severity of injury**

**R = L x S**

**Low risk = 1 – 6, Medium risk = 8 - 12, High risk = 15 - 25**

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|  | | **S = Severity of injury** | | | | |
| **Minor injury or illness (1)** | **First aid injury or illness (2)** | **3-day injury or illness (3)** | **Major injury or illness (4)** | **Fatality, disabling injury, etc (5)** |
| **L = Likelihood of injury** | Very unlikely (1) | 1 = Low | 2 = Low | 3 – Low | 4 = Low | 5 = Low |
| Unlikely (2) | 2 = Low | 4 = Low | 6 = Low | 8 = Medium | 10 = Medium |
| Likely (3) | 3 = Low | 6 = Low | 9 = Medium | 12 = Medium | 15 = High |
| **Very likely (4)** | 4 = Low | 8 = Medium | 12 = Medium | 16 = High | 20 = High |
| **Almost certain (5)** | 5 = Low | 10 = Medium | 15 = High | 20 = High | 25 = High |

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|  | **Risk Rating Definitions and Guidelines** |
| **Low** | **Minor to no injury.**  This is an acceptable level of risk. No further controls are required as the risk rating cannot be reduced any further. However, it is advised continual monitoring occurs to ensure that no changes/deviation of control measures occur. |
| **Medium** | **An injury requiring further medical assistance or is a RIDDOR related incident.**  It is advised that further control measures are implemented to reduce the risk rating to a low a level as possible. If the risk cannot be reduced to lower than a medium, then on-site monitoring should occur to ensure that all stipulated controls are bring adhered to. |
| **High** | **Death, paralysis, long term serious ill health.**  This is an unacceptable risk rating. Urgent interim controls should be implemented to reduce the risk so far as is reasonably practicable. If the risk rating cannot be reduced to lower than high, then a documented safe system of work should be implemented to control the activity. It may be necessary to seek further professional advice. Serious consideration should be given to the validity of carrying out the activity at all. Regular Monitoring of the activity should occur. |