

<b>Work Activity / Task:</b>	<b>Pyrotechnics</b>
<b>Location:</b>	<b>The Blakehay Theatre</b>
<b>Date:</b>	<b>16th November 2016 – Reviewed 05/12/17</b>

Potential Hazard	Who is at risk?	Existing Control Measures	Risk Rating	Additional Controls to reduce risk rating	Residual Risk Rating
<b>Storage of Pyrotechnics</b>	Performers, Backstage Crew, Employees, Members of the public	<ul style="list-style-type: none"> <li>• Can only store less than 5kg NEQ (Net explosive quantities) of 1.4S or 1.4G at any time.</li> <li>• No pyrotechnics may be bought into the building that has a HT (Hazard type) rating of more than HT4.</li> <li>• All pyrotechnics must have a maximum height of 3.6m or 12' and not exceed this. Anything over this must not be used.</li> <li>• Any pyrotechnics used must only have a firing angle of vertical.</li> <li>• All pyrotechnics used in the theatre may only be used on the stage in the auditorium.</li> <li>• All explosives must be kept in the transport packaging they are supplied in.</li> </ul>	5	<ul style="list-style-type: none"> <li>• A Full Risk Assessment must be carried out by the designated person responsible for the storage and another designated person for the handling of the Pyrotechnics and given to the theatre for review 30 Days BEFORE the event.</li> <li>• A list of the Pyrotechnics being used, amount and when they are to be used including the Product Safety Sheet for each must be provided to the theatre 30 Days BEFORE the event.</li> <li>• The metal box must be stored in the theatre's lighting box and this should be locked and not left unattended at any time.</li> <li>• The key to the metal box must be kept with a second designated person and not the designated person responsible for the storage</li> </ul>	3

		<ul style="list-style-type: none"> <li>• Must be stored in a locked and secure metal box.</li> <li>• All firing systems must always be of a recognised design and manufacture, incorporating both electrical and mechanical fail-safes (i.e. key switch and panel switch enable systems).</li> <li>• Pyrotechnics must be checked and cleaned before every performance.</li> <li>• No naked flames or sparking equipment must be near the equipment at any time.</li> </ul>		<p>of the pyrotechnics to avoid miss use.</p> <ul style="list-style-type: none"> <li>• A First Aider must be on site when using pyrotechnics.</li> </ul>	
<b>Handling of Pyrotechnics</b>	Performers, Backstage Crew, Employees, Members of the public	<ul style="list-style-type: none"> <li>• No person under 18 years of age may handle the Pyrotechnics.</li> <li>• The designated person should carry the ignition key at all times and should only insert the key immediately prior to ignition.</li> <li>• At no time should the key be left in the firing device.</li> </ul>	4	<ul style="list-style-type: none"> <li>• There should be one designated person who is responsible for the handling of the explosives. (This must be different to the designated person responsible for the storage of the Pyrotechnics). This person should not be the key holder for the storage box to save miss use.</li> <li>• A test firing and a safety rehearsal <b>MUST</b> take place before pyrotechnics are used in any production or event.</li> </ul>	2

				<ul style="list-style-type: none"> <li>An appropriate fire extinguisher must be kept with the designated handler for any emergency or event.</li> </ul>	
<b>Spillage of Pyrotechnics</b>	Performers, Backstage Crew, Employees, Members of the public	<ul style="list-style-type: none"> <li>Any spillage must be cleared by the designated handler only.</li> <li>Must wear PPE and sweep any loose powder and submerge in a large bucket of water outside in a secure location for a minimum of 48 hours.</li> </ul>	3	<ul style="list-style-type: none"> <li>Gloves and a dust mask must be worn.</li> <li>Theatre Courtyard to be used for disposal and temporary signs must be put in place.</li> </ul>	1
<b>Placement of the Pyrotechnics on stage</b>	Performers, Backstage Crew, Employees, Members of the public.	<ul style="list-style-type: none"> <li>Cables running to the pods on stage must be taped down and made secure.</li> <li>All performers and crew must be made aware of where these are to prevent accidents.</li> <li>Pyrotechnics must be clearly marked on the stage and have a "Zone" to prevent accident or danger.</li> <li>Pyrotechnics must be placed at least 2.5 meters from the audience, side of stage, any set and Tabs, referred to as the "Zone".</li> </ul>	8	<ul style="list-style-type: none"> <li>A test firing and a safety rehearsal MUST take place before pyrotechnics are used in any production or event.</li> <li>An appropriate fire extinguisher must be kept with the designated handler for any emergency or event.</li> <li>Temporary warning signs must be set out at all routes which might lead into a danger zone where pyrotechnics are about to be used.</li> </ul>	4
<b>Loading of the Pyrotechnics</b>	Performers, Backstage Crew,	<ul style="list-style-type: none"> <li>The loading of the Pyrotechnics MUST only be done by the</li> </ul>	15	<ul style="list-style-type: none"> <li>A test firing and a safety rehearsal MUST take place before pyrotechnics are used</li> </ul>	6

	Employees, Members of the public	<p>designated person handling the Pyrotechnics.</p> <ul style="list-style-type: none"> <li>• Once the pods have been loaded the operator MUST stay within the vicinity to ensure the safety of everyone is maintained.</li> <li>• No person under 18 years of age may load the Pyrotechnics.</li> <li>• When loading the pyrotechnic devices it is important that the operator has isolated the control cable from the firing box.</li> <li>• Always use the manufacturer's holders.</li> <li>• Ensure that all electrical circuits are isolated before connecting pyrotechnic devices to the firing system.</li> </ul>		<p>in any production or event.</p> <ul style="list-style-type: none"> <li>• An appropriate fire extinguisher must be kept with the designated handler for any emergency or event.</li> <li>• Temporary warning signs must be set out at all routes which might lead into a danger zone where pyrotechnics are about to be used.</li> </ul>	
<b>Firing of the Pyrotechnics</b>	Performers, Backstage Crew, Employees, Members of the public	<ul style="list-style-type: none"> <li>• The firing of the pyrotechnics must be observed at all times by the designated handler from a safe distance and have a clear and uninterrupted view of the position in which the device is located.</li> </ul>	20	<ul style="list-style-type: none"> <li>• An appropriate fire extinguisher must be kept with the designated handler for any emergency or event - Do not hesitate to walk on stage and immediately put out a fire in an efficient and calm manner.</li> <li>• Ensure that the Fire Alarm</li> </ul>	8

		<ul style="list-style-type: none"> <li>• If any member of the cast, crew or any person is within the “Zone” at the time of fire, under NO CIRCUMSTANCE must the pyro be set off.</li> <li>• Scenic materials must be kept clear at the time of firing.</li> <li>• If ANY set, prop or cloth/curtain is within “Zone” at the time of firing the pyro must NOT be set off.</li> <li>• The designated person should carry the ignition key at all times and should only insert the key immediately prior to ignition.</li> <li>• At no time should the key be left in the firing device.</li> <li>• Inhalation of smoke produced from the effect should be avoided. Any person found suffering from smoke inhalation must be removed to fresh air and medical assistance sought.</li> </ul>		<p>Zones have been isolated in Zones 3,4 &amp; 5 to prevent the alarms sounding because of smoke.</p> <ul style="list-style-type: none"> <li>• If the operator is in any doubts about safety at the moment the cue should be carried out, they must not, under any circumstances, fire the pyrotechnic device. The final decision must rest with the operator.</li> <li>• Temporary warning signs must be set out at all routes which might lead into a danger zone where pyrotechnics are about to be used.</li> <li>• A First Aider must be on site when using pyrotechnics.</li> </ul>	
<b>Misfiring of the Pyrotechnic</b>	Performers, Backstage Crew, Employees,	<ul style="list-style-type: none"> <li>• Pyrotechnics that fail to fire should immediately be isolated from their firing mechanism and</li> </ul>	10		10

	Members of the public	<p>returned to its original packaging to await disposal.</p> <ul style="list-style-type: none"> <li>• Later made safe by soaking in water. The wet powders can then be disposed of by flushing down a toilet.</li> </ul>			
<b>After the Pyrotechnic has gone off</b>	Performers, Backstage Crew, Employees, Members of the public	<ul style="list-style-type: none"> <li>• After the Pyro has been used it must be observed to make sure that it is safe and not creating a danger.</li> </ul>	4	<ul style="list-style-type: none"> <li>• An appropriate fire extinguisher must be kept with the designated handler for any emergency or event.</li> </ul>	2
<b>Disposal of the Pyrotechnics</b>	Performers, Backstage Crew, Employees, Members of the public	<ul style="list-style-type: none"> <li>• After the auditorium has been cleared all pyro's must be cleared and dealt with in a safe manner.</li> <li>• All devices must be disposed off away from the premises and not onsite.</li> </ul>	2	<ul style="list-style-type: none"> <li>• An appropriate fire extinguisher must be kept with the designated handler for any emergency or event.</li> </ul>	1

Author of assessment: <b>Sally Heath</b>	Signature:		Date:	
Manager: <b>Sally Heath</b>	Signature:		Date:	

**Review:**

A review of this risk assessment is due for completion within 12 months of the last review or when a situation, equipment or employee changes. The review must be recorded below and if necessary a new assessment should be completed.

To be completed by person conducting review:					
Name:	Sally Heath	Signature:		Date:	05/12/17
Any comments regarding risk assessment:					

Is this risk assessment still relevant?	<b>YES</b>	<b>NO</b>	

*If no a new risk assessment should be completed and attached to the front of this assessment.*

All employees undertaking this task must read this assessment and sign below to state they have understood its contents and agree to work to the control measures.

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