

# **Production Lighting in a Post Pandemic World.**

## **A collaborative Document.**

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## **Preface.**

This document is not intended to be a set of standards. We don't write standards. It is more a conversation of how our current working practices may have to change in the future.

We accept this document is written from a very narrow viewpoint of a West End production electrician. It purposely does not address touring theatre, regional theatre, those employed full time in a building, corporate events and so many other areas. It is hoped that others will add their own ideas applicable to their own circumstances.

Many of the subjects discussed here will be relevant across many sectors of the industry, either exactly as they are written, or with minor modification. But there will inevitably be many situations that are not addressed.

We are very aware that a lot of people are working very hard on ways that theatre as a whole can resume, but we're not aware of anybody documenting the finer detail of what it means to a 'fit up'.

We hope that, unbeknown to us, other theatre departments are having similar conversations and possibly producing their own documents. If so, then great, and let's amalgamate our work. If not, then maybe this document will stimulate the debate.

There is a point of view that this document is irrelevant. The biggest challenge facing theatre is how to re-open auditoria for audiences whilst complying with whatever the current guidelines on social distancing may be. If it ever becomes possible to fill an auditorium with every seat occupied, or indeed put actors on a stage, then whatever guidelines allow that to happen may also allow 'old style' fit ups to resume.

But it may be that theatres have to operate at reduced seating capacity for some time, and in order to re-open we have to demonstrate that we can produce a show safely. In which case we hope this document is useful.

***Draft 2 - Changes from 1st draft.***

Introduction extended to include this 2nd draft.

New Activities Added:

- Lighting Design.
- Handling 'Power-Lock' cable.
- Follow Spotting.
- Sharing of equipment.
- Covid safety inductions.

Updated Activities:

- Wearing of face masks.
- Lighting desk operation.
- Followspots.

General Comments Added:

- Provision of additional temporary washing & hygiene facilities.
- Provision of bicycle storage.
- Disposal facilities for hygiene products.
- Changes to door handles.

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## **1.1 Introduction.**

Every idea listed here makes what we do slower and more expensive and previously would have been discounted for those very reasons.

But no fit up is slower than having no fit up at all and nothing is more expensive than a dark theatre.

Some of the points that follow address generic situations, Others discuss very specific activities undertaken as part of a lighting fit up.

At the end of the document is a list of some of the more general thoughts on backstage work as a whole.

This first draft document was released on the 1st June 2020.

No part of this document should be interpreted to contradict official government advice at the time of reading.

## **1.2 Introduction to 2nd draft.**

The 2nd draft was released on the 12th June 2020.

The 1st draft of this document was shown to a small group of Production Managers, Health & Safety consultants, Lighting Hire companies and fellow Production Electricians.

The vast majority of resulting comments were positive with most people thinking the document had value. Some further ideas and suggestions were forthcoming which have been included in this 2nd draft.

The production of this document brought to light a small number of other similar documents which have been produced as 'in house' documents by other companies. This is good as hitherto we had been unaware of the existence of such documents. At the same time it is a shame that the documents aren't more widely available as a general resource to the industry.

In our opinion none of the documents focusses on theatre lighting specifically, nor goes into the specific detail that this document does.

The area that caused the most controversy was the use of masks and 'face coverings'.

These opinions varied from a South Korean document (where theatres are open) mandating the use of medical grade masks to the UK governments (then) advice that there was no benefit to any sort of face covering at all.

Since then of course the UK government has shifted it's position and does now recommend the use of face coverings where 2m distancing can't be maintained. The World Health Organisation has always recommended the use of face coverings.

It was pointed out that UK H&S doctrine is that PPE is only used as a last line of defence when all other methods of reducing the risk have been implemented.

One of the reasons frequently given for not recommending the routine use of PPE is that without adequate training in it's wearing, especially removal and disposal, it can do more harm than good. This may be true, but as an industry we are used to receiving specific training to use equipment and PPE properly and safely. Just as we receive training in the use of, for example, a Genie personnel lift, there is no reason why we shouldn't receive appropriate training in the safe use of masks and gloves.

At the time of writing there is much speculation in the media that the 2m social distancing advice may be reduced to 1m. This would make a big difference to many of the activities we describe. For example, two people carrying a moving light between them and both facing forwards are probably separated by 1m.

### **Relevant UK Government Guidance.**

<https://www.gov.uk/guidance/working-safely-during-coronavirus-covid-19>

The sections on Factories and Construction (inevitably) are perhaps the most relevant to us.

### **Relevant World Health Organisation Guidance.**

<https://www.who.int/health-topics/coronavirus>

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

### **Specific WHO guidance on how to wear masks and face coverings:**

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/when-and-how-to-use-masks>

#### **2.1 Our Suggested General Prerequisites:**

- Disposable gloves will need to be worn throughout and changed frequently. They will need to be full fingered.
- Face coverings will need to be worn generally whilst at work. Notwithstanding the wearing of gloves, multiple hand sanitation stations will be required backstage.
- Toilets facilities and backstage areas will need to be cleaned regularly and to an enhanced level throughout each day, from day 1 of the load in. Particular attention should be given to 'high touch' items such as door handles. (Theatres have a history of poor facilities available during fit ups with FOH wash rooms frequently locked shut)

### 3 **Generic Activities:**

<p>Generic Process: 3.1 Working as a pair. ('work buddy')</p>
<p>New Method: Despite best endeavours it may be there are some specific jobs which cannot be completed whilst maintaining a 2m distance from a colleague. In such cases face coverings should be worn and work should be done as a pair with a 'work buddy'. When working in a pair your partner should be the same person for the duration of the fit up. This may involve defining 'working pairs' from the start of the fit up.</p>
<p>Comment: So much of what we do involves lifting things which are too heavy for one person. Depending upon what is being lifted, this may put people in face to face close proximity which is unsafe. We note that the 2m social isolation distance is an arbitrary value and that other European countries use 1.5m or even 1m separation. It is also possible the guidance may change in the future. We realise the UK government's advice is currently not to wear 'medical grade' face masks at work.</p>

<p>Generic Process: 3.2 Hauling on a rope or line.</p>
<p>New Method: Consider either reducing the weight of the item to be lifted, or using mechanical block and tackle with a ratchet operation, or small electric hoists, so that the lift can be achieved by just one person.</p>
<p>Comment: So much of what we do involves hauling things on ropes and lines which are too heavy for one person. This puts people in face to face close proximity which is unsafe.</p>

<p>Generic Process: 3.3 Covid training and induction to be a prerequisite for everyone attending the theatre for the first time.</p>
<p>New Method: To include general information such as how to put on, take off and dispose of masks and gloves safely, to specific information to that theatre such as one way systems, sanitation locations etc.</p>
<p>Comment: This would be very similar to construction site and large event inductions.</p>

#### 4 **Pre-Production Period.**

Process: 4.1 Attending production meetings
New Method: Attendance of meetings remotely via Zoom, Whatsapp, FaceTime etc should become the new normal. Where a physical meeting is taking place a venue with a good internet connection should be sought to allow remote connections.
Comments: Reduce unnecessary travel and contact where not essential

Process: 4.2 Lighting Design
New Method: Lighting designs which require lighting fixtures to be rigged in awkward positions, which may be impossible to achieve whilst adhering to social distancing guidelines, should be re-thought.
Comment:  As an example, rigging big moving at the top of booms with poor access frequently requires several people working at close quarters. Lighting designers may need to be guided in what is and isn't safely achievable as they draw their designs.

Process: 4.3 Handover of equipment for prep in lighting suppliers warehouse . ('Shop Prep')
New Method: All equipment to be prepared 2 days in advance of start or prep and then quarantined. Attempt to reduce the number of ad-hoc daily deliveries to the prep area. Maybe limit them to just 2 amalgamated deliveries, one at lunchtime and one at the end of the day.
Comments: Based upon best available evidence that the virus can survive for up to 2 days on hard surfaces. Reduce the amount of contact between prep teams and warehouse staff. (for the benefit of both parties) Investigate the science of large scale sterilization of equipment and flight cases using UV light. As a lighting industry we may be in a unique position of providing this. Generally more time will be needed for prep.

Process:  
4.4 Looming (Triping) of cables

New Method:  
Emulate the Christie Lites vertical looming machine. This allows just 1 person to build cable looms.  
Or  
Build a 'Triping dolly'. A wheeled work surface with a roller at each end and a perspex dividing screen in the middle allowing 2 people to work together separated by a screen

Comments:  
This is a process that has traditionally involved 2 people working in close proximity for an extended period of time.

Process:  
4.5 Handling powerlock cable

New Method:  
Don't loom single core heavy gauge 'power lock' cable to reduce weight.

Comment:  
Triped powerlock cable is heavy, frequently requiring 2 people to handle it.

## 5 Load In / Fit Up

<p>Process: 5.1 Daily 'Toolbox Talk.'</p>
<p>New Method: Consider moving to a notice board at the point of entry describing the work schedule for the day, and specifically which department is working in which area. The construction industry already does similar. (See 'working on stage')</p>
<p>Comment: The existing morning toolbox talks involve gathering everyone together at close quarters. They could probably continue if everyone managed to spread out sufficiently. They don't work so well if we all move to more staggered start times.</p>

<p>Process: 5.2 Loading and unloading trucks.(general flight cases and other boxes)</p>
<p>New Method: Only one person in the back of a truck at a time. Flight cases to be single stacked and only loaded so that they can safely be tipped by one person. Meat racks to be half size racks and only loaded such that they can be maneuvered within the truck by one person.</p>
<p>Comments: Traditionally loading and unloading of trailers could involve many people in the back of a truck together. Some are actively working whilst others are queuing up waiting their turn. Work is hard physical labour involving close proximity involving breathing over each other in very close proximity in a confined space. This is unsafe.</p>

<p>Process: 5.3 Loading and unloading trucks. (Large items)</p>
<p>New Method: Where larger, heavier and more unwieldy items can not be avoided a fork lift truck or other machine should be used for loading and unloading.</p>
<p>Comments: Traditionally the approach was to get lots of people around the piece. This needs to be avoided</p>

Process:  
5.4 Sharing of tools, PPE, and other equipment.

New Method:  
The sharing of tools, PPE and other equipment will need to be restricted. Such items will need to be unique to a named user.

Comment:  
The common practice of having communal PPE such as hard hats and high vis jackets will have to end. Also extends to: Motorola radios, comms packs, backstage passes.

Process:  
5.5 Working on stage. (In general)

New Method:  
Much more rigorous segregation of work on stage between departments, both in physical space and scheduled time.

Comments:  
Social distancing is impossible with too many departments trying to work simultaneously in the same area. Departments don't fully appreciate what the other is trying to do so conflicts arise.  
Each department should be clearly allocated unique and sole access to stage time. Dual working could happen in designated areas with a 'no go' buffer zone between departments. This principle should extend to other areas such as sub stage, fly galleries, FOH rigging areas etc..

Process:  
5.6 Pulling cable looms (tripes) up to fly floors and the grid

New Method:  
*See: Generic hauling.*  
Consider making multiple smaller looms rather than one big heavy loom so that they can be pulled up by just one person. Use 2 people, but take it in turns.

Comment:  
None

Process:  
5.7 Lifting Moving Lights of box to rig on truss or bar.

New Method:  
Moving lights can be lifted out of a box and transported using a 2m length of pipe fitted through the clamps. Transferring the fixture to its final position will still require close quarter working.  
*See Generic 'Working as a pair'*

*See comments below.*

Comment:

Nearly all moving lights are 2 man lifts to get them out of a box and on to a truss or bar.

Rigging moving lights is now one of the most common activities we do.

2 people holding a moving light by it's handles using one hand each and facing forwards (not facing each other) are probably distanced by 1m.

Alternatively move away from the traditional flight case and use wheeled 'single unit metal transit frames' which allow the fixture to be wheeled directly under its desired position and then only a very small lift to finally rig it. The frame can then be wheeled away .

Process:

5.8 Rigging a moving light on a circle front position.

New Method:

Haul the light up from the floor below using 2 lines, 1 on either side of the fixture, with 1 person per line.

Carry the fixture into position below using a length of pipe through the clamps to ensure it can be lifted by 2 people suitably distanced.

Comment:

A process which traditionally involves multiple people working in close proximity.

*See generic 'Hauling on a rope or Line'*

Using 2 lines will help ensure the point loading on the circle bar isn't exceeded.

Some time will be required to instal 2 good top pulley points above the rigging position to allow sufficient height to allow the fixture to be hauled directly on to the bar.

Consider developing a generic lifting frame to allow the fixture to be picked up from below the body which will make it easier to hook on to the bar.

Process:

5.9 Carrying big follow spots up to a spot box.

New Method:

No obvious good solution.

Use correct PPE.

*See Generic working as a pair*

*See Follow Spot Operation*

Comment:

This has traditionally involved probably 4 people laboriously man handling the spot up a series of FOH fire escape staircases. This frequently involves a lot of sweating and panting in a confined space.

Consider using remotely operated follow spot solutions.

## 6 **Focussing & Lighting**

Process: 6.1 Lighting Desk Operation
New Method: Only one designated person to touch and operate any one lighting desk or other control surface. In the case of a lighting desk in the auditorium during rehearsals this would typically be the programmer. Other consoles, if available, should each have one allocated operator. This may require the programmer or 'board operator' to be called earlier in the fit up process.
Comments: To reduce risk of virus transmission through a 'high touch' surface. Currently it is common for the programmer only to be called from the start of focus.

Focusing: 6.2 Footing a lean to ladder or zargees
New Method: Allow the focusser to ascend ladder by 2m before footing ladder.
Comments: The feet of the person on the ladder will be at your eyeline before footing the ladder. This is probably little different to current practice Applies to all general use of ladders

Focussing. 6.3 Use of a Tallescope.
New Method: A 'scope can be safely grounded by 2 people at opposite 'long ends' of the tallescope base. It will not be possible to have any more people around the tallescope base. Particularly it is not possible to have 2 people standing either side of the ladder facing each other. Where local regulations require more than 2 people at the base of a tallescope the outriggers will need to be used to negate this.
Comments: A tallescope base is longer than 2m. Applies to all general use of a tallescope.

Focussing: 6.4 Use of a Genie
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**New Method:**

Legs should only be installed and adjusted by a maximum of 2 people working on diagonally opposite legs to maintain distancing.

It may be appropriate for the person in the Genie not to descend fully, but to remain 1m up whilst the legs are adjusted.

**Comments:**

A personnel Genie lift does not require 'footing'

Applies to all general use of a Genie lift

**Process:**

6.5 Working at production desks.

**New method:**

People sitting at production desks should maintain 2m spacing between each other.

Where necessary auditorium seats should be removed to allow access to production desks without having to squeeze past each other along the seating rows.

During preview periods where desks are being set up and struck each day equipment should be marked with the user's name so that they always get the same equipment (Headsets / comms / monitors etc...)

**Comments.**

To reduce risk of virus transmission through a 'high touch' surface.

## **7 Miscellaneous Activities.**

**Process:**

7.1 Follow Spot Operation in a follow spot box (booth)

**New Method:**

Consider using remotely operated follow spots solutions. It is recognised that this may not be as good as a well operated traditional follow spot. Reduce the number of follow spots in use.

**Comment:**

Operating follow spots in a 'follow spot box' often requires two, three or even more people working in close proximity for long periods of time in an often very small room.

**Process:**

7.2 Travelling to and from work

**New Method:**

Any person who is able to walk, cycle or use other alternative means of travel other than public transport should be allowed the extra time to do so within the normal 'working' hours. For example, if someone elects to cycle in to work, but it takes half an hour longer, they should be allowed to arrive 30 minutes 'late' and leave 30 minutes 'early'

Comments:

Working in London nearly every commute involves public transport. Government advice is to minimise use of public transport wherever possible.

## 8 *Other Thoughts.*

**Thoughts which are not directly relevant to production electrics but are relevant to theatre as a whole and are included here for completeness.**

- Stage Doors are high traffic pinch points and may be particularly risky, especially for the stage door keeper. Stage Doors may need to be closed and new entrances and exits through FOH used instead, where hopefully there is more room.  
It is possible this will entail separate entrances and exits which are not co-located. A new way of signing in and out and keeping track of who is in the building may need to be considered. There are plenty of 'high tech' building control systems which allow 'signing in and out' without the use of a signing in book. A very few theatres already employ such systems. (The Palladium, for example)
- Temperature checking of everyone entering the building using non-contact thermometers or heat imaging. Anybody displaying signs of a fever should not be admitted and sent home.
- A one way system may need to be implemented when moving around backstage and FOH.
- Staircases may need to be designated as 'up' or 'down'
- Traditional 'crew rooms' will probably need to be shut.
- More staggered breaks
- Changes to the start time of the working day to avoid peak time travel on public transport.
- More facilities and bicycle storage for those choosing to cycle to work.
- Cleaners will need to be employed throughout the day during every fit up to provide enhanced cleaning
- Temporary additional backstage hand washing facilities may need to be provided. Either with running water where possible, or with alcohol hand sanitation.
- Proper and adequate disposal facilities for masks, gloves, paper towels etc.

- Doors to be converted so they don't require hand operation of a door handle to gain access. (there are door catch systems which can be foot operated)
- A new role of 'Covid H&S observer' who is constantly patrolling reminding people to do the right thing. This person should be on site throughout the fit up and consequently will probably require more than one person.