

# Norman Lockyer Observatory

## Fire Evacuation Plan

Revision No	Date	By whom	Comments
1	04/04/2019	PY	Minor amendments following alarm installation
2	14/03/2025	PY	Updated to include JEC

### Assessment of Fire Safety Risk

#### *Introduction*

The Observatory is owned by East Devon District Council (EDDC) and leased to the Norman Lockyer Observatory Society (NLOS), a registered charity and company limited by guarantee. Supervision of the Observatory is by a Joint Management Committee comprising District Council Officers, directors of the NLOS and representatives of the Sidmouth Town Council. The NLOS board of Directors are responsible for day-to-day operations and policy. The NLOS aims are to support science education.

The Society discharges these aims by:-

- public open events (sometimes more than 180 persons)
- public lectures (maximum 100 persons)
- educational courses in science (perhaps 40 persons)
- school visits (maximum 120 children and teachers/parents)
- activities for science interest groups within the society
- voluntary unpaid maintenance work on buildings, instruments and grounds

The Observatory comprises a central public building (Robert Mond Building). At distances of about 40 metres from the Mond building and each other there are 4 observatory domes. These are the Kensington Dome and Telescope, McClean Dome and Telescope, Victoria Dome and Telescope and the Connaught Dome and Wright Telescope. All but the Connaught and Victoria are Grade II listed and the Kensington, Lockyer and McClean telescopes are major historic assets for the nation and irreplaceable.

Heating and power is provided by electricity. There are no gas or fuel oil supplies to the site. Small quantities of petrol and lubricants for mowers and grounds maintenance equipment are stored in a small garage adjacent to the McClean Dome.

The Observatory's grounds comprise a preservation natural heath land remnant, woodland and open spaces of approximately 4 acres.

The Observatory is situated at the top of the highest hill around (618 ft) and suffers from low mains water pressure with no tank or pond as a reserve source. Internal supplies are pressurised by a low capacity pump.

There are two car parks capable of holding some 40 cars, but at special events the adjacent field can be used to accommodate an additional 60 cars.

The greatest risk of fire on the Observatory site is perceived as a heath fire during prolonged dry weather possibly caused by accidental ignition from discarded cigarettes. Litter such as glass bottles, uncontrolled bonfires, lightning strikes, Chinese lanterns or vandals.

### ***The Robert Mond Building***

The building comprises the Donald Barber Lecture Theatre (80 seats, 100 when the removable partition is opened into the committee room), Library/Committee room (20 seats), James Lockyer Planetarium (60 seats), public exhibition space, the Jean Edyvean Centre (JEC) classroom seats 30, additional exhibition space and a store room. The building has further small rooms for book and document storage, kitchen, office, toilets, storage and lobbies. The Lockyer Telescope and dome is integral to this building.

Hazardous chemicals and fuels are not normally kept or used in this building. However small quantities of domestic cleaning agents such as polish aerosols are used and stored in the cleaners cupboard. This cupboard also houses the electrical pump to pressurise the internal water supply.

This building houses a number of computers, visual display monitors as well as ordinary office equipment. The building is a single storey brick/block construction with a flat roof built by East Devon District Council to relevant standards in 1995 and 2005. The JEC was built by the NLOS in 2019 in accordance with Building Regulations prevailing at that time. A variety of materials have been used for the roof covering.

Entrance and egress from the building is adequate for the numbers anticipated and fire exit doors open outwards\* directly to the grounds. Only one door has steps, a wheel chair ramp is provided for this location; all other doors have level wheelchair access.

All fire exits are marked with emergency illuminated signs and following the recently built JEC a modern Fire Alarm system has been installed to British Standards which covers the whole building.

The designated assembly point in case of fire is in the field to the north west corner of the main car park, by the flag pole, and is marked with a Fire Assembly point sign.

A First Aid box is kept in the Foyer. A fire blanket is kept in the kitchen and suitable fire extinguishers are provided throughout the building on a scale recommended by the District Council's contractors. All fire extinguishers are regularly serviced by an approved contractor.

### ***The Lockyer Telescope and Dome***

This building is integral to the Mond building and built of block with a wooden dome covered with rubberoid or felt. There is no heating in this dome and no source of ignition other than electrical connections. The Lockyer telescope is of historic value and the building is grade II listed. Visitors use the telescope at night and a maximum of 20 persons may be present.

Heath land plants, such as gorse, have been removed from the vicinity of the dome. emergency egress to the assembly point is via the adjacent door with steps and ramp.

\*This is the only final exit door that opens inwards.

There are no special fire hazards connected with this telescope building. No flammable liquids are stored in this building.



### ***The Kensington Telescope and Dome***

The building has block built single storey walls with telescope dome and an anteroom. The dome is of massive redwood construction with rubberoid covering. The anteroom has a timber felt covered flat roof. The building is grade II listed.

The building houses the Kensington Telescope which has great historic value. The anteroom has electronically illuminated displays to explain the use of spectral studies in astronomical research. Visitors use the telescope at night and a maximum of 30 persons may be present.

There is no heating in this dome and no source of ignition other than electrical connections. The building has the main incomer for three-phase supply and electricity meters.

Entry and egress from the building is via a single door opening directly to the grounds and assembly point

There are no special fire hazards connected with this telescope building. No flammable liquids are stored in this building. It is located some 100 metres from the main gorse areas of the site

### ***The McClean Telescope and Dome***

The building has block built single storey walls with telescope dome and an anteroom. The dome is of massive redwood construction with rubberoid covering. The anteroom has a timber felt covered flat roof. The building is grade II listed.

The building houses the McClean Telescope which has great historic value. The anteroom has electronically illuminated displays to explain the use of spectral studies in astronomical research. Visitors use the telescope at night and a maximum of 30 persons may be present.

There is no heating in this dome and no source of ignition other than electrical connections. Entry and egress from the building is via a single door opening directly to the grounds and assembly point

There are no special fire hazards connected with this telescope building. No flammable liquids are stored in this building.

### ***The Victoria and Pulsar and Domes***

The buildings were constructed in 2024 and are proprietary observatory domes.

The building houses a Celestron 11" Schmidt Cassegrain Telescope. There is a low power heater in this dome and no other source of ignition other than electrical connections. No flammable liquids are stored in this building. The building is used by NLOS members for observation and imaging, but is not used by visitors. Entry and egress from the building is via a 4 ft high single door opening directly to the grounds and assembly point

There are no special fire hazards connected with this telescope building. No flammable liquids are stored in this building. Currently this building is nearest to the heath land (gorse) areas and most at risk from heath fire. (See Conservation of the grounds)

### ***Connaught Dome and Wright Telescope***

The building was constructed in 2012 to relevant standards and comprises a brick/block built circular two storey telescope dome and a single storey anteroom. The dome is of glass fibre construction. The anteroom has a timber flat roof with rubberoid type covering.

The building houses the Wright 20" reflecting telescope on the first floor. The anteroom has many electronically illuminated displays to explain the study of space weather (solar activity), radar meteor detection and meteorology, together with some amateur radio equipment. There is a store room on the ground floor below the telescope dome. This is used for storing tables and chairs and sundry surplus equipment. Visitors are escorted around the displays and may use the telescope at night; a maximum of 30 persons may be present.

Entry and egress from the building is via a single door opening directly to the grounds and assembly point. In an emergency evacuation from the first floor can be made from the telescope dome door onto the flat roof or down to the ground.

There is no heating in this dome and no source of ignition other than electrical connections. There are no special fire hazards connected with this telescope building. No flammable liquids are stored in this building. The building is close to the heath land plants and at risk of heath fires.

### ***Garage/Workshop and store***

The building is a garage of pre-cast pre-stressed concrete walls with a cement profiled sheet roof that probably contains asbestos (see separate site risk assessment). Visitors do not have access or use this building and only individuals engaged on maintenance of the grounds and equipment will have access.

The building houses the mowers and other grounds maintenance and workshop equipment. It also acts as a store.

The building is separately alarmed for improper entry but not for fire.

Small quantities of petrol, paints, lubricants and other flammables are stored here. The building is close to the heath land plants and at risk of heath fires.

### ***Grounds and Lowland Heath***

Large stands of gorse occupy the eastern and northern ends of the site. Heath land husbandry has removed the heath fire risk from near the older listed buildings but the garage, Victoria and Connaught domes are still at risk.

Management of the grounds has been directed to care of the open spaces where visitors walk at night (see separate site risk assessment). The society's lease with the District Council requires the grounds to be open to the public from dawn to dusk. The site is largely unattended during daytime as astronomy flourishes after dark.

Care for tidiness, the removal of litter and other causes of possible ignition is easy in the open areas but as much of the gorse areas are impenetrable, there is always the fear that a thrown bottle cigarette end or spark could ignite.

Probably the most likely ignition of the heath land would be from a grounds man's bonfire or lightning strike.



The society has made provision for a pathway around the perimeter of the gorse areas so that fire fighting vehicles and crew can gain easier access to the areas at risk. These are always at risk of becoming narrowed and over grown by bracken and brambles.

### ***Car Parks***

It is not possible to mark out the parking spaces in the car park. Sometimes there are up to 3 coaches present and at other times some 30 cars or a combination of both. Places where parking should not take place are currently marked by the use of traffic cones.

Fire risk in the car parks is no different than at any other car park, however, the society has thought to minimise the risk of accident to persons by providing car park attendant(s) at busy times to direct traffic and act as banksman.

### ***Recommendation to the Board of Directors (13 December 2017)***

Public notices have been placed in the building in accordance with legal requirements explaining fire safety policy. The Directors will review this document and the necessary notices regularly (at least every 12 months).

1. There has been one 'near miss' recorded. This was when a display board was accidentally placed covering a fixed electric heater. The display board melted in part but did not ignite. The Board have taken action to prevent reoccurrence by instructing that mesh grilles around heaters should be fixed.
2. Additional fire extinguishers will be required for the new extension.
3. Pat Testing of appliances to be repeated
4. Refresher fire safety training for all Key holders, open evening presenters and guides/volunteers.
5. Fire arrangements should be explained to visitors at the formal start of open evenings.
6. Random Fire drills to be undertaken
7. All members to be reminded of the revised Fire Safety Procedure - to be issued with the NLOS News Letter.
8. The Directors should consider establishing a register for society members and guests/visitors on non-open days.
9. The Directors should ensure that regular checks are undertaken on the Fire Alarm system and Fire Fighting Equipment, where possible by entering a maintenance contract. A record should be maintained recording maintenance undertaken.
10. Provision of a rope ladder for the Connaught Dome.

### **Fire Evacuation Procedure**

Members and Visitors, please familiarise yourself with the following procedure:-

Familiarise yourself with the site plan and emergency exit routes

### **ACTION ON HEARING THE FIRE ALARM (continuous electronic sounder)**

1. **If you hear the fire alarm stop what you are doing and leave the building immediately by the nearest Exit.**
2. **Make your way to the Fire Assembly Point (Northwest corner of the car park by the Flag Pole)**
3. **Visitors should be directed/accompanied by the guides/volunteers on the day.**

4. Do not re-enter the building unless instructed to do so.
5. Fire exits are marked in each room above the entrance/exit doors.
6. Fire escape routes are shown by green arrows on the attached plan.

### **ACTION ON DISCOVERING A FIRE**

If you discover a fire:-

1. Do not attempt to tackle the fire, leave the room and close the door(s) if possible. Raise the alarm by shouting FIRE! FIRE! and keep shouting FIRE!
2. Activate the Fire Alarm by pressing one of the 'Call Points' located by each exit door.
3. Dial 999 on the NLO landline or your mobile. Note mobile signal can be erratic. NLO phones are located in the foyer, kitchen and office.
4. Leave the building.
5. Only trained competent persons should, where possible, attack the fire with appropriate equipment, however, fire fighting must always be secondary to life safety.

**DO NOT PUT YOURSELF OR ANY PERSONS AT RISK**

### **KEY HOLDERS/PERSONS IN CHARGE AND SITE GUIDES**

In the event of a fire or other emergency the Key Holder is the Person in Charge. It is the responsibility of the Person in Charge to ensure the safe evacuation of the building(s) and as far as possible account for all persons.

The Person in Charge should verify that all buildings have been cleared (without risking personal safety).

The Person in Charge should ascertain the number of people in attendance and carry out a head count. For Friday evenings it may not be possible to accurately assess this as people come and go during the evening but for open evenings Front of House volunteers should be able to provide numbers.

Society Members should be familiar with the site but on open evenings the Site Guides should escort visitors from the buildings to the assembly point. Site guides should report to the Person in Charge and state which areas of the site they have cleared of visitors.

Site Guides should 'buddy' visually or physically impaired persons taking them to the assembly point.

The Person in Charge should be the main liaison with the Emergency Services



APPENDIX A

