

CSIRO

**Australia Telescope
National Facility**

**PARKES OBSERVATORY
SAFETY MANUAL**

**Edition 6.6
July 2009**

Compiled by the ATNF-Parkes OHS&E Committee

PARKES OBSERVATORY CONTACT SHEET

Role	Name	Office phone	Home phone	Mobile phone
Site Manager	Mal Smith	1719		
Security Officer	Matt McFarland	1714		
Health and Safety Representative	Brett Preisig	1715		
Safety Officer	Tom Lees	1728		
First Aid Officer	Brett Preisig	1715		
Oxyviva/Defib. Operator	Brett Preisig	1715		
Oxyviva/Defib. Operator	Julia Hockings	1724		
Oxyviva/Defib. Operator	Chris Hollingdrake	1776		
Oxyviva/Defib. Operator	Tricia Trim	1777		
Oxyviva/Defib. Operator	Lyn Milgate	1777		
Oxyviva/Defib. Operator	Tom Lees	1728		
Oxyviva/Defib. Operator	Ken Reeves	1741		
Fire Officer	Brett Preisig	1715		
Site Electrician	Matt McFarland	1714		
	Andrew Hunt	1720		

Health, Safety, & Environment Committee

Chairperson	Mal Smith
Safety Officer	Tom Lees
Health and Safety Representative	Brett Preisig
Member	Julia Hockings
Member	Ken Reeves
Member	John Sarkissian
Member	Matt McFarland
Member	Julia Hockings

HEALTH AND SAFETY INDUCTION PROGRAM

This policy provides basic guidelines for a health and safety induction program in CSIRO.

Policy Statement

CSIRO has a duty of care under the [OHS \(Commonwealth Employment\) Act 1991](#) to ensure that employees have 'the information, instruction, training and supervision necessary to enable them to perform their work in a manner that is safe and without risk to their health'.

To fulfil these responsibilities, all staff must undergo a safety induction program to ensure they have the necessary information to carry out their duties in a safe manner. This program must be completed within two weeks of commencing work.

This policy applies to all staff joining CSIRO, staff being transferred within CSIRO, visiting scientists, voluntary workers, students (including post graduate, vacation, work experience and visiting school students) and all other persons who visit or carry out work on CSIRO's premises. The policy also covers contractors where CSIRO retains control over the work place and work practices.

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1. INTRODUCTION

1.1 RESPONSIBILITIES OF O.I.C. AND EMPLOYEES.

As employees of the Commonwealth Government we operate under the *Occupational Health and Safety (Commonwealth Employment) Act 1991*. In the CSIRO this is implemented through the *Agreement Between CSIRO and CSIRO Staff Associations/Unions (April 1992)* together with a CSIRO OHS policy statement, (1992). These define the responsibilities of Chief Executive, Deputy Chief Executives, Branch Secretaries, O.I.C.'s, Supervisors and individual employees. Their responsibilities and obligations are briefly defined as:

The **Executive** has the final legal responsibility for the safety of CSIRO staff.

Management:

The Officer In Charge (O.I.C.) is "responsible at law as the local site proprietor to exercise on behalf of the organisation the duty of care that is binding on all employers". This includes: the dissemination of a statement on safety policy and responsibilities, appointment of safety coordinators, the provision of safe working places and environment, the provision of safe plant, machinery and equipment and the establishment of safe working practices.

Supervisors:

Supervisors are responsible for ensuring that all work is carried out in ways that safeguard the health and safety of staff in their charge. All activities must be covered by an HS&E assessment of work.

Individual Employees:

In return, each **Individual Employee or Visitor** has the responsibility for safe working consistent with the extent of his/her control over or influence on working conditions and methods. This includes:

- ◆ reporting and recommendation on safety matters,
- ◆ observation of all instructions issued to protect his/her safety and the safety of others,
- ◆ the proper use of all safeguards, safety devices and protective clothing.

This is known generally as the individual's **Duty of Care**.

If an employee is hosting day-visitors on site (telescope tour, contractor inspection, etc), then it is his/her responsibility to ensure their safety during their stay and that they are issued with the appropriate safety equipment if required.

Every employee has the right to refuse to work if, in their view, that work involves an unacceptable risk to their personal safety. If a person exercises this right they must notify their supervisor immediately. The Safety Officer or HS&E Representative should also be notified.

Finally, no Employee shall interfere with, remove, displace or render ineffective any safeguard, safety device, personal protective equipment or other appliance provided for safety purposes, except when necessary as part of an approved maintenance or repair procedure.

Safety is your responsibility. If you see any unsafe situations or practices, or have any suggestions for improvements in health, safety, or environmental care, talk to your supervisor or a member of your Health, Safety & Environment (HS&E) Committee.

It is CSIRO policy that we should conform to the standards prescribed by the relevant State or Territory with respect to the various laboratory, industrial, electrical and building codes.

Personnel are required to undergo a Safety Induction Refresher Course every two years.

3. GENERAL SAFETY AROUND THE SITE

3.1 OPERATING THE TELESCOPE

It is an observatory regulation that only a *Licensed Operator* shall operate the telescope. It is the responsibility of this person to apply the rules from the telescope operation and safety manuals regarding the safety of observing in adverse weather (or other) conditions. *The Observer's Guide* and *The Training and Safety Guide* for the Parkes Radio telescope should be consulted in these matters.

3.2 TELESCOPE ACCESS

Various parts of the telescope, including the Telescope structure as a whole, are remotely controlled. It is therefore not easy to fully ensure the safety of personnel whilst on the structure, without some degree of special care on their part.

No person should proceed onto the telescope structure above the upper control room without first informing the Operator, or leaving a message to that effect in the Upstairs Control Room. The message may take three forms:

1. Work in progress sign (refer 3.3)
2. Caution Tag (refer 3.4)
3. Danger Tag (refer 3.5)

3.3 WORK IN PROGRESS SIGN

In the case where there is **no perceived danger** to equipment or personnel (eg a “look only” tour around the azimuth track, or routine compressor room inspection) it is necessary to indicate your presence above the upstairs control room by printing your name on the sign in the area provided. In the case where you are leading a tour, your name and the number of tourists will suffice. **This sign will be checked in the event of an emergency evacuation to indicate the whereabouts of any personnel.**

A “work in progress” sign is situated at each upward exit from the upstairs control room. They each have the following wording:

WORK IN PROGRESS.
The following personnel are above this level:

Any personnel on the structure under these circumstances must understand that the telescope may move at any time without warning.

3.4 CAUTION TAG

The Caution tag is yellow in colour and has the wording:

CAUTION
Do Not Operate This Equipment
Before Consulting

After placing the user’s name in the space provided (another person’s tag must not be used), this tag is placed on the controls that, if activated could cause injury or damage to personnel or equipment.

The tag must not be removed by anyone other than the person who placed it there, except with the express authority of the OIC, or the person named on the tag.

The control may be operated whilst it is tagged in this way, but **only after consultation with the person who placed the tag.** Please note that the **tag must be left in place** in these circumstances.

Placement of the Caution Tag should be such that it is abundantly clear which equipment is not to be operated. For example, a tag fitted to the M.C.P. zenith control knob doesn’t prohibit the use of any other M.C.P. controls.

3.5 DANGER TAG

Danger tags are red and white and are marked as follows:

DANGER **Do Not Operate**

They must also be marked with the name of the person who placed the tag and may have a brief description of the hazard or the work being done.

Placement of the Danger Tag should be such that it is abundantly clear which equipment is not to be operated. For example, a tag fitted to the M.C.P. zenith control knob doesn't prohibit the use of any other M.C.P. controls.

NO EQUIPMENT SHALL BE OPERATED WHILST IT IS FITTED WITH A DANGER TAG.

A DANGER TAG MUST NOT BE REMOVED BY ANYONE OTHER THAN THE PERSON WHO PLACED IT THERE*.

***In exceptional circumstances, if the person who placed the tag is un-contactable, the OIC may give permission for the tag to be removed in their absence.**

3.6 BEFORE MOVING/STARTING THE TELESCOPE

Before starting the telescope, a warning must be issued over the 'clearcall' system, **followed by a safety period of at approximately 60 seconds** before moving the telescope. This is to allow time for any personnel on the structure to inform the Operator of their presence.

3.7 CLEARCALL AND EMERGENCY-STOP STATIONS

Personnel should familiarise themselves with the locations of all 'clearcall' and emergency-stop stations on the telescope structure.

3.8 PERSONAL SAFETY EQUIPMENT AND PEOPLE WORKING OVERHEAD

Anywhere on the structure and within the circular roadway below the telescope is designated as a 'hard-hat' area. Particular care should be taken regarding objects falling from the structure. Firstly, extreme care is necessary to ensure that even small objects do not fall off the structure. Secondly, personnel should avoid being underneath (in the "drop-zone" of) those already on the structure. Suitable non-slip footwear should be worn whilst on the structure, and when necessary a safety harness should be used (available from the Safety Officer).

3.9 VISITORS ABOVE THE UPSTAIRS CONTROL ROOM

Visitors are not permitted on the telescope structure (above the upstairs Control Room) unless they are accompanied by a suitable member of staff, and must be wearing the appropriate personal safety equipment.

3.10 TELESCOPE LADDER LEG ACCESS

All personnel wishing to visit the Focus Cabin must first be instructed in the proper use of the Ladder-Leg safety restraint system. **Use of this system is mandatory.**

Personnel visiting the Focus Cabin must have both hands free to ensure safe travel on the ladder. It is recommended that the goods lift be used to take equipment to and from the cabin, however a properly constructed and fitted back-pack is acceptable to carry small items on the ladder. Two back-packs are available and are kept in the "hard-hat cabinet" at the Administration building main entrance.

3.11 FOCUS CABIN SAFETY PROCEDURES

If possible, before commencing work over the radome opening, reduce or eliminate any exposed area of the radome by moving the translator.

Any opening greater than 200mm is considered dangerous.

When work must be carried out near an opening greater than 200mm (including the rotator openings), an approved safety harness/belt must be worn and shall be attached to either a retractable lanyard located at either end of the translator, or by fixed lanyard to attachment points on or near the translator.

When working with volatile, or air displacing gasses (e.g. bottled or reticulated gas, cryogenic fluids etc), precautions must be taken to ensure the cabin is suitably ventilated with fresh air from outside. This can be done by opening various cabin hatches and doors (ensure lanyards are fitted across open doors).

3.12 REMOTELY CONTROLLED EQUIPMENT HAZARDS

Special care should always be exercised when on the telescope structure or in the focus cabin as remotely controlled equipment may move without warning.

3.13 GOODS LIFTS

All lifts on the telescope (including the one on the 'lift-leg') are intended for materials and equipment only. **Passenger use is not authorised.**

3.14 CONTROL ROOM FIRE ESCAPE

There is a fold-away fire escape from the landing outside the control room. Staff should be both familiar with its use, and aware that its deployment will initiate the fire alarm.

3.15 EMERGENCIES

In any emergency during normal working hours the administration staff should be notified (**Extn. 1700**), and they will contact the appropriate service. After hours the emergency telephone number (0) 000 should be used; nominate the service required, i.e. Ambulance, Fire brigade or Police, and identify your location as the CSIRO Parkes Observatory, 473 Telescope Road, Parkes NSW (supplementary information: Observatory is 20km north of Parkes NSW, via the Newell Highway, don't forget to also give your location on site). An appropriate person from the **Contact Sheet** (inside front cover of this document) or the local CSIRO phone book should also be contacted.

The Observatory buildings are equipped with smoke and thermal detectors, and break-glass alarms. The system used sounds the fire alarm but **does not call the fire brigade** automatically.

3.16 FIRE PRECAUTIONS

Parkes Shire Council fire restrictions apply nominally between October 1st and March 31th, although this may vary depending on local conditions. During this time, a permit is required for any fires lit in the open. The Council may extend the restriction period and for this reason the Fire Officer, Safety Officer, or the OIC must grant permission before any fires are lit on the site, regardless of the time of year.

Total Fire Ban rulings override the above restrictions and permission **WILL NOT** be granted whilst a Total Fire Ban is in place. The penalties for lighting a fire in these conditions are harsh.

Anyone involved in outdoor activities, including work on the telescope structure, that involves the lighting of fires or any activity that could result in a fire (e.g. outdoor grinding, oxy cutting, welding, slashing etc) is required to obtain permission before proceeding with these activities. Permission may be granted by the site Fire Officer, Safety Officer, or the Officer In Charge.

3.17 PRESCRIBED BURNING

Prescribed burning (burning off) shall comply with section 3.15 (above) but shall not be carried out within the grounds without the appropriate permission from the Shire Council (refer 3.15) and warnings to neighbouring properties 24 hours in advance of the burn.

4. FIRE AND OTHER EMERGENCIES

(Refer Appendix 8 Fire Response and Evacuation plan)

4.1 FIRE

Raise the alarm, (eg, shout to attract attention, announce over the “clearcall” system, activate a “break-glass-alarm”)

Help anyone in immediate danger.

Call 1700 or (0) 000 - to obtain emergency services.

(for alternative phone numbers, please refer to the Contact Sheet in the front of this manual)

IF SAFE AND YOU ARE TRAINED TO DO SO, you may attempt to extinguish a **SMALL** fire. For the appropriate extinguisher (refer section 4.5).

Clear the area of staff and close doors and windows, switch off nearby equipment, ventilation fans, etc if possible.

As soon as it is safe to do so, contact the Fire Officer or his Deputy (refer to Contact Sheet in the front of this Manual)

Nobody should put themselves at risk to do these things.

Personnel should gather at the evacuation assembly point for their area and remain there until instructed otherwise.

An Emergency Evacuation poster is on display near the exit of your building which identifies your assembly point (Also refer Appendix 5).

4.2 TELESCOPE OPERATOR EVACUATION.

If personal safety permits, the Telescope Operator must, before leaving the control room, ensure that the telescope is within its upper zenith limit. If the telescope is not at this limit, **and it is safe to do so**, select **MANUAL** on the MCP (manual control panel) and set the zenith **RATE** to **maximum** in the **UPWARD** direction before evacuating. The telescope will automatically stop driving once the limit is reached.

4.3 EVACUATION OF BUILDINGS. (Refer appendix 8 for specifics)

On hearing the fire alarm bell for a sustained 10 seconds or more, all staff should switch off equipment, close all doors and windows, and leave the building for **assembly at the prescribed point and remain there until instructed otherwise.**

Staff must follow any instructions given by their Fire Warden or Emergency Services staff.

4.4 FIRE ALARMS

The offices, Labs, equipment rooms and workshops have an alarm system to detect smoke and heat. In the event of this system being activated the fire alarm will sound and can be heard throughout the site. In addition the fire alarm can be activated from "break glass" units located around the site; simply break the glass and press and release the button. Personnel should familiarise themselves with the location and use of the "break glass alarms".

The fire alarm system is tested monthly and the alarm may ring for periods of up to 10 seconds. If the alarm is sounded for longer, staff must assume that it is a real emergency. An evacuation drill will be conducted at least once each year.

4.5 FIRE EXTINGUISHERS FIRE BLANKETS AND HOSES.

The site is equipped with five types of extinguisher and three sizes of water hose. The types provided at each location are those most suitable for that situation.

They are:

Extinguishers:

Carbon Dioxide (CO₂) (small red with black band) for use with electrical and flammable liquid fires, oil, fuel etc.

Dry chemical (small red with white band) for general use (very effective).

Water (9 litre - large red) for burning timber, paper, plastics etc, but not suitable for electrical and flammable liquid fires.

Water foam (9 litre - large blue) for flammable liquids and gases, but not suitable for electrical fires.

Wet Chemical (beige, "biscuit" colour) a special extinguisher for use with cooking oils and fats. One of these units is installed in the café kitchen for a fire in the deep fryer.

Fire Blankets:

These are installed in kitchens and intended for stove-top fires and should only be used by personnel who have been instructed in their safe use.

Hoses:

Small bore black rubberised fire hoses are located around the grounds on reels. These are not intended for electrical or chemical fires.

Large bore percolating hoses (38mm and 80mm) are located outside some buildings. These are primarily for use by the fire brigade. These should not be used by Un-trained personnel.

Staff should be familiar with the location and method of operation as detailed on each device.

DO NOT ATTEMPT TO EXTINGUISH LARGE FIRES.

4.6 EMERGENCY PROCEDURES OUTSIDE NORMAL WORKING HOURS

If the automatic fire alarm sounds and there is no obvious evidence of a fire, proceed to the nearest Fire Indicator Board (near the main entrance of each main building), and try to identify the source of the alarm.

If the cause is obvious, initial fire fighting measures may be taken, but at any sign that the fire is out of control vacate the building and **call (0)000** on any telephone and report the fire to the **Fire Brigade**. **You must then contact one of the officers identified on the Contact Sheet (refer front of this manual).**

Telescope operators should, where it is safe to do so, ensure the telescope is within the upper zenith limit before evacuating -refer 4.2

If the cause of the alarm is not obvious, call out the “on call” person, or one of the officers listed on the contact sheet (found at the front of this volume) and they will attend and investigate the alarm.

If the alarm relates to the Quarters, do not re-enter the building until the “all clear” has been given.

4.7 RELEASE OF TOXIC SUBSTANCES

Shout to alert people working in the area.

If possible without personal risk, shut off the source of the spill.

Remove from the area anyone affected. Arrange for first aid to be given (refer section 2.3).

Evacuate the area and seal it off as effectively as possible.

Ring switchboard (1700) or (0) 000 for emergency services if necessary and inform the Safety Officer

4.8 BOMB THREAT

Get as much information from the caller as possible, eg. location of bomb, type of device, what it looks like and when it is timed to explode. Listen for background noises, accents, and anything else that may help the police.

Contact the switchboard (1700) and pass on the details. They will alert the Security Officer as soon as possible.

5. SAFETY RULES

5.1 DRESS RULES. Staff should maintain an appropriate standard of dress and footwear for the work being done. **All staff are required to wear suitable footwear when on the Telescope structure. Footwear must be designed to captivate the foot (i.e. thongs and scuffs etc that allow the foot to easily slip out are not permitted) and non-slip soles are mandatory.**

5.2 SMOKING. **Smoking is not permitted in any building, vehicle, or enclosed area owned or operated by the CSIRO. This rule also extends to areas outside buildings near doors, windows, or air intake ducts where air may be drawn into buildings, vehicles, etc. Smoking is also prohibited anywhere on the telescope structure.**

5.3 FOOD AND DRINK. Food and drink must not be prepared or consumed in any of the workshops/laboratories where chemicals are used eg, PCB lab, paint shop etc. Facilities for food preparation are provided in the Quarters and the Lunchroom kitchens, the latter being kept clean by those using them. In general, food should be consumed in the Quarters, the Lunchroom, or outside areas.

Alcoholic beverages

Alcohol may be served at work functions with the approval of the Chief or the Chief's delegate (OIC/DOIC).

Responsible consumption of alcohol is permitted at such functions and at the quarters.

It is everyone's responsibility to not bring or consume alcohol on site unless approved by Management.

It is your responsibility not to be under the influence of alcohol while conducting any workplace operation.

Refrigerators labelled: **For chemicals only** should be used accordingly.

5.4 MOTOR VEHICLE SAFETY. Divisional vehicles may only be driven by staff who hold an appropriate drivers license, printed in English.

No vehicle shall exceed the posted site speed limit of 50 km/h.

Personnel must beware of kangaroos whilst driving on site, particularly in the hours either side of dusk and dawn.

Parking is prohibited on the **outer portion** of the telescope **apron** and in the **spoon drain** area surrounding the structure.

Divisional vehicles are to be used for official purposes only and must carry only CSIRO staff except by arrangement with the personnel section. Garaging at home must be by arrangement with the O.I.C. Drivers must adhere to local traffic rules and in particular with regard to consumption of alcohol or drugs. No person may drive an official vehicle whilst suffering from any disability that may impair their control of the vehicle.

Smoking is not permitted in CSIRO vehicles.

Any vehicle damage or defects must be reported to personnel in the Administration Office as soon as practical. If involved in a vehicle accident on public roads, the driver must obtain the following information about the other vehicle before leaving the scene:

The owner's name, address and insurance company,
the driver's name, address and driver's license number.

If anyone is injured in the accident, the Police must be notified.

Before embarking on a journey, the driver should:

Ensure that the vehicle is in an obviously fit condition to be driven on the road.

Ensure that there is sufficient petrol, water and oil in the vehicle before departure. If not, contact the administration office.

Beware of fatigue on Australian roads. Schedule rest breaks before and during long trips to ensure adequate rest is taken. In principle no driver should be in control of a vehicle for more than two hours without a break.

Lock the vehicle when unattended.

If returning a vehicle outside working hours, leave the vehicle outside the front entrance. Lock the vehicle and leave the keys on the desk at reception.

If personnel are required to leave a CSIRO vehicle for pick-up by others (e.g. at the airport or bus/train station), they should, in the absence of any alternative arrangements, lock the car keys in the boot (trunk) upon leaving the vehicle. Administrative staff will use a second set of keys to gain access to the vehicle.

5.5 OUT OF HOURS WORK. When working with machinery, electricity or chemicals, staff working alone shall maintain contact with a responsible person (on site if possible) e.g., Visitor's Centre, Control Room, Quarters, labs etc. An estimated time of departure shall be established at which time contact is again to be made. If this doesn't occur, the contact person must act to confirm the worker's safety.

5.6 THE WORKSHOPS. Depending on the actual work being carried out, special care should be taken when approaching people using workshop equipment (they may be un-aware of your presence and be startled, causing an accident). Beware of the possibility of overhead work, flying swarf (small metal shavings) from cutting equipment, welding flashes, slip and trip hazards etc. Permission must be obtained from the foreman to use any equipment. This permission will not be granted if the foreman is not totally satisfied that the person knows how to operate the equipment safely. Only workshop staff are to use certain equipment. There are special safety rules for the workshops and these are given in appendix 2.

5.7 ELECTRICAL SAFETY. Under CSIRO Policy Circular 90/10 only persons authorised by the O.I.C. may work on electrical installations and electrical appliances. All work must comply with the rules set out in the policy circular, the local supply authority rules and in accordance with AS3000. Refer to the contact sheet for the site electrician's contact details.

Only a licensed electrician may work on electrical installations, including appliances wired directly into the 240/415v A/C power reticulation system. For all repairs or work of this nature the site electrician must be contacted.

Holders of Restricted Electrical licences must consult with the site electrician before carrying out any electrical work.

Appliances designed for connection to the reticulated A/C power system by flexible leads and plugs require a safety compliance tag (contact the site electrician for compliance testing). All such appliances can only be serviced/maintained by authorised persons. These persons should be aware, at least, of the correct cabling configuration for power plugs, proper anchoring and insulation of power cables, and general earthing requirements. Particular care should be taken when using an auto transformer.

Earth leakage or core balance circuit breakers should be used with all portable tools

Users of electrical appliances must ensure that they are set up correctly, have a safety compliance tag, and are used safely. Unless the user is an authorised person, they are not permitted to repair, modify, or interfere with electrical appliances in any way.

Access and clear space is to be maintained around electrical distribution boards at all times.

If you go to the assistance of a person who has received an electrical shock, **MAKE SURE THE POWER IS DISCONNECTED FIRST OR INSULATE YOUR HANDS.**

In the case of electric shock, contact the First Aid Officer immediately.
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5.8 CONTRACTORS ON SITE.

All visiting contractors must comply with, and complete the Site Safety Agreement form available from the Safety Officer (refer Appendix 6). Evidence of the Contractor's own Worker's Compensation and public liability insurance must be produced, and a copy given to the site Safety Officer.

Local personnel inviting contractors to site must ensure that all relevant local personnel are notified in advance of the contractor's arrival. Appropriate arrangements and regular monitoring of the contractor's progress shall be maintained by local staff to ensure that the job is carried out safely. A local staff member (usually the person inviting the contractor to site) will be nominated as a 'Contact Person' and will act as an interface between the contractor and the local personnel.

5.9 SITE VISITOR'S LOG SHEET.

This log book is kept in a prominent location in the Administration building foyer.

Un-escorted and/or periodic visitors to site (including contractors) shall enter their details into the Site Visitor's Log Sheet upon arrival to, and immediately before leaving site.

The information on a correctly filled log sheet (Date/Name/reason for visit/Staff Contact/Work Location/Arrival time/Departure time) will be referred to during an emergency evacuation.

6. OTHER HAZARDS

6.1 STAIRS: Paper and other flammables must not be stored under stairs or in stairwells.

6.2 FLAMMABLE LIQUIDS should be stored only in minimal quantities in a laboratory, or workshop etc. Larger quantities must be stored in the flammable liquids store or in a properly rated fireproof cupboard.

6.3 ACID BOTTLES (Winchesters) should always be transported in a proper acid carrier.

6.4 NAKED FLAME. Extreme care should be exercised when using gas torches etc. The area should be clear of flammable material and liquids.

6.5 CORRIDORS and passage areas, are to be kept clear at all times and must not be used to accommodate filing cabinets, cupboards, additional storage etc. Of particular danger are metal bars left on floors. Care should be exercised if this is unavoidable and round stock, pipe etc, should be constrained against rolling.

6.6 COMPRESSED GAS CYLINDERS should be fastened in an upright position to a wall, trolley etc. They should only be transported, firmly secured, in an upright position.

6.7 DEWARS containing air-displacing materials (e.g. liquid nitrogen,) shall not be transported in an enclosed vehicle and shall only be stored in well ventilated areas. If these areas are air-conditioned, then an air exchange system must be used (i.e., not a closed cycle system).

6.8 LIQUEFIED GASES. Gloves and face shields must be worn when decanting liquid nitrogen etc. Refer appendix 4 for additional safety procedures required when working with cryogenic systems.

6.9 RADIATION is of two kinds:

1. Non-ionising radiation (ultraviolet, infra red, radio-frequency and lasers). Ultraviolet radiation can damage the eyes and burn the skin (leading to skin cancer). High and Low pressure discharge lamps, arc welders and semi-conductor memory erasers are common sources of UV. Protective screens, face shields, goggles, gloves etc, should be used.
2. Ionising radiation (X-rays, Gamma rays, alpha particles etc). Sources of ionising radiation include CRO tubes, X-ray machines, electron microscopes and radioactive sources.

There are guidelines available from the Safety Officer for the correct use of equipment (including lasers) and these should be studied by the persons concerned. Training in the safe use of particular radiation-emitting equipment should be sought where possible.

No person shall introduce an X-ray or RADIOACTIVE SOURCE onto the site without first consulting the O.I.C. or the Safety Officer.

6.10 HAZARDOUS SUBSTANCES. A list of toxic, corrosive and flammable chemicals and their location on the site is maintained by the Safety Officer (refer contact sheet) together with their associated Material Safety Data Sheets (MSDS's). If additional large quantities of hazardous substances are introduced onto the site the Safety Officer should be informed. Only small, working quantities of these chemicals should be stored in laboratories, larger quantities should be held in the flammable liquids store or in special storage arrangements.

In the event of any toxic chemical spill (eg. mercury) the Safety Officer is to be informed immediately.

6.11 MATERIAL SAFETY DATA SHEETS

A Material Safety Data Sheet (MSDS) is a brief information sheet containing details on the characteristics, behaviour, health risk, and recommended First Aid treatment for specific chemical products. MSDS's are available for all chemical products and suppliers are required by law to make this material available to purchasers.

Prior to bringing new chemicals onto site, personnel are obliged to supply an MSDS to the Safety Officer.

6.12 FIREARMS.

Firearms of any type are not permitted on site unless the user has the express written permission of the O.I.C. and may only be used in accordance with any curfew/window-of-opportunity stated therein. Personnel living on site must be given 24hrs notice of any activities involving the discharging of firearms. The user must be fully licensed (and firearms registered) in accordance with the current N.S.W./Federal Firearms Laws.

The firearms shall only be used in a responsible and lawful manner.

6.13 SNAKES

During the warmer months of the year special care should be exercised when moving about the site on foot. Snakes are commonly active both day and night in this season and it is advisable to avoid long grass or any place where the surface to be walked upon cannot be clearly seen.

6.14 USE OF SITE BICYCLES.

Bicycles are provided for those who wish to use them within the boundaries of the site. Please remember that as a bike rider you must beware of other vehicles and pedestrians also sharing the roads on site. The use of the bicycles off site requires the rider to adhere to the local road rules, and wear an approved safety helmet (available from the quarters).

7. PERSONAL SAFETY EQUIPMENT

7.1 SAFETY GLASSES or toughened prescription glasses are to be worn, at the discretion of the Workshop Supervisor, by personnel visiting or using the workshop areas. Safety glasses are available for visitors to the workshop (see the Machine Shop Operator or Site Supervisor).

SAFETY GLASSES or face shields are to be worn when handling dangerous chemicals, including charging lead-acid batteries. They are to be worn during any grinding or machining work.

7.2 SAFETY FOOTWEAR must be worn near workshop machines or when handling or using heavy materials or equipment or large quantities of cryogenic liquids.

7.3 SAFETY HELMETS are to be worn whenever there is a danger from falling objects, or where overhead work is being carried out (eg: overhead winching, crane/Hiab, work crew working overhead etc). As circumstances allow, helmets should also be used where there is limited headroom and consequently a possibility of head injury.

Safety helmets must be used in all areas designated by the sign:

NOTICE- WEAR HARD HATS.

7.4 HEARING PROTECTION (“earmuffs” or plugs) must be worn whenever noise levels are excessive. Machines and situations in this category are indicated with signs.

7.5 RESPIRATORS (breathing masks) are to be worn whenever the risk of toxic fume inhalation is serious, eg spray painting. Dust masks are to be worn when sanding etc. There are various types of respirator and mask available. The First Aid Coordinator or the Safety Officer can advise on the correct type to use.

7.6 PROTECTIVE CLOTHING must be worn if so directed.

7.7 APPROVED SAFETY HARNESS must be worn for certain aspects of work around the site. If you intend to work in an exposed high position, contact the Safety Officer who can advise you on the use of safety harnesses.

7.8 SUN PROTECTION.

Care should be taken when outdoors to minimise exposure to harsh sunlight. To achieve this, appropriate clothing should be worn, e.g., long sleeved densely woven top, long trousers, wide-brimmed hat, sunglasses, sunscreen lotion, etc.

8. APPENDICES

APPENDIX 1. WORKSHOP/TELESCOPE STRUCTURE SAFETY

Protective clothing must be worn if directed.

Adequate access space is to be maintained around electrical distribution boards at all times.

Unauthorised use of workshop machinery by non-workshop staff prohibited.

Welding Bays are considered to be restricted areas with only authorised access permitted.

Clean and tidy work areas are to be maintained at all times. Machinery to be cleaned after use. Oil and coolant spills to be cleaned up or immediately covered with diatomaceous earth absorber.

Compressed air must not be directed towards any person's body. Compressed air *must not* be used to clear swarf from a machine. Remember that other people are sharing the area.

Flammable solvents must only be used in minimal quantities and must be stored in suitable containers.

Soft and Silver soldering should be performed in suitable areas with due regard to the obnoxious and sometimes toxic nature of the fumes. Both operations should be carried out in a suitably ventilated area.

Work with solvents should be carried out in a ventilated or out-door area and the location of nearby fire extinguishers should be noted before their use.

Gas and electric welding: Approved goggles must be worn for gas welding, brazing and cutting. Suitable shields must be worn whenever electric welding or observing this process. Screens should be used to minimise the risk of injury to other staff. Care should be taken to ensure that welding or cutting splatter cannot ignite nearby flammable material.

Gas cylinders should be restrained in bottle trolleys or stands when in use. Spare bottles should be stored secured in an upright position.

All electrical work must be carried out in accordance with CSIRO Policy Circular 90/10, i.e. electrical work may only be done by an approved person.

When working on the telescope or in cable pits etc, confined spaces procedures should be followed where appropriate.

APPENDIX 2. CRYOGENIC SAFETY

Always handle cryogenic liquids carefully. Avoid skin contact. Wear protective clothing, gloves and mask.

Boiling and splashing **always** occurs when filling a warm container or when inserting warm objects into the liquid. Always perform these operations slowly. Stand clear of splashing liquid and use tongs etc. to insert objects into liquid.

When inserting open tubes into liquid, the warm end should be closed, otherwise liquid will run up the tube and out the open end (Fountain Effect) and may constitute a hazard.

Cryogenic liquids should be handled, stored and disposed of in well ventilated areas. Pure oxygen is a fire hazard and care should be taken not to use petroleum-based oils or ignition sources in its presence. Excessive amounts of other gases in the atmosphere can reduce the oxygen concentration and can cause asphyxiation

Containers are designed to be vented, eg. with grooved stopper, do not use the wrong stopper, obstruct the vent or allow it to ice up.

First Aid for cryogenic "burns": Immediately flood the affected area, eyes or skin, with large quantities of cold water, then apply cold compresses, never use dry heat. If the skin is blistered or the eyes are affected, obtain immediate medical treatment.

If a person working with cryogenic liquids experiences dizziness or loss of consciousness they must be moved immediately to a well ventilated area.

Artificial respiration should be applied if necessary.

Use of liquid Oxygen or Hydrogen requires special procedures and must be cleared with the O.I.C. before the materials are brought on site.

APPENDIX 3. RESUSCITATION INSTRUCTIONS (C.P.R. & E.A.R).

FIRST STEPS: (DRABC)

1. Assess **D**ANGER
2. Test **R**ESPONSE
3. Clear **A**IRWAY
4. Check for **B**REATHING
5. Test for **C**IRCULATION

(i). Initial resuscitation (patient not breathing)

- Tilt head back (pistol grip)
- Give up to 5 breaths to achieve at least two effective breaths in 10 sec. (chest must rise and fall)
- Check pulse (carotid)
- If no pulse, go immediately to (iii)

(ii) Expired air resuscitation

- Tilt head back
- Give 1 breath every 4 sec. (15/min)
- Check pulse after 1 minute, then every 2
- If no pulse, go immediately to (iii)

(iii) Cardio-pulmonary resuscitation

- Place heel of one hand on lower half of sternum
- Grasp wrist area with other hand (fingers off chest)
- Compress (push) sternum vertically 4-5cm
- Check pulse after 1 minute then every 2.

RATES:

One or Two Operators:

- 2 breaths in 5 sec.
- 15 pushes in 10 sec.
- Repeat 4 times/min.

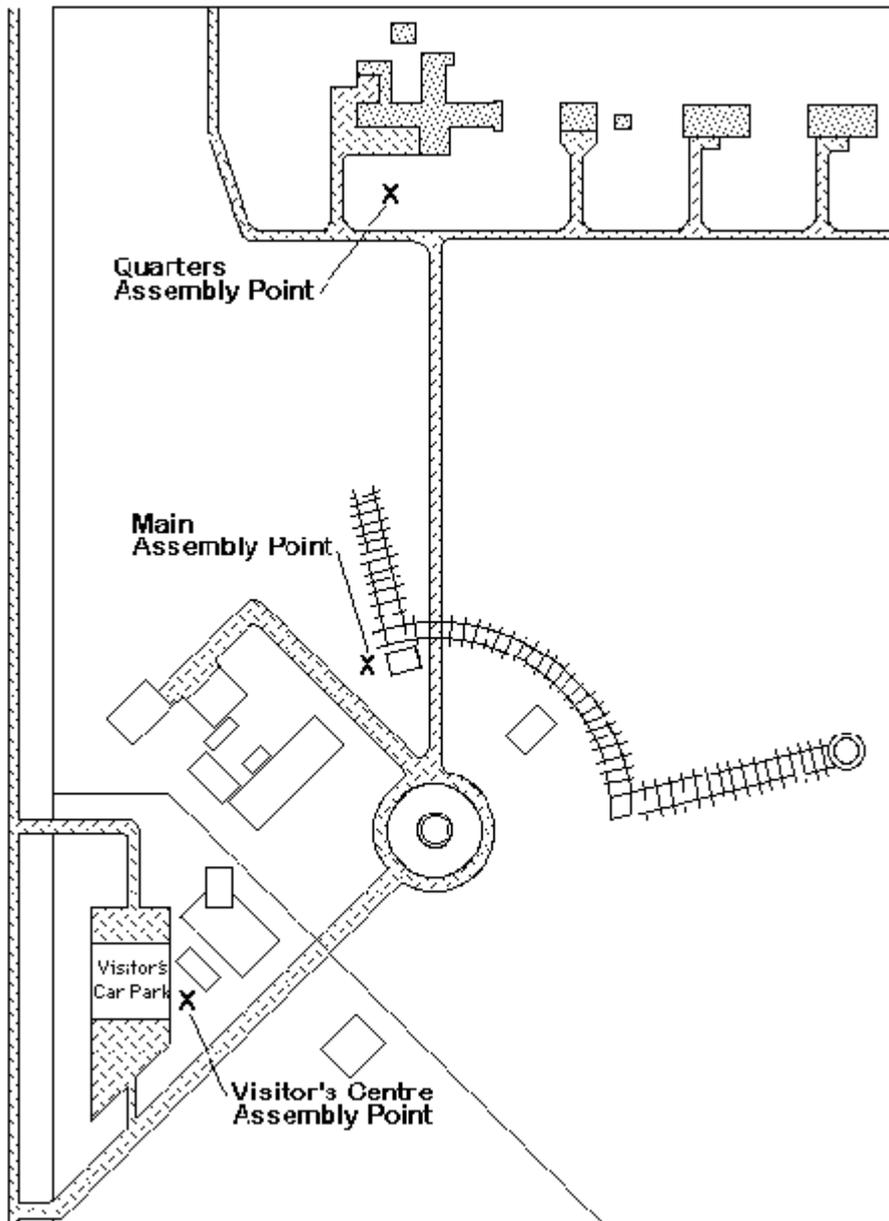
Resuscitation can take a long time

DON'T GIVE UP!

APPENDIX 4.

EVACUATION PROCEDURES

- Staff must follow any instructions given by their Fire Warden or Emergency Services staff.
- If safe to do so, turn off electrically operated equipment.
- Close all doors and windows unless instructed otherwise.
- Leave the building in an orderly manner via the nearest designated exit (see map below) unless instructed otherwise.
- Gather at the designated assembly point and participate in the roll call.



APPENDIX 5.CSIRO OHS&E INCIDENT REPORT FORM.

(From CSIRO Policy2003/02, 4 February 2003 http://www.csiro.au/doco/policy/pc2003_02.htm)

Please turn the page...

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OHS&E INCIDENT REPORT

Important notice (Privacy Act 1988); Statement of Purpose/External Disclosure

This information is collected to assist CSIRO fulfil important statutory obligations to staff:

- (i) to provide care for and rehabilitate employees injured at work,
- (ii) to provide healthy and safe working conditions and
- (iii) to protect the environment.

It is CSIRO's practice to disclose this information to Comcare in the course of resolving liability for injury, to environmental authorities and to Occupational Health, Safety and Environment (OHS&E) Committee members when assessing the effectiveness of OHS&E practices.

EMPLOYEE DETAILS

Surname (BLOCK LETTERS)	Given Names	Ident	Division and site
-------------------------	-------------	-------	-------------------

INCIDENT DETAILS

Incident date	Incident time	Type of incident:	Injury <input type="checkbox"/>	Illness <input type="checkbox"/>	Near Miss <input type="checkbox"/>	GMO <input type="checkbox"/>
			Property damage <input type="checkbox"/>	Environmental aspect <input type="checkbox"/>	Other <input type="checkbox"/>	

Where did the incident occur? (e.g., in canteen at Bldg 222)	Describe what you were doing at the time
---	--

Description of incident (including quantities, severity, property damage, etc.)

Nature of injury/illness	Body part affected	First treatment given by	Witness name and Ident
--------------------------	--------------------	--------------------------	------------------------

Was there an environmental impact outside the CSIRO workplace?			
Release to air <input type="checkbox"/>	Release to water <input type="checkbox"/>	Release to soil <input type="checkbox"/>	Disturbance to community <input type="checkbox"/>
Damage to heritage <input type="checkbox"/>	Damage to flora/fauna <input type="checkbox"/>	Resource consumption <input type="checkbox"/>	Other (specify) <input type="checkbox"/>

Type of material involved if environment outside CSIRO workplace affected:					
Prescribed waste <input type="checkbox"/>	Explosive <input type="checkbox"/>	Flammable <input type="checkbox"/>	Oxidising <input type="checkbox"/>	Toxic <input type="checkbox"/>	Corrosive <input type="checkbox"/>
Ionising radiation <input type="checkbox"/>	Biological <input type="checkbox"/>	Ozone depleter <input type="checkbox"/>	Heat/Cold <input type="checkbox"/>	Noise <input type="checkbox"/>	Vibration <input type="checkbox"/>
Non-ionising radiation <input type="checkbox"/>	Odour <input type="checkbox"/>	Electricity <input type="checkbox"/>	Other (specify) <input type="checkbox"/>		

Signature and Ident of employee or person completing incident details	Date
<i>Please continue to 2nd page prior to submitting form</i>	

Details of this report have been uploaded onto CAS-OHS&E by the nominated person:	
Name:	Date:

Employee & Supervisor suggestions including signatures must be completed before submitting form
PREVENTION/REMEDATION SUGGESTIONS (include name of person to take action)

Employee
Signed Date.....
Supervisor
Signed Date.....
OHS&E Officer/Officer with environment responsibility (only if environmental aspect)
Signed Date.....
Divisional OHS&E Manager/Coordinator
Signed Date.....

FOLLOW-UP ACTION TAKEN (to be signed off when action completed)

Chief/OIC/OHS&E Committee Chairperson signature and Ident	Date
---	------

This section to be completed immediately by OHS&E Officer
WAS THE INCIDENT NOTIFIABLE? YES NO

Who was notified? COMCARE <input type="checkbox"/> DANGEROUS GOODS AUTHORITY <input type="checkbox"/> EPA <input type="checkbox"/> POLICE <input type="checkbox"/>
Name any other ARPANSA <input type="checkbox"/> OGTR <input type="checkbox"/>
Who notified them? (name and Ident)
When? (date and time)

OHS&E Officer to distribute completed reports to:

- Staff member submitting report
- Project Leader/Supervisor
- Divisional OHS&E Committee Chairperson

APPENDIX 6 CONTRACTOR'S AGREEMENT DOCUMENTS.

Please turn the page...

CONTRACTORS ON SITE.

All visiting contractors must comply with, and complete the Site Safety Agreement form available from the Safety Officer. Evidence of the Contractor’s own Worker’s Compensation and Public Liability Insurance **must** be produced and a copy given to the Site Safety Officer.

Local personnel inviting contractors to site will ensure that all relevant local personnel are notified in advance of the contractor’s arrival. Appropriate arrangements and regular monitoring of the contractor’s progress will be maintained by local staff to ensure that the job is carried out safely. A local staff member (usually the person inviting the contractor to site) will be nominated as a ‘Contact Person’ and will act as an interface between the contractor and the local personnel.

**CSIRO PARKES
SITE SAFETY & ENVIRONMENT AGREEMENT
CONTRACTOR SAFETY & ENVIRONMENT REQUIREMENTS**

The CSIRO has in place Occupational Health, Safety & Environment (OHS&E) and duty of care requirements that contractors **must** adhere to whilst engaged in works at the Observatory.

They are as follows:

1. Contractors must comply with requirements of the current NSW Occupational Health and Safety Act.
2. Contractors are to report upon arrival to the CSIRO Officer-In-Charge (OIC) or the staff member that requested the service. **All contractors** are required to undergo the Parkes Observatory **Safety Induction** prior to commencing any work at the Observatory.
3. While on site, **all posted notices must be adhered to** (i.e. hard hat area, hearing protection must be worn, etc.)
4. At the discretion of the OIC, or his designated officer, contractor access is limited to the specific work area only.
5. All contractors must provide their own safety equipment, i.e. hard hats, safety boots etc. to the satisfaction of the OIC and the Safety Officer.
6. All height work to be carried out will be initiated only with the direct consent of the CSIRO Safety Officer and the Job Supervisor.
7. All works undertaken and waste generated must be managed in accordance with applicable state and commonwealth legislation.
8. All vehicles are to be parked in accordance with directives of OIC or designated officer. Parking directly under the telescope is restricted to loading and unloading.
9. Interaction with the general public and CSIRO staff is to be conducted in a manner appropriate to the standards of the CSIRO and all inquiries from the general public directed to Observatory staff.
10. All refuse generated by the contractor must be removed by the contractor and the site left in a clean and tidy manner to the satisfaction of the Site Supervisor.
11. All injuries and incidents must be reported to the Job Supervisor and Safety Officer
12. In the event that the Safety Officer is unavailable, the Site Supervisor and/or the Health and Safety Representative must be notified of any safety issues.
13. Before departure, contractors must report to the Job Supervisor or the OIC.
14. Contractors must provide evidence of adequate **worker’s compensation insurance** and **public liability insurance** prior to the commencement of work.
15. Contractors **must** ensure that **all portable electrical equipment** complies with the WorkCover Code of Practise – “Electrical Practices for Construction Work”.
16. Contract work on site is to be carried out during normal working hours – 08:00hrs (8:00 am) to 16:30hrs (4:30pm), unless special arrangement has been made with the job supervisor.

I have read and understand the above requirements and agree to abide by them.

Signed: _____ Contractor

_____ CSIRO Job Supervisor

_____ CSIRO Site Safety Officer

Dated _____

APPENDIX 7 MANUAL HANDLING

How to lift things safely:



- Sum up the load and only lift it manually if it can be done comfortably.
- Ask yourself “does it have to be lifted manually? Is there an easier/safer way?”
- *Remember*, we have lifts, hoists, fork-lifts, cranes, and trolleys, all readily available which may make your equipment handling job easier.
- There are lots of people on site who will be happy to help you with an awkward or heavy load, just ask.

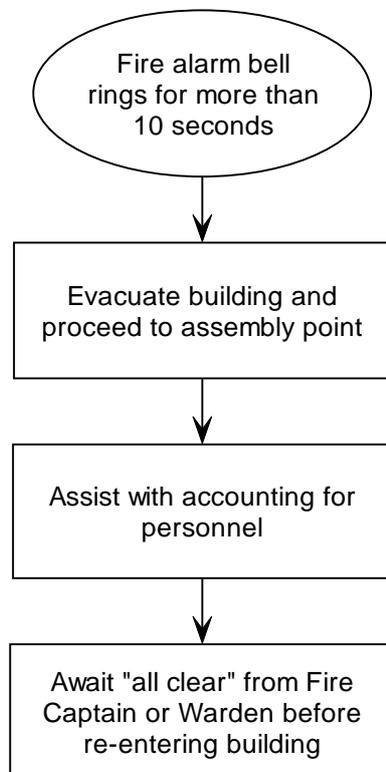
Fire response and evacuation plan

Note: If fire is discovered outside normal business hours, then Emergency Services must be notified as soon as possible unless fire is trivial, and can be extinguished quickly by Staff.

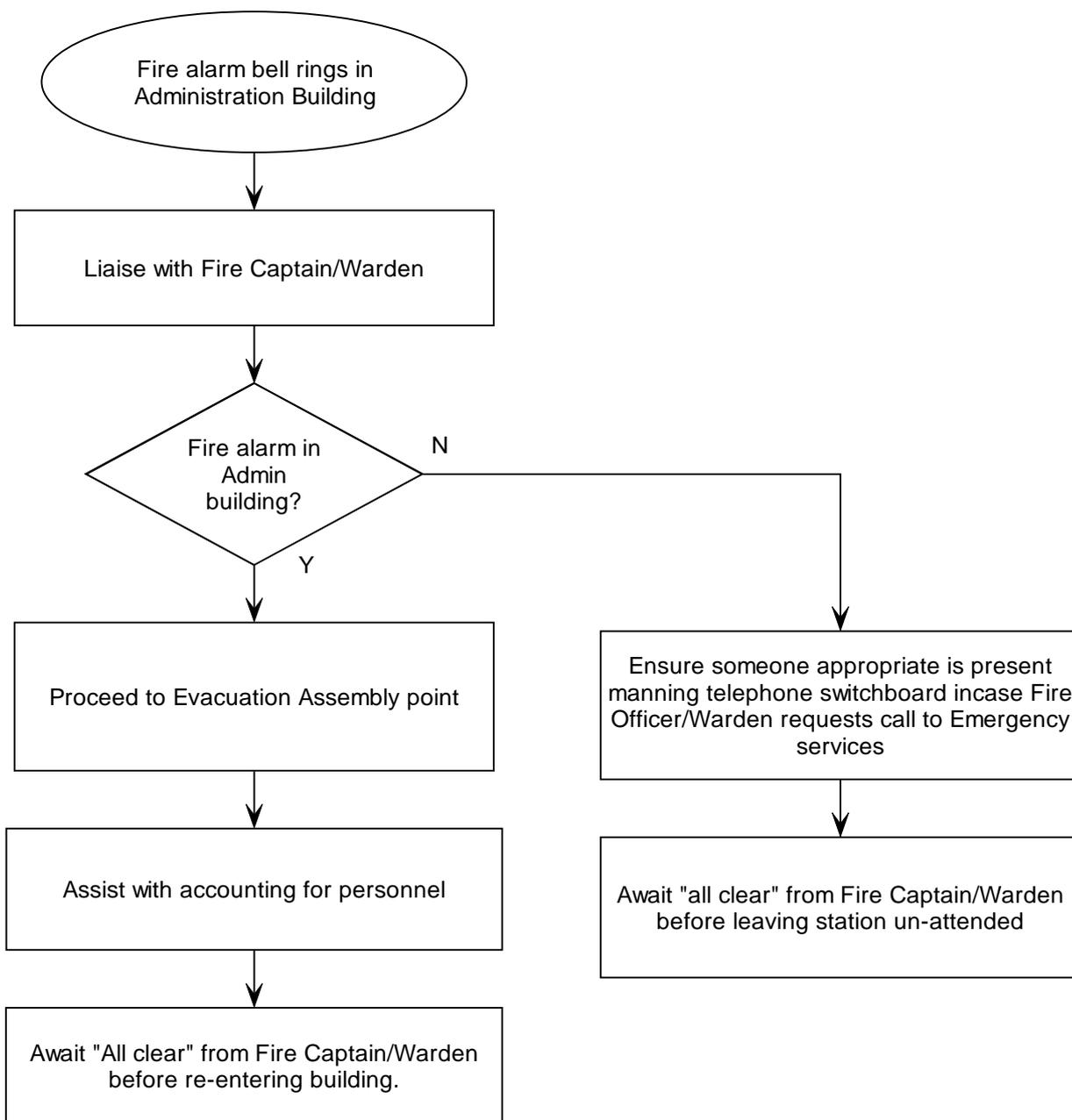
If any fire alarm bell rings for 10 seconds or more, it should be regarded as a ‘real’ alarm, and not a test. In the event of an alarm the standing orders are to evacuate the building immediately in an orderly fashion, proceed to the Assembly point, and remain there until the ‘all clear’ is given by a Fire Warden, or the Fire Captain.

In more specific terms though, some staff members have specific roles and duties, so these are laid out below:

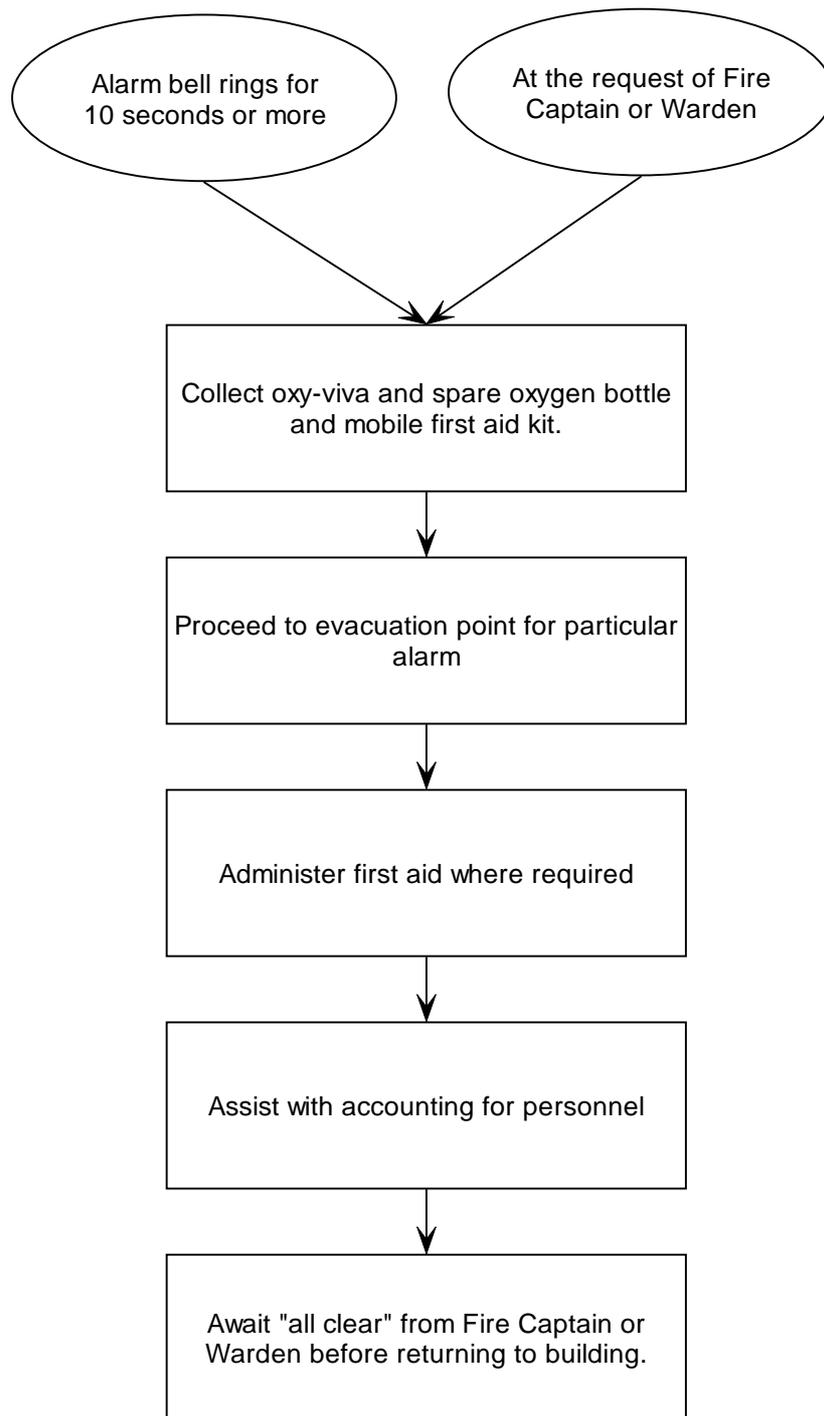
Regular employee/Visitor evacuation plan:



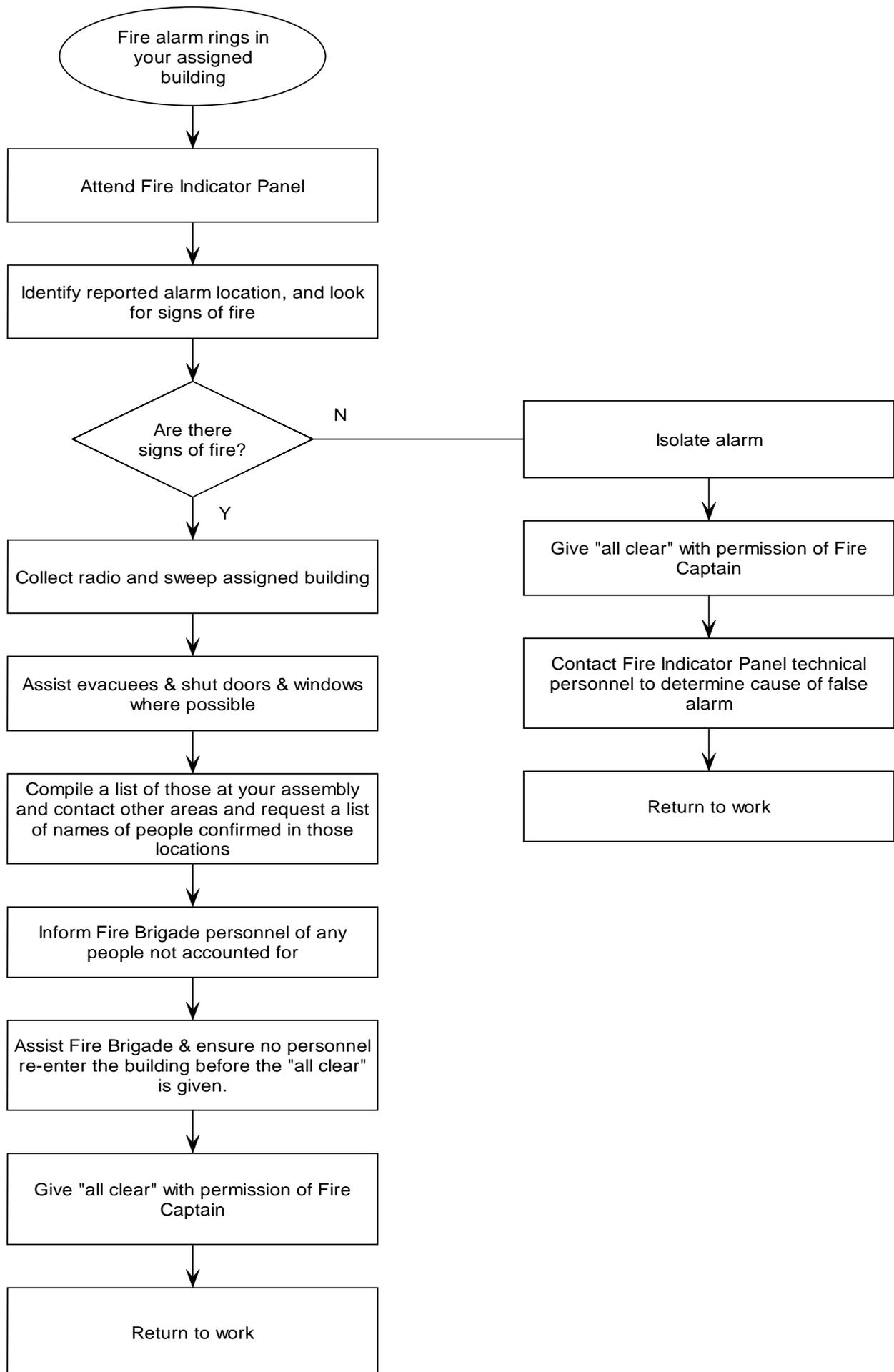
Administration Staff Evacuation plan:



Advanced Resuscitator/Nominated First Aiders Fire Response/Evacuation Plan:

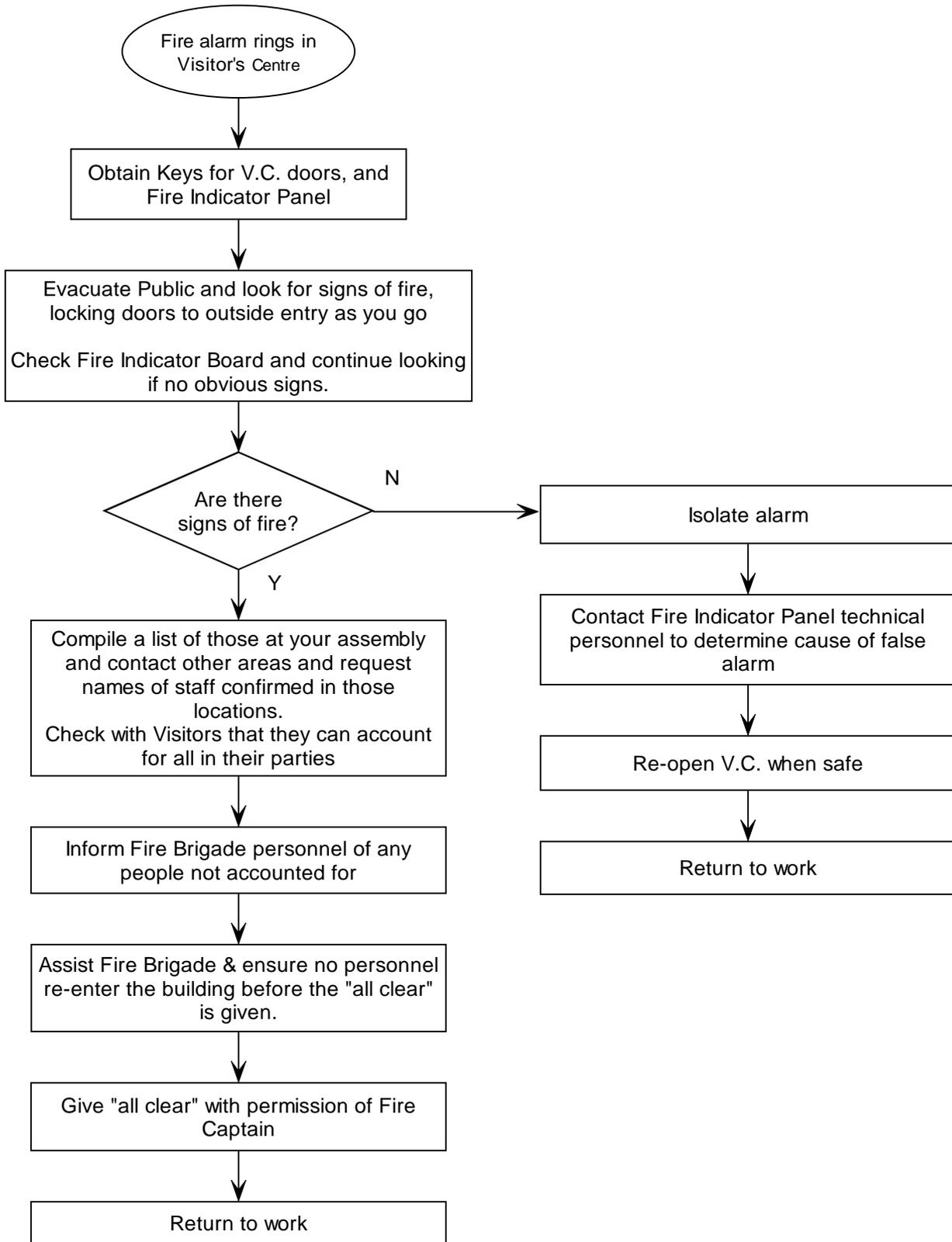


Fire Warden Fire Response/Evacuation Plan

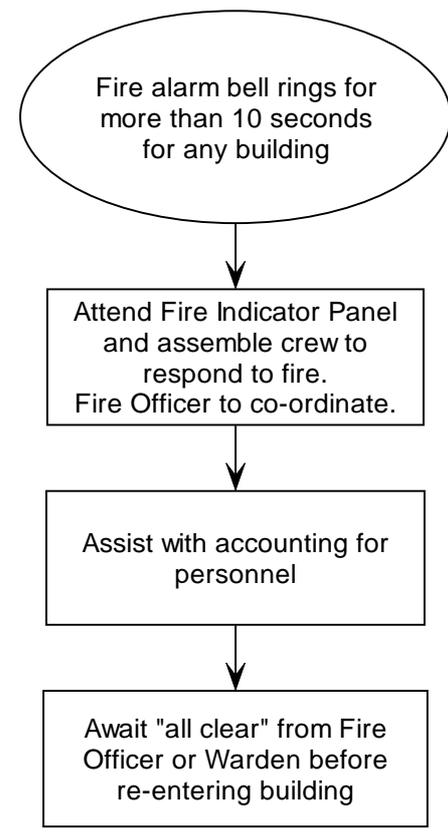


Visitor's Centre Fire Response/Evacuation Plan

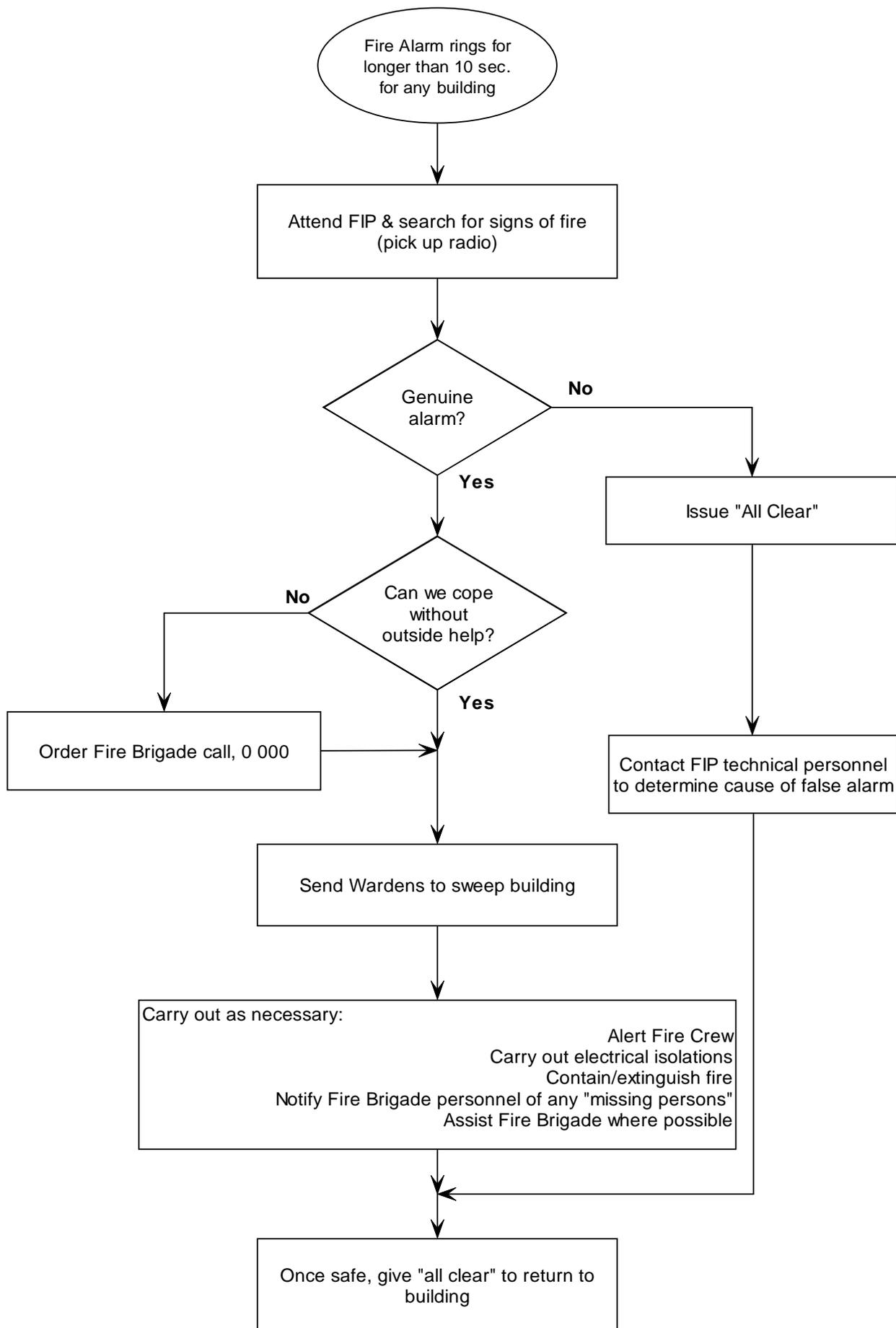
Note: If fire is discovered outside normal business hours, then Emergency Services must be notified as soon as possible unless fire is trivial, and can be extinguished quickly by Staff.



Fire Crew Fire Response Plan:



Fire Captain Fire Response Plan:



**AFTER READING YOUR COPY OF THE PARKES OBSERVATORY SAFETY MANUAL
PLEASE COMPLETE THE FORM BELOW, TEAR OUT AND RETURN IT TO THE SAFETY
OFFICER.**

I have read the booklet entitled "Health Safety and Environmental Information. CSIRO The Australia Telescope National Facility, Parkes Observatory" and understand my responsibilities with regard to safety within the boundaries of the site, including the Laboratories, Workshops and the radio-telescope.

Name(please print):..... Signed:.....

Organisation.....

Reason for visit:.....

Date:.....
