

**CURRENT AS OF JUNE 2013**

1. Smoke sighted

- A. Get an approximate bearing/distance and or map topography on location. Estimate size and slope aspect as well as intensity if possible.
- B. Call USFS at 437-2286, provide fire info as well as local weather data.
- C. Call Mark Klaene (682-2865 or 430-0210)
- D. Notify NSO/SP and the Otero County Sheriff's Office (911)

2. If smoke is in the area but observatory not threatened

- A. Complete #1, A-D
- B. 3.5m telescope: Face enclosure into smoke direction and turn on PF1.  
  
2.5m telescope: Turn on HVAC system or set system for 1.0 pressurization.  
  
Monitor observing levels for smoke infiltration. If significant, turn off fans.
- C. Close up all telescopes.
- D. Visually check fire situation hourly and check immediate area around grounds. Spot fires can occur up to 1 mile from the fire edge.
- E. Keep in touch with the USFS

3. If observatory is threatened:

- A. Complete #1, A-D

If time permits and immediate evacuation is not ordered:

- a. make sure everyone on site is awake and aware of the situation; check against housing board and day logs
- b. turn off all fans
- c. close all louvers/shutters, including exterior window shutters at north side of the Arcade, Ops bldg, both dormitories, shop bldg and SDSS Support bldg. Crank handles located inside by entrance doors and outside along north side of buildings.

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d. hook-up and turn on all outside sprinklers

1. connect hoses to hydrant H2
2. connect hoses to hydrant H1
3. use hydrant wrench located by fire pump to open fire hydrants H1 and H2
4. in Garage/shop turn on fire pump

e. Service Instruments as noted (this assumes an evacuation duration of less than 24 hrs and power may be available)

### 3.5m Instruments

APOLLO: No action required

AGILE: No action required

Echelle: Top off LN2, (if time does not permit, turn Ion Pump off, turn off camera power)

DIS: Turn off camera electronics

Nic-Fps: Top off LN2, Turn off camera electronics

Fabry Perot: (if powered on) Top off LN2, Turn off camera electronics

SPIcam: Turn off camera electronics

TSpec: Top off LN2 on both instruments. If possible, rotate with fill ports up for maximum fill. Turn off camera electronics

### 2.5m Instruments

MARVELS: Turn off camera electronics

BOSS Spectrographs: Place full dewars on line, turn off camera electronics

APOGEE: Turn off CCD camera electronics

If time permits consider rotating telescope 180 deg in az and leave at zenith

- f. Ensure all doors (interior and exterior) and windows are closed
- g. Close all metal blinds (not fabric shades)

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- h. Move furniture/combustibles away from windows. Move wood/paper away from exterior metal walls of telescope enclosures
- i. Turn 3.5m telescope into fire direction
- j. Turn off valve at bottom of propane tank
- k. Turn off unnecessary electrical loads, shut off circuit breakers to dormitories
- l. Move valuable equipment into telescope enclosures
- m. Gather portable site radios

### 4. Evacuation

A. If an evacuation is ordered by the Site Manager/designee/ local authority, proceed along the USFS evacuation route.

If none has been designated, go to Timberon or Cloudcroft depending upon fire location. Take radios and cellular phones and travel together in at least two vehicles. Have at least one radio in lead vehicle and one radio in the end vehicle. Take APO vehicles if extra drivers are available. Contact Otero County Sheriff's Office (437-2210) and Sunspot VFD (437 7195) when you depart. Inform them of the evacuation, destination, time of departure, number of vehicles, and number of persons. If time permits, fax a list with names of evacuees to speed dial 4 (NMSU Astronomy). Use the staff phone list and cross out those not applicable and write-in visitors.

The gate to the right as you go back down our road is a designated evacuation route. It has our combination padlock of 2001 on it. Use this road ONLY if absolutely necessary and you are familiar with it as it is very possible to get lost or trapped. Do NOT lock the gate behind you. Generally staying at the observatory will be safer than trying this route.

B. Contact the site manager or designee upon reaching a safe location. A point of contact will likely be appointed and all future information will be funneled through them. If none appointed use Gretchen Van Doren 682-7321

C. During the evacuation:

1. Drive cautiously, speeding causes accidents, visibility may be reduced, animals may be crossing roads. Emergency vehicles will be responding from the opposite direction.
2. Keep vehicle windows closed, headlights "on".

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3. Do not shut off engine until safety is reached. Keep moving. Heavy smoke may kill the engine or cause rough running. Expect this and pull to the side of the road if engine problems occur.

4. Stay on familiar, well-maintained roads and stay in a group. Sunspot will likely form a caravan, so check with them and join in. Take the portable radios.

5. Take a forest map

D. If area cannot be evacuated, go to Sunspot tower high bay area. This is the safe haven location for the Sunspot folks. If this can't be done, stay in the cone room of the 3.5m enclosure. Use available dust masks to filter the smoke when on site.

### 5. Fire-fighting

A. Mark Klaene and Tracy Naugle are on the Sunspot Fire Dept. and may be assigned, along with other SVFD members, to help and protect APO. This is possible due to their SVFD membership, protective equipment, and training. It is not the intent of APO management to have staff perform fire suppression work.

B. In general, we may be able to help protect the buildings using the fire pump, hose, water and foam on site. In addition, preventive watering may be accomplished.

### 6. Returning

A. Do not return to the site without approval from the Site Manger or designee. Keep in daily contact with the point of contact and they will let you know when to return. Use our point of contact for information, not the USFS.

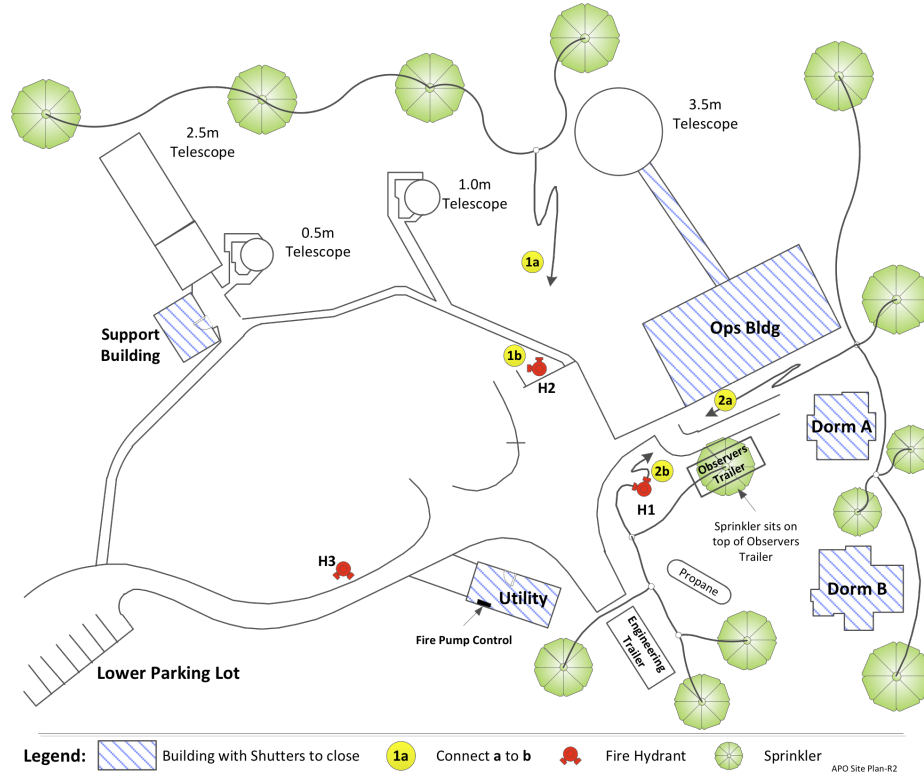
B. Follow power up sequences for all equipment similar to recovery procedures developed for power outages.

C. Check and re-light all applicable gas pilot lights. See list available from Mark Klaene.

# APO Sprinkler and Shutter Procedure

This document is a supplement to the APO Forest Fire Procedure Pre-plan and is intended as a quick reference map and guide for SVFD in the event that the APO fire shutters need to be closed and the exterior fire suppression sprinklers turned on. Although not in the same order, the steps contained in this procedure can be found in Section 3 of the attached APO Forest Fire Procedure.

## Apache Point Observatory – Site Plan: Sprinklers and Shutters



### GUIDELINES

- The following procedure should be implemented if fire is encroaching from the south/west/northwest and will reach Sunspot/APO within the hour.
- Shutter crank handles are located throughout the facility leaning against exterior walls of the buildings.
- Fire Hydrant wrenches are pre-positioned at each fire hydrant.

(OVER)

# APO FOREST FIRE PROCEDURE

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## PROCEDURE

### 1. Roll down shutters on all buildings indicated above.

a. This includes the Support Building, Operations Building, Dorm A, Dorm B, and the Utility/Garage/Shop.

### 2. Connect 1a → 1b: Sprinklers along West Ridge – 3.5m Telescope

a. Pull pre-connected hose across pavement from sprinklers west of 3.5m telescope and connect to Fire Hydrant H2.

b. Open Fire Hydrant H2. NOTE: Water will not flow from hydrant until Step 4.

### 3. Connect 2a → 2b: Sprinklers along West/NorthWest Ridge – 3.5m Telescope, Support Building, Dorms

a. Pull pre-connected hose across sidewalk from sprinklers west/northwest of Operations Building and Dorms and connect to pre-connected hose from Fire Hydrant H1.

b. Open Fire Hydrant H1. NOTE: Water will not flow from hydrant until Step 4.

### 4. Turn On Fire Pump

a. Obtain key to Utility/Garage/Shop building from key-box in truck.

b. Unlock west door and turn light switch on and proceed to opposite side of shop.

Lights will automatically turn on when you enter the shop but you need to turn the light switch on.

c. Start fire pump located on the wall opposite the door by pressing the Black start button.

Lights will automatically turn out except for the light fed by the light switch by the door.

Pump will take 15 seconds to build up pressure. Water leakage is normal.

## NOTES

- Fire pump obtains its water from the water tank located on the hill in the middle of the APO grounds.
- Each sprinkler consumes ~10 gallons/minute – with pump pressure bleed and sprinklers the system consumes ~150-200 gallons/minute. The water tank holds about 23000 gallons providing approximately 100 minutes of protection. Prior to the 100 minute time frame the water tank must be re-filled. A 6" white pipe w/cap on the hill in the parking log covers the tank fill valve. Remove cap, obtain long red valve tool (located next to fire pump control in the utility building), and open valve.
- If commercial power is lost, APO automatically switches to generator power and the fire pump will continue to run.
- Fire Hydrant H3 is fed from the incoming water supply and is between the tank and pump. If the generator fails (i.e. chokes or runs out of diesel) then reconnect sprinkler hoses from Hydrants H1 and H2 to Hydrant H3.