

[graphics1](#)

## VATT

### 1.8m OPTICAL TELESCOPE

#### Remote Operations

#### Telescope Start-up/Shutdown

#### Checklist

	Signature	Date
Prepared	K. Duffek, J. Hoscheidt	12-May-21

## Reviewed

## Approved

- Revision History

Issue	Date	Changes	Responsible
a	12-May-21	Initial Release	K. Duffek, J.Hoscheidt

- List Of Abbreviations

VATTEL VME computer controlling the Telescope

Neslab Primary Mirror cooling system

- About this document

## Purpose

The purpose of this document is to provide a detailed startup/shutdown procedure for remote operation of the Vatican 1.8m Telescope.

## Reference Documents

[RD1] Vatican 1.8m Telescope Operators Manual.

[RD2] Lightning shutdown procedure.

- Start-up

## General

- Verify all doors are locked.
- Close all blinds, shut off unneeded lights, turn off TV.

## Computer Room

- Power up VATT computer rack beginning with VATT Data computer.
- Wait 20 minutes for VATT Data to boot up.
- Then boot all other rack computers in no particular order.

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## Dome

- Check that filters have been installed in the filter wheel and their positions recorded for the observer.
- Top off the science camera with LN2.
- Remove Dome Short.
- Plug in Dome Shutter power into 120ac outlet.
- Plug in finder scope camera power located on top of grey box on right fork.
- Turn 4Kccd camera power ON.
- Turn ON 4Kccd camera shutter box.
- Turn ON guide camera power at the guide camera controller.
- Remove finder scope cover.
- Plug in stow pin power supply located on left fork. Switch ON.
- Remove stow pins pressing “unlock” on momentary switch until display reads 100 approximately.
- Visually verify the pins are out. Switch OFF, then unplug.
- Make sure Telescope is free to move and is clear of any obstacles.

## Pier Stairwell Second floor

- Power up Neslab and immediately open gate valve on right side of unit.
- Verify red lines on Neslab pneumatic valve change from perpendicular to parallel.

## VATTEL Room

- Plug in GPS antenna, power unit up and wait for GPS lock before proceeding to next steps.
- Power up VATTEL.
- Power up VATT Guider.
- Power up VATT Secondary.
- Flip ON all drive amplifier power switches (except counter weights) and observe current meters are OFF except for the Dome amp.

## Basement

- Power up building exhaust fans and pier fans in the oil pump room.
- Read oil temperature; it should be 61 degrees Fahrenheit.
- Power up oil pump following the front panel steps.
- Wait for chiller to come up and allow a few minutes to mix oil. Watch for jump in temperature reading.
- Watch gauge pressure rise to operating range. Make sure oil pressure reads 1,180 psi with no apparent oil leaks.
- Verify green lights on panel by door.

## Dome

- Align azimuth ring arrows on base of scope.
- Turn OFF all lights in dome.

## Control Room

- Power ON the Dome, All sky, and Finder monitors as well as Dome Intercom (Note dome 1 button flakey; dome 2 cannot hear).
- Make a Skype call to the Observer letting them know the Telescope is ready for observing.
- Power up the Dome Fan after the Dome Slit and Mirror Cover has been opened. The controller is on the south wall to the right of the back door.
- Give observers temp, humidity, wind speed and wind direction from weather station when open (note to talk to Tom Folkers about getting info from SMT)
- Shutdown

## Control Room

- Turn Dome Fan OFF.
- Have observer stow scope, close mirror covers, close dome, home dome and kill amplifiers.
- Give observers temp, humidity, and wind speed and wind direction from weather station upon closing.
- Turn OFF Guider, Finder and Sky monitors.

## VATTEL Room

- Turn OFF all amplifier power switches: Azimuth Servo, Derotator, Elevation Servo, Dome
- Verify that all current meters are OFF.

## Pier Stairwell, Second Floor

- Shut gate valve on right side of Neslab until almost closed then immediately switch Neslab power OFF and close gate valve all the way.
- Verify red lines on Neslab pneumatic valve change from parallel to perpendicular.

## Basement

- Turn OFF oil pump in reverse of start up. After Step 2 pause and wait for loudest noise to subside (main pump). Complete Step 1.
- Turn OFF pier and building fans.

## Dome

- Verify dome closed!
- Plug in stow pin power supply. Switch ON.
- Engage stow pins pressing "lock" on momentary switch until display reads 000 approximately.
- Visually verify the pins are in. Switch OFF, then unplug.
- Turn Guider camera OFF.
- Close finder scope cover.
- Turn OFF 4Kccd camera shutter power supply (leave on if observations continue).
- Turn OFF 4Kccd camera power supply (leave on if observations continue).
- Unplug finder camera power located on top of grey box on right fork.
- Unplug Dome Shutter power.
- Install Dome Short.
- Check dome fiducial mark on wall against position of bolt on underside of dome ring and note the error; if error greater than 5°, have Gary reset Dome 0.
- Fill Dewar (if needed) and record fill time on clipboard.
- Turn OFF lights in dome.

## Control Room

- Turn OFF Dome Flood light.
- Turn OFF Dome monitor.
- Turn intercom OFF.
- End Skype call with observer.
- Lock all doors that may have been unlocked during the night before going to bed.

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