Procedure to Open 2.5-meter Enclosure

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The proper method for opening and for preparing to move the telescope enclosure.

CAUTIONARY NOTES:

Only those persons having a purpose and are trained by observatory staff may operate the enclosure. Once trained, your name is posted near the telescope status board in the enclosure and on the web-based training list.

THE ENCLOSURE TAKES NEARLY 20 MINUTES TO OPEN

THIS OPERATION MUST BE DONE WITH A MINIMUM OF TWO PEOPLE TO ENSURE THAT ALL SIDES OF THE TELESCOPE/ENCLOSURE ARE CLEAR WHILE MOVING.

THIS PROCEDURE CAN BE DONE IF WEATHER CONDITIONS ARE AS FOLLOWS:

ENGINEERING:
Sustained wind speed < 30 MPH; wind gusts < 25 MPH
Wind gusts for instrument changes < 25MPH
Dew point depression > = 4°F or 2°C
Dust count < 10,000 units
NO threat of precipitation.

OBSERVING:

Sustained wind speed < 30 MPH for 15 minutes
Wind gusts for instrument changes < 25 MPH
Dew point depresstiong > = 7°F of 4°C
Dust count < 2,500 units
NO threat of precipitation

Checks for condensation must be made regularly when dewpoint depressing is less than 8°F or 6°C.

Do not push the dust limit and the dew point limit at the same time. If the counts are over the stated limit, it is best to have a depression of > 20°F or 18°C.

SAFETY WEAR: rubber-soled shoes, hard hat

MANDATORY WALK AROUND:

CLOSE THE ENCLOSURE HATCH DOORS

Be sure NOTHING obstructs building motion, inside or outside. Also check the building rails inside and out.

Inside the enclosure, make a check of the floor to the south of the south safety tape and north of the north safety tape, and clear everyhing out of those areas, including the PHONE.

Secure any lightweight objects likely to blow around once the enclosure doors are open.

EQUIPMENT INVOLVED IN THIS PROCEDURE

Building pins; Location: northwest and southwest corners of the enclosure. Appearance: both pins hang from their individual cable lanyards screwed to the vertical beam. Located close enough to the holes for insertion when building closed.

Enclosure controller; Location: northwest corner of the enclousre; Appearance: large metal box with a digital readout on front, handle upper right hand corner (power controller); readout reads "0.0", controller ready to do work. If the controller readout says'OL" (overload) or "OH" (overheat), this prevents movement and you must recycle the power supply. Turn the power "OFF" using the handle, leave it off for at least 30 seconds, then turn back on. The digital readout should read "0.0."

Pendants; Location: two controllers located at east and west end of the enclosure; used to control the movement of the building, i.e., the west pendent controls travel to the west, and the east pendent controls travel to the east; Appearance: moderately small, hanging on door jamb.

Stow position indicator lights; Location: mounted on the fork tine directly behind the MCP computer. Appearance: hese are two green indicator lights mounted to a small plastic box which in turn is mounted to the tine.

PROCEDURE: accomplish in numerical order

Preparation

1. Verify that the telescope is in the stow position: ALT < = 6º, AZ 121º. For the azimuth axis, the green azimuth stow indicator lights are lit. As an extra precaution, visually check that the telescope is centered in the overhead door opening.

2. Engage an E-stop button. The recommended E-stop button is the north windscreen MCP computer E-stop button due to its convenience to the MCP computer and also its ability to be seen through an open enclosure. This button can be seen at all times when the building is moving open and from east and west enclosure controllers.

3. Verify that the telescope axes brakes are applied. The telescope must be reasonably balanced as well. Balance in altitude can be verified by monitoring the voltage values on the MCP menu. The values should remain between +3000 to -3000; lus value when going up and minus value when going down.

4. Open the enclosure overhead doors. Open the east door first if the winds are from the west, otherwise, open the west door first.

5. As the west door is being opened, verify that the door is free of snow, ice, or other debris that might fall on the telescope when the enclosure is moved.

6. The west door must be fully open before moving the enclosure. Operator must insure that the door is fully open, i.e. bottom of west door must be withing 6

inches of the upper doorframe. Although the east door does not need to be fully open to move the enclosure, it must be sufficiently open to provide the building operator with a clear view of the area over which the building moves. It is highly recommended that the door be fully open during operation due to wind loading considerations.

7. Remove the building pins at the NW and SW corners. Physically verify that both pins are removed before attempting to move the building. With one pin removed, the yellow flashing light in the NW corner of the enclosure will stop flashing.

NOTE: The intent of the yellow flashing light is to provide an indication that both building pins are properly installed when the enclosure is stowed. Therefore, the logic of the yellow light causes it to flash only when both pins are installed properly. Removing either pin will cause the light to go out. Do not rely on the state of the light.

Move

With the control set to "slow", move the enclosure east until the west door is clear of the telescope. At this point, the enclosure speed can be increased to the "fast" mode to move the enclosure to the "Building Clear" position - < = 1 foot from the east building stop.

NOTE: In "fast" mode, the enclosure coasts one to two feet when stopping. When approaching the end of travel, switch back to "slow" speed. In slow speed, the enclosure will coast 6 to 8 inches. Let up on the control at least that far away from the stops to avoid running the enclosure into the stop.

Stow

At the east end of travel, the enclosure will contact the "Building Clear" switch. Avoid having the building impact the stops under power or at a high speed.

END OF PROCEDURE