Guidance for Converting a Patient Room into a Temporary Airborne Infection Isolation (TAII) Room

1. Select existing patient room(s) to be converted that will reduce the need to transport infected patients through areas containing uninfected patients, visitors, and unprotected staff.

2. Seal all penetrations and openings in the room envelope. This includes penetrations and openings above lay-in ceilings. The annular space around pipes, conduits, wires and other penetrants must be caulked. Openings too large to be sealed with caulk should be sealed with a drywall patch.

3. Select a negative air machine (also referred to as a HEPA machine or air scrubber) capable of moving enough air to create a differential pressure of -0.01 wc (-2.5 PA) between the TAII room and adjacent spaces. Most machines used for infection control protocols in hospital construction should be capable of handling up to 2 patient rooms when properly configured. A unit moving at least 800 cfm (400 cfm per room) should be sufficient.

4. Conduct a pre-modification test and balance (T&B) of the affected HVAC system. The pre-modified room should have at least 4 air changes per hour (ach).

5. Seal exhaust grill (bathroom) and return air grill with heavy plastic sheeting and foil skrim tape.

6. Position ducted exhaust air intake for the negative air machine directly over the head of the patient bed.

7. Duct exhaust air from the room. Use machine equipped with a HEPA filter and duct exhaust to outside through an exterior window. Some of the HEPA filtered air should be reintroduced into the room to increase the number of air changes in the room by tapping off of the discharge side of the negative air machine. This helps to dilute the pathogens inside the room and prevents the room from becoming too negatively pressurized. The balance of the air should be discharged outside.

8. Placement of the negative air machine shall be considered to mitigate noise. Where available, the machine may be placed in the adjoining shower/toilet room.

9. Power to the negative air machine must be supplied from the critical branch of the essential electrical system to the machine so that it will continue to operate during a loss of power.

10. Perform a T&B to verify that the TAII rooms are negatively pressurized. The non-TAII rooms served by the air handling unit should not be reduced below 4 ach. The TAII room(s) should provide as close to 12 air changes per hour as possible while maintaining the required pressure relationship of -0.01 wc (-2.5 PA).

11. Equip patient room door with an automatic closing devise.

12. Install a pressure monitor to provide continual verification that room is achieving required pressurization.

13. Provide area for storing and donning personal protection equipment (PPE) outside room. Consideration should be given to providing an anti-room/air-lock for this purpose.