

## Ground Control Station (GCS)

1. **GCS.** The GCS hardware and software design is modular. It uses a number of control input devices: keyboard, mouse, joystick, rudder pedals, and touch screen/touchpad. In the Trailer-based GCS (TGCS) there are two redundant operator control/monitoring stations and multiple engineering stations for vehicle monitoring. The TGCS is used for initial evaluations due to the number of evaluations being conducted. In the Mobile GCS (MGCS) van-based, there are the same two redundant operator control/monitoring stations and a single engineering station. The MGCS will be used after initial evaluations and is then the primary GCS for deployment. Both GCS versions receive and monitor the same flight and vehicle health data. The MGCS employs the same screen readouts as the trailer GCS, but does not include the multiple chart recorders. Only one GCS, either the TGCS or the MGCS, needs to be operational in order to conduct a flight of the YMQ-18A.
2. **Method of pilotage.** The YMQ-18A UAS uses a Global Positioning System (GPS) to navigate from GCS operator input routing or pre-programmed mission plans. The UAS operator can respond in real-time to ATC instructions.
3. **Route and altitude procedures.** After launch, the YMQ-18A follows a preprogrammed mission plan or follows position commands input by the operator in the GCS.