Deployment

- Time to execute pre-launch sequence -
  - Spin up reaction wheels and get initial attitude and position from Shuttle if possible.
  - Turn on receiver, if it is not already.
- After release
  - Deploy antennas
  - Initialize GNC stabilization algorithms
  - Diagnostics for GNC and Power

Deployment

- After release (conti..)
  - Initial other subsystem algorithms as necessary
- When stabilization is achieved
  - Record all initial attitude and diagnostic data to memory
  - Wait for initial command sequence from TTC
  - Execute GNC tasks as necessary

Downlink

- Receive contact signal from TTC
- Give Bus control to TNC
  - Note: A pipelined bus might be necessary to achieve 2 Mbit/s data rate
- Wait for bus release from TNC.

Laser Communication

- Receive signal from LCS circuitry that data is ready to be sent

- Receive packet, compute checksum, accept or resend (if Tx is available)

- Send verification record to groundstation on next pass.

Lightning observation

- Receive lightning observation command from Science circuitry.

- Execute any GNC algorithms necessary

- Wait to receive Science data via the data bus or DMA

  – Note: The method of data movement depends on the amount of data (i.e. Low=data bus; High=DMA)

GNC

- Receive request from GNC for algorithm execution

- Execute the requested algorithm.
  - If algorithm is ended when a certain position is reached, not depending on time then monitor GNC and set a standard time of execution.
  - If algorithm is ended on execution time, set watchdog timer.

GNC (conti)

- After execution, record new attitude information to memory