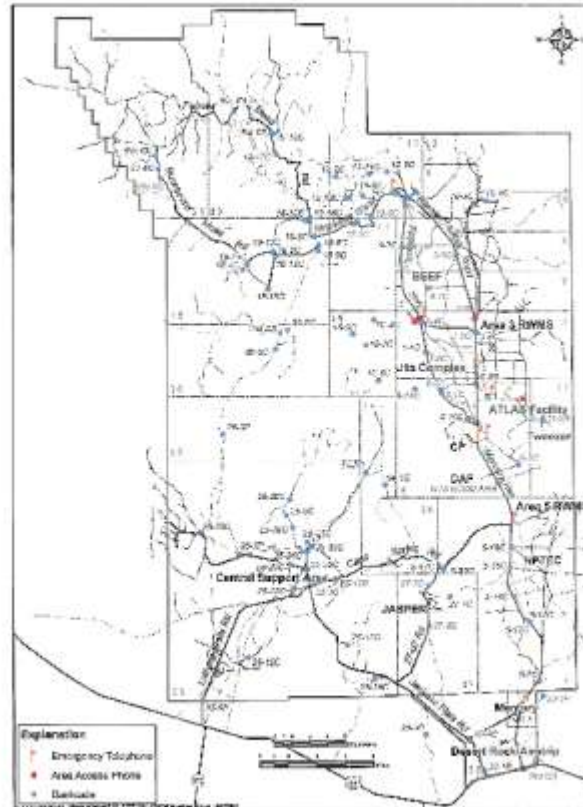


Criticality Experiment Capabilities Located at the Nevada Test Site (Nevada National Security Site)

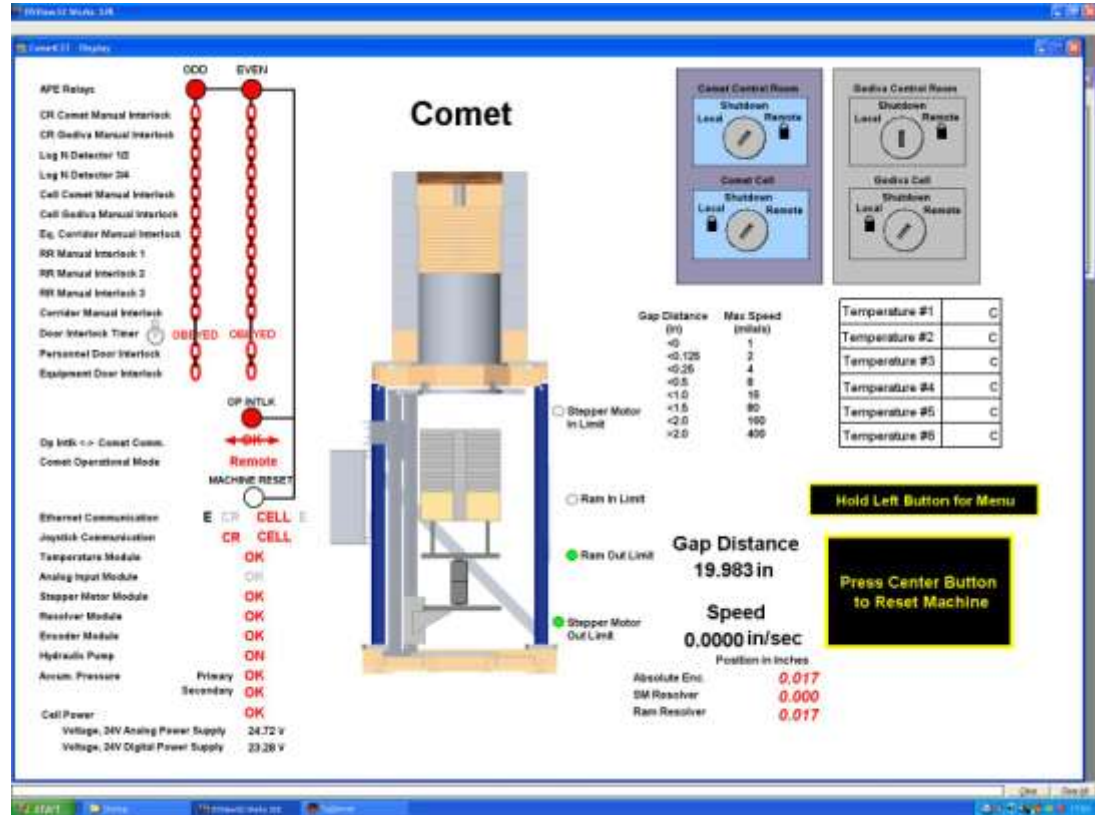
**William L Myers, John A Bounds, *Steven D Clement*,
Derek R Dinwiddie, Joetta M Goda, David K Hayes, and
Rene G Sanchez**

**Los Alamos National Laboratory
Advanced Nuclear Technology Group (N-2)**

DEVICE ASSEMBLY FACILITY (DAF) AT THE NEVADA NATIONAL SECURITY SITE



COMET CRITICAL ASSEMBLY MACHINE



FLATTOP CRITICAL ASSEMBLY MACHINE



Flat-Top Control Panel Screenshot

Flat-Top Plan View

Elevation View

Press Machine Reset Button

System Status:

- Flat-Top APE Relay: ODD (Red), EVEN (Red)
- CR Planet Manual Interlock: OK
- CR Flat-Top Manual Interlock: OK
- Log N Detector 10: OK
- Log N Detector 36: OK
- Cell Planet Manual Interlock: OK
- Cell Flat-Top Manual Interlock: OK
- Op. Corridor Manual Interlock: OK
- RR Manual Interlock 1: OK
- RR Manual Interlock 2: OK
- RR Manual Interlock 3: OK
- Corridor Manual Interlock: OK
- Door Interlock Timer: OK
- Personnel Door Interlock: OK
- Equipment Door Interlock: OK

Control Elements:

- Planet Control Room: Shutdown, Local, Remote
- Planet Cell: Shutdown, Local, Remote
- Flat-Top Control Room: Shutdown, Local, Remote
- Flat-Top Cell: Shutdown, Local, Remote

Temperature Monitoring:

Temperature #1	C
Temperature #2	C
Temperature #3	C
Temperature #4	C
Temperature #5	C
Temperature #6	C

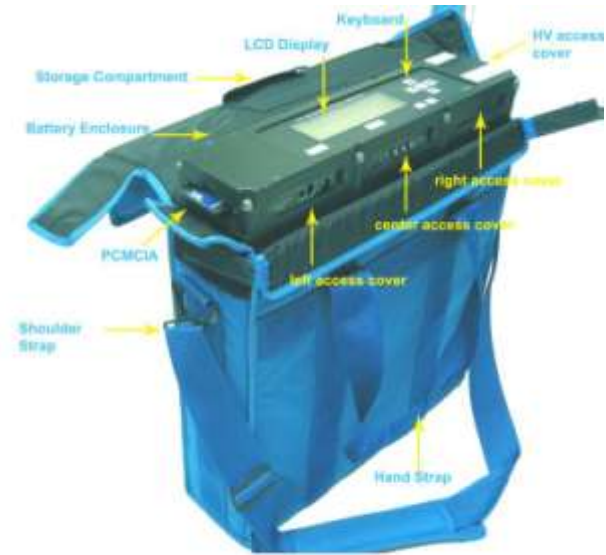
Machine Reset and Safety:

- MACHINE RESET: OK
- OP INTLK: OK
- OP Ind. == Flat-Top Core: OK
- Flat-Top Operational Mode: OK
- ETHERNET COMMUNICATION: OK
- Flux I/O: OK
- Temperature Module: OK
- Analog Input Module: OK
- Stepper Motor Module: OK
- Safety Block A Hydraulic Pressure: OK
- Safety Block B Hydraulic Pressure: OK
- Safety Block Accumulator Pressure: OK
- Cell Power: OK
- Voltage, 24V Analog Power Supply: 24.88 V
- Voltage, 24V Digital Power Supply: 24.27 V

Control Rods:

- CONTROL ROD C: 4.607 inches
- CONTROL ROD G: 7.003 inches
- CONTROL ROD F: 8.215 inches

ACTIVE AND PASSIVE SUB-CRITICAL MEASUREMENT CAPABILITIES



Neutron Multiplication Pod III



COUNT ROOM CAPABILITIES

ORTEC® *Octéte PLUS®*
Alpha Spectroscopy Workstation

Completely integrated Alpha Spectroscopy System for the discriminating alpha spectroscopist.
Now available with USB 2.0 or Ethernet communication.

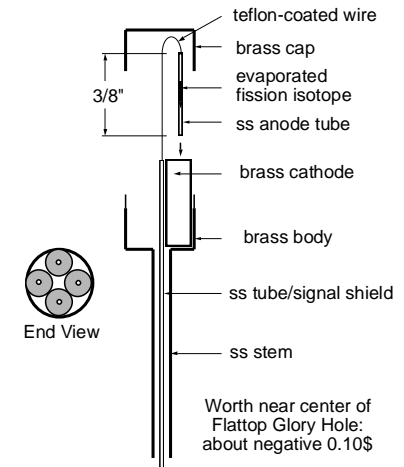


- Fully integrated system for eight internal alpha spectrometers PLUS an additional eight external spectrometers — including direct, transparent support for the TC-554, T401, and T402 spectrometers.
- Simple, automatic networking via Ethernet or USB 2.0 with no user network knowledge required.
- Full range remote control from 10 m/sec to 30 Sec.
- Amplifier, analyzer, and Cd control from the world's most complete, Windows® platform 32-bit software, AlphaSpec™-32.

Advanced yet Simple Integration — truly Plug-and-Play networking for high-speed, anywhere control — connect the Octéte PLUS with one network connection and one network connection (Ethernet or USB 2.0) and control up to 16 integrated alpha spectrometers PLUS up to 8 external spectrometers, even those from other manufacturers!



Detail of Four-Barrel Fission Chamber



Wire Counter