DESCRIPTION:

CRL Cell 12 contains a Spray Test Rig and instrumentation for studying multi-phased flow. The facility consists of a test cell, adjacent control room, an outside water storage tank next to the cell, a portable liquid nitrogen dewar, and gaseous nitrogen, service-air, and combustion-air services. Escort service is used to record data and calibrate flow rates, and a Norland computer is used to process dropsize measurement data obtained with the NASA Lewis developed Scattered Light Scanner. Data reduction is obtained for the tests by using main-line computer systems.

CAPABILITIES:

* OBTAIN BASIC TWO-PHASE FLOW DATA INCLUDING LIQUID PARTICLE-SIZE MEASUREMENTS OF SPRAYS WITH CHARACTERISTIC DROPSIZE AS SMALL AS 5 MICRON

* LIQUID-NITROGEN PRESSURES UP TO 325 PSIA AND WATER PRESSURE UP TO 1000 PSIA

* NITROGEN GAS PRESSURE UP TO 1000 PSIA

* COMBUSTION AIR UP TO 2 LB/SEC AT 125 PSIA

* SERVICE AIR AT 40 PSIA

COMPUTER SUPPORT:

* ACCESS TO MAINFRAMES VIA MODEM

* NORLAND COMPUTER

DATA ACQUISITION SYSTEMS:

* ESCORT - 80 data channels at 1 sample/sec./channel

* SCATTERED LIGHT SCANNER - Developed at NASA, Lewis

* VIDEO CAMERA AND VCR - Monitored from Control Room
SERVICES:

* LN2 VIA DEWAR
* GN2 VIA CRL CENTRAL SUPPLY - 2200 PSIG MAX
* GHe VIA CRL CENTRAL SUPPLY
* AIR VIA CENTRAL SUPPLY - 125 PSIG MAX
* CITY WATER SUPPLY - 40 PSIG