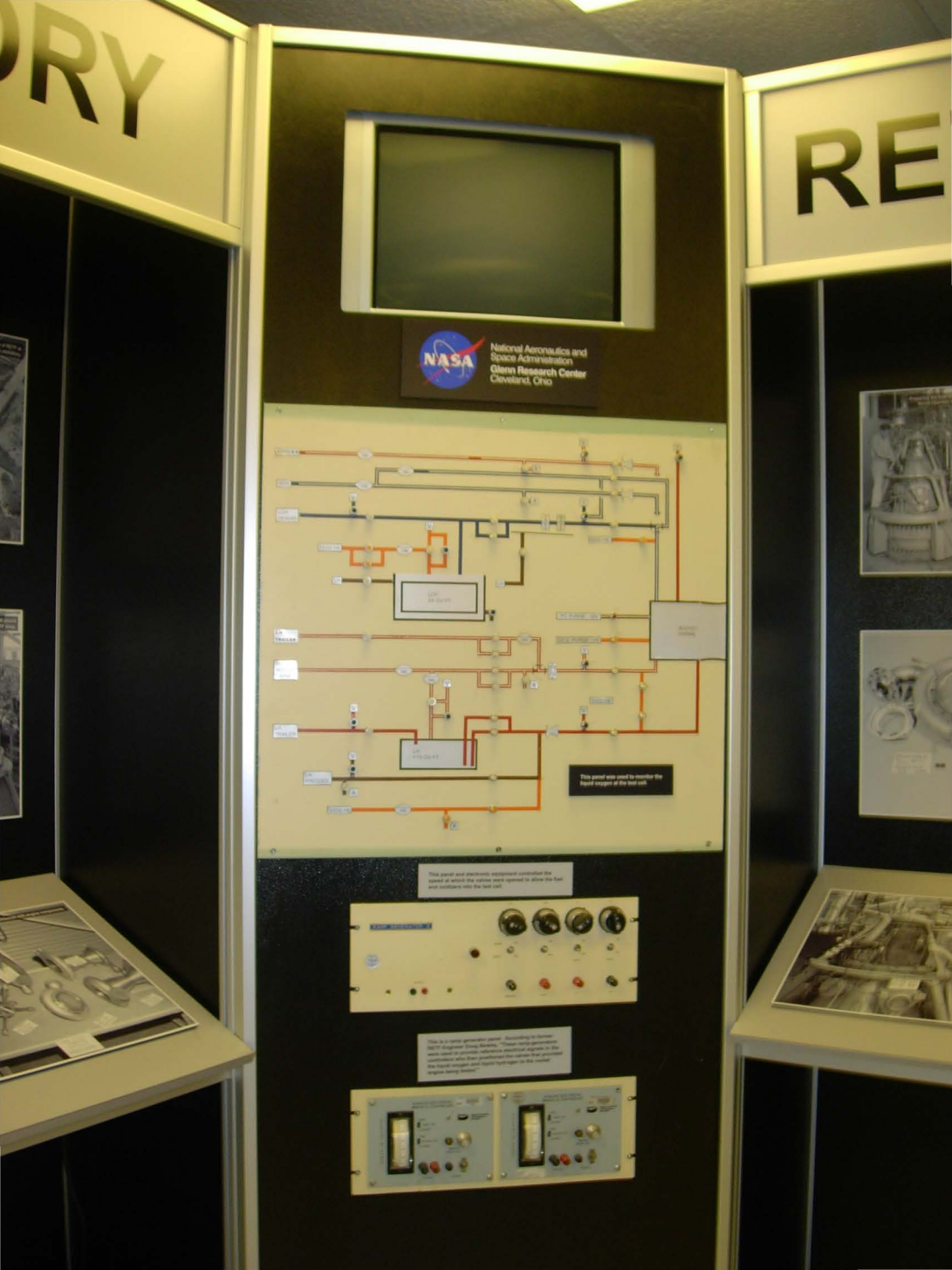

RETF
Rocket Engine
Test Facility
RETF HISTORY
A BRIEF HISTORY OF RETF
RETF CONTR
SIGNIFICANT RE
LIQUID HYDROGE
LPLHTKSP
LPLHTKP
LH2TKPV
LPLHTLIP
HPLOXTP
HPLOXTK
HPLOXLIP
HPLOXLIP-1
HPLHTKP
HPCLOXLIP


NTRIBU
UTURE
Rocket Engine Test Facility
NUCLEAR THERMAL ROCKETS
ELECTRIC PROPULSION
ADVANCED CHEMICAL PROPULSION
THE BETF FACILITY


TEST STAND
WATER TANK
WATER DETENTION & TREATMENT TANK 250,000 GALLONS
EXHAUST SCRUBBER


RY
RE
NASA
National Aeronautics and Space Administration
Glenn Research Center
Cleveland, Ohio
This panel was used to monitor the liquid oxygen at the test cell.
This panel and electronic equipment controlled the speed at which the valves were opened to allow the fuel and oxidizers into the test cell.


RETF CONTRIBUTIONS
SIGNIFICANT RETF CONTRIBUTIONS
LIQUID HYDROGEN AS A PROPELLANT
THE RETF FACILITY
SERV. AIR
DETENTION TANK
MASTER
FUEL PIT
H-TANK
HALF DECK
OXID. PIT
FUEL PIT
R.W. CELL
C.W. CELL
CO2
DELUGE
BUILDING 202 FLOOR PLAN


SIGNIFICANT RETF CONTRIBUTIONS
LIQUID HYDROGEN AS A PROPELLANT
THE RETF FACILITY
LPLHTKSP
LPLHTKP
LPLHTCVP
HPLOXTKMFP
HPLOXLIP
HPLOXTKMFP
HPLHTKP
HPCLOXLIP

FUTURE

THE FUTURE OF ROCKET ENGINES

NUCLEAR THERMAL ROCKETS

ELECTRIC PROPULSION

ADVANCED CHEMICAL PROPULSION

PROPULSION BREAKTHROUGHS

RETF Rocket Engine Test Facility

SERV. AIR

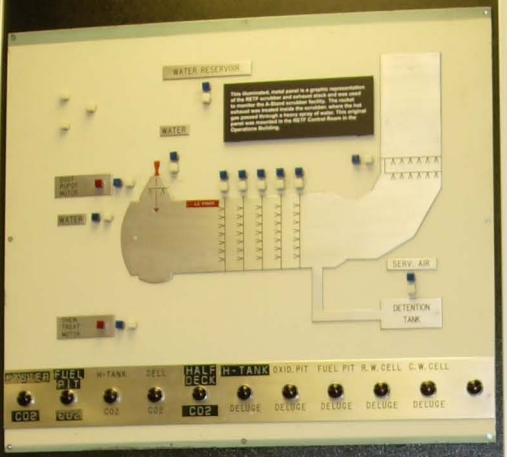
DETENTION TANK

FUEL PIT R.W.CELL C.W.CELL

DELUGE DELUGE DELUGE

BUILDING 202 FLOOR PLAN

FUTU



THE RETF FACILITY

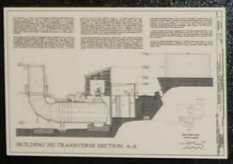
The RETF was designed as a complex of buildings spread over ten acres. The test cell, within Building 202, was sited on the east side of the narrow Abram Creek gorge. Building 202 was cleverly designed to take full advantage of the topography of this valley site. The test cell and rocket engine blast were directed toward an opposing wall of the gorge, which formed an ideal barrier to protect the area from blasts.

Building 202 housed not only the test cell, but also the fuel and oxidant pits, a terminal/observation room, offices, and a small shop. The RETF also used an exhaust scrubber, which removed potentially polluting byproducts, cooled the exhaust gases, slowed the speed and force of the exhaust gases, and muffled the roar of the firing test engine.

A 500,000-gallon water reservoir was located high atop the eastern hillside, allowing the engineers to use the force of gravity to send the enormous volumes of water through the exhaust scrubber.

Additional facilities located around the RETF included an observation blockhouse, a "bottle farm" of tanks filled with high pressure gaseous hydrogen, an area for the transfer and storage of propellants, a cryogenic vaporizer facility, and wastewater-treatment facilities.

The Operations Building was located 1,600 feet north of the test cell and housed the RETF control room, offices, and a shop. Data recording and control computers were located in the Control Room, allowing the engineers to control the tests at a safe distance from the test itself.


BUILDING 202 TRANSVERSE SECTION A-A'


BUILDING 202 FLOOR PLAN

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