Cleveland, Ohio, April 9, 1948.

MATERIALS LAB BUILDING BEGINS

As a part of the vast expansion program now being planned for the NACA laboratories, the Cleveland laboratory's contractors have now begun the groundwork in the construction process of a Materials and Stresses Laboratory.

This new installation, located east of Taylor Road near the south gate, will be a large, brick, two-story building with basement.

Current research needs and demands have necessitated investigation on various types of heat-resisting materials, as engine efficiency increases with high combustion temperatures.

It is also planned to make exhaustive studies of the stress characteristics in propulsion components, and to evolve methods of measuring and recording operating or residual stresses in engine parts.

In short, materials, such as metallic alloys, ceramic materials, ceramals, which go into turbines, compressors and other critical parts of new engines will be studied for development of superior resistance to heat and stresses.

M & S OCCUPANTS PLAN A - BOUNCE

Mechanics, computers and engineers - in fact, all the occupants of the new Materials and Stresses Building are joining forces to stage their first party and dance - the Atomic Bounce.

In celebration of the completion of their quarters, the M & S people have reserved the auditorium for Saturday evening, April 22 and secured the musical services of Charlie Barrett.

For intermission entertainment, the planning committee under the guidance of Mike Takas with helpers, Dotty Hood, Ed Broestl, and Lou Revnyak, have engaged an Arthur Murray dancing team to demonstrate various steps to samba, waltz and rumba rhythms.

Free dancing lessons at the Arthur Murray Studios are offered to the lucky

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ATOMIC BOUNCE

winner of the door prize.

There will also be a contest to select a girl vocalist as Charlie Barrett is in need of a part time singer to appear with his band. Details of how this contest will be conducted have not been completed, but run your scales, gals, this may be your big chance.

All of these features should make the Atomic Bounce one of the most successful events on the spring calendar.

Get your ticket at $1.00 now from any of the following salesmen: Carol Minarik or Frank Opperheimer, F & L; Robert La Londe, Rocket Lab; Dotty Hood or Tony Marmo, M & S; Jannette Sullivan, Adm.; Rose Joyce, Supersonic; Marsh Peterson, ERB; Ray Standahar, C & T.

NACA-LEWIS-CLEVELAND, OHIO

M&T Div. Prepares Staff Conf. May 1

The materials and stresses staff conference on Monday evening, May 1 in the auditorium will feature four speakers from the Materials and Thermodynamics Research Division, Stress and Vibration, and Materials Research Sections.

The papers and speakers will be as follows: Richard Kemp - Factors Affecting Vibration, Excitation, and Suppression in Turbine Blades; Morgan Hanson - Factors Affecting Vibration, Excitation, and Suppression in Axial Flow Compressor Blades; Charles Yaker - Materials Research Directed Toward Improvement of the Life of Metal Turbine Blades; and William Lidman - Research on Materials for Very High Temperature Applications.

Materials And Structures Laboratory To Get New Annex

Construction of an annex is underway at the Materials and Structures Laboratory, housed in Bldg. 49, that will provide 2,970 sq. ft. of floor space.

The annex will consist of a laboratory area that will house cyclic test machines with ancillary equipment, a calibration room, and a control room. The addition will permit testing of advance materials for the hypersonic and HITEMP programs.

The addition will be a one-story masonry building with a concrete floor and steel roof framing. The floor will have a continuous trench around the lab perimeter to carry the hydraulics and cooling water for the test systems. Construction work also includes heating, ventilating and air conditioning, water, sewer, electrical, and safety systems.

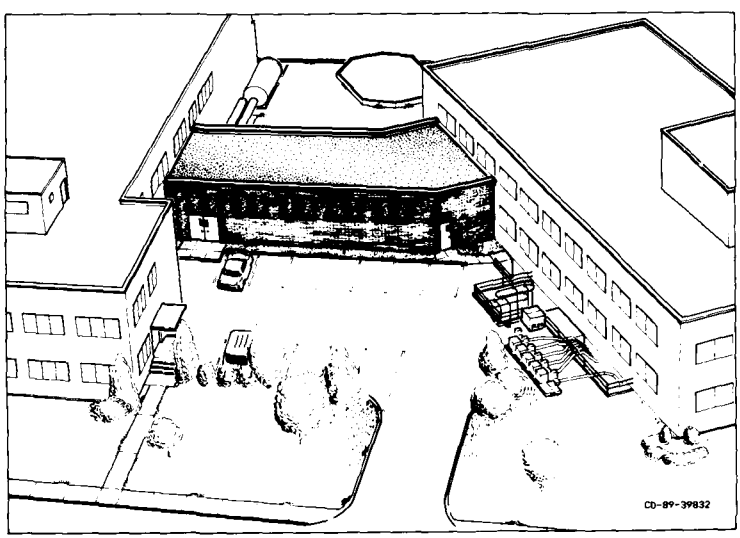
The Materials and Structures Laboratories are used to conduct a wide variety of research dealing with super alloys, powder metals, ceramics, polymers, and composites under extreme environmental conditions. Structures research includes computational structural mechanics, structural dynamics, fatigue and fracture, life prediction, and nondestructive evaluation.

Special capabilities of the labs include cryogenic and high tensile, creep rupture, fatigue and fracture materials evaluation, high-velocity burner rigs for simulating engine cycles, a variety of furnaces for melting and heating, a laboratory for materials processing, a laboratory for metallurgical and chemical analysis, a laboratory for conducting tribology studies, facilities for investigating forced and resonance-induced vibrations in rotating machinery, and a laboratory for nondestructive evaluating materials and structures.

The additional space was needed to house not only existing, but new laboratory equipment. The building annex will be adjacent to the existing fatigue and fracture laboratory for efficient use of existing central support services such as 3,000 psi hydraulics, cooling water, and dedicated computer facilities.

The cost of the project, under contract to Sopata Construction Co., Inc., of North Olmsted, is $490,000. The project manager is Joe Pishkula of the Facilities Engineering Division.

—Chuck Yesberger



An architectural rendering of the addition to the Materials and Structures Laboratories, located in Bldg. 49, is represented by the shaded area. The addition will provide 2,970 sq. ft. of floor space, and will consist of a laboratory area that will house cyclic test machines with ancillary equipment, a calibration room, and a control room. The addition will permit testing of advance materials for the hypersonic and HITEMP programs.

Lewis To Exhibit At Upcoming Cleveland

NASA Lewis NEWS

Volume 35 Issue 1 January 1998

Building 49 rehab to boost U.S. aircraft competitiveness

By Kristin K. Wilson

IN the largest Construction of Facilities project undertaken at the Center in 20 years, NASA Lewis and a team of contractors recently completed a $19 million renovation of Building 49. The 50-year-old structure now features 60,000 square feet of state-of-the-art laboratory space that will enhance the Center's ability to develop improved metal and polymer materials for aircraft engine components.

NASA Lewis employees joined Center Director Donald Campbell and Congressman Dennis Kucinich (D-10) on Dec. 1 to rededicate the materials and structures laboratories, known as the Composite Technology Center.

"I'm so proud to be here on this happy occasion that underscores how Lewis is helping the nation to lead in materials and structures through advanced research," Congressman Kucinich said during the ribbon cutting ceremony. "Thanks to all of you for the work that you do."

Director Campbell applauded the project team, which in spite of numerous challenges accomplished the 18-month renovation on time and within budget guidelines.

Photo by Tom Jares

Following the rededication of Building 49, Congressman Dennis Kucinich (standing, center) toured the newly renovated facility with Center Director Donald Campbell. Above, Terry McCue (seated), NYMA, demonstrates how an electron microscope can be used to evaluate materials for aeronautics components.

"This project was made possible through a diverse, dedicated, and highly skilled team made up of civil servants and contractors," he said. "Using all of our resources fully is what has made Lewis successful."

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