



PRESS KIT/MAY 2019

Apollo Mission Control Restoration

Johnson Space Center National Aeronautics and Space Administration



History Overview

While history often recognizes the astronauts who became the first humans to walk on the Moon, equally noteworthy are the people of Mission Control, without whom these missions would not have been possible.

- With **less computing power than a present-day cell phone at their disposal**, Apollo-era flight controllers were able to safely launch humans into space, and even land them on our nearest celestial neighbor.
- The **Mission Control Center (MCC) at the Johnson Space Center** is home to the planning, command, and monitoring controls that are essential to America's human spaceflight program.
- One of two Mission Control Centers, the **Historic Apollo MCC** housed the flight controllers responsible for the success of early manned spaceflight missions, including the **Gemini, Mercury, Apollo, and Soyuz missions in the 1960s and 1970s, as well as Shuttle-Era missions in the early 1990s.**

National Historic Landmark (NHL) Status

Due to its impactfulness and criticality to human spaceflight in America, Building 30 -- The Christopher C. Kraft, Jr. Mission Control Center-- became a National Historic Landmark (NHL) in 1985. The historic Apollo Mission Control was decommissioned in the 1990s, after the Space Shuttle Discovery spent seven days in space during the STS-53 mission in 1992. In 2015 the NHL received "threatened" status after its condition declined from years of use and increased foot traffic.

Historic Apollo Mission Control

Restoration Process

Restoration Team: After years of making history, the Historic Mission Control Center has been restored to its original condition and appearance. JSC worked with Space Center Houston, its official visitor center, and the Apollo Flight Operations Association to undertake a complete restoration. JSC has consulted with the State Historic Preservation Officer, the Advisory Council on Historic Preservation, the National Park Service, and other interested parties in accordance with the National Historic Preservation Act. The contractor team includes Prime Contractor Ayuda Companies, and contractors GRAVitate, LLC; Stern and Bucek Architects; Comsopshere; Basic Builders; Audio Video Guys; Source Historical Services; Textile Preservation Services of Texas; Spectra Flooring; Mattiza's Custom Upholsteries; Steven L. Pine Art Conservation Consulting; +Carma, LLC; Bell & McCoy Lighting and Controls; Steelcase; Koroseal Interior Products; Mary Welch Weaving, and JSC Facilities Contractor PAE.

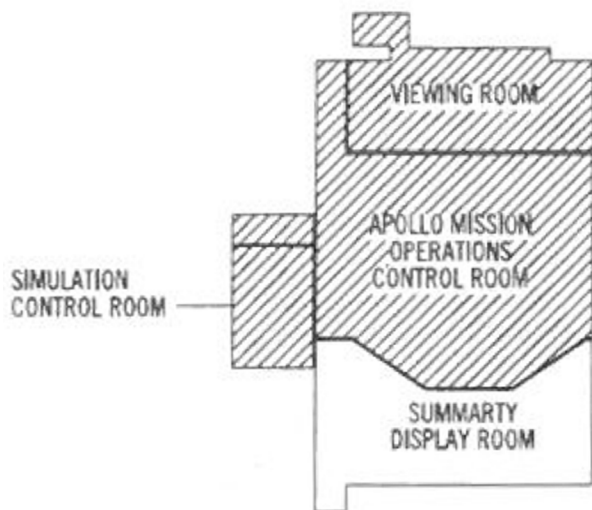
Apollo-Era Restoration: The project, which was conceived in 2013, began in November 2018 and was completed in July 2019. It restored the Historic Mission Control to its Apollo-Era condition. The restored Apollo Mission Control features the authentic consoles used to monitor nine Gemini missions, all Apollo moon missions and 21 space shuttle missions. This includes the Apollo 11 flight that first landed men on the moon, the Apollo 13 mission that famously experienced an in-flight emergency, and 40 other space missions

Funding: The \$5 million project was funded with a generous \$3.1M donation from the City of Webster, and an additional \$400,000 to match a Kickstarter Campaign run by Space Center Houston. The Kickstarter raised \$525k in donations, and JSC added \$1M to complete the project.

A Full Restoration: This restoration restored original furniture and finishes in order to return the MCC to its classic appearance during a pivotal time in American history. The MCC is complete with the authentic consoles, mission medallions, upholstery, seats, wallpaper, and carpet, that were all either cleaned and restored to their original condition, or recreated using original samples. Digitized 16-mm film taken during the Apollo 11 mission allowed restoration experts to identify otherwise unknown artifacts and colors as they were experienced in the Apollo-era control room, including the original column markings, paint colors, and even coffee mugs at flight controllers' consoles.



Restoration Team



Control Room

In the center is the iconic Mission Operations Control Room, often referred to as the “MOCR,” with the consoles used by the various flight controllers.

- **Consoles:** All consoles were restored-- not painted-- to the Apollo era, specifically Apollo 15, representing the apex of technological achievement of the Apollo Missions. They were arranged in the configuration that reflects the Apollo-era use of the room.
- **Paint and Wall Paper:** Sheetrock walls were repainted to match original paint colors. Any original paint sections found were also cleaned and restored. The same company that printed the original wallpaper in the 1960s was located; they found the original wallpaper print roll and reprinted the classic wallpaper specifically for the restoration. Any original wallpaper pieces found remaining on the walls were cleaned and left in place.
- **Personal and Utilitarian Artifacts:** Personal and utilitarian artifacts were placed in the Control Room to recreate the historic scene during active Apollo Missions. These artifacts (chairs, clothing, coffee cups, ash trays, manuals, headsets, books, pencils, pencil sharpeners, clocks, tape dispensers, maps, charts, etc.) are original period pieces that were either found on-site at JSC or procured elsewhere. Original documents were copied for display.
- **Displays and Clocks:** The large group displays on the west wall of the MOCR were restored with appropriate projection technology to recreate Apollo-era use of the screens. Of the nine original timing screens, five were restored and four were procured from the companies that originally manufactured them. The original timing clocks were removed years ago and cannot be located, so projectors were used to recreate the mission clocks.

• Simulation and Recovery Control Rooms

Adjacent to the Mission Operations Control Room are two key support rooms: the Simulation Control Room, often referred to as the “Sim Room,” where staff conducted simulations to prepare for flight missions, and the Recovery Operations Control Room, where

staff and U.S. Navy officials coordinated recovery efforts after splash down. **Simulation Room:** The consoles were restored and arranged in the original configuration of historic consoles. The last remaining “Selectomatic Transitube” (p-tube) station was also restored. **Recovery Room:** The location of this room is being used today for mission operations. A photo of what the room once looked like was placed where the window into the room is located.

Visitors Viewing Area

At the back of the Mission Operations Control Room (behind the mission controllers) is a wall with large windows that separate the MOCR from the Visitors Viewing Area, where dignitaries, guests and the press could observe the activities of the mission controllers without causing disturbances or disruptions.

Seating and Carpeting: All theatre-style seating and carpeting is original, and was repaired and cleaned. New mechanisms and cushions were put into the chairs to give them new life. The original phone booths were also fully restored, including the perforated metal acoustical wall covering and black rotary dial phones.

Summary Projection Room “Bat Cave”

At the front of the room are large group display screens; behind these screens is the Summary Display Projection Room, sometimes referred to as the “Bat Cave.” Here, maps and images were projected onto the screens, many with illuminated, electromechanical plotter overlays.

Projection System: The projection system was recreated to simulate the original system, using state-of-the-art technology. Original artifacts including the eidophors, projection support equipment, and the slide projector were placed in their original location in the Bat Cave.

A : Visitor Viewing Area

B: Flight Controller Consoles

C: Simulation Control Room

D: Summary Projection Room

