

PROJECT PROFILE / **EMERGENCY OPERATIONS CENTER**

MODERNIZING CRITICAL FACILITIES FOR TODAY'S DEMANDS

As national defense responses change over the years, so must the supporting infrastructure. To enhance performance and increase efficiencies, Lawrence Livermore National Security (LLNS) is upgrading its Emergency Operations Center (EOC).



FAST-TRACK APPROACH DELIVERS SPEEDY RESULTS

A design-build approach using two separate design packages delivers significant savings, including cutting eight months from the original schedule.

PROJECT STATS

CLIENT

Lawrence Livermore
National Security

LOCATION

Lawrence Livermore
National Laboratories,
Livermore, California

Lawrence Livermore National Security (LLNS) is tasked with creating an environment that supports LLNS's mission in science, technology, engineering and math. This includes providing a focal point for a user-friendly, convenient and comfortable office where engineers and scientists can come together in a collaborative environment while providing maximum flexibility and adaptability of floor plans for multiple institutional tenants with varying space needs.

At the LLNS, the existing Emergency Operations Center (EOC) is co-located on campus and temporarily housed in a facility that was not designed for effective emergency operations management. Additionally, an evaluation and assessment of the existing EOC identified various

capability gaps, driving the need for a new center. The EOC will provide LLNS with a new essential space designed to consolidate emergency management, communications and response support into one location.

The facility will provide administrative offices for the LLNS Emergency Management Department (EMD) and Emergency Program Office (EPO) staff that will effectively integrate all operational and functional requirements. During emergency conditions, the facility will be able to host LLNS EMD, EPO and other city, county, state and federal emergency personnel on a 24-hour basis for up to 72 hours without external utilities support. The building will be designed and constructed as an essential facility where continued operation is the minimum performance objective, while



Renderings by RMW Architecture & Interiors to include cover and article imagery.

EMERGENCY OPERATIONS CENTER FEATURES



SURVIVABLE

ASCE 7 Risk Category IV
BSE-1N Seismic Performance
BSE-2N Control Performance
Level 4 Ballistic Protection



SUSTAINABLE

NFPA 70 Critical
Operations Power System
NFPA 1221
Equipment Redundancy
Up to 72-Hours Without
Site Utilities



INTEGRATED EMERGENCY OPERATIONS

Emergency Programs Office
Emergency Operations Center
Fire/Safety Alarm
Monitoring Center
Fault Tolerant Video Wall System
Integrated Breakout &
Conference Rooms



HABITABLE

Disaster Resilience
Kitchen/Break Room
Shower Facilities
72-Hour Storage



ACCESSIBLE

Accessible Design
Automated Access Controls
Mobile Command Parking
Joint Use Facility
24/7 Emergency Staff

including a flexible use space for future build-out and tenant occupancy.

For the highly publicized project executed through the National Nuclear Security Administration's (NNSA) Office of Safety, Infrastructure and Operations (NA-50) Pilot Program, LLNS turned to Burns & McDonnell for design-build services to successfully deliver the new EOC. Our professional engineering team will provide initial survey and geotechnical investigation through schematic design and released for construction drawings. Our internal construction design-build team will collaboratively provide constructability reviews and lead the construction efforts through commissioning and final turnkey turnover. RMW Architecture & Interiors was also a partner on the project.

To align with client program goals, this design-build project is being fast-tracked, using two separate design packages. Package one is the early civil, foundation and preliminary structural package, while package two includes the remaining detailed design and system components. This allows the design-build team to streamline the permitting and approval process to break ground within six months of award, while building system components are finalized. With this approach, the project team aligns with LLNS for a streamlined approach to complete the project earlier than originally expected.

The new single-story, 20,550-square-foot, fully secured EOC facility is strategically located on a greenfield site in the laboratory buffer area, prompting a unique security requirement. This includes realigning the perimeter fence and providing controlled perimeter security measures to allow accessibility and parking for general access from the north and secure turnstile laboratory access from the south and east. Exterior landscape site improvement supports the use of sustainable features and aligns with LLNS goals to soften the facility appearance and redefine the face of the laboratory.

Site improvements will include grading, bioretention swales and 100-year stormwater improvements, asphalt-paved parking areas, mobile command vehicle parking with power, electric vehicle charging stations, concrete sidewalks, site lighting and associated utilities, and an outdoor collaboration space. Additional security measures will feature setbacks and passive landscaped vehicle barriers to soften the bunkerlike feel, while the public-facing exterior wall will provide hardened protection.

Inside, security vestibules at each building entrance will provide physical protection and allow for airtightness

during positive pressurization. The EOC operations room will be equipped with a fully functional turnkey emergency operations system.

The new EOC is designed to meet certified LEED Gold requirements, and expected delivery of the project is February 2022, approximately eight months ahead of schedule. The new turnkey facility will support LLNS's mission by consolidating critical emergency management operations into one central facility. The facility will be habitable, capable of surviving initial effects of disaster, and self-sustainable for 24-hour operations during emergency conditions for up to 72 hours.

In addition to addressing the unique design challenges of this facility, the team continues to make progress on the project, maintain project schedule and meet client expectations despite challenges from the COVID-19 pandemic and weather delays.

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