



Colleagues watch as Principal Associate Director for Operations and Business Cynthia Rivera (in blue) cuts the ribbon to open ES&H Building 265. To her immediate left is LLNL deputy director Carolyn Zerkle.

SAFE, SECURE, AND SUSTAINABLE OPERATIONS

Conducting safe, secure, and environmentally sound operations and modernizing the Laboratory's infrastructure to meet evolving mission needs

COMMITTED to the highest level of operational performance, LLNL implements best practices in environment, safety, and health (ES&H), and security. Management systems support continuous improvement in work practices. Prudent risk management coupled with active measures to prevent accidents ensures the safety of employees and the public. Investments are targeted to modernize the Laboratory's infrastructure and continually improve operations.

STREAMLINING OPERATIONS

The Laboratory is streamlining operations and has provided leadership in responding to NNSA's Enhanced Mission Delivery Initiative (EMDI), which was established to make the Nuclear Security Enterprise (NSE) more agile and responsive. Following EMDI recommendations, LLNL in partnership with the Livermore

Field Office (LFO) instituted initiatives in FY 2024 that increased procurement delegation authority for the Laboratory and expedited approval processes through a risk-based approach. EMDI leadership is also exemplified in LLNL's partnering with all sites across the NSE to identify opportunities for improvement and use pilot projects to demonstrate that they should be standardized as best practices. Among follow-on actions to EMDI, LLNL and LFO launched a pilot project to improve risk management and oversight in the Superblock Facility in a way that enables faster decision making and execution, streamlines operations, and improves productivity in support of mission goals. EMDI goals are also reflected in the revision and extension of Lawrence Livermore National Security's contract to manage and operate the Laboratory (see p. 22).

LLNL is also implementing numerous internal process improvements, many of which are focused on enhancing employee experience and saving time. By the end of FY 2024, the Laboratory neared the two-thirds mark in achieving the goal of returning 1 million hours to the workforce. Initiatives have improved training courses, encouraged meeting-less Focus Days, and implemented automated reporting and business service tools. The Great Lab Cleanup neatened offices and freed up vitally needed laboratory space. In addition, a newly created internal Generative AI tool, LivChat, is assisting employees in tasks such as report drafting. ChatGPT-based LivChat mitigates the cyber and operational security risks of a commercial/public-based platform while catalyzing the adoption and advancement of AI in day-to-day operational activities.

INFRASTRUCTURE RENEWAL

Infrastructure transformation with modernized facilities is an important enabler for mission success. In FY 2024, the project management team oversaw an extensive portfolio of 241 projects totaling \$722 million in addition to work on a new networking facility (see p. 23). Among the 147 projects completed during the year were five NNSA Standard Acquisition and Recapitalization (STAR) initiative buildings, with replicated designs to expedite construction and reduce cost. The new ES&H Office building provides space for employees who were displaced from aging facilities that will be demolished. LLNL staff members working on strategic modernization programs occupy the new Design and Certification Science Support Office, and employees previously residing in other substandard work areas are now housed in a new Multi-Program Office. Additional new facilities include a warehouse to store the large amount of hardware being generated by strategic deterrence programs, expansion of LLNL's unclassified supercomputing facility, and a new laboratory in the Applied Materials and Engineering campus.

In addition to new construction, the Laboratory completed significant

infrastructure upgrades. At the main campus, extensive repaving and restriping of the roadways was completed, and more than two dozen buildings were equipped with new fire alarms panels and new emergency paging panels. Remote Site 300 is benefiting from a \$11.5-million 5-mile-long water pipe replacement. In addition, LLNL completed all scheduled preventive maintenance projects and increased the ratio of preventive-to-corrective maintenance to nearly double the industry average.

ENVIRONMENT MANAGEMENT AND SUSTAINMENT

Livermore issued its *LLNL Site Sustainability Strategy 2023*, which sets ambitious goals that outpace the sustainability requirements of the DOE and the State of California. The strategy describes three action areas that combine to decrease resource consumption of energy, water, and other consumables; reduce emissions from the campus; and ensure that Laboratory operations are maintained or quickly restored when faced with extreme weather events. Also in 2024, an external audit of LLNL's environmental management system found it compliant with International Organization for Standardization 14001

with no issues or findings. The *2023 Site Annual Environmental Report* (issued in October 2024) documents monitoring results and LLNL's compliance with environmental standards.

MISSION ENABLEMENT

In FY 2024, operations at the Laboratory were well managed, with significant accomplishments and focused efforts to implement EMDI recommendations. LLNL conducted efficient, effective business operations and financial management. Individual and team efforts achieved many notable successes in ES&H, information technology management, legal services, and nuclear operations. Active engagement on the importance of safety resulted in a 22 percent reduction in the total recordable incident case rate. Within the Laboratory's business operations, Supply Chain Management awarded over \$483 million in contracts to small businesses and over \$607 million to large businesses, including the lease-to-own agreement for El Capitan and a new Laboratory-wide food services vendor. Human Resources (HR) completed the first phase of Livermore's new performance management system (see p. 23) and launched a major project to upgrade its core HR technology platform.



An LLNL-Livermore Field Office project is under way to improve risk management and oversight and enable streamlined operations at the LLNL Superblock Facility. Here, a fissile material handler uses a lathe to machine a plutonium sample.

EMERGENCY RESPONSE TO THE CORRAL FIRE

On Saturday, June 1, 2024, the Alameda County Fire Department responded to the rapidly spreading Corral Fire at the LLNL's Site 300 property. Strong winds and dry conditions contributed to the wildfire's rapid spread beyond the site, eventually consuming over 14,000 acres. Upon notification, the LLNL Emergency Operations Center (EOC) was activated to provide critical institutional coordination, communication, and support. On Sunday, the LLNL autonomous sensors team (see p. 11) provided requested support and rapidly deployed their equipment. Two of their drones surveyed Site 300 for residual hotspots, as well as possible damage to LLNL infrastructure. Over two hours, they checked more than 350 acres at Site 300, capturing 2,808 high-resolution images and 40 gigabytes of LiDAR data. The drones documented an active, smoldering fire and called the fire department, which arrived within minutes to put out the stray hotspot. The team is working with the EOC to prepare for future emergencies and integrate drones into regular LLNL emergency exercises.