Taking the long view

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Environmental stewardship strategy looks 50 years into the future

As a way of integrating environmental protection activities into a comprehensive strategy, Kevin Smith, manager of the U.S. Department of Energy's Los Alamos Site Office, and Charles McMillan, Lab director, charged a core team of Laboratory environmental managers and subject matter experts with creating an all-encompassing 50-year environmental stewardship plan.

"Ensuring we promote long-term environmental stewardship is one of our most important responsibilities and demonstrates our commitment to the environment," said Smith. "We—LASO and LANL—are confident that this integrated environmental

stewardship plan, and the tools created to manage it, will set the standard for environmental stewardship in New Mexico."

Given the rise of environmental awareness during the past 50 years, it's clear that being careful stewards of the environment is increasingly important to employees and stakeholders and is the right thing to do as good corporate citizens. The new action plan weaves the many strands of the Lab's environmental projects into one forward-thinking strategy and provides tools to help managers make wise land use decisions.

First, do no harm

"The 50-year plan is a strategy for proactively controlling past contamination, minimizing current impacts and running the Lab sustainably in the future," said John Isaacson of the Lab's Environmental Protection Division, a member of the core team that began drafting the plan last year. "It aggressively looks for opportunities to better manage our environmental impacts and demonstrates to the public that we're protective of human health and the environment."

To eliminate current impacts and minimize future impacts, the Laboratory's Environmental Management System requires directorates to develop objectives and targets annually that will produce the greatest environmental benefits.

The goals for fiscal year 2012 include reducing outfalls and achieving zero liquid discharge, reducing spills and leaks, and expanding the chemical reuse program. While it's a fact of life that Lab operations will continue to generate waste, Isaacson said, the amount of that waste can be minimized.

"We want to eliminate as many waste streams and discharges to the environment as we can," he said. "We want to continue to change the paradigm from 'operations at LANL produce waste' to 'operations at LANL produce as little waste as possible, and what we do produce we manage responsibly and safely.'"

Use the land wisely

In addition to achieving as low as reasonably achievable impacts to the environment, the plan includes a tool that Lab management will use to determine the future of the site and the environment.

"The 50-Year Environmental Site Plan is an integral part of the long range planning effort at the Laboratory," said Carl Beard, principal associate director of operations at LANL . "Management and staff can use this tool to efficiently evaluate the impacts to the environment for activities being considered long into the future. This plan, coupled with the Site Infrastructure Plan and the Site Sustainability Plan, are essential to future work and facility planning at the Laboratory."

Set to launch this fall, the tool is a decision support system that contains 50 criteria to assist managers building a facility or doing some other land-disturbing action. The application offers a multi-dimensional view of the environment and provides managers with every possible bit of environmental data about a given site, from the location of archaeological sites to the status of solid waste management unit cleanup efforts. In addition to helping management implement plans for infrastructure use and long-term re-use, the data-rich tool also will reduce schedule and budget uncertainties due to environmental factors, assisting managers with project planning.

"Managers will be able to access an application that allows them to compare different siting options," Isaacson said. "Environmental impacts translate into cost and schedule delays, so the more we can minimize those impacts the more we can reduce costs."

Much like effective urban planning, good industrial planning consolidates operations, which makes providing security and infrastructure easier and more efficient.

"We want to encourage brownfield development," Isaacson said, "that is, development on sites where buildings have been removed and infrastructure already exists. We want to help lab managers make the best possible environmental decisions."

Another real benefit to the application is that it's easy to use. Isaacson estimates the learning curve at about 10 minutes.

"This application will help people anticipate issues and avoid them," he said. "It was a great idea to think on this 50-year time scale, and really it is a sustainable process for the future."

Mission possible

To achieve Smith's goal of transparent environmental communications with the public and stakeholders, the plan also includes a website application that will allow the public to learn more about environmental issues.

Scheduled to go live on the Lab's external website this summer, it's a multidimensional application, a sort of Google Earth with a twist that allows users to select a specific location and learn about the Lab's environmental efforts at that site.

"The future viability of the Lab hinges on demonstrating to the public that we protect human health and the environment, and that environmental stewardship is part of everything we do" Isaacson said.

Long-term sustainability

While it's difficult to predict the far distant future, Smith believes the Lab's mission and operations will change significantly during the next 50 years. For now, however, zero waste approaches and responsible land use planning, which have been proven effective by industry, will help ensure a high level of environmental protection.

"The Laboratory's commitment to excellence in science and technology is inseparable from our commitment to complete all work in a safe, secure, and environmentally responsible manner," Smith said. "A 50-year time horizon provides a useful standard to help us think about the end-state of current programs and projects and to envision what the Laboratory of the future will look like. We are committed to operating the site sustainably now and in the future."