



PNNL will build replacement and growth facilities over the next five years.

## Great challenges; great opportunities

By Jodi Hamm

Suck it in; loosen the belt buckle.

Pacific Northwest National Laboratory will be losing 700,000 square feet of space from accelerated cleanup and trying to grow by an equal amount—all by 2009.

That's like trying to build new and replacement facilities with a total square footage slightly larger than the footprint of the Seattle Mariner's baseball stadium.

"It's important for staff to understand that the next few years will be very challenging for PNNL, but they hold the potential of making PNNL the most modern national lab in the Department of Energy complex," explained Mike Lawrence, deputy director for Campus Development. "We have to be out of facilities we occupy in the 300 Area of the nearby Hanford Site by the end of 2009. We will have to both replace and grow key capabilities to stay competitive. These issues impact everyone at PNNL—from the support staff to the researcher."

### Funding is crucial

PNNL currently is using \$1.6 million reprogrammed by Congress in FY04 toward conceptual design of these modern buildings. A request for proposals recently was issued by the Lab requesting information from architect and engineering firms interested in helping us plan for new facilities." Twenty-four firms located across the nation responded to our RFP," said Dwayne Coburn, 300 Area Replacement Facilities Project director. "After a technical review of each contender, the top three to five firms will be selected to present oral presentations. We hope to have a firm selected by early December."

With President Bush newly elected for another four years in office, the strategy for the Research Campus of the Future, or RCF, team will be to continue vying for Congressional funding over the next five years.

"It will be important for the U.S. Senate to match the \$9.5 million the House of Representatives has budgeted for new DOE facilities at PNNL in the FY05 budget. We

estimate \$175 million of government facilities and \$75 million of private facilities will be needed for the 300 Area transition,” Mike said.

DOE experts predict they will save \$50 billion by accelerating cleanup of all DOE facilities around the country. Less than a half a percent of that savings could be applied to fund all of PNNL’s replacement facilities.

### **New space closer to home**

New facilities totaling approximately \$250 million are planned to be built on or adjacent to the north end of PNNL’s campus to accommodate displaced staff, equipment and capabilities in the 300 Area.

Based upon PNNL’s plan, the proposed national security facilities will house ultra-low level radiation detection, materials science and technology; radiological, actinide and actinide chemistry; and radiochemical processing capabilities. This 100,000 square foot, \$50-million lab is expected to be funded by the National Nuclear Security Administration.

A new homeland security facility will house radiation detection capabilities, information visual analytics, and a radiological, nuclear knowledge center. The 100,000 square foot, \$55-million lab is proposed to be funded by the Department of Homeland Security.

PNNL envisions the Office of Science funding a 100,000 square foot, \$60-million laboratory to house systems biology, environmental science and biomarkers as well as materials science and technology capabilities.

“Another 170,000 square foot facility funded by third-party investors would be built for lab and office space,” Mike added.

At this point, Dwayne notes that facility planning is at the “conceptual” stage and that PNNL will submit conceptual designs to DOE & DHS this summer to support construction funding decisions.

### **Growing to accommodate research growth**

In the meantime, the Leadership Council has its sight set on building several modern laboratories that are key to the Lab’s strategic agenda and would provide an economic boost for the Tri-Cities as well as Eastern Washington.

PNNL leaders envision building additional office and laboratory space onto the Environmental Molecular Sciences Laboratory.

The Biosignature Discovery Center, or BDC, concept also is being developed. It is here where researchers using cutting-edge technologies in proteomics could team with other regional organizations like the Institute for Systems Biology in Seattle to discover how critical biological systems are to understanding life processes.

“The BDC will help enable regional science programs to tackle such questions as how do bacteria interact with their environment, or how can we better understand disease progression and the body’s response to therapeutics,” explained Bill Kimmerly, Facilities for Systems Biology & Applications director. “This work also may aid in the development of detectors of biowarfare agents by identifying what signatures provide early identification of exposure to these agents.”

Entering the competition to build one of the planned Genomes to Life facilities, Whole Proteome Analysis Laboratory, is another growth strategy for the RCF. This lab is one among 28 scientific user facilities DOE announced it proposes to build to meet America’s future science needs over the next 20 years. In this new lab, PNNL envisions scientists studying how proteins can be used to clean up contaminated sites, reduce global warming, support new energy sources and approaches, and detect and treat diseases.

### **Washington State University Tri-Cities teams with PNNL**

The Bioproducts Science and Engineering Laboratory, or BSEL, has moved beyond concept to actual architectural drawings. A request for construction funds is on the legislative priority list going to the Washington State Legislature to be approved this winter. BSEL will contain classrooms and teaching laboratories as well as research and engineering development laboratories to rapidly translate scientific discoveries into deployable technologies.

“We’re teaming with Washington State University Tri-Cities to build BSEL, which will be located south of PNNL on WSU-TC’s campus,” said RCF Program Manager Theresa Bergsman. “In jointly operated facility, PNNL researchers will work closely with WSU researchers, educators, and students to develop processes for converting agricultural and industrial wastes into bio-based fuels, chemicals and other valuable commodities. The Washington state Legislature, PNNL and WSU are jointly funding BSEL.”

Whether it’s just a concept on paper today or dirt that must be moved, one thing is certain. Over the next five years, PNNL’s campus footprint will be changing drastically.