

The Voice

JANUARY 2013

oice

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Oak Ridge's New Uranium Processing Facility: State's Largest Post-War Investment

by John Eschenberg
UPF Federal Project Director
National Nuclear Security Administration

Oak Ridge, Tennessee, was built under a cloak of secrecy during World War II. The Y-12 National Security Complex was one of three facilities built in the foothills of the Great Smoky Mountains as part of the war effort.



John Eschenberg

Y-12 was built to separate uranium 235 from natural uranium to produce material for atomic weapons that aided our nation in ending a terrible war. Today it is one of four production facilities in the National Nuclear Security Administration's (NNSA) Nuclear Security Enterprise. The site's unique emphasis is the processing and storage of uranium and development of technologies associated with those activities.

Next year, Y-12 will celebrate its 70th anniversary. While we've made tremendous strides in cleaning up and modernizing the World War II-era site, the majority of Y-12's facilities are more than 50 years old. The core of the nation's current nuclear processing operations is housed in one of the site's oldest, original World War II-era buildings - Building 9212, built in 1945.

The consensus is clear. We must build a new Uranium Processing Facility for our nation. UPF is essential to ensuring

our nation's nuclear deterrent and fueling our Navy's submarines. As we continue to retire old nuclear weapons, the new UPF will serve an integral role in NNSA's commitment to dismantle and process the nuclear material from these weapons for use in peacetime missions; such as fueling our next generation commercial power reactors and in research reactors for medical isotope production.

Ultimately, UPF will replace all enriched uranium operations into 35% of the current space at the Oak Ridge Y-12 facility. This consolidation will substantially shrink the site's security footprint as well as lower operational costs and energy consumption. The new facility will also include upgraded process technologies and improved worker safety.

Infrastructure Key to National Nuclear Security

It is very difficult to maintain our nation's nuclear security posture with a deteriorating World War II infrastructure. Nuclear facilities are built to rigid codes and standards that evolve over time with new improvements and requirements. That's why most

(continued on page 2)



Rendering courtesy of the U.S. Department of Energy

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Goals: What's Missing?

*by Steven Field, PE
President, ACEC of Tennessee*

In preparation for this article, I decided to review my New Year's resolutions for 2012. First, I was dumbfounded by how fast the year went and, secondly, I was disappointed at the

**Steven Field**

progress made towards accomplishing my goals. I didn't lose any weight, I didn't spend more time with my kids, and I didn't always provide the leadership desired at work or home!

I imagine that many will feel the same upon reflection, so what's missing? What went wrong?

Were the goals wrong? Were they unattainable? Or did I miss something? I dare say it was me. I didn't develop a plan, I didn't fully commit myself to achieving the goals, and I didn't find someone to hold me accountable.

As we all know, these are key ingredients for success when striving to accomplish the goals we set for ourselves and our organizations.

So don't do as I did last year, but follow the advice of legendary football coach Tom Landry when he said, "Setting a goal is not the main thing. It is deciding how you will go about achieving it and staying with that plan." So in 2013, let's set lofty goals and strive to achieve great things, but don't stop there. Plan for success, develop accountability for your actions and expect it to happen.

Oak Ridge (cont. from page 1)

nuclear facilities have been out of operation for more than 40 years. 9212 was built as part of the Manhattan Project, so while improvements are constantly being made to ensure the safety of our workers and operations, it's not cost effective or feasible to attempt to modernize these facilities.

NNSA will begin preparing the site for construction in the spring of 2013. The U.S. Army Corps of Engineers was awarded a significant portion of this work.

While looking forward to showing physical progress on the project, our focus now is on driving the maturity of the facility design. It is essential to deliver a high-confidence cost and schedule baseline before we move into construction. This will yield huge dividends to the overall success of the project.

What will it take to build UPF?

- Concrete — 30,000 cement trucks. If you lined up the cement trucks bumper to bumper, they would stretch from Knoxville to Nashville by way of Chattanooga.
- Glove boxes — enough to run the length of a football field about five times
- Structural steel — enough to build another Eiffel Tower
- Wire and Cable — enough to run from Oak Ridge to Washington D.C.

Currently, UPF employs about 650 workers. At the peak of construction in about 2018, 1,500 workers are expected to be needed on the project. With an estimated capital cost range of \$4.2 to \$6.5 billion, UPF will be the largest construction project in the state of Tennessee since World War II.

If you're interested in becoming a UPF supplier, register at: <http://supplier.bechtel.com>. To find out about the latest UPF procurements, go to www.y12.doe.gov or www.fbo.gov.

MEMBER NEWS

- **Jason Brooks** has joined Lamar Dunn & Associates as President & CEO. Most recently Brooks worked for CDM Smith. Prior to that he spent 15 years with the Knoxville Utilities Board and has consulted for other municipal projects including those for Metro Nashville Water Services.
- **Lamar Dunn**, Founder of Lamar Dunn & Associates, will continue with the firm in senior management and will chair the company's board.
- **Fisher & Arnold, Inc.** welcomes three new engineers. **Suzanne Herron** will serve as the firm's Project Manager and Senior Engineer in its Nashville office. **Rick Mayo** is a project manager in Fisher & Arnold's Nashville office and **Darrell Banks, Jr.** will work out of the Memphis office as an Engineering Technician.

Judges Announced for EEAs

It's never an easy decision, but a team has been selected and charged with choosing the winners out of the projects submitted for the 2013 Engineering Excellence Awards. This year, thirty projects submitted by twenty-two firms are competing for the prestigious Grand Iris Award.



A Grand Award will also be presented in each entry category. The 2013 Engineering Excellence Awards judges are: **Hal Balthrop, PE**, Assistant Director-Systems Services, Metro Nashville Water Services; **Vanessa Bateman, PG, PE**, Chief, Geology Section, U.S. Army Corps of Engineers, Nashville District; **Paula Flowers**, Manager of Independent Oversight, Oak Ridge National Laboratory; **Cindy McGinnis**, General Manager, Knoxville Area Transit; **Bob Oglesby**, Tennessee State Architect; **Karen Rennich**, Deputy Director/TPO Coordinator, Chattanooga-Hamilton County Regional Planning Agency; and **Philip Stuckert**, City Engineer, City of Lakeland.

"We are fortunate to have such a distinguished panel of judges," said Brad Winkler, PE, EEA program chair. "It is a significant time commitment on their part, and we are grateful for their dedication to the engineering profession."

At this time, entrants are in the process of completing and submitting the information notebooks and panels that the judges will use to determine the top projects. The panel of judges will convene on February 8, 2013, at the Tennessee Engineering Center to review all of the information and complete the evaluations of each project that will ultimately determine the winner.

The Engineering Excellence Award winners will be announced at a banquet at the Franklin Marriot Cool Springs in Franklin, Tennessee on March 5, 2013.

House Speaker to Address ACEC & TSPE in Nashville

Tennessee House Speaker Beth Harwell will speak to a joint meeting of the members of the ACEC and TSPE Nashville Chapters on January 29th at the Tennessee Engineering Center. This is the first time Speaker Harwell has addressed the Nashville Chapters. The breakfast meeting will begin at 7:30 a.m. and the cost to attend is \$15. To make reservations email Shaikh Rahman, at sheikh.rahman@stantec.com, prior to January 24th.



Beth Harwell

2013 EEA Entrants

- Bowling Green Waste Water Treatment Plant Expansion and Renovation, Bowling Green, KY – Gresham, Smith and Partners for Bowling Green Municipal Utilities
- Bridge Deck Replacement I-24 - Main & Woodland Street, Nashville, TN – James + Associates, Engineers & Planners, Inc. for TDOT
- C-5 Upgrade and Extend Runway and Taxiway, Martinsburg, WV – Atkins North America, Inc. for 167 Air Wing, WV Air National Guard
- Carroll Co. Lake and Environmental Mitigation, Huntington, TN – J.R. Wauford & Company, Consulting Engineers, Inc. for Carroll Co. Watershed Authority
- Duck River Walk, Columbia, TN – Fisher & Arnold, Inc. for City of Columbia
- EcoSpatial Information Database, Nashville, TN – AMEC Environment & Infrastructure, Inc. for U S Department of the Interior, Bureau of Ocean Energy Management
- Franklin Integrated Water Resource Plan, Franklin, TN – CDM Smith, Inc. for City of Franklin
- Gatlinburg Underground Utilities, Gatlinburg, TN – Barge Waggoner Sumner & Cannon, Inc. for City of Gatlinburg
- Henry Co. Parallel Taxiway Relocation, Paris, TN – Garver for Henry Co. Airport
- Hernando Parks Master Plan, Hernando, MS – ETI Corporation for City of Hernando
- I-40 Design Build Geotechnical Design, Nashville, TN – K.S. Ware & Associates, LLC for AECOM and Lane Construction
- Korean Veterans Boulevard Extension and Roundabout, Nashville, TN – Parsons Brinckerhoff for Metro Nashville Project Manager
- Leveraging Technology for Safety Performance, Midway, TN – & other areas EnSafe Inc. for Ceradyne, Inc.
- Little Swan Creek Stream Restoration, Lewis Co., TN – Stantec Consulting Services, Inc. for Swan Creek Trust & TDOT
- Min Kao Electrical and Computer Engineering Bldg., Knoxville, TN – Ross Bryan Associates, Inc. for Bullock Smith & Partners, Inc./Lindsay & Maples Architects, Inc.
- Mississippi Bridge Inspections, Mississippi Neel-Schaffer, Inc. for MS Department of Transportation
- Nashville Music City Bikeway, Nashville, TN – RPM Transportation Consultants and Collier Engineering Company for Metro Nashville Public Works
- Nashville Public Works 28th-31st Avenue Connector, Nashville, TN – Gresham, Smith and Partners for Metro Nashville Public Works
- Nashville Safe Program, Nashville, TN – AMEC Environment & Infrastructure, Inc. for Metro Nashville
- Opryland Levee, Nashville, TN – Barge Waggoner Sumner & Cannon, Inc. for Ryman Hospitality Properties, Inc.
- Overlook Reservoirs, Alcoa, TN – Smith Seckman Reid, Inc. for City of Alcoa
- Pine Street Flatts, The Gulch, Nashville, TN – TTL, Inc. for Market Street Enterprises
- Reclamation of Soil Impacted with Soda Ash, Slaughters, KY – AMEC Environment & Infrastructure, Inc. for CSX Transportation, Inc.
- Ridgeway Trace, Memphis, TN – Kimley-Horn and Associates, Inc. for Weingarten Realty Investors
- Rossville Ave. to Main Street (former Lockhart site), Chattanooga, TN – S&ME, Inc. for River City Company
- Seismic Retrofit of Winchester Structures, Memphis, TN – Askew Hargraves Harcourt & Associates, Inc. for Memphis-Shelby Co. Airport Authority
- Smyrna Water Treatment Plant, Smyrna, TN – Smith Seckman Reid, Inc. for City of Smyrna
- Successful Low-Concentration TCE Remedy in Groundwater, Millington, TN – EnSafe Inc. for U. S. Navy
- Target Organ Segregation Helps Goals & Costs, Castleberry, AL – AMEC Environment & Infrastructure, Inc. for CSX Transportation, Inc.
- Wolf River Greenway, Memphis, TN – ETI Corporation for City of Memphis

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CALENDAR

**JANUARY
11**

EEA Entry Notebooks & Panels Due

**JANUARY
25**

ACEC Scholarship Applications Due

**JANUARY
29**

ACEC & TSPE Nashville Chapter Meeting
TN Engineering Center
7:30 a.m.

**FEBRUARY
17-23**

Engineers' Week

**MARCH
4**

ACEC Legislative Reception
Hermitage Hotel
5:30 p.m. to 7:30 p.m.

**MARCH
5**

Engineers' Day on the Hill
State Capitol, Nashville
9:00 a.m. to 1:30 p.m.

Engineering Excellence Awards Banquet

Franklin Marriott Cool Springs
6:00 p.m. to 9:00 p.m.

**MARCH
6**

ACEC of TN Board Meeting
Franklin Marriott Cool Springs
8:30 a.m. - 11:00 a.m.

Tennessee Engineering Center
800 Fort Negley Boulevard
Nashville, TN 37203

Return Service Requested

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Welcome, New ACEC Members!

Sain Associates
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Sain Associates is a full-service civil engineering and surveying firm providing: land surveying, transportation engineering and planning, CE&I, and GIS services to departments of transportation, counties, and cities.

Buchart Horn, Inc.
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FROM THE EXECUTIVE DIRECTOR

Your Involvement is Key in 2013

by Candy Toler
Executive Director, ACEC of Tennessee

As engineers, I hope you are starting this year off with the intention of getting more involved with ACEC of Tennessee. Here are a few of the opportunities available in the next few months.



Candy Toler

Let's start with State House Speaker Beth Harwell's presentation on January 29th. You do not have to be in the Nashville Chapter to attend. Next is the Legislative Reception on March 4th. It is a great time to talk with your legislators informally and warn them that you will be knocking on their doors on March 5th - Engineers' Day on the Hill.

The General Assembly convened on January 8th. Committee leaders and members are being named, offices are being assigned, bills are being introduced, and the wheels of the

legislature are turning. Your Government Advocacy Committee has even started reviewing legislative proposals for discussion during your visits. The committee will provide you with the information you need to discuss the issues on our agenda.

Please be a part of the engineering community for the Day on the Hill activities. It's a day that is all about educating state legislators about how bills impact the health, safety, and welfare of Tennesseans. Email me at ctoler@tnec.org to sign up and give the names of your State Senator and Representative. In the next few weeks, we will learn more about which issues will be most important to the engineering community in 2013.

The Engineering Excellence Awards Banquet will also be on March 5th. Please plan to attend and celebrate engineering with your colleagues.

We have a lot of things going on in the next few months and we want you to be a part of it! Show your pride in your profession by participating!