

# NEWSLETTER

DECONTAMINATION, DECOMMISSIONING, AND REUTILIZATION DIVISION  
OCTOBER 2000

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## CHAIRMAN'S MESSAGE

I cannot say enough how much I am proud to be your Chairman and lead the DD&R Division for the upcoming year. As the leader of the division, I will look to you for your ideas, your involvement, and your suggestions on ways to face and take on the challenges that exist and that will continue to confront us. I will be totally committed to your needs, first as individuals, then as members of your organizations and the Society and, finally, as key stakeholders in the decommissioning industry.

With the decontamination and decommissioning environment in an ever-changing mode, it behooves all of us to become more aggressive in accomplishing our D&D goals and expectations. The sudden swing within the utility industry of some plants going from planning for shutdown and subsequent decommissioning to continued operation and the government, even more so, now seeking out the experience of the private sector industry has turned our heads more than once to make sure we are still heading in the right direction. Although we cannot steer the direction of the D&D industry, we can make an impact on some of more meaningful areas that require support.

We within the Division and through participants at meetings have collectively identified a number of issues that we have termed as "hot topics and emerging issues." The issues on this list are ones that need immediate attention and, where necessary, interaction with regulating bodies. The Division provides for a discussion in panel format on these very issues twice a year at the ANS National Meetings so everyone can learn and offer up suggested solutions to these issues. We obtain speakers that have first hand knowledge of these issues although, in most cases and in all due respect to them, do not have all the solutions to the issues. I personally ask all of you to please offer up your expertise and get involved in any way that is most convenient for you in helping to resolve issues which includes attending these sessions. Because of their important nature and the fact that they do have a great impact on the overall process and cost effectiveness of a successful decommissioning project, I have listed them here for your convenience:

- Adoption of new regulations/rulemaking
- DOC issues including financial stability and liability issues
- Public interaction/education/acceptance
- Psychology of decommissioning versus operating plants
- Cost estimates – detail
- Weapons facility issues – DOE specific
- Site release criteria (sites/material for landfills, international recycle standards)
- Decommissioning technologies (lessons learned/benchmarking)
- Major cost drivers Results of GETS (public meeting for D&D)
- Remote monitoring of spent fuel (how/who/what and response times)
- License termination – different approaches
- Activated concrete
- PCB's and paint
- EPA participation on various regulatory issues
- New GTCC rule
- Relicensing impact on decommissioning
- Decommissioning facility where "unknown" conditions exist (initial entry/characterization/cleanup methods)

Just as important but on a different "weighting scale," we are in the process of developing D&D standards for both commercial and governmental projects. These standards will be important for those sites planning for decommissioning in the very near future. The three

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**(CONTINUED)**

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**(Chairman's Message – Continued)**

approved definitions for DD&R Standards are for Transition Security, Transition Safety, and Transition Training. Although over 30 volunteers have expressed interest, getting initial drafts together has been slow. We really need your help to assist us in the development of these standards. If you can contribute, please contact the Standards Committee Chairman, Neil Norman (509-946-5849), email <[parsons@urx.com](mailto:parsons@urx.com)>.

We recently drafted a “publicity plan” that will be used to elevate to the public and industry as a whole as to what strides and accomplishments within the Division we have made in helping to resolve some of the D&D issues at hand and what issues still lie ahead of us that they should be aware of.

The Division is making every effort to integrate activities not only with other Divisions such as FCWMD, ESD, and OPD within ANS but also with external organizations that face the same environmental issues that we do. This is becoming more and more evident not only at the National Meetings but also at the Topical Meetings including those the DD&R Division co-sponsors. The Division and the Society as a whole believe this new approach increases the benefits to the individuals attending the meetings.

We are continually revising and attempting to maintain the DD&R website ([www.ddrd.ans.org](http://www.ddrd.ans.org)) up-to-date. I ask that you please browse it every now and then for new issues and information on technology that hopefully may assist you in your current responsibilities. I also ask you to consider sharing any new material and technology that you believe will be beneficial to your fellow members. You can accomplish this by sending this information to the Division's Webmaster, Hanna Shapira, e-mail: [hshapira@techno-info.com](mailto:hshapira@techno-info.com). She will accommodate your request.

I'd like to share with you just a few words on safety and safety culture that impact not only the D&D arena but the entire industry. The emphasis on and the focus of safety and safety culture is so important in our every day responsibilities that this area has become one of, if not the number one, focus in the industry. The Society recognizes this and has devoted the entire ANS Summer Meeting in Milwaukee in June 2001 to the theme of “Safety.” I ask that you consider attending and participating in this meeting due to the very nature of the theme and the endless list of diversified topics devoted to safety that will be discussed during the entire meeting both from a domestic and international perspective.

Finally, I would like to summarize for you what I believe are the most critical issues over the next five years that not only will the DD&R Division face but the entire D&D industry as a whole:

- 1) Resolution of the final free release criteria at decommissioned sites both governmental and utility/commercial sites. The federal and state regulatory agencies need to make this a top priority issue and work in conjunction with the industry experts. This can impact the site “license termination schedule” which will impact the total cost of decommissioning.
- 2) Near and long term utility spent fuel storage at and away from reactor. Lack of legislation and direction by the government will eventually drive operating plants to permanent shutdown.
- 3) Development and use of decommissioning standards for present sites but more so for future sites, government and commercial/utility both. Having these standards will aid in reducing and controlling decommissioning costs at future decommissioned sites.
- 4) Resolution of what has been termed “hot topics and emerging issues” as briefly described above. Total cooperation, integrated efforts, and focus in resolving them from all walks of the industry including politicians, agencies and users is imperative.
- 5) Educate the public, national and state government agencies, regulators and the media. It is important for us to keep the pertinent information and issues flowing and in front of the decision-making and active groups including Congress.

## **(Chairman's Message – Continued)**

Questions that you need to ask yourself on these issues are “What are the implications of these issues to you, to your company and to the industry? What are the challenges and opportunities that will face you? How will you respond to such issues?”

In closing, I hope the articles within the newsletter are informative and beneficial to your needs. Your feedback is so important as to the type of topics and information that make up the contents not only in the newsletter but also the DD&R website. Again, I ask that you continuously communicate with us and, where possible, become involved in the activities of the Division. My e-mail is : [dreggett@aesengineering.com](mailto:dreggett@aesengineering.com) and I am always open to any comments you may have.

I look forward to a challenging and rewarding year for all of us.

*Don Eggett*

## **PROGRAM COMMITTEE REPORT**

**2000 ANS/ENS International Meeting and Nuclear Technology Expo**, Washington DC, November 12 – 17, 2000 at the Marriott Wardman Park Hotel

Your Division Program Committee has planned a number of exciting and innovative activities for the International Conference. Topical interest in the DD&R programs is spread among five diverse panel sessions in two tracks. Planning is also underway to liven up some of the panel sessions with more audience interaction and shorter technical presentations – *to encourage people to have fun while they are learning*; a sequel to the successful DD&R pilot program demonstrated at the San Diego Meeting. In an effort to learn more about what other ANS Divisions do, a Multi-Division Mixer is also planned with Guest Speaker Paul Genoa of NEI, a dynamic speaker who is sure to enlighten us all. The Conference Preliminary Program and registration material is available on the web site. The panel sessions include:

**Monday November 13, 1:00 – 4:00 PM, (McKinley Room) - “Material and Site Free Release: Licensee and State Agency Initiatives”** Panel Session – Chair Richard St Onge, San Onofre Nuclear Generating Station

**Monday November 13, 1:00 – 4:00 PM, (Harding Room) - “Decommissioning Successes in the US Department of Energy”** Panel Session - Co-Chairs Paul Hart, US Department of Energy - NETL, and Patti Augustine, Graver Technologies

**Tuesday November 14, 8:30 – 11:30 AM, (Taft Room) - “Spent Fuel Dry Cask Storage Update”** Panel Session - Chair Scott Dam, British Nuclear Fuel Limited

**Thursday November 16, 8:30 – 11:30 AM, (Taft Room) - “Inspection Planning, Feedback, Results in Decommissioning Projects”** - Chair Lynne Goodman, Detroit Edison

**Thursday November 16, 1:00 – 4:00 PM, (Taft Room) - “Hot Topics and Emerging Issues”** - Chair Tom LaGuardia, TLG Services, Inc

**ANS 9th International Topical Meeting on Robotics and Remote Systems**, Seattle, WA March 4 – 8, 2001 at the Sheraton Seattle Hotel and Towers

Neil Norman is the General Chair. DD&R is a co-sponsor. The Theme of the meeting is the application of robotics and intelligent systems in hazardous and remote environments. The call for papers (abstract submittal) has been extended to October 31, 2000, with full papers due by January 12, 2001. Please contact Neil Norman at [parsons@urx.com](mailto:parsons@urx.com) as soon as possible if you have any interest. Check the ANS website for additional details.

**2001 ANS Annual Meeting**, Milwaukee, WI June 17 – 21, 2001 at the Milwaukee Convention Center and Hyatt Regency

The theme is “Safety Culture and Its Relationship to Economic Value in the Competitive Market: A Global Perspective”, Don Eggett is Conference Technical Program Chair. Sessions will be split up into “Tracks” similar to the ANS ENS Conference with enhancements built in from the lessons learned. The DD&R Division is planning 4 panel sessions and co-sponsoring several others. The DD&R Panel sessions include “Licensing and Safety Issues associated with Dry Cask Storage”, Safety Yields Decommissioning Successes”, “Hot Topics and Emerging Safety Issues” and “Industry Update: Insuring Public Safety During Material and Site Free Release”. The Call for Papers is now available in the September 2000 Issue of Nuclear News and on the ANS website under “Meetings”, with summaries due by January 5, 2001. Please check the ANS web site as additional details become available, or contact Jim Rang at (231) 237-2354 or [jsrang@cmsenergy.com](mailto:jsrang@cmsenergy.com).

**ANS Executive Conference on Nuclear Facility Decommissioning and Used Fuel Management**, Foxwoods Resort, Ledyard, CT  
July 8 – 12, 2001

The theme of this biennial executive conference is “**Engaging and Exchanging for Safety: How to Share in a Competitive Environment**”. Russ Mellor is the General Chair. Connecticut Yankee will host this conference on Nuclear Facility Decommissioning & Used Fuel Management at the Foxwoods Conference Center in Ledyard, CT, July 8-12, 2001. Foxwoods features the world's largest casino, a family entertainment center and the Pequot Indian Museum. Monday (July 9, 2001) will be an exciting day beginning with a morning tour of CY's Haddam Neck facility. Following an old fashioned clambake, the afternoon will feature golf or a scenic boat ride on the river. The day's activities will conclude with dinner at St. Clements Castle, located on a bluff overlooking the river. Check your web site for more details as they become available.

**3<sup>rd</sup> Topical Meeting on Decommissioning, Decontamination and Reutilization in Knoxville, TN September 23 – 27, 2001**

It is not too early to make your plans to attend the next DD&R Topical scheduled for September, 2001 in Knoxville TN! Terry Sams is the General Chair. Arthur Desrosiers is the Technical Program Chair. Check your ANS web site for additional details as they become available.

**Additional Decommissioning Conferences recognized by ANS in 2000/2001 include:**

- o “**Decommissioning in the 21<sup>st</sup> Century**”, TLG Conference, South Seas Plantation, Captiva Island, Florida October 8 – 11, 2000
- o **9<sup>th</sup> International High-level Radioactive Waste Management Conference** in Las Vegas, NV April 29 – May 3, 2001
- o **Global 2001, International Conference “Back-end of the Fuel Cycle: From Research to Solutions”** in Paris, France September 9 – 13, 2001
- **2001 Winter Meeting**, in Reno Nevada, November 11 – 15, 2001

**FIRST DD&R SCHOLARSHIP WINNER**

**Dara Loft** is the recipient of the first DD&R Scholarship

Dara is a Senior at Oregon State University in the Nuclear Engineering Department

Dara plans to continue her studies and focus on waste management

Please look forward to meeting Dara at this year's Winter Meeting in Washington, DC, November 12-16.



**MULTI-DIVISION MIXER AT ANNUAL MEETING**

The Multi-Division mixer at this year's annual meeting will be held 2 blocks from our hotel at the Cafe Paradiso on Tuesday evening, November 14, starting at 7:00 pm. Aside from the sumptuous Italian cuisine provided by Paradiso's warm staff, we are excited to announce that Paul Genoa from the NEI will be our guest speaker. Paul will discuss his big picture point-of-view (with a political and international flavor) on hot topics affecting ANS members. Everyone can look forward to an evening filled with insight as Paul entertains us with his unique storytelling. Tickets for this event are \$40.00. (This price includes a drink ticket.) Seats are limited, so please reserve early.

## **PROFESSIONAL DIVISIONS COMMITTEE MEMBER**

Carl Mazzola, recent past-Chairman of the DD & R professional division, has been appointed to the Professional Divisions Committee (PDC) by ANS President Jim Lake. The PDC is responsible for oversight of the 19 professional divisions within ANS. In addition to chairing the DD & R division in 1999-2000, Carl also chaired the Environmental Sciences Division (ESD) in 1990-1991 and 1991-1992; a total of 3 division chairmanships within a decade. At the San Diego meeting, Carl had the privilege to present the great accomplishments of the DD & R Division to both the PDC and the Board of Directors. Carl joins one international and four other national ANS members in this division oversight responsibility. The next PDC Meeting, which is attended by the chairs and vice-chairs of all 19 professional divisions is from 4:00 pm to 7:00 pm on Tuesday, November 14, 2000.

## **TROJAN REACTOR SHIPMENT WINS INTERNATIONAL PROJECT OF THE YEAR AWARD**

Portland General Electric (PGE) received the 2000 PMI International Project of the Year Award from the Project Management Institute (PMI<sup>®</sup>) for successfully completing the safe removal, shipment and burial of the Trojan nuclear plant's reactor vessel.

PMI is the leading nonprofit professional association in the area of project management, with more than 60,000 members worldwide. This prestigious international annual award honors the project team that demonstrates superior performance and execution of exemplary project management.

In August 1999, PGE transported the reactor vessel from the Trojan Nuclear Plant located in Rainier, Ore., to the U.S. Ecology low-level waste disposal site near Richland, Wash. The 1,020-ton reactor vessel package was filled with low-density concrete, removed from the decommissioned containment building and transported by barge 270 miles up the Columbia River to its final burial site. The project received international attention because it was the first time a commercial reactor of its size had passed through a major American city.

Steve B. Nichols, Project Manager, accepted the award on behalf of PGE along with Michael B. Lackey, P.E., General Manager, Engineering and Decommissioning, at PMI's Annual Seminars and Symposium in Houston, Tx. The project was sponsored for the award by the PMI, Portland, Oregon Chapter.

## **TLG SERVICES BOUGHT BY ENTERGY**

Entergy Corporation has agreed to buy TLG Services Inc. of Bridgewater, Conn., in a deal that will make Entergy one of the most experienced companies in decommissioning in the U.S. nuclear industry.

"TLG Services is a globally recognized expert in decommissioning engineering, related cost estimation, and field services. Their expertise strengthens Entergy's capabilities as one of the nation's premier nuclear operators," said Jerry Yelverton, chief executive officer of Entergy Nuclear. "We already are doing decommissioning work in the utility industry, and acquiring TLG solidifies our position as an industry leader." Yelverton pointed out the expertise of TLG Services will reduce the decommissioning risk, a potentially significant liability, at Entergy Nuclear's existing nuclear plants and the additional plants it buys as Entergy pursues its principal growth strategy of acquiring more nuclear generation.

Thomas LaGuardia, will remain president of TLG.

TLG Services has actively participated in the cost estimating, program planning, mechanical and structural engineering, waste management, radiological engineering, health physics, and quality assurance support for all recent and current commercial nuclear power plant decommissioning projects. TLG, established in 1982, specializes in the decommissioning of both nuclear and fossil-fueled sites.

TLG Services, which was originally established to pursue decommissioning services within the electric utility industry (primarily nuclear), has performed work for 85 percent of the commercial nuclear plants in the United States, all nuclear plants in Canada and some facilities overseas. It has also provided consulting services to the Nuclear Energy Institute, U.S. Nuclear Regulatory Commission, U.S. Department of Energy, government contractors, and the non-utility commercial nuclear market, including the medical and health care industry.

TLG has prepared decommissioning engineering and cost studies for 128 nuclear power units and more than 200 fossil-fueled units, and has been asked to provide expert testimony in more than 110 state public utility commission and Federal Energy Regulatory Commission rate cases.

## YANKEE-ROWE DECOMMISSIONING UPDATE

The decommissioning of the Yankee Rowe nuclear power station is nearing completion. The current focus at Yankee is activities preparing for the transfer of used fuel from the Spent Fuel Pool to an onsite dry storage facility.

**ISFSI Construction** - Yankee contracted with NAC, Int'l. for its dual-purpose dry cask storage system, which has received all necessary approvals and permits. Yankee's 533 fuel assemblies will be stored in 15 steel and concrete storage containers on a concrete pad on the Yankee Rowe site. The 16<sup>th</sup> container will store GTCC waste from the reactor core baffle, which was segmented and removed during decommissioning.

Fabrication of the system components and construction of the storage facility are underway. Hitachi-Zosen of Japan is fabricating the fuel canisters. Fabrication began in April 2000. Construction of the concrete storage pad and heavy-haul access road began in August. The construction crew will be placing six feet of structural fill and six feet of engineered fill in the storage pad foundation and pouring the concrete this month. The pad and access road are scheduled to be completed this fall.

In addition to construction and fabrication activities, Yankee has also been removing some buildings in preparation for fuel transfer activities and preparing a warehouse to receive the empty canisters.



Basket Being Inserted into Canister during Canister Fabrication at Hitachi Zosen in Japan



## MAINE YANKEE DECOMMISSIONING UPDATE

On July 1, 2000, Maine Yankee began acting as its own decommissioning operations contractor (DOC) until a decision about a long-term contract arrangement is made. The deadline for DOC proposals to Maine Yankee is October 31, 2000 and the company hopes to make a decision about the long-term project management by the end of the year. Maine Yankee continues to focus efforts on safely managing those projects, which are most important to the overall decommissioning schedule. An update of the company's recent activities is listed below. The scheduled completion date for decommissioning remains 2004.

**Safety** - The work force continues to perform above company goals and industry standards in the area of safety. There have been no lost time accidents with over **1,863,445 million** work hours logged to the project.

**Large Component Removal and Shipment** - The plant's three steam generators and the pressurizer were successfully transported to GTS Duratek in Tennessee for reprocessing this summer. The last remaining component of the Nuclear Steam Supply System, the reactor vessel, is scheduled to be removed and shipped to Barnwell, S.C. for burial next spring. The process used to prepare the reactor pressure vessel and its remaining contents for proper removal, transport, and disposal is called segmentation. Framatome Technologies, Inc. will begin the segmentation at Maine Yankee later this month.

**Dry Fuel Storage Project** - In early July, Maine Yankee received state approval for construction of the Independent Fuel Storage Installation (ISFSI) facility. Site construction is well underway including construction of a 12 feet earthen berm around the facility, fabrication of the concrete pads, and construction of the vertical concrete storage casks.

**Future Use of the Site & Licensing** - An expert advisory committee for site redevelopment has been organized to provide guidance to the Maine Yankee Board of Directors on redevelopment options and to assist in soliciting proposals for the reuse of the Maine Yankee site. Work continues on NRC License Termination Plan, Resource Conservation Recovery Act (RCRA) site closure plans, and the National Resource Protection Act permits.

**Waste Removal** - Following a series of meetings with stakeholders, Maine Yankee decided to ship above-grade concrete off-site rather than place it in the building foundations as originally proposed. The portion of above-grade concrete that is radiologically contaminated (considered low-level radioactive waste) will be shipped by rail to the Envirocare facility in Utah and the radiologically clean concrete is likely to be shipped to landfill facilities outside the State of Maine. In keeping with the original concrete disposal plan, below grade concrete foundations and slabs will be cleaned to conform with federal and state site release standards before being backfilled with soil and left in place. The cumulative total of all waste removed for processing and disposal through August is approximately **19,000,000 lbs.** Of that, 7.9 million was radioactive, and 11.0 million was non-radioactive.

For further information about site restoration and current events at the company please look at Maine Yankee's web site [www.maineyankee.com](http://www.maineyankee.com).



Maine-Yankee Steam Generators on Barge for Shipment to Tennessee

## CONNECTICUT-YANKEE DECOMMISSIONING UPDATE

The plant site is starting to take on a new look as decommissioning work continues. Several buildings have been demolished and the interior of the turbine and containment buildings are becoming more vacant with each passing day as commodities are removed and shipped to buyers or disposal facilities. Connecticut Yankee has completed nearly one-third of its decommissioning activities in the 18 months since awarding its decommissioning operations contract to Bechtel Power Corp. The project is on track to meet its industrial safety and radiological goals.

**Large Component Removal** - The steam generator lower assemblies were removed from containment in 1999, and they are scheduled to be shipped to Barnwell, South Carolina, for disposal in the first quarter of 2000. Because the Savannah River still is too low for barge traffic, other shipment options are being explored for the lower steam generator assemblies, including rail transport or a combination of barge and rail to Barnwell. The reactor vessel is scheduled to be pulled from containment in the third quarter of 2000. If it cannot be shipped immediately to Barnwell, it will be temporarily stored on site.

The plant's pressurizer, reactor coolant pumps and reactor coolant pump motors have been pulled from containment as well. Bechtel plans to ship the pressurizer and reactor coolant pumps to Envirocare in Utah. The reactor coolant pump motors have been sent to Tennessee for processing.

**Reactor Pressure Vessel Internals** - Segmentation of the approximately 850,000 curies of Greater Than Class C reactor pressure vessel internals is being performed using ultra-high pressure abrasive water jets. The contractor, PCI, mobilized in early 2000 and actually began cutting in late February. Thin strips of GTCC are cut and then loaded into FAS canisters, at which time they will be transferred to Connecticut Yankee's spent fuel pool for storage until the dry spent fuel storage facility is ready. The work was about 85 percent complete at the end of September, and is expected to be complete by the end of this year.

**Independent Spent Fuel Storage Facility (ISFSI)** - Connecticut Yankee plans to use 43 casks for its ISFSI. Forty of those casks will be used for the spent fuel, with the remaining three casks reserved for the GTCC material. The NAC, Inc. system will be used. Initial design is complete, and Connecticut Yankee is obtaining the necessary permits to build the ISFSI pad and haul route. The casks are scheduled to be delivered to the site in late 2001, and transfer of the spent fuel is expected to be complete in late 2002.

**License Termination Plan (LTP)** - Submitted to the Nuclear Regulatory Commission in July 2000, the Connecticut Yankee LTP became the second LTP accepted for detailed NRC review on first submittal. As part of its commitment to ongoing public involvement, Connecticut Yankee took a proactive approach by allowing its community advisory board to review the draft document prior to formal submittal to the NRC. The NRC scheduled the public meeting on the LTP for October 17 in Haddam, Connecticut.



Lifting Connecticut Yankee's Pressurizer  
For Removal from the Containment Building



## TROJAN DECOMMISSIONING UPDATE

Concrete removal activities continue in Containment. The concrete is being shipped via truck and railway for disposal. Over 70 railcars with boxes of non-activated concrete have been shipped for disposal. Other decommissioning activities that are underway include surface remediation in the Fuel and Auxiliary Buildings, which primarily consist of scabbling floors and walls. Decommissioning of the lower levels of the Auxiliary Building is scheduled to complete by the end of this year. The Trojan Nuclear Plant License Termination Plan, which includes the Final Survey Plan, is currently under review by the NRC. Survey collection preparations are also in progress.

The largest remaining project, and perhaps the most crucial to ultimately terminating Trojan's Part 50 license, is the completion of the Independent Spent Fuel Storage Installation project, including transfer of the spent fuel into dry storage. All of the concrete storage casks were constructed on site and the facility is essentially available for use. The steel canisters have been manufactured by off-site vendors to the point of applying the internal coating; however, fabrication efforts have been suspended pending development of an electroless nickel plating process. Another issue impacting fuel loading is the resubmittal of the BNFL Fuel Solutions (BFS) Part 71 license application and the subsequent regulatory review and approval process. It is anticipated that transfer of the spent fuel into dry storage will begin in late 2002.



Remaining Reactor Cavity within the Trojan Containment Building

## SAN ONOFRE DECOMMISSIONING UPDATE

San Onofre Nuclear Generating Station Unit 1 (SONGS 1) Decommissioning is proceeding in full force. In order to permit the unit to be safely dismantled, original electrical power sources to SONGS 1 are being replaced with temporary power sources. A major milestone was achieved on September 8 when the switchyard breakers feeding SONGS 1 were opened for the final time. As part of the overall evolution, the control room has been transitioned to a monitoring station and moved after 30 plus years of service.



**John Custer, Unit 1 Superintendent, takes a last look at the SONGS 1 Control Room before the big transition**

To create access for large component removal from containment, the control point for access to the Radiologically Controlled Area (RCA) has been moved. Additionally, a rail spur has been reactivated to allow trains to remove dismantled equipment and building materials



**Burlington Northern and Santa Fe (BN&SF) train approaching the gate to San Onofre Unit 1 during the rail spur reactivation test.**

## BIG ROCK POINT DECOMMISSIONING UPDATE

Safety accomplishments and initiatives highlighted the past six months of work at Consumers Energy's Big Rock Point Restoration Project as the project completed its third year of work.

On August 3, 2000 Big Rock Point employees celebrated 23 years without a lost time accident. A special flag commemorating the event now proudly waves on the plant's flagpole along with a flag commemorating the completion of the spent fuel pool clean out project and the American flag.

ALARA planner Rick Keely exemplified Big Rock Point's commitment to safety by initiating a plan that will significantly reduce employee dose. Keely's plan to retain the water level in the empty reactor vessel at 15 feet will save approximately 95 man-rem. The plant's original work schedule called for a complete drain down of the reactor vessel in preparation for removal from site. Keely worked with plant schedulers and presented options that would enable reactor vessel related work to continue with minimal adjustments.

Other significant activities at Big Rock Point include:

- Kurt Haas was named site general manager. He replaced Ken Powers who accepted a job with Kaiser-Hill at Rocky Flats.
- The reactor vessel's 32 control rod drives were removed and shipped off site for disposal.
- The reactor vessel's 18 grid bars were cut and removed. The bars are stored in canisters located in the spent fuel pool and will be loaded into the dry fuel storage canisters in the future.
- Work to enlarge the equipment lock began by BNFL, the main contractor. The alterations are being made to accommodate the removal of the reactor vessel, steam drum and loaded dry fuel storage canisters.
- A dry fuel storage transfer cask mock-up was manufactured and lowered into the spent fuel pool to ensure proper space was available for future loading of fuel. The mock-up fit perfectly.
- A cooperative radioactively contaminated pipe cleaning effort between the DOE, Florida International University and Big Rock Point was completed. The system used grit blasting to removed contamination from the inside and outside of piping. The system was the first mobile radioactive pipe cleaning and characterization system to be designed and tested.
- Two Citizen Advisory Board meetings were held informing the board and public about Big Rock Point's plans for dry fuel storage, major equipment shipping, bulk material release, and site characterization. The NRC's mobile characterization van was present at one meeting and performed a demonstration for attendees.
- Site preparation for the plant's dry fuel storage pad began after the local township and county approved a construction permit.
- A request for a licensing amendment to support the site's bulk material clearance program was submitted to the NRC.
- Plant employees hosted their first ANS local chapter meeting. University of Michigan professor Dr. Kim Kearfott was the featured speaker.

Restoration efforts at Big Rock Point are approximately 40 percent complete and remain on budget and schedule. While the dry fuel storage facility will remain in operation until DOE accepts fuel, plans call for the 580-acre site to be returned to a green field free for unrestricted use by the end of 2004.



Mockup Out of Water



Safety Flag Raising Ceremony

## SAXTON DECOMMISSIONING UPDATE

The Saxton Nuclear Experimental Corporation (SNEC) Facility is continuing its decommissioning program. With the exception of the Polar Crane which is still in use, all original plant systems and components have been removed and the above grade portions of the Containment Vessel dome (Area 4) have been remediated. Concrete removal in the below grade portions of the Containment Vessel (Areas 1,2(not shown),3 &6) is ongoing. Yard areas impacted by operation of the SNEC Facility (Areas 5&7) are also in the process of being remediated. Completion of physical work is expected in 2001.

The SNEC Facility License Termination Plan is currently undergoing NRC Review. First round comments on Site Characterization and the Final Status Survey method have been responded too. We are currently waiting for First Round NRC comments on the remainder of the LTP.

## ROCKY FLATS ACTIVITIES UPDATE

**Materials Access Area (MAA) Cleanup** - Workers at the Rocky Flats Environmental Technology Site have safely removed nuclear and classified materials from Building 776/777, enabling them to accelerate cleanup efforts in the former weapons fabrication facility. By eliminating the Materials Access Area (MAA) designation for 776/777, the Kaiser-Hill team is able streamline the security requirements for the building and increase decommissioning efforts at a lower cost to the public. Workers will have easier access to their work areas, allowing more work to be done during each workday. It also means workers are operating in a much safer environment as they conduct operations designed to advance the goal of site closure in 2006.

Buildings or complexes designated as Material Access Areas (MAA) require extensive, tight security measures in order to protect Special Nuclear Materials (SNM), including weapons grade plutonium and uranium. Before the MAA designation can be removed all classified material must be transferred or properly protected and any SNM posing a security threat must be removed.

Workers removed the SNM that was present in vaults and rooms, as well as significant amounts of built-up plutonium residues and holdup in gloveboxes and ventilation systems that were left after production operations in the building ended. The SNM was consolidated and transferred offsite or moved to Building 371 for eventual shipment offsite. Building 371 continues to be protected under the most stringent security measures. Remaining plutonium held up in ducts, ventilation systems and equipment is below levels which would pose security concerns, and will be removed as part of the final strip out and decommissioning of the building. A formal security program with access controls and clearance requirements for personnel remains in place at 776/777.

**Major Deactivation Project in Building 371** - Workers at the Rocky Flats Environmental Technology Site today completed the first major deactivation activity in Building 371 by safely removing approximately 2,500 grams of plutonium holdup and dismantling 10 electro-refining furnaces. The furnaces had not been used for more than 10 years and post-production measurement showed that a significant amount of residual plutonium remained inside, creating the highest priority plutonium cleanup site in Building 371.

During weapons production in the 1980s, pyrochemical operations were conducted in the furnaces as part of an electro-refining process. This process was used to purify plutonium metal using direct current through a mixture of molten plutonium metal and salt. The 500-pound furnaces were housed inside a glovebox where workers had to disassemble the furnaces and package the pieces as waste. All of the plutonium holdup removed from the furnaces has been safely packaged and is stored in Building 371.

Building 371 is the storage facility for most of the plutonium at Rocky Flats. Current plans call for the eventual storage of all of the site's plutonium in Building 371 until it too can be packaged and shipped to other Department of Energy repositories. In addition to deactivation, other activities in Building 371 include repackaging salt and wet combustible plutonium residues for disposal at the WIPP in New Mexico, and construction of a state-of-the-art plutonium metals and oxides packaging system scheduled to begin packaging this fall. Building 371 is located in the site's secured area and all plutonium is contained in heavily guarded vaults.

**Mobile Gas Sampling System** - What used to take several weeks will now take two days - thanks to the Mobile Gas Sampling System (MGSS) recently implemented. The new system - brought on line on August 22 -- will be used to analyze the potential for hydrogen gas build up in waste drums being prepared for shipment to the Waste Isolation Pilot Plant (WIPP). Gas generation testing is one of the many checks that must be performed on transuranic waste drums prior to shipment in the TRUPACT-II vessels. The MGSS consists of a computer, a monitor, and an on-board sample analyzer. The system can draw a sample from a drum, analyze it, and validate the data - all in two days. Then the operator can print the results from an on-board printer.

In conjunction with the switch to the mobile unit, the Gas Generation Testing Program is also implementing a new set of testing procedures to increase throughput and enhance safety. Under the new procedures, the majority of drums will no longer have to be heated as part of the testing process and the duration of the actual test has been reduced from six days to one.

In addition to the monetary savings, gas generation testing has also eliminated the need to repackage approximately 1,000 drums - reducing potential worker radiation exposure and reducing the amount of drums to be shipped to WIPP by more than 10-fold.