

PCI News and Views

FALL 2007

PCI Energy Services LLC

A Subsidiary of
WEC Welding and Machining LLC

www.pci-energy.com

Fall Outage Structural Weld Overlay Project a Success

PCI successfully completed six structural weld overlays (SWOL) on the Braidwood Unit 1 pressurizer nozzles during the fall outage. The project was scheduled as the critical path for Exelon's A1R13 refueling outage. The project had an outstanding safety record with no OSHA Recordable or Days Away Cases. Welding was performed with first-time quality, and schedule and dose goal performance exceeded all of the customer's expectations.

PCI scheduled the work to a 4-1-Dual welding scenario. The three spring safety relief valve nozzles and one pressure-operated relief valve nozzle were welded in parallel while the spray nozzle remained shielded on top of the pressurizer to save dose. Additionally, the surge nozzle welding ran in parallel with the upper head reactor vessel welds. A dual head technique was employed on the surge nozzle.

Upon the completion and successful PDI UT inspection of the four safety relief welds on top of the Pressurizer, the spray line nozzle shielding was removed and the spray nozzle was welded in series.

Due to equipment improvements, incorporation of lessons learned, detailed planning and preparation, and intense training of a dedicated crew, the project was completed exceeding the expectations of the customer in a safe, expedient, and quality manner.

The Project ALARA stretch goal of 11.8 Rem for PCI's portion of the SWOL project work scope was shattered with a total PCI accumulated dose of only 8.3 Rem.

By incorporating welders' suggestions in the development of new equipment and the flawless implementation of work in the field, we were able to complete the welding and inspection of the surge line nozzle overlay

128 hours ahead of the outage scheduled completion. The original schedule was based on actual best times of previous surge line structural weld overlays.

The last PCI hurdle was the completion of the final PDI inspection window on the pressurizer spray line nozzle, which was completed 42 hours and 42 minutes ahead of schedule, aside from the inclusion of the completion of two existing base material repairs that were performed prior to the beginning of overlaying

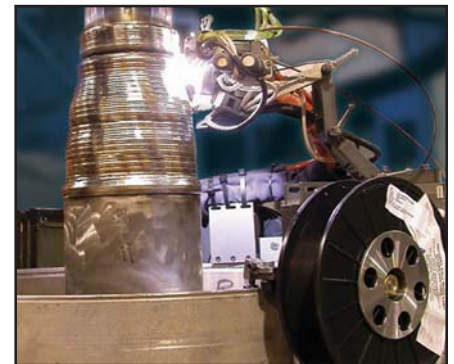
two safety nozzles and schedule impacts in the containment from activities outside of PCI's scope of the work.

The project met the customer's expectations, and Exelon acknowledged the efforts of the PCI team and commended their strong desire to succeed during A1R13.

The Braidwood Unit 2 SWOL for A2R13 is scheduled for April of 2008.



PCI Welder Bob Hopper Welding on Braidwood Unit 1 Surge Line Nozzle SWO



Overlay Weld Head

President's Message

After a successful Fall 2007 outage season, I am proud to say that we accomplished a lot working together as a team. These are exciting times for PCI, and our organization and opportunities continue to grow.

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Looking forward, spring is going to be another busy outage season and we must stay focused as we prepare for upcoming projects. Our abilities to provide precise, technical solutions quickly for our customers while maintaining safety and quality in our execution is essential if we must continue our status as the premier specialty welding and machining company. As the nuclear renaissance is upon us, technology leadership will also remain a top priority for PCI.

The Westinghouse Customer 1st initiative continues to grow and add value at PCI and at our customer sites. The Customer 1st Human Performance tools have enabled us to improve on safety and quality for our customers. PCI has had zero Days Away Cases this fiscal year, and the utilization of Human Performance tools in our daily actions is a key contributing factor to this safety success. Everybody must continue to work hard at implementing the tools for injury and error prevention that will in turn produce exceptional results for our customers.

PCI was triumphant in the Fall 2007 outage season with many successful projects. We completed the Steam Generator Replacement Project (SGRP) at Palo Verde Unit 3. This was the first time any site has replaced steam generators at all three units and PCI was contracted for all three. Congratulations to everyone involved in this effort. Additionally, last fall PCI successfully completed four pressurizer nozzle structural weld overlays (SWOL). The first two SWOL projects at Braidwood Unit 1 and Beaver Valley Unit 1 were completed two days ahead of schedule, exceeded the customers' dose expectations with first-time quality, and there were no OSHA-recordable or Days Away Cases. The SWOL at Asco Unit 1

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was completed 18 hours ahead of schedule, exceeded the customer's dose expectations with first-time quality, and there were no OSHA-recordable or Days Away Cases. PCI also completed a SWOL project at Farley. Spent fuel canister welding projects continue to finish

with outstanding results and low dose, and the Engineering Team has been making significant strides with an upcoming core spray and jet pump repair project.

Looking ahead, some projects for the Spring 2008 outage include six canister welding projects at various plants, SWOL projects at three utilities, feedwater piping modifications at Fort Calhoun Unit 1, and MSIV and MFIV replacements at Wolf Creek. The nuclear renaissance has also brought about new opportunities in the new plant construction market that PCI is preparing for. I commend everybody for their efforts so far this year, and look forward to the many exciting opportunities that lie ahead!

Mike Okolita,
President

Westinghouse Acquires Carolina Energy Solutions

Westinghouse Electric Company acquired Carolina Energy Solutions (CES), a leading supplier of welding and machining services to the nuclear, fossil and hydropower generation, waste-to-energy, petro-chemical, gas and general fabrication industries.

Located in Rock Hill, South Carolina, CES and its approximately 60 full-time employees will become part of Westinghouse's newly established subsidiary holding company, WEC Welding and Machining. This acquisition comes at a time of nuclear renaissance, and will give Westinghouse the ability to pursue many new markets and the opportunity to easily expand.



The acquisition includes CES affiliates Aggressive Equipment (AE), now WEC Machining Equipment; and Construction Institute of America (CIA), now WEC Welding Institute. AE manufactures and distributes a leading line of field machining tooling, and CIA operates a welding school serving the North and South Carolina areas. All of these entities will be a part of WEC Welding and Machining and will position Westinghouse for the current and future expansion in the energy industry.

CES will focus on nuclear balance-of-plant, fossil, and petro-chemical non-union welding services. Jimmy Morgan, president of WEC Welding and Machining, said, "This acquisition presents a major step forward in building the talent and resources that we will collectively need to meet the specialty welding and machining demands in the power industry."

Good Results Follow Fall Outage SGRP

PCI completed a milestone Steam Generator Replacement Project (SGRP) at Palo Verde Unit 3. This was the first time any site has replaced steam generators at all three units. Unit 3 was the last of the replacement projects and thus concluded a long-term teaming effort of major proportions at this site.

Each SGRP at Palo Verde has had unique scopes and challenges and all have been successful. The Palo Verde 3 SGRP scope included the SI-651 Valve Relocation and re-machining of all primary and secondary man-way sealing surfaces, as well as the hand hold seal surfaces due to manufacturing errors by the supplier. Even the base scope of welding new Reactor Coolant System (RCS) Cold Leg Elbows to the replacement generators was a unique and challenging endeavor. Installing the new elbows meant that welds in containment to the existing piping was further down into the piping than normal and this created numerous safety concerns in dealing with confined spaces and personnel winches to access in and out of the elbows. Most significant was the risk of argon, which displaces air and

can be deadly. It is a tremendous achievement to have performed this work on all three units without any safety event while working in these types of hazardous conditions.

The overall volume of machining, laser templating, and welding is staggering. Palo Verde has two of the largest steam generators in the world, weighing 830 tons each (two per unit). The RCS hot legs are 51" outer diameter with 4-1/2" wall thickness so this requires a significant amount of welding. Each steam generator also has two 37" outer diameter cold legs with 2-1/2" wall thickness. All together there are 14 weld systems being utilized simultaneously on the six RCS welds to reduce the outage schedule.



Replacement SG on Outside Runway being Transported into Containment

The other welds required for each unit included 12 main steam welds (28"-32" outer diameter), 24 feedwater welds (14" outer diameter), and four key lug welds that needed 280 hours each to perform the welding. Also for Unit 3, the SI-651 Valve Relocation required five welds of 16" outer diameter with 1-5/8" wall thickness.

The ultimate overall project achievement was in consistently delivering this large volume of quality welds to Palo Verde in a safe and efficient manner.

EDM/MDM Technology Transfer Project



QNPC Group 3 - Names from Left to Right are Wang Chenglin, Ou Mingqiu, Li Tao, He Shaohua, Zhao Zhide, Zhou Pan, Hoa Guofeng, and Qi Hongchang

On March 21, 2007, Westinghouse/PCI was awarded the Electrical Discharge Machining/Metal Disintegration Machining (EDM/MDM) Technology Transfer Program by the People's Republic of China and the Qinshan Nuclear Power Company (QNPC). This contract award follows 10 months of negotiations with QNPC and other Chinese nuclear power authorities representing the development of China's nuclear power capabilities.

The scope of this project is to provide a technology transfer program for PCI's core competency of EDM/MDM field applications. QNPC approached the company because of the success of previous work performed at QNPC, and PCI's 30 plus years of experience and extensive

See EDM/MDM, Cont'd on Page 4



Effective Solutions to Challenging Welding and Machining Needs

PCI Canister System Continues to Show Greatness

Calendar year 2007 will be remembered as another banner year for PCI's canister services' product line. In all, PCI set new benchmarks for ALARA, performed flawless welding on 20 production canisters, and did so without a single safety recordable. PCI also acquired several new contracts for 2008 and beyond, both short- and long-term projects.

2007 Campaign Summary:

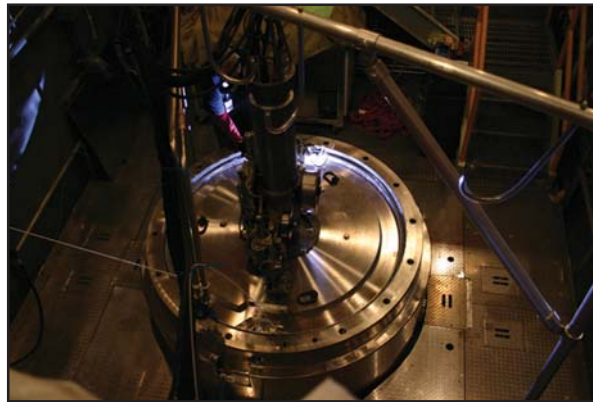
PCI provided welding services at Dresden, Surry, Millstone, Quad Cities, and Indian Point Nuclear Power Stations, as well as loading and welding services at Palo Verde. In all, PCI provided successful services on 20 spent fuel canisters in 2007. Of the 20, six were NAC, five were TransNuclear, and nine were Holtec Canisters.

PCI's crew at Palo Verde maintained an industry-best "pool-to-pad" dose accumulation of approximately 45 mRem/canister. At Millstone Station, PCI's welding and inspection crew had dose accumulation as low as 8 mRem/canister. Our continued ALARA success is attributed to several reasons. First, PCI's canister crews trained and shared best practices in production and Human Performance in 2007. Second, PCI's Terminator™ Canister Welding System provides our personnel with the means to weld

remotely on all canister welds, which prevents crew members from standing near a vessel containing spent nuclear fuel. Finally, PCI's experienced crew members and field leadership have embraced Human Performance tools and the best practices experienced on other campaigns at other sites.

Future Contracts:

Along with our stellar performance in the field, PCI has had good success in the marketplace and bringing in new contracts. In 2007, PCI was awarded new work at Indian Point 1 & 2 (2008), Vermont Yankee (2008), Humboldt Bay, and Diablo Canyon. Additionally, PCI is in current discussions with Dominion and Exelon in providing 5-year blanket fleet contracts for both utilities. The award of these contracts would firmly place PCI as the industry leader for canister welding services into the next decade. For 2008 alone, PCI is forecasting services for more than 70 spent fuel canisters which will be 3.5 times the volume of work in our busiest



Production Welding on TN-32 at Millstone in 2007

year of 2007. Our continued dominance in this market can be attributed to PCI's technically superior welding system, our experienced and professional crews, and excellent relationships with clients that have been forged over several years.

EDM/MDM, Continued from Page 3

involvement in the modification and repair of nuclear plant components.

The EDM/MDM Technology Transfer Program provides proprietary EDM and MDM equipment and technology, including equipment, procedures, operation and maintenance manuals, electrodes, fixtures, hydraulic controls, filtration systems, drawings, spare parts, and training for QNPC personnel.

The project schedule has been divided into three phases. During Phase 1, QNPC sent three groups of personnel to PCI to participate and witness key activities of the project development.

Group 1, QNPC senior management, arrived in late June 2007. Their area of participation was clarification of



EDM/MDM Training in Shop

See *EDM/MDM*, Cont'd on Page 5

Industry Growth Sparks Welder Recruitment Efforts

Due to industry growth and predicted shortages of welders in the upcoming years, PCI is actively seeking to recruit the best welding talent available in the industry. The strategy includes calling the local union halls, proactively identifying new welders through our current resource pool, and working with the Boilermaker International and Pipefitter International. This effort has increased our welding resource pool by 75 new welders from the spring and fall outage seasons. We will continue to pursue identifying and training new welders due to our recent and projected growth in the next five to 10 years.

The potential scope of work in the coming years includes:

- New China AP1000 Modular construction
- Repair of the Steam Generator (SG) Safe Ends in Japan
- SG bowl drain overlay repair and pipe replacements in Korea
- Feedwater Heater replacements at Hope Creek and others
- US Reactor Head replacements
- SG replacements at Angra, Brazil and Doel, Belgium
- US nuclear plants Balance-of-Plant piping and valve replacements
- Pressurizer Nozzle overlays
- Point Beach SG upgrades

With this demand, the growth and the need of a larger qualified resource pool is significant. Other strategies include trade shows, union hall demonstrations, and apprenticeship support at the union halls during the apprenticeship competitions.



PCI Showcases an Equipment Display at Trade Show



PCI Attendance at AWS Trade Show

PCI currently sees a need for possibly 125 more welders with specialty skills as they continue to focus on new opportunities within the nuclear and non-nuclear industry. PCI is positioning itself with the specialty welders to meet the growing resource demand of the energy industry.

EDM/MDM, Continued from Page 4

design compliance and participation in the Preliminary Design Review.

Group 2, QNPC senior management, arrived in early October 2007. Their area of participation was to review all documentation, PCI's quality program, and to witness and approve the factory acceptance test of the EDM/MDM systems.

Group 3, eight QNPC engineers, arrived in late October 2007 to participate in the comprehensive 7-week training program for design, manufacturing, operation, maintenance, and practical classroom hands-on instruction for the EDM/MDM systems.

Phase 2 is delivery of the EDM/MDM equipment and technology transfer project to the QNPC site. This phase was completed in December 2007.

Phase 3 is in process with the Westinghouse/PCI field project team at the QNPC site performing the equipment setup for site acceptance testing and advanced training for the QNPC engineers.

This project builds on the strong relationship developed with QNPC during two previous projects performed for them. PCI successfully designed modifications for, and repaired the lower internals in 1999, and replaced the surveillance specimen tubes at Qinshan in 2002.



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Human Performance Improves Safety Performance

One of the main focus points in pre-outage planning for PCI's Fall 2007 Outage Season was the importance of Human Performance (HuP) tools as they relate to safety. The following are some of the tools and how they helped us avoid serious injuries and accidents at customer sites and our own shop locations during the fall.

Whether it's just routine work or critical path work activities, we go over a plan of action in a pre-job brief to make sure the team is aware of what's going on. In the past, work groups were not thorough enough about the details of a job or task. Now we ask the question – what can go wrong?

A key issue to focus on was "Situational Awareness and Questioning Attitude." It all comes down to looking up, down, and all around; eyes on path and slowing down – don't be in a hurry. Use additional caution around fixed objects (i.e., beams, piping) and don't be afraid to stop and ask a question if something does not feel right or you know it's not right.

We used "Peer Checks" often to ensure the accuracy of our work by the double-check system of using fresh eyes to go over the task at hand, such as checking to make sure others are wearing the proper protective equipment.

"STAR" (Stop, Think, Act, and Review) may be a large part of why we have not had a major event in some time. Think before you act and have a questioning attitude about the task.

We have become a much better team as we use the HuP techniques. We now have a better working relationship with crews and the customer. The HuP process has a positive impact on safety performance whether at work or off the job. As we continue to change our behaviors as it relates to safety and human performance, the less likely anyone will get hurt or be involved in a major event.



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