the OUTRIGGER
R. Baker & Son Magazine
Service-Disabled Veteran-Owned Small Business (SDVOSB)
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R. Baker & Son Project
Process Plant Decommissioning & Demolition

In August, R. Baker & Son concluded a major decommissioning project at a chemical plant in the Princeton, NJ area that involved the removal of multiple reactors, process equipment, and process pipe, along with the dismantling and removal of all interior and exterior tank farms.

Working closely with the client and primary contractor, extensive upfront planning went into developing an MOP outlining the various materials, chemicals, and substances present, as well as the methods of disposal and remediation. R. Baker crews performed complete drain-down, cleaning, and removal of all process pipe throughout the large facility. Drainage systems were camera-inspected, jet-washed, and filled with concrete. Tank farm recovery pits were cleaned and jet-washed, and all waste water was collected and tested. Mini-excavators equipped with environmental buckets were used to recover C&D materials. Hazardous waste was sealed in 55-gallon drums, marked, wrapped, and hauled away by a hazmat company for proper disposal. Upon completion, the project was reviewed with the client, verifying that all work was safely completed and the scope of work and MOP were followed through to the client's satisfaction.

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Skilled Trade Workers: The Shortage Continues

The fact that there is a severe shortage of skilled trade workers in the U.S. is no secret. So why aren't we listening?

The unemployment rate fell in August to 5.1 percent, the lowest it has been since March 2008. But, for many young adults, the struggle to find employment continues. People under age 35 account for one third of the civilian labor force, but make up more than half of the nation's unemployed. At the same time, the there is a surplus of skilled trade job vacancies, with millions of positions going unfilled due to a lack of qualified workers **(ManpowerGroup has found this sector to have the largest talent shortage in the U.S. for six consecutive years).** This is compounded by a rapidly aging work force; in New Jersey, more than 60% of skilled trade workers are over the age of 45.

The main reason for the skilled trade worker shortage is the singular focus on the college education for the last few generations. Though well-intentioned, this occurred at the expense of an entire mid-level workforce sector, as vocational schools and mid-level trades took on a wholly-undeserved stigma. Nowadays, more high school students and their parents are recognizing the abundant opportunities in skilled trades, but trade school enrollment continues to decline in many parts of the nation, with many programs are being scaled back or cut altogether.

It's time that parents and educators take notice of what's happening and start doing a better job in guiding individuals toward future success. Trade school costs far less than a four year college degree, and the average work-force student leaves the program with the skills to gain immediate employment. College isn't for everyone, and a vocational education is a pathway to a promising career, not a dumping ground for underachievers.

WORLD's LARGEST TERRESTRIAL VECHICLE

The SRs 8000, a massive bucket-wheel excavator built by German company TAKRAF, is the one of the largest moving land machines in the world. Also known as Bagger 293, it is used for strip mining brown coal in Hambach, Germany.

This immense excavator stands 315 feet tall and 738 feet long, and weighs in at 14,200 metric tons. The bucket wheel features eighteen buckets, each of which can hold over 15 cubic meters of material. The SRs 8000 is capable of excavating 240,000 cubic meters per day, which is the equivalent to a football field-sized hole dug 30 meters deep.

Hazardous Atmosphere Safety

When working in confined spaces on a construction site, it is important to protect workers from hazardous atmosphere conditions. Atmospheric hazards that can present grave risks to workers include oxygen deficiency, or the presence of flammable, combustible, or toxic gases or vapors.

Colorless, odorless atmospheric hazards go often go unrecognized in confined spaces when proper safeguards are not in place. And such hazards aren't just dangerous to the fallen workers; coworkers coming to their rescue account for nearly 60% of hazardous atmosphere victims.

Strict OSHA standards regulate hazardous atmospheres in confined spaces. Potential hazards must be identified during project planning stages, and atmospheric monitoring, ventilation, and respiratory protection must be provided. Air must be tested several areas of a confined space, as different hazards can accumulate at different levels. Because atmospheric conditions can change, it is important to test the air periodically (or continuously, depending on the present or potential hazards). PPE such as respirators and other appropriate protective equipment should be used where toxins are present, and air-supplying respirators may be necessary if oxygen levels are deficient.

Electricity Through Gravity

Generating electricity through natural mechanical energy, such as hydroelectric generation, wind turbines, and now underwater turbines that harness tidal energy, is becoming more and more common. **Generating electrical power through gravity is another area where electrical power can be produced and utilized.**

Recent high rise demolition projects have converted the mechanical energy produced by descending demolition elevator braking systems into electricity, which was then used to power the elevator and other loads on the projects. Port gantry cranes, which use a large amount of current to accelerate loads quickly on and off container ships, are also generating power through gravity. *Downward momentum turns a large fly wheel, which stores the energy and feeds it back into the system.* Because container cranes are powered by diesel generators, the flywheels can reduce fuel consumption (and emissions) by 30-35%.