



the **OUTRIGGER**

R. Baker & Son Magazine - 12 Years Strong
Service-Disabled Veteran-Owned Business

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Multi-Phased Master Plan Key to Successful Plant Relocation

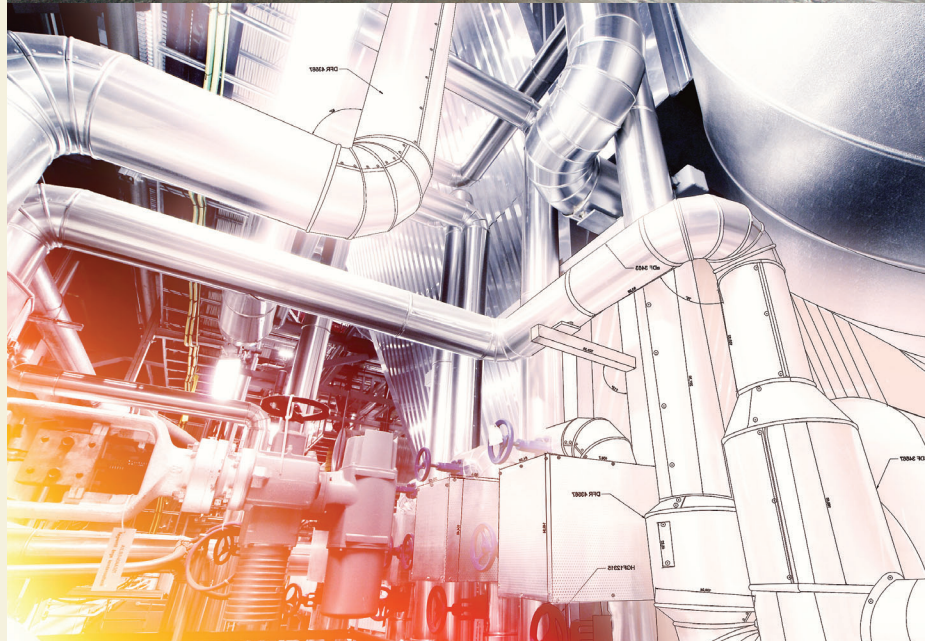
Relocating a plant is a highly-demanding task, but a large portion of the work happens in the planning. Plant relocation projects must be handled through a master plan with multiple phases and sub-phases taking into account the many different segments of the operation – employees, machinery, IT, packaging, shipping and receiving, etc. Contractors should also have a clear understanding of the client's profit centers within the company prior to planning and phasing a project.

One of the first considerations in plant relocation is timeframe. When must the new facility be up, commissioned and running? Part of R. Baker & Son's plant relocation planning involves working backward from the targeted startup date, enabling us to identify potential trouble spots and tie up loose ends before they can unravel.

Early phases of a plant relocation project always require installation of a "backbone" of utilities and IT network at the new facility. This can include electrical substations and distribution, IT racks and switches, building automation systems, and process control systems. Larger expenditures are usually required during early phases because these investments will support all of the future swing-over phases. Minimizing expenses and downtime are key to ensuring a smooth transition.

Logistics are vital to any plant relocation project. In addition to moving fixtures and equipment, a project may also involve purchasing new and/or upgrading or repairing existing equipment. The logistics and various complexities unique to every plant relocation project require detailed user requirement specifications and the input of multiple disciplines to make sure the multi-phased approach works.

R. Baker & Son has vast experience in partnering with plant relocation clients to help develop a comprehensive, multi-phased project plan. To find out more about plant relocation and how Baker can help plan your next project, please contact us at 732-222-3553.



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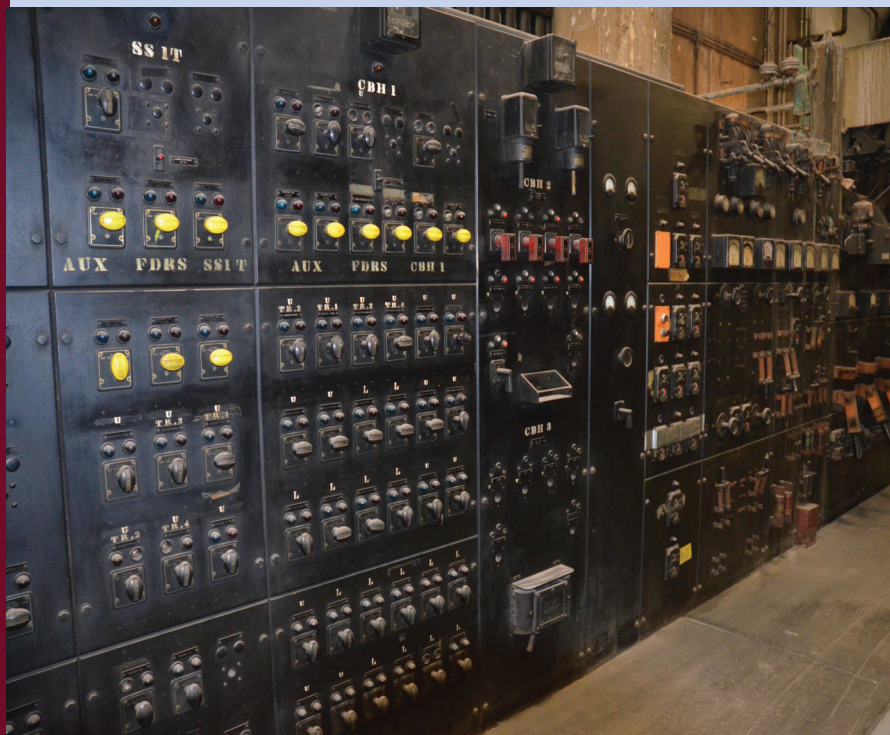
**MULTI-PHASE MASTER PLAN KEY TO PLANT RELOCATION
PRECISION DEMOLITION SAFEGUARDS SUBSTATION
GRAND CENTRAL STATION'S SECRET WWII BASEMENT
SAFETY FOR THE AGING WORKER**

Precision Demolition Safeguards Critical Substation

R. Baker & Son was tasked with performing a total demolition project of a 3-story control house that was immediately adjacent to an active high-voltage electrical transmission station. Housed within the substation were dry-type transformers, overhead transmission lines, high-voltage air switches, and PLC control cabinets. Shutting down the electrical substation was not an option, as it would have effected many electrical grids throughout the area. R. Baker & Son had to protect the substation and prevent debris and dust from entering the area while performing the demolition project safely and effectively.

R. Baker's first course of action was to erect a tall safety barrier between the three-story total demolition project and the substation. Sturdy fine-mesh fencing material supported by fifty-foot telephone poles installed at twenty-five foot intervals surrounded most of the worksite to block debris from infiltrating the substation. The netting was secured to the poles using braided cable pulled taut. Once the fence had been completed and verified for safety, a Komatsu PC450 high-reach excavator was used to carefully take down the building. The critical electrical substation was monitored before, during, and after the total demolition of the building. Cat front end loaders were used in tandem with water misting fans during cleanup to control dust from escaping the work area, and wind and weather conditions were carefully monitored.

The client was highly satisfied with the results of R. Baker & Son's innovative solution, so much so that the client has made protective screening a requirement when working near critical electrical substations.



GRAND CENTRAL STATION'S SECRET WWII BASEMENT

Deep beneath New York City's Grand Central Terminal, ten stories underground, is a huge sub-basement mostly unknown to the millions of city dwellers and travelers above. Known as M42, the 22,000 sq. ft. chamber was at the center of a Nazi sabotage plot during World War II.

M42 was constructed in 1913 to facilitate the shift from steam-powered locomotives to electrified rail. The chamber housed nine 15-ton rotary converters that transformed alternating current into the direct current necessary to run the entire Northeast Corridor rail network. When the U.S. joined the Allies in WWII nearly thirty years later, these rail lines were used to transport troops, weapons and

equipment to the ports. Armed soldiers posted at M42's elevator doors and instructed to shoot suspected saboteurs on sight to protect the critical power source for 2,000 miles of track.

Though few people knew of M42's existence, the Nazis were tipped off early on by a German spy who had worked in the secret power plant. They quickly recognized the strategic importance in the U.S. war effort. Four saboteurs were sent to New York aboard a U-boat with instructions to disable the rotary converters by throwing buckets of sand into them. If successful, the plant would shut down, effectively halting eighty percent of troop and materiel movement in the Northeast. Fortunately for the Allies, the four spies were spotted coming ashore in Long Island and intercepted by the FBI before they could carry out their plan. Two were executed, and the other two had their executions commuted by FDR when they shared details of the whole operation. They were released in 1956 and lived out the rest of their lives in here the United States.

M42 is still one of NYC's best-kept secrets. The rotary converters have long since been replaced by new equipment still in operation, but much of the old equipment has been preserved in the chamber as historical artifacts.

Demolition Excavator: Industry Workhorse

Moving, sorting, loading, and processing demolition debris demands machinery that is exceptionally sturdy. There are many excavators and interchangeable attachments available today that are specifically designed for use in the demolition and dismantling industry.



Demolition excavators are built to withstand the stresses and strains placed on the machinery during deconstruction of various structures. High-reach and ultra-high reach excavators feature longer booms that can reach as high as 160 feet or more to upper floors of tall structures. Booms are usually interchangeable and allow the machinery to be converted to a standard demolition excavator. Many feature hydraulically-tilting cabins which gives the operator greater visibility and helps reduce fatigue.

Multiple attachments, capable of pulverizing, cracking, crushing, pinching, scooping, lifting, and cutting concrete, rebar, and other materials, are used to demolish and dismantle concrete buildings, structures, roads, bridge abutments, etc., and to process debris for recycling or disposal. Attachments can operate hydraulically or mechanically. "Teeth" and other components can usually be replaced when they become worn. Excavators can be fitted with dust suppression systems that spray high-pressure water mist to trap dust before it can escape into the environment. Interchangeability of booms and attachments allow contractors like R. Baker & Son to customize excavators to meet the varying demands of different demolition and dismantling projects.

Safety For The Aging Worker

One of the effects of the decline in workers entering the construction field is a rapidly-aging workforce. Nationwide, the median age of workers in the overall construction sector is 41, and here in New Jersey, that number rises to 44. This means employers have had to adjust their approach to safeguarding older workers to ensure they remain healthy and productive. Likewise, workers are increasingly educating themselves on the effects and risks of age, and are taking concrete steps to protect their health, safety, and future both on and off the job.

Physical demands of construction work require better conditioning than the general population, but these same demands also result in more injury and illness, especially among older workers. Lifting, awkward posture, and other physical demands unique to construction work can cause problems like chronic low back pain or joint problems, and risks increase with age. These issues are often compounded by unhealthy lifestyles. Construction industry workers smoke at a much higher rate than the general population and tend to be more overweight, putting them at higher risk for health issues like heart disease and diabetes.

So, what can construction workers do to protect their health and livelihood? To start with, be proactive and use common sense. Remember that as we age, our physical abilities are not the same as when we were younger. Reaction times are a beat slower, and repetitive movements take a greater toll on aging bodies. Don't take risks, and pay attention to early symptoms like pain or tingling. Stretch before work and always practice proper lifting techniques. Rotate tasks to break up prolonged repetitive movement, and use ergonomic tools with longer handles and smooth, rounded edges whenever possible. Wear back, wrist and arm support, as well as elbow and knee pads, whenever necessary, and make sure boots provide good ankle support. And, of course, exercise, eat healthy, and don't smoke. Be smart. Take care of yourself, and protect your future.

