THE BAYONNE BRIDGE: A CONTINUING SUCCESS STORY

In Pentek's last newsletter, we announced the sale of two Pentek dustless lead-based paint removal systems to the Port Authority of New York and New Jersey. We also presented the results of the Port Authority's first few weeks of system operation, and their success in removing lead-based paint without containment, without airborne contamination, and without worker exposure. The following is an updated report of Pentek's system at the Bayonne Bridge.

General Maintenance Supervisor for the Port Authority, Pat Heron, reports, "We are happy to be doing the job in-house. We had originally contracted the work out, but the contractor we had selected found designing and building a containment too difficult. The Pentek system set us free from containment problems, so we were able to get down to business and start painting the bridge."

Not Just Spot Removal

Says Heron, "We have been using one of the Pentek systems exclusively on the New York tower of the Bayonne Bridge." The Port Authority application is not just for spot cleaning; this is a total repainting effort. Following a late start last year, the Pentek system quickly was in operation and completed lead-based paint removal on a third of the tower before the seasonal close. The Port Authority expects to finish the New

Housing Authorities Adopt Pentek Technology

Public Housing Authorities (PHAs) are taking charge of their lead-based paint problems, and working to determine how they can best comply with mandates from Congress and HUD to remove lead from the housing units they manage. The best managed Authorities begin with a thorough investigation of the different methods of lead abatement currently available. Usually, several techniques are demonstrated before choosing the most effective method, including caustic pastes, abrasive blasting and power tool cleaning.

In case after case, PHAs who have compared all the available methods have selected Pentek's dustless power tools as the best alternative, and have included a system in their deleading specifications. Pentek's method of dustless decontamination has now been used to abate more than 1,000 housing units in PHAs throughout the country. Officials from the PHAs and the contractors performing their lead abatement work report Pentek's tools to be highly effective in removing lead-based paint and controlling the lead dust hazard.

Lexington-Fayette Urban County Government

The Lexington-Fayette Urban County Government in Kentucky began lead abatement efforts with the Pentek system in the fall of 1991.
window lintels, and stairwells. Sixty units were completed during the first two months of the abatement effort.

"The Pentek System Is The Best Idea For Lead-Based Paint Removal"

Lexington-Fayette expresses satisfaction with their equipment, and particularly like the work the CORNER-CUTTER does on window lintels. The equipment removes paint and red-lead primer without airborne contamination. All airborne and wipe tests have come back clean.

According to Mike Wafford, who oversees this project, "The Pentek System is the best idea for lead-based paint removal. Other methods, such as caustic pastes aren't the answer, they only add to the hazardous material on site. I think the Pentek approach is the way to go."

Norfolk Housing Authority

After realizing their housing complex had lead-based paint problems, the Norfolk Housing & Redevelopment Authority in Virginia performed several tests to determine the most effective abatement method. Pentek's dustless needle gun system was selected for the project over caustic pastes and vacuum blasting.

The Norfolk PHA selected a contractor who had previous experience using Pentek’s equipment in lead abatement at the Norfolk Naval Shipyard. The Navy had selected the Pentek system for lead abatement work a year earlier, after an extensive testing program which included time-motion studies and exposure monitoring of workers and the environment.

Port Authority (Continued from page 1)

York tower this summer with plans to complete the New Jersey tower the following season.

The productivity of the system appears consistent with the experience of other contractors using the system, averaging about 80 square feet per hour. "The Pentek system looks slower than blasting at first," says Heron, "but when you consider the time we save on cleanup and building major containment, the Pentek system has real advantages."

Coating specifications for the project require post-blasting with abrasive grit. Heron reports, "We use a couple pounds of Black Beauty per square foot to touch up the surface after we clean it with the CORNER-CUTTERs®, but we haven't seen any lead on our air monitors, and the blasting waste is clean. Tarps are used to collect the blast material, but we don't build anything like a containment."

Richard Peck, the Maintenance Unit Supervisor, informs us our Pentek systems are also being used to maintain other structures within the Port Authority system, most recently being the entrances to the Lincoln Tunnel. "These are high traffic areas," says Peck, "and we can't afford to stop traffic while containments are built or while large scale blasting jobs are going on. The Pentek system is small and portable, and our crew can set up quickly each day. Our guys can get right to work, and get the job done with very little traffic disruption. This really simplifies our planning, and allows us to do jobs we might otherwise have to put off."

Unexpected Benefits

Port Authority Management has observed unexpected, but extremely valuable spin-off benefits since adopting use of the Pentek system. "The men using the system are closer to their work than they ever were with blasting, and are taking real pride in what they do. They have developed a real sense of ownership of the facilities they are working on. What we've discovered," says Peck, "is that these guys are actually giving the structure a 100% visual inspection as they work, and they are reporting potential problems we never would have caught otherwise. As a result, we are doing a better maintenance job on these structures."

John O'Reilly, of the Port Authority's Risk Management Division, gives the Pentek system high marks for worker and environmental protection. "The air monitors on the site and on personnel always show lead levels well below OSHA's 30 μg/m³ Action Level, and there has been no increase in the blood lead levels for workers using Pentek's equipment."
COST-SHARED FIELD DEMONSTRATIONS OF LEAD-BASED PAINT REMOVAL AT PHAs

Pentek is frequently asked to demonstrate the effectiveness of our system by public housing authorities (PHAs) around the United States. Pentek is pleased that so many PHAs are expressing a serious commitment to lead-based paint removal, as exhibited by their willingness to investigate Pentek's unique dustless decontamination system for lead removal. These housing authorities recognize that any meaningful demonstration of a lead abatement technique requires testing and support, thus they are willing to share costs and devote their time and resources verifying the system's effectiveness.

Some of the PHAs which have conducted their own investigations of the performance of Pentek's equipment include: Newport News, Virginia; Cambridge, Massachusetts; and Chicago, Illinois.

Subsequent to the demonstration of Pentek's equipment, all three of these housing authorities included dustless needle guns in their lead abatement specifications. Recently, Pentek performed a demonstration for the Cuyahoga Metropolitan Housing Authority, where the dustless performance of the Pentek system was again confirmed by personnel and area air monitoring. Cuyahoga was particularly interested in the potential waste reduction benefits afforded by the Pentek system. A recent lead abatement project performed using caustic pastes generated nearly 50 drums of hazardous waste to delead only 50 apartments, at a cost approaching $50,000. The Pentek system would generate less than two drums of paint chips to delead the same apartments.

Demonstrations typically begin with a brief explanation of the equipment before beginning the actual removal of lead paint. The CORNER-CUTTER® is then used to remove lead-based paint from a test area, which generally includes a door frame, a window lintel or a stairwell. The lead dust and debris removed by the CORNER-CUTTER is simultaneously collected by the VAC-PAC®.

Environmental Monitoring Is The Key To Verifying Performance

Air samples taken during the demonstration often contain no discernible lead, and have never shown airborne contamination anywhere near HUD or OSHA limits. Wipe tests on door frames at the Chicago Housing Authority yielded surface lead concentration of only 20 µg/ft². Similar wipe test results were obtained from window lintels in the Cuyahoga Metropolitan Housing Authority, even before performing the TSP wash on the surface recommended by the HUD Interim Guidelines.

Demonstrations give housing authorities the opportunity to view Pentek's equipment and see how it works in their own environment. Pentek's fully trained hazardous waste technicians can provide on-site demonstration of the equipment on lead-containing paint with the PHA's support. Pentek also demonstrates the equipment free of charge at our facility near the greater Pittsburgh International Airport. This allows the opportunity to observe the equipment and accessories at work, and to ask questions of the entire Pentek staff.

FOR MORE INFORMATION...

Pentek has on file technical papers containing data on the productivity of our CORNER-CUTTER® and VAC-PAC® systems, as well as airborne testing and waste generation results.

We also have a videotape featuring our entire line of dustless decontamination equipment.

If lead paint problems got you down, contact:

Bradley Fuller
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There is a nationwide effort underway to reduce levels of lead in the environment. Regulations are on the books to control the quality of our air, our drinking water and the exposure of young children; new and increasingly stringent regulations continue to be introduced by all levels of government. Regulations describe the performance standards to be achieved and, in some areas, go so far as to prescribe the methods to be used.

Regulations, of course, are only half of the story. Ultimately, lead abatement projects must be initiated to bring a facility or activity into compliance; accomplishing this hazardous task requires the services of specially trained teams of lead workers. Unfortunately, the health and safety of these workers is often compromised by well-intending regulators, owners, consultants, engineers, specifiers, and even contracting organizations that select containment structures as the primary mechanism for protecting the environment.

Containes for Abrasive Blasting Operations

Abrasive blasting has long been the traditionally preferred method to remove old coatings; the technique efficiently blasts the coating's surface and prepares the freshly exposed substrate to receive a new coat of paint. With the advent of new regulations, containment structures were conceived to mitigate environmental pollution concerns caused by the widespread dispersion of lead paint and contaminated abrasives from open blasting operations.

However, the use of containment structures to control the lead dust from these operations can actually increase the danger to those already at the highest risk: the lead workers. NIOSH "Alert" (see box), notes the occurrence of lead poisoning even among workers who were wearing respirators. This is due, in part, to the fact that workers inside the containments are actually working in what one New Jersey Department of Health official characterized as "lead exposure chambers", where concentrations of lead in the confined working atmosphere are often measured in the range of tens of thousands of parts per million. NIOSH has recently recommended against the use of abrasive abatement of lead-based paint because an analysis of deleading activities in public housing showed that workers were unnecessarily exposed to airborne lead.

Ironically, the widespread use of containments has been only marginally effective at reducing lead emissions to the environment. It is estimated that 20% to 60% of the lead abated from bridges and other large structures using contained abrasive blasting techniques is routinely released to the air, water and soil. It is also conceded by many professionals that, if not for the lax enforcement of CERCLA requirements by EPA or state environmental agencies, any of these operations could be curtailed.

Protecting the Worker and the Environment

NIOSH, OSHA, and other agencies and labor groups are working to establish guidelines for use of new methods and controls to more effectively protect workers from exposure to lead. Recent developments indicate these controls may be similar to those used to protect workers from hazardous materials such as asbestos and PCBs; engineered systems like Pentek's dustless needle gun will meet the requirements.

In a recent HUD-financed lead abatement demonstration of dustless needle guns at the Cambridge Housing Authority, over 3,700 personnel air samples were taken; none exceeded acceptable airborne levels.

The Pentek system provides workers with the best first-line defense against occupational exposure: elimination of lead at the source by capturing dust and debris at the cutting tool edge, before it can enter the worker's breathing zone. The system has been proven in the field to consistently maintain lead levels in the breathing zone well below the 30µg/m³ OSHA action limit. Pentek's approach puts protection of the worker first, thereby providing ample margins of cleanliness to ensure protection of the environment without compromise to either occupational health or environmental regulations.
LEAD-BASED PAINT: THE PUBLIC HEALTH CHALLENGE OF THE '90S

According to the Jennings Group, a leading environmental market analysis firm, the total market potential for the lead-based paint abatement industry is $600 billion. Initial growth in the mandated abatement of public housing is just the tip of the iceberg. Private abatement activities are expected to skyrocket as public awareness of lead-based paint grows to the number one environmental health risk to children.

The Steel Structures Painting Council (SSPC), which has been studying the lead-based paint problem on behalf of the industrial sector, recently released the results of a survey indicating 38% of all industrial structures are coated with lead-based paint. It is further estimated that 80% of the steel bridges in the U.S. are coated with lead-based paint.

The results are from a survey of industrial facility owners, and will be used by OSHA for their evaluation of new construction industry standards for lead exposure. One OSHA researcher, speaking on the new construction standards at a recent SSPC meeting, announced that regulations would be similar to those associated with the cleanup of other hazardous materials such as PCBs. Further, OSHA recognizes that compliance with the new standards will require innovative techniques for lead-based paint removal to meet the new standards.

Pentek first developed its technology for radiologically contaminated coatings removal as part of a research effort associated with the Three Mile Island cleanup. The Pentek technique has since been applied to PCB cleanup, and the cleanup of other hazardous materials. Pentek's approach to lead-based paint removal involves the same technology which physically removes the contamination by mechanical scarification of concrete or steel surfaces. The CORNER-CUTTER vacuum shrouding system is designed to provide positive collection and control of airborne and particulate hazards generated by the scarification process.

TEXAS-BASED ASBESTOS REMOVAL COMPANY MAKES MOVE INTO THE LEAD ABATEMENT MARKET

A&A Insulation Contractors of San Antonio, Texas has been awarded the sub-contract from Bradley Construction to remove lead-based paint (LBP) from a Houston public housing project. Abatement requires removal of LBP from doorframes, window lintels and stairways in 27 housing units (each containing four to six dwellings), located on Truxillo Avenue, Houston. The key to winning this project was A & A's past record as an outstanding contractor and a competitive bidder.

Over the past ten years, A&A Insulation Contractors, a family-owned operation, has developed into a multi-million dollar corporation employing over one hundred individuals. Chief Financial Officer, Larsee Cunningham explains, “A&A has diversified into lead abatement and seeks to provide the same high level of quality workmanship as with previous operations.” A&A purchased Pentek's dustless decontamination system to provide the capability to delead and package the LBP waste in a single-step process.

A&A's move into lead abatement represents the trend of many established asbestos removal companies. Pentek's state-of-the-art deleading technology will contribute to A&A's competitive position in this growing market.

The Pentek Decontamination System

Portable, self contained system removes and collects hazardous materials from public housing and industrial structures.

- Proven in cleanup of lead-based paint, PCBs, asbestos, and radioactive materials.
- Pentek's CORNER CUTTER® effectively remove lead-based paint, and produce an acceptable surface profile for repainting.
- The CORNER CUTTER's exclusive shroud design, coupled with the VAC-PAC® HEPA filtered vacuum system, provide for truly dustless paint removal—NO EXTERNAL CONTAINMENT IS REQUIRED.
- Completely dry process for paint removal. No chemicals to buy, no water to collect and filter, no abrasives to clean up.
- Absolute minimum waste generation. Enjoy substantial savings on hazardous waste disposal costs.

- VAC PAC flow capacity provides reliable vacuum containment of dust and debris at distances of up to 100 feet for each of the three CORNER CUTTERs connected to the system.
- Dustless sealing system eliminates the loss of hazardous material control during drum filling, sealing, removal, and replacement.
The Norfolk Housing project, scheduled for lead abatement in 3,500 units over a five year period, includes removal of lead-based paint from metal staircases, door frames, and masonry walls. The contractor is removing the lead hazard using CORNER-CUTTER needle guns. Pleased with the system’s performance, the contractor now owns three Pentek systems for lead-based paint removal. After completing many remediation projects, the contractor reports, “Our experience with the Pentek system has made us uniquely qualified to compete in the lead abatement market.”

Portsmouth PHA

The Portsmouth PHA in Virginia began its research into methods of effective lead abatement efforts by consulting neighboring PHAs about their experiences. The Portsmouth PHA, hearing of the successful abatement efforts at Norfolk Housing Authority, specified Pentek’s system, then contracted with Bar, Inc. of Newport News, Virginia to perform the abatement work.

“One Drum Of Waste For Every 40 Apartments We Delead”

Bar began the remediation effort at Portsmouth using Pentek’s VAC-PAC Model 9A and several CORNER-CUTTERs. According to Rayfield Grant of Bar, the CORNER-CUTTERs are efficient; one CORNER-CUTTER completely and effectively removes paint from a window lintel in one and one-half hours, inside and out. In two hours, a door frame can be completed. Set up of the Pentek system is simple, and containment requirements are reduced, so workers are on the job in about 15 minutes of their arrival each day. All the equipment goes back to the shop each night, eliminating security concerns. Bar recently finished removing lead-based paint from window and door frames in Portsmouth’s 450 units. According to Bar, one 55 gallon drum of waste was used for every 40 units that were remediated. In contrast, the Cuyahoga Metropolitan Housing Authority informs us that deleading using caustic pastes generates almost one drum of waste for each apartment. A waste hauler in the Virginia area commented that some of their customers had hoped the use of caustic pastes would allow their waste to be disposed of in sanitary landfills. However, most landfills refuse the combination of lead and chemical waste, even if it is not hazardous under EPA guidelines; so it all has to go to a hazardous waste landfill anyway, at a much higher cost.

Bar has completed several projects using Pentek’s system. Recently, they purchased additional Pentek tools for an increased number of contracts in lead abatement, including lead-based paint removal for the Newport News Housing Authority.