

Your Resource For Environmental Pollution Solutions!

IN THIS ISSUE

Page 2

Sales Rep Highlight

Fuses vs. Circuit Breakers

Page 3

The Progression of Remediation

Major Causes of Problems at Landfill Sites

Page 4

Product Highlights

Leachate Pumps and Controls School

EPG Companies Inc. would like to invite you to attend our leachate pumps and controls school. The school covers basic principles of electricity, troubleshooting of electrical controls, operation of LevelMaster™ level control systems, assembly/disassembly and maintenance of SurePump™ pumps, and operation and maintenance of Franklin Electric submersible motors. It consists of classroom discussions, presentations, and hands-on demonstrations.

Who Should Attend

Design Engineers, Landfill Operators, Installation Contractors, Site Maintenance Personnel, Landfill Managers, Owner/Operators, and others involved in the design, installation, and maintenance of leachate and gas condensate collection systems and the use of equipment manufactured by EPG Companies Inc.

Registration

A registration form may be obtained by calling EPG Companies at 800-443-7426. The form must be returned by March 1, 2001 with a registration fee of only \$325.00 payable to EPG Companies Inc. Do not delay. Enrollment is limited to 25 attendees.

Continuing Education Credits

Attendees can receive 10 continuing education contact hours through SWANA (Solid Waste Association of North America).

Registration Fee Includes

School, two nights lodging*, six meals, test equipment, instruction manual, and completion certificate. (*Incidental expenses such as additional days, telephone calls, room service, and movies are not covered.)

Dates and Times

Registration: Wednesday, March 21st at 12:30-1PM.

Classes: Wednesday, March 21st at 1-5 PM; Thursday, March 22nd at 8-5 PM; and Friday, March 23rd at 8-1 PM.

Testimonials

"I have sent several of our site personnel to EPG Companies Leachate Pumps and Controls School and I have personally attended the school. The school is spectacular in establishing a useful hands-on experience for landfill personnel with leachate pumps and control systems. The school also does an unsurpassed job of covering typical real world problems associated with Leachate Pumps and Control Systems from determining if the pumps and controls were properly installed by contractors to troubleshooting problems that can arise in the course of their normal use.

This facility uses EPG Companies leachate pumps and controls exclusively and I wish that my personnel and I had this training before we installed our first EPG pump and control system, because it would have alleviated about 99.9% of the problems we had during our initial installation and start-up.

I can not say enough concerning the quality of the instruction, training tools, training setups and the EPG personnel teaching the school. It is not a waste of time and money to send your site personnel to this school. In my opinion you are wasting time and money if you don't send your site personnel to this school."

— District Manager, Lake Mills, IA

"I have attended the EPG training school for the past two years. It has helped me to service the leachate pumps in my county. The county was looking for someone with training in this field and I was chosen for this position because of my training. The school is very thorough in the explanation of servicing pumps. All necessary areas are covered. The people are wonderful and the food is great too. I'm looking forward to this year's training class."

— Engineering Firm Owner, Mojave, CA

"I found the EPG service school to be very helpful. Before I only knew the basics and called EPG continuously. After the service school I am informed enough to keep our pumps up and running and seldom call for help. We will be sending one of our service people to the service school this year."

— Operations Manager, Okeechobee, FL

EPG COMPANIES INC.
P.O. BOX 427
ROGERS, MN 55374
Phone (763) 424-2613
800-443-7426
Fax (763) 493-4812

If you have a current application or would like more information about EPG products and capabilities, please call us at 800-443-7426, Fax us at (763) 493-4812, or e-mail us at info@epgco.com

Sales Representative Highlight

Mike Lee, the president of Lee Supply Company, is proud to state that they have been in partnership with EPG since 1992. Lee Supply is an aggressive, continuously growing and expanding company providing solutions for Municipal, Industrial, Environmental and Mining applications in the Northeast Region of the United States. EPG pumps and controls fully complement Lee Supply's marketing of specialty pumps, controls, and pipe systems and have been a major principal in the growing of their business in the environmental and solid waste market.

"Our relationship, over the years, with John Hasslen and his fine staff has been very important to us. It truly represents the partnership concept between a manufacturer and distributor." — Mike Lee

Lee Supply Offers:

- Pump sales/service
- Certified technicians for installation, repair and confined-space entry
- An extensive inventory of pumps, parts and accessories for quick shipment
- A complete pump service facility, capable of testing and certifying performance and operation of new and repaired units

Lee Supply's customers benefit from the complete package offered by combining superior products from EPG pumps and controls and Lee Supply's full service capabilities, including in-house repair and field service plus their innovative staff.



Mike and Maggie Lee

If you are in the Northeast Region and need information regarding specialty pumps and/or pipe systems please contact the sales and marketing staff of Bill Lee and Joe Murphy or the service and support staff of Jim Oates and John Kite at 800-353-3747.

Fuses vs. Circuit Breakers

The recommendations in this article are admittedly biased towards fuses, but for what EPG believes to be valid reasons. Fuses are not always the correct choice for motor protection. However, it has been our experience that fuses are the best choice for the products we are manufacturing. When designing our products we strive to provide a product that will be safe, reliable, and cost effective.

Safety

EPG uses current limiting fuses which have a 200,000 Amp interrupting capacity. The typical fuse size used on our applications is smaller than 30 amps, with 200,000 Amps of prospective short circuit current. The current limiting fuses that we use limit the RMS let-thru current to less than 4,000 Amps and the peak let-thru current to less than 8,000 Amps, greatly decreasing the risk to personnel and equipment.

NOTE: When evaluating prospective short circuit current in multiple motor applications you must consider the contribution of all operating motors to the short circuit current in addition to the utility.

Overcurrent protective devices that trip are often reset without first investigating to find the cause of the fault. Electromechanical devices that have opened high level faults may not have the reserve capacity to open at a 2nd or 3rd fault safely. (When a fuse opens it is replaced with a new fuse, the protection is not degraded by previous faults.)

Reliability

A fuse has no moving parts to wear or become contaminated by dust, oil, or corrosion. The speed of response of a fuse will not slow down as the fuse ages. In other words, the fuse's ability to provide protection is not adversely effected by the passage of time.

Selectivity

Fuses may be coordinated to provide selectivity without compromising short circuit protection; something that is very difficult to do with circuit breakers.

Cost Effective

You do not pay a premium for high-interrupting capacity. The fuses we use are rated 200,000 A.I.C. or greater.

Devices with lower interrupting ratings are often rendered obsolete by increases in available fault current. Costly system upgrades may be required to maintain system safety.

EPG designs are Type 2 coordinated protection. If a fault should occur, only the zone containing the fault will be effected. The rest of the system will continue to function. Type 2 protection, as a result of the use of current limiting fuses, assures that system components are not subjected to damaging fault currents, minimizing repair costs.

The use of current limiting fuses with high interrupting capacities often allows the use of smaller, lower ampacity disconnects. This also allows the use of the smaller IEC motor starters. Both in turn result in lower initial costs as well as repair costs.

The Progression of Remediation

By Jim Bailey

Environmental remediation involves the cleanup of contaminated ground water and/or soils impacted by a variety of contaminants. The predominate contaminants over the years have been petroleum hydrocarbons from leaking underground storage tanks and surface spills, as well as solvents and other volatile organic compounds (VOCs) from industrial processes. Today, the most effective, practical, and common ways of remediation have generally been pumping the contaminated ground water from a recovery well(s) to an air stripper for treatment, product recovery pumping, soil vapor extraction, air sparging, and dual phase extraction.

In the early to mid 1980s, the typical approach to ground water remediation was simply pump and treat. Contaminated soil was either excavated and hauled off to a treatment facility, composted or thin spread on-site for natural/biodegradation, incinerated on-site, or not addressed. By 1990, many environmental consulting and engineering firms were utilizing vacuum blowers to improve hydraulic recovery

in pumping wells, which in part lead way to soil vapor extraction.

Blowers were connected to a number of vapor extraction wells that were screened above the water table. The VOCs in the soil were then captured under vacuum.

Air sparging was added to assist in the capture of volatiles in the soil, and to provide in-situ aeration enhancing the naturally occurring microbes that breakdown hydrocarbons in ground water. Air sparge or injection points are wells that have a screened interval below the water table.

An air blower or compressor is connected to the air sparge wells providing enough pressure to overcome the static water level and line losses, and supply typically five to 10 SCFM per point. Air molecules rise to the surface of the static water level carrying dissolved VOCs. A vapor extraction blower then captures these VOCs above the water table under vacuum.

Dual phase extraction is the extraction of air and water from monitoring or

recovery wells. High vacuum is applied to most commonly tighter formations with low hydraulic conductivity.

The air emissions have usually been discharged directly, treated through carbon vessels, or passed through a thermal or catalytic oxidizer for destruction. The fate of the emissions is most notably governed by the levels of fume concentrations and by air pollutant emissions permits.

There are certainly other more innovative ways of effective treatment, including various means of bio-remediation, chemical treatment and injection, UV oxidation, and the use of ozone. All sites are unique in their type, level, age, and extent of contamination, soil and ground water characteristics, as well as access and political concerns that effect the best suited overall remediation approach.

Jim Bailey is an Applications Specialist for EPG Companies Inc. heading the Remediation and Thermal Oxidizer Divisions

Major Causes of Pump and Control Problems at Landfills

New Installations:

- Wrong Voltage or Phase
- Cut Motor Leads
- Damaged Sensors
- Loose or Incorrect Connections
- 3Ø Motor Running Backwards

After Running First Few Days:

- Power Surges (Lightning)
- Installation Problems
- Poor Connections
- Damaged Parts
- Pump Flow Rate Too High For Sump Design
- Discharge Hose Has Become Disconnected

After Several Months in Service:

- Grounding Problems
- Power Surge
- Pump Sized Incorrectly
- Intake Screen/Impeller Plugged
- Pump Upthrust
- Methane Gas Migration

TROUBLESHOOTING

Good troubleshooting is common sense.

Do not overlook the obvious.

Find and fix the problem.

Be careful that you do not just fix the symptom.

Be thorough.

Step by step will generally save time!

Product Highlights



Motor Lead Breakout Box



Sensor Breakout Box

Over the years, it has been our experience that one of the largest contributors to early control panel failure has been the migration of landfill gas into the controller through the motor and sensor cable conduit. Not only can these gases increase the chance for an explosion, they also corrode the contacts and make wires brittle. A seal-off should be used between the pump and control panel to prevent this migration, but once the potting material has set, the cables must be cut in order to remove the pump for maintenance. To combat this problem, EPG has introduced a series of Breakout Boxes to be placed between the pump and control panel. Each Breakout Box comes equipped

with a cord restraint, seal-off and terminal strip to facilitate the removal of the pump or sensor. The cables are run out of the side slope riser pipe or lift station and terminated at the Breakout Box. The appropriate conduit is then run from the seal-off to the control panel with properly sized wires pulled through conduit from the panel to the Breakout Box. After the system has been tested, the potting material is placed into the seal-off and allowed to set. From then on, if the pump or sensor needs to be removed, it can be done without disturbing the seal-off, thus extending the life of the control panel. All EPG Breakout Boxes are provided in an enclosure suitable for outdoor mounting.

Upcoming Events

JANUARY 24-25
WiscSWANA
Wisconsin Dells, WI

FEBRUARY 4-7
TxSWANA
Dallas, TX

MARCH 21-23
Service School
Rogers, MN

APRIL 3-5
Waste Expo
Chicago, IL

ROGERS, MN 55374
P.O. BOX 427

