



cable pressure AirMAIL

System Studies Incorporated

Winter, 2010 Issue #10

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In this final airMAIL bulletin of 2010, we offer some simple tips that can help you to improve your cable pressure system and your approach to leak locating. We also talk about the importance of providing adequate delivery pressure to the cables in your system and how key pressure monitoring devices can alert you to impending danger. Finally, we offer a glimpse of what the next release of PressureMAP, Version 28, has to offer. There are some big changes ahead.

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First Cousins of Delivery Pressure Monitoring

There's a lot to be said about the importance of PressureMAP's SP, DP and EP Device Types. They're related in function and purpose. The letter "P" in the device type designation identifies their common heritage—they're all pressure transducers. The first letter in the device type coding represents their function, or what they monitor in the cable pressurization system: "S" stands for source (air pipe) pressure, "D" is for distribution panel pressure, and "E" designates endpoint pipe pressure. Each of these devices provides important information about delivery pressure—if it's adequate, for example, or if it drops significantly and threatens cable pressure protection on a route.

Because the SP and EP devices are installed at opposite ends of an air pipe, they are particularly important indicators of the health of the pipe route. Central office air pressure standards state that pipe and distribution panels should be regulated to 10 pounds per square inch (psi). A strong, consistent delivery pressure is important to protect the cables from the normal leaks that exist in the system. These leaks and the corresponding air flow requirements of the manifolds installed along the route make it impossible to achieve the same delivery pressure at the end of the air pipe. That's why a lower, but still acceptable end-of-pipe pressure standard of 7.5 psi is used. If you can maintain 7.5 psi at the pipe endpoint, your underground cables should have adequate pressure protection. Of course, the opposite is true also. There's no way you can maintain 5.0 psi in the underground cables if the air pipe is delivering only 4.0 or 4.5 psi at the end of the route.

So don't cheat yourself. Make sure that the panels in the central office are all set to 10 psi output, and make sure you respond quickly to SP and EP alarms. They won't tell you why the pressure has dropped but, like good cousins, they're not going to stand by idly while your air pressure system goes down the toilet.

Give us a call if you'd like more information about how to respond to low SP, DP and EP device readings, and where you can best direct your maintenance activities.

Raising SQIs the Easy Way

We frequently hear complaints from the field about low System Quality Indexes (SQIs). Some people tell us that they're putting the work in, but they just can't get their SQIs to improve. So we like to point out two of the most common causes of low SQIs: 1) bad data, and 2) bad data. At least 40% of the time, a low SQI can be attributed to inaccurate or incomplete pressure and flow information.

Typical causes of bad data are transducers that read open circuit and incorrect Optimum Air Usage (OAU) calculations. We recommend that you carefully check your PressureMAP database and see how many OPENS there are. A little more investigation may reveal that a device pair has been stolen, or one or more of the devices entered into PressureMAP was never actually installed in the field.

Then check the flow transducers in the central office. Fifty percent of the office index is based on air flow. If you only have one flow transducer on a route, and it's bad (not working, or the wrong flow range) . . . well, there you go. That could be the difference between a 50 and a 90.

So, raise your SQIs the easy way. Make sure your data is accurate.

PressureMAP Version 28 Feature Summary

The latest release of our PressureMAP software, Version 28, will be available in early 2011. One of the noteworthy changes associated with this release is the discontinuation of program development on the SCO UNIX operating system platform. Beginning with PressureMAP Version 28, the Linux operating system will be used exclusively for PressureMAP and PressureWEB development.

This change was dictated, in part, by the increasing difficulty of locating compatible hardware components for MAP Engine computers running SCO UNIX. The Linux operating system offers much greater hardware flexibility and programming options for PressureMAP program development. It also makes it possible for customers to choose and purchase their own hardware platforms on which to run PressureMAP.

Here are some key Version 28 features:

- Ability to "print" reports to an email address or addresses. This new capability makes it possible to easily distribute important report information via email, where it can be viewed, saved and printed by the recipient.
- Expanded Alarm/Report Center capability. Now, up to 250 offices (the maximum number of offices for one system) can report to an individual center.
- Expanded CPAMS monitor support for PressureWEB realtime readings. This used to pertain only to 289H LSS and uM260 Micro Monitors; now support extends to most monitor types.
- Alarm Delivery Notification. Users now have the ability to choose whether or not an alarm will be sent to Alarm Centers in subsequent (later) calling time slots once it has been delivered successfully to all of the centers defined for the originating calling time. For PressureMAP systems that have been set up to continue alarm delivery, Alarm Centers in later calling time slots will see the keyword SENT displayed on the alarm's status line.
- The origin of a device reading (CALL, ALRT, REAL, etc.) has been added to the Dispatch Histories Display.
- Ability to designate a list of email recipients for each Alarm Center. This capability significantly reduces the number of Alarm Centers that, otherwise, would be required to route alarms to desired recipients.

These are just some of the improvements you'll find in PressureMAP Version 28. For a complete list, log onto our AirTalk website (check *Software*, *PressureMAP*, *Latest Enhancements*) or give us a call at (800) 247-8255.

Zero PSI Leaks

When you're out leak locating in a dual feed system and you come across a splice case with zero pressure (we mean, absolutely zero), stop and check it out thoroughly. There's only one place in a dual feed system that a zero leak can occur, and that's at the leak.

Zero leaks are hard to find because they don't make any noise, and many times they don't bubble after you've soaped the cable or splice case because they're so big.

So, if you've discovered a zero-psi case on a cable that you know is dual-fed, take your time. In leak locator's jargon, you've found a big one!

What Makes a Good Air Pressure Technician?

Remember how Michael Jordan could dominate the game of basketball? Or how a certain not-to-be named, recently-divorced and struggling golfer used to tear up the course during a major championship? Aside from their fierce competitive natures, the main thing these guys had in common was their understanding that you've got to bring the whole package to the game, every time.

The same thing applies to a good air pressure technician. The most successful technicians are the ones who use multiple tools and techniques.

If they find a leak using a particular tool one day, they're just as apt to try other tools and methods in another application. They work smart, and they use all of the resources available to them.

The person who's stuck using one or two tools (or procedures) for every leak locating challenge is going to have limited success, at best. In order to be truly successful, he or she needs to: **1)** learn how to work smart (using pressure and flow analysis techniques), **2)** carry and use the proper tool(s) for the job (calculator, direction of flow indicator, flow gauge, etc.), and **3)** not fall into one particular leak locating pattern (use multiple techniques, when necessary).

If all Jordan had was his fall-away jumper, or if Tiger couldn't pitch or putt, they'd just be average athletes. And if all you use for leak locating is your C pressure gauge, you're definitely not bringing your "A" game. Maybe it's time to add some tools and techniques to your skill set.

Just a reminder! We're here five days a week to answer any questions you may have about your air pressure system or pressurization-related goals. You can reach me directly at (831) 477-8902 or via email (bill@airtalk.com). I'll be happy to provide whatever assistance I can to make sure you get the information you need.

Keep the pressure up and go with the flow!

Bill Simpkins
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