



Inspections reveal millions in energy loss

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“There’s something happening here, but what it is ain’t exactly clear...Hey, what’s that sound? Everybody look, what’s going down?” These lyrics are from Buffalo Springfield’s 1966 song titled, “For What It’s Worth,” written by songwriter and musician, Stephen Stills. Stills said in an interview that the name of the song came about when he presented it to record company executives and said, “I have this song here, for what it’s worth, if you want it.” The song comes into play for this article — not because it is a song calling for peace during a period of unrest on Sunset Boulevard in Los Angeles — but about how the lyrics can be a call to all owners of mechanical insulation systems to wake up, take notice and be better stewards of their systems.

How do we go about that and why is it important? Let’s start by going back to a still highly relevant article that appeared in the June 2014 issue of *Insulation Outlook* that has some sound recommendations on the inspection and maintenance of insulation systems: “Insulation systems require periodic inspection and maintenance. While inspection and maintenance are the

responsibility of the owner, the fact is many insulation systems are frequently ignored. With time, insulation systems can be damaged, and if they are not repaired or replaced, they can become ineffective. Inspection of the external surface should include checking for signs of cracking, distortion, damage or corrosion; evidence of hot spots on high-temperature systems; and condensation and ice buildup on low-temperature systems.”

This is where the National Insulation Association’s (NIA) programs can provide added value. NIA’s Thermal Insulation Inspector Certification™, which trains certified inspectors who can help determine if your system is compliant with specifications, and the Insulation Energy Appraisal Program™, which trains certified insulation energy appraisers to assess your insulation system for energy savings and missing or damaged insulation. If either energy efficiency or process control is a role for the insulation, then the appraisal gives a method of quantifying the results in Btus of energy saved per year — and thereby calculating dollars of energy saved per year.

By taking each scope separately, such as a pipe of a certain size and temperature, one can quantify the amount of any energy loss and the dollar value of that energy loss.

Every day spent ignoring damaged or missing insulation is another day of paying the high cost of wasted energy.

In a July 2007 *Insulation Outlook* article, author Gordon Hart described an energy survey company that conducted insulation appraisals for various clients. At one chemical plant, the appraiser identified approximately 11,000 details — places requiring insulation replacement or repair — with a total area of 45,000 square feet. This included many valves and flanges that had been left uninsulated, resulting in enormous, unnecessary heat loss and safety hazards due to the high temperatures, which can cause burns. The total estimate to replace the insulation was about \$2.2 million, or \$200 per detail, including costs for removal and

disposal of old insulation, new insulation materials, labor to install, scaffolding where necessary and other ancillary costs. Since the facility normally spent \$300,000 to \$400,000 annually for insulation maintenance, the \$2.2 million estimate was more than the facility owners were prepared to spend at one time. Consequently, the appraiser prioritized the details in terms of heat loss. Facility management was then able to focus on the work that would save the greatest amount of energy before moving on to the details, which would give slightly less bang for the buck. Through prioritization, facility management got all the work done over time.

The bottom line is that well-maintained thermalinsulation reduces heat loss and saves money. Damaged insulation saves less money, and missing insulation saves no money at all. Every day spent ignoring damaged or missing insulation is another day of paying the high cost of wasted energy. This is no time to waste energy.

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