

# DRAGON JACKET NEWSLETTER

## Changing Weather Conditions and Corrosion

With the seasons changing and cooler temperatures and increased precipitation upon us, the risk for Corrosion and CUI is becoming more prevalent.

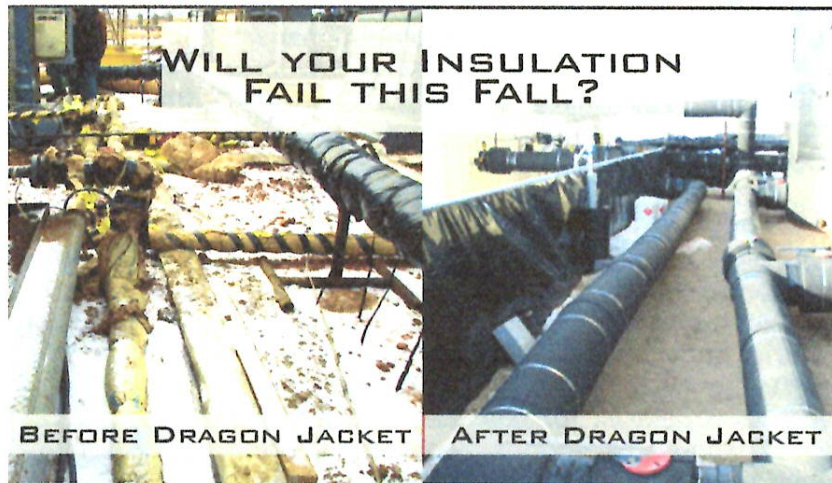
There are numerous causes of corrosion within piping systems, and the rate at which this phenomenon takes place is based on the factors working independently or in combination with each other. Studies have shown that pipes left poorly or completely unprotected may experience corrosion in as little as two years.

Corrosion is a chemical or electrochemical process in which the deterioration of material properties is caused by adverse interactions with their environment. The majority of metals are naturally existent as stable ores of oxides, carbonates, or sulfides.

The production of most of these metals involves adding energy to the original state, and as a result, the metal has a natural instinct to return to its original, low energy oxide state. In order for this to happen, an electrolyte solution, or liquid water and air is required.

The pH levels in water, water's chemical make up, the amount of oxygen in water, the temperature of the water, and the velocity of the water are all active components to the corrosion process. (In terms of velocity, any excessive/sudden changes in direction can lead to erosion and corrosion because of water turbulence.)

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**Gordon Stevenson**  
**Dragon Jacket's New President and Chief Operating Officer**

Gordon's International experience includes natural gas processing and natural gas liquids production in Canada, Mexico, Venezuela, Bolivia, Argentina, Oman, Indonesia.

He was responsible for all international shipping and logistics originating from the Port of Houston, and in country engineering, operations, and construction- Primarily for Exterran and Williams Energy.

He also managed equipment production facilities in Birmingham, UK. Gordon also served as an Energy Executive focusing on natural gas processing, NGL Liquids marketing, natural gas and liquid pipelines, and product treating.

Gordon's most recent experience prior to becoming the President and COO of Dragon Jacket was serving as President of Devon Energy's Thunder Creek Gas Services division and in executive management with private equity ventures. Gordon obtained his Bachelor of Science in Natural Gas Engineering from Texas A&M Kingsville.



The rate at which corrosion occurs is dependent not only on the nature of the environment, but also on the surface of the material at hand. Not all metals have a composition that leaves them as susceptible to corrosion as others. Aside from the many different factors that can cause corrosion, there are also many different types of corrosion that can occur.  
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The most common and threatening form of corrosion is Galvanic corrosion, which is caused when two unlike metals are in contact with the presence of an electrolyte (liquid that is capable of conducting electricity, such as salt water). This mixture acts as a catalyst for one the more active metal (anode) to corrode, while the more noble metal (cathode) is protected. If the makeup of the pipe doesn't contain any noble metals (i.e. Gold, silver, platinum) then the result is both active metals corroding.

Although Galvanic is the most common, any form of corrosion is detrimental, especially when it occurs underneath pipe insulation. This is commonly known as Corrosion Under Insulation, or CUI. CUI severely compromises the strength of the pipe, efficiency of the insulation, and in some cases, the quality of the product being insulated.

Temperature is also a leading factor in corrosion; for example, If the pipe's operating temperature was 500 degrees F, corrosion would not occur until the pipe was either in the process of cooling off, turned off, or being brought back up to its operating temperature. This is because the aforementioned times are when there will be condensation due to the change in temperature. Maintaining the appropriate service temperature is imperative in efforts to avoid CUI, especially because corrosion rates are often higher than anticipated.

In order to mitigate or lessen CUI, many steps must be implemented, if not, the consequences can be extremely dangerous and expensive. Careful consideration should also go into the design, specifications,

installation, and material of the pipe and insulation, as well as a consistent and rigorous maintenance routine.

**DON'T WAIT FOR CUI TO HAPPEN.**  
Take the necessary preventative measures today, to ensure maximum operational efficiency for tomorrow...

Click [HERE](#) to learn about the benefits of Dragon Jacket's static R-Value and early leak detection system in all of our industrial insulation products.



## Dragon Jacket Product Catalog to be Released Fall 2016



Please call us at (208) 772-8640 or send an email to us at [info@dragonjacket.com](mailto:info@dragonjacket.com) if you'd like to pre-order a product catalog or request a product sample.

Visit our website [www.dragonjacket.com](http://www.dragonjacket.com) regularly for updates as we continue to expand our product lines.