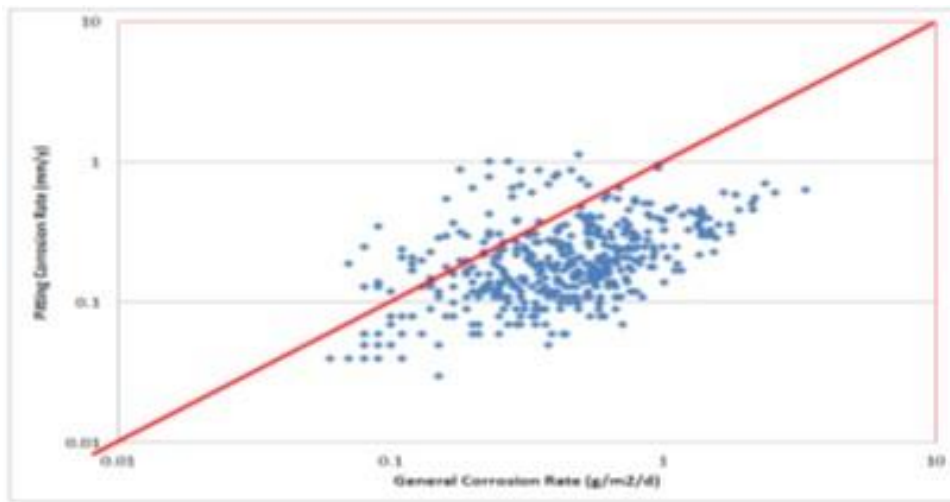


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How to Change Habit?



**National Institute of Standards and Technology (NIST), USA, NISTIR 7415, "Analysis of Pipeline Steel Corrosion Data from NBS (NIST) Studies Conducted between 1922-1940" and Relevance to Pipeline Management", May 2, 2007.*

So does the word "Habit"

- Delete the "H", - "A bit" will be there
- Delete the "A", - "Bit" will be there
- Delete the "B", - "It" will be there
- Delete the "I", - "It" will disappear.

"I can do it" attitude, personal motivation, and determination are required to change any habit - Good or bad!

The same happens with integrity management and corrosion control. If a poor practice is introduced then it stays in the industry forever, causing unwanted and unnecessary expenditures without any tangible benefits. Such practice may sometime even lead into wrong direction.

One such poor habit is the practice of predicting "localized corrosion rate" using "general corrosion rate". Both basic theory and vast amount of field data* indicate that there is absolutely

It is a brand-new year!

It is time to reflect on the success and learning from the past year and take new resolution, new direction, set goals, and change undesired traits.

But old habits die hard!

no correlation between general corrosion and localized corrosion rates. Yet short-term vision, coupled with short-term laboratory data, has resulted in plethora of general corrosion rate prediction models. Usage of such models has resulted in overestimation of corrosion risk and over-implementation of, and sometimes unnecessary, mitigation strategies.

Localized pitting corrosion rate prediction software such as iFILMS™ - based on “non-classical” localized pitting corrosion theory and on vast amounts of field data – predict likely corrosion damage mechanisms and rate based on those corrosion damage mechanisms. The corrosion rates predicted by iFILMS™ have been verified by ILI data, field digs, and online non-intrusive probes in over 100 projects in Canada, India, Saudi Arabia, and USA.

Raising Star of This Newsletter:

Carlos Melo



My Story

I started my career as a mechanical engineer in 2002 and, after three years of field work in construction, I embarked on the process of certification in cathodic protection with NACE (now known as AMPP). There was limited access to NACE classes in Ecuador in the early 2000s, so I completed my cathodic protection training overseas.

I was always eager to learn more about corrosion control and, in 2008, I was admitted to the MSc. program in Corrosion Control Engineering at the University of Manchester in England. Same year, I started my career path as an international instructor for indirect pipeline inspections by teaching a training in Mexico.

In 2009, I took up a new position at the Ecuadorian national oil and gas company. In this company, I started a new certification course with NACE, on the topic of pipeline integrity. I became an expert in this subject within the company and began applying the knowledge on pipeline integrity.

In 2013, I was approved to be a NACE instructor - the first Ecuadorian NACE cathodic protection instructor! Subsequently, I became a NACE instructor for direct assessment and pipeline corrosion integrity management in 2014. I also obtained my first NACE certification in pipeline internal corrosion in 2018.

In 2015, I joined the PhD program at Pipeline Engineering Center at the University of Calgary. A scholarship from the Ecuadorian government and a special permission from my employer in Ecuador enabled me to complete this doctoral degree in 2021.

In 2017, I participated the STEM_Corrosion™ online training program for corrosion control in the oil and gas industry and, became the instructor for this program in 2018. Since then, I have been teaching this course, both in Spanish and English, with participants from Brazil, Canada, Colombia, Ecuador, India, the United States of America, UAE, and Venezuela.

In 2021, after completing my Ph.D, I started as Senior Pipeline Integrity Consultant at Vecor Pipeline Integrity in Naperville, Illinois, USA. Currently I am the Regional

Manager for the Northern Area and oversee activities as part of the Transmission Integrity Management Program.

My Style

I have been always willing to learn, and I realize that my field requires constant training and formal education. I enjoy sharing experiences with professionals around the globe and am always willing to support new professionals who are starting their careers. I strongly believe that the more you share the more you learn.

Things That Excite Me to Continue in the Industry

Thanks to a combination of formal education and field experience, I have understood that the more you learn the more challenging is to decide where to repair a pipeline using only the information obtained from field inspections. I believe that engineers and corrosion control professionals now are doing the best they can to prevent failures using existing industry practices; however, there is always the desire for improvement and this what it excites me the most.

Changes I would Like to Make in the Industry

I would like to see a greater collaboration between the industry and the academia. I hope that more professionals will have opportunity to enjoy the best of both worlds. I believe that this is the only way to overcome the challenge that the oil and gas industry and the corrosion control professionals are facing at present times.

Although understanding corrosion science is challenging in itself, corrosion control engineers should also start learning new subjects such as data analysis and artificial intelligence in order to optimize the use of limited resources to prevent failures.

Advice to Attract Youngsters to the Industry

The corrosion control field is a wonderful career with very talented professionals that are always willing to share their knowledge and experience. The best way to enjoy this field is to be part of international organizations such as AMPP where you will find opportunities to learn, to share, and to dream.

Professionals in this area are always evolving and never stop their hard work to protect the people, the environment, and their assets. I would wholeheartedly encourage upcoming professionals to embark on certification programs such as AMPP courses and STEM_Corrosion™ online courses because these courses can be the first step on a very rewarding journey.