

Novinium News

June 2017

A Tale of Two Fluids

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I was visiting with our long-time customer, NV Energy, in Las Vegas on May 31st and I had the pleasure of meeting a thoughtful gentleman, Bijoy Chatt, who had been previously uninvolved in rejuvenation. Bijoy had been uninvolved, because his domain at NV Energy was and remains transmission, while rejuvenation is primarily deployed at distribution voltages. Bijoy's distribution colleagues asked him to attend the meeting to provide his mathematical expertise. We were engaged in an exercise in probabilistic mathematics – the optimization of reliability capital spending including financial risk. Bijoy was comfortable with this dialog and provided support to his distribution colleagues.

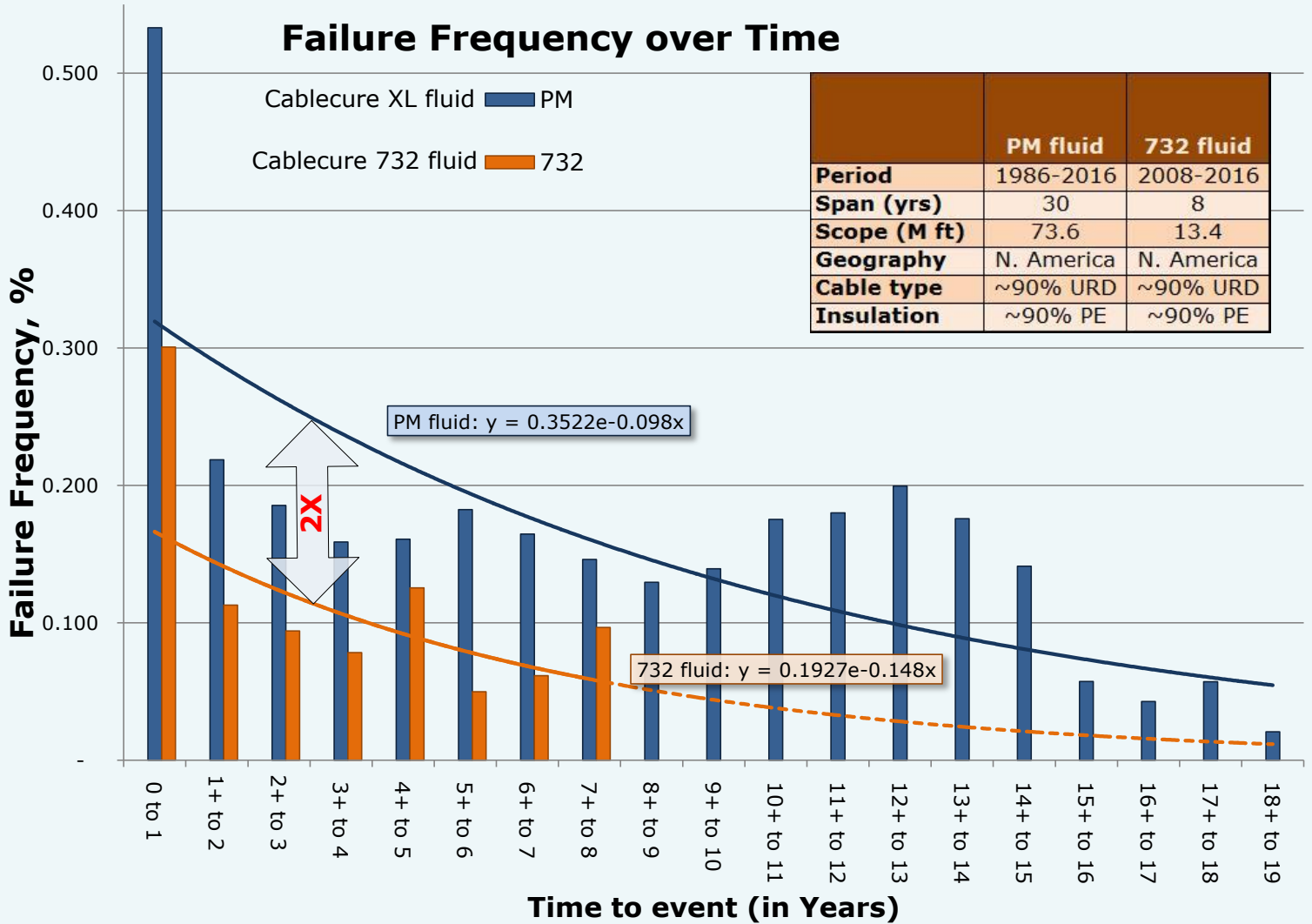
During the course of that dialog Bijoy asked me a question that I have been asked many times before, "How do you know what the future failure rate will be for treated cable?" I formulated a new answer to that old question. I'm not sure why my new answer had never occurred to me before. Of course the best way to persuade is always a story. I explained to Bijoy that I began pitching Cablecure technology 31 years ago and that I had faced that very question dozens perhaps hundreds of times. Three decades ago my answer was built around laboratory accelerated life testing. Extrapolating from laboratory experiments to field conditions requires a certain leap of faith. Many were unwilling to take the risk at all. They were content to learn from the experiences of others. There were precious few circuit owners who embraced rejuvenation. These pioneers included Orange & Rockland Utilities, Jersey Central Power & Light, and Florida Power & Light. Some accepted a small amount of risk for the sake of a promising technology and agreed to a modest trial. Upon completion of the trial they would say, "Now we need to wait 20 years to see how rejuvenation reliability unfolds."

Those decades have in fact transpired, not just two decades, but over three! The field data is overwhelming in its volume and its robustness. Since our customers have a direct financial incentive to report all failures to us, we have a high level of confidence that the vast majority of post-rejuvenation reliability issues are reported. We dutifully record them all in Knomentous.

At the peer reviewed Electrical Insulation Conference (EIC) in Baltimore on June 12 Jason McCary presented "A Tale of Two Fluids" on behalf of his co-authors Sum Arigala, Dave Busby, Mark Newton and me. The entire paper will be available in the IEEE Transactions on Electrical Insulation in due course, but I share the essence of that paper in the balance of these two pages. A Tale of Two Fluids compares the post-rejuvenation reliability of first and second generation rejuvenation fluids. Cablecure 732 fluid was introduced less than a decade ago. "PM" or phenyl-methyl-based technology like Cablecure XL and iXL fluids have three decades of field data. The January issue of these pages, "Better Next Year," demonstrated that all rejuvenation is more reliable than new cable. A Tale of Two Fluids establishes that Cablecure 732 fluid is about twice as reliable as its predecessor.

A Tale of Two Fluids

Twice as reliable and better than new! Should we stop there? We won't. We have new ideas to further improve our mastery of reliability. Our chemistry will keep getting better, our tools and techniques will keep improving, and the mastery of our craftsmanship will be refined.



**Be safe.
Be kind.
Be masterful.**