



As we close out February, we find ourselves in that lucky calendaric work around called Leap Year. Leap years are fitting topics for lean design and construction. First off, we missed designing the orbit of the earth around the sun as precisely as we needed to. Turns out that a year is actually 365.242 days. That means that we either have to (a) adjust the orbit to more precisely replicate our calendar or (b) make some adjustments along the way. We have chosen the latter. In fact, although we add a day every four years, your math will tell you that we still don't quite get there—missing .008 of a day even with that work around. A refinement of or amendment to our workaround was brought to us by Pope Gregory XIII in 1582 when he declared that only century years evenly divisible by four would be leap years. 1900 was not a leap year but 2000 was.

This gets us to the tolerances we use in lean design and construction and illustrates how our systems use workarounds effectively. It would be most efficient (but also impossible) to regenerate the orbit of the earth so that every year was 365 days (might be better to rejigger it so that every year was 400 days and every month was 40 days and we only had ten months). Given that we can't effectively do that, what's the next best thing? Build a system that adapts to the imperfection of what our current physical conditions happen to be. We can't contract away the risk of picking up 3 days every 400 years and we can't just get along with it so we have to develop an operating system that accepts it as a reality. We can do that because we know what the problem is, we need make no assumptions about it and we can get together to best decide how to deal with it.

Some workarounds are opportunities to reconfigure the orbit of planets and so we are stuck with them as workarounds. But most are opportunities for us to solve the problem, develop a standard response and deploy it. We're constantly improving however. Which is why we often show the third and fourth installments of Owen Matthew's Orlando chilled water plants in our Introduction to Lean. You may remember that it in the third iteration, Owen and his team used stainless steel turnbuckles to cover the contingency that their hangers were not within the tolerance needed to assure that the piping system could be appropriately hung. In the fourth iteration, the turnbuckles were no longer necessary because the tolerances of the original hanging system had been properly adjusted.



The opportunity to continuously improve, to learn from workarounds is a powerful lesson of lean design and construction. Think about the times at Conferences and other events that Greg or others would spend fifteen or twenty minutes trying to get a satisfactory set up for recording presentations. We finally invested in a professional video-taping for the Congress last year and that has moved us to a new level of presentation excellence. Think about the times we have



had to make phone calls or send letters asking for annual renewals. We found and implemented Salesforce.com this year to make sure that those annual renewal notices were generated automatically. Workarounds propel us to action—or they ought to.

On your projects, think about the workarounds that have been necessary and then think how many have been incorporated into standard practice. Thank goodness to Steve Warnick of Austin Commercial who helped me understand why all this matters at breakfast last Saturday. Steve reminded me of Goldrath's reference in *The Goal* to a saying we should all tattooed on our hands: "Common Practice is the enemy of Common Sense." We know from our workarounds that there's a better way to do something, that a system is failing us somewhere, but we survive on the workaround. Let me invite everyone, on this leap day week, to take time to consider whether your work around has become standard practice or where it has become the common sense countermeasure to a known problem. You can decide how best to proceed from there.

Enjoy the upcoming agenda—note that Greg will be doing an Introduction to Lean March 21 in Albuquerque. If you're anywhere close, don't miss it.

Thanks to the best people in the industry. Have a safe and a productive week!