

Is Maintenance Included in Your Strategic Plan?

ROBUST MAINTENANCE CAPACITY CAN BE THE DIFFERENCE BETWEEN ONGOING PROFITS AND IMPENDING DOWNFALL.

Jack McGuinn, Senior Editor



Joel Leonard appearing before a congressional Facilities Forum panel in Washington, D.C.

Few would now argue that what some may have perceived just a few years ago as “Chicken Little” stories regarding the depletion of this country’s skilled manufacturing workforce are now in fact firmly based in stark reality. Math skills: down. Science skills: down. Number of graduating engineers: down. High-skills positions: unfilled.

And, unfortunately, it gets worse.

The same crisis—yes, crisis—applies not only to high-end

manufacturing and production. What has gone largely unnoticed is that there is also an impending, major shortfall of skilled workers in the maintenance sector of not only manufacturing, but in our nation’s infrastructure as well. As the 21st century rolls on, the following issues will be among those of paramount importance in maintenance. And a commonality they share with manufacturing is the inescapable fact that ignoring these challenges will only serve to blunt this country’s

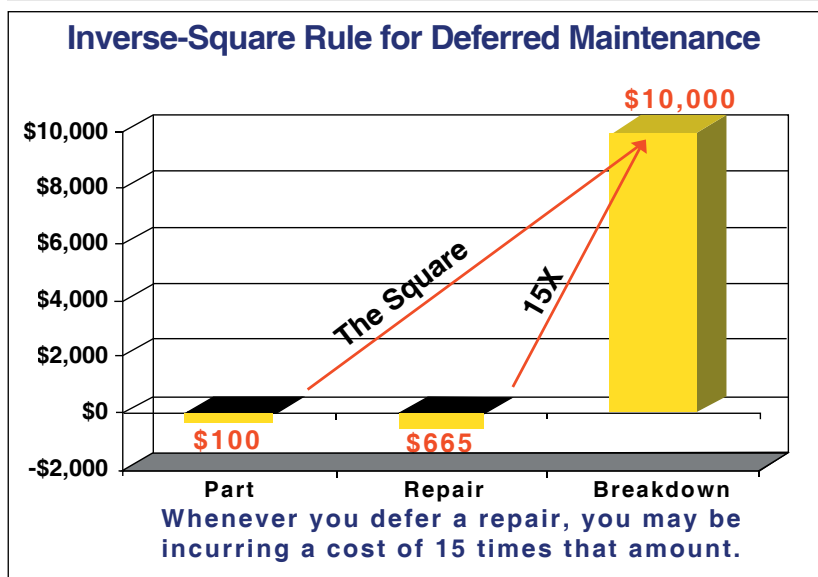
already imperiled competitive edge. Those challenges include:

- Feeble infusion of new talent.
- Tighter budget restrictions.
- Reducing equipment down time.
- More robust environmental regulations and mandates.
- Training, educating and retaining skilled workers.
- Predictive maintenance/asset reliability.
- Energy management.
- Staying abreast of new technologies.

All of the above areas typically linked with manufacturing are entirely applicable to maintenance as well—including preventive, predictive and reactive. Yet, we learn practically every day of another major incident regarding defective equipment or structures. Cranes tipping, bridges collapsing, airlines shutting down or oil pipelines rupturing—whatever the catastrophe, negligence or inadequate maintenance is often the cause.

But beyond the sometimes tragic consequences of headline-grabbing incidents, what is missed is the fact that robust maintenance programs not only serve to prevent such mishaps; they also provide companies willing to implement them with a competitive edge that can make the difference between continued growth or incremental decline. And this is true in every sector of business and the economy. While a nation's crumbling infrastructure—roads, schools, libraries, electrical grids, the aforementioned bridges, etc.—is certainly a major story that requires reporting, the purpose of this article is to cast light on maintenance and its role in keeping a company's production humming.

To lend a major assist in that regard, *Power Transmission*



Charts courtesy of Joel Leonard.

Engineering was able to catch up with Joel Leonard, a man of several hats, including contributing editor to *Plant Services* magazine; host of that publication's online SkillTV; a Compete 2.0 Skills Team member of the Council on Competitiveness and a staff member of MPACT Learning Center, LLC (a professional group devoted to providing course offerings, consultation services and other resources specific to the maintenance industry).

But Leonard's greatest calling is that of "maintenance evangelist," a fitting appellation bestowed upon him by his peers (to be specific, a professor from the University of Tennessee) in recognition of his passion and work to enlighten industries of every sector regarding the impending shortfall of experienced maintenance workers and, more importantly, how getting truly serious

about robust maintenance implementation can be a legitimate game-changer for companies willing to do so.

"It's been almost an avalanche of headlines that have been hitting the public, to the point that the maintenance crisis is no longer just in the engineering community," says Leonard, "It's in dinner table discussions. The people are finally becoming aware of these issues to the point that action is finally being taken."

One major action already in progress is the previously cited Council on Competitiveness, a consortium of leaders and thinkers from industry, academia and government charged with developing a "national skills strategy" addressing four critical areas:

continued

- Meet the demand for middle skills.
- Build service economy skills.
- Compete for innovative advantage.
- Create skills for sustainability.

This, of course, is a big-picture endeavor, encompassing more than maintenance concerns. But it serves to put our country on notice that there is much work to be done if we

are to remain a leader in the global economy—the group’s central mission. Regarding that initiative, Norman R. Augustine, retired chairman and CEO of Lockheed Martin Corporation, echoes a sentiment that is beginning to gain increasing currency.

“Global leadership has come to be accepted by many Americans as our country’s birthright,” he says. “However, we would be wise to keep in mind that in the 16th century, it was Spain that was the dominant nation; in the 17th century, it was France; in the 19th century, it was England; and in the 20th century, it was America. The book hasn’t been written on the 21st century yet, but it is clear that no nation has an entitlement to the future.”

As for Leonard, he has his own initiative for addressing maintenance issues—“Reliability Nation.” And he has his own thoughts on why it has come to this.

“With our technical programs being legislated out of our high school systems and apprenticeships being cost-reduced out of organizations at the same time that we’re having the largest demographic in the history of mankind leaving the workforce, we’ve had some really stupid decisions in upper levels of management in the last 10 years,” he laments. “Companies that are bean counter-focused, they look at apprenticeships as a negative. Yeah, it costs money and training is expensive. But try not training—that’s extravagance.

“And now we’re finally beginning to realize what’s happening and there’s finally some effort being put forth and I’m privileged to have a voice in that process.”

That “voice,” oddly enough, includes a song Leonard penned—a broadside, if you will—calling out decision makers over maintenance matters. He calls it “The Maintenance Crisis Song.” Here’s the first verse:

“No one wants to work in the boiler rooms,
No one wants to work with the tools,
The nation’s youth are taking the easy way out,

There’s no one left to fix our schools.

Maintenance technicians are ‘bout to retire,
Company executives got no one to hire,

How safe does that make you feel?

How safe does that make you feel?”

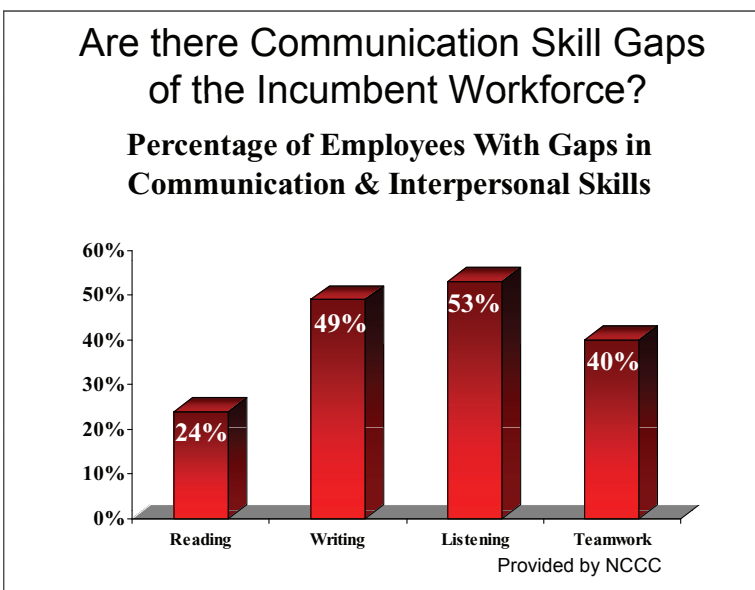
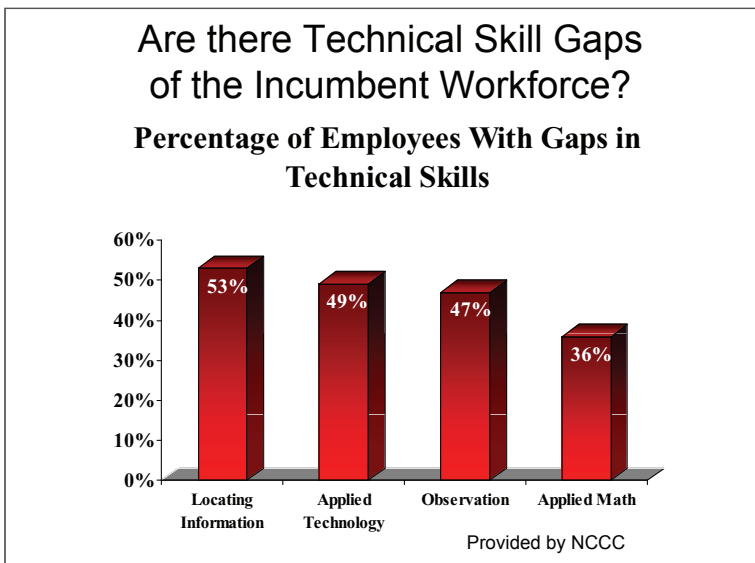
(Ed. Note: For complete lyrics, go to www.skilltv.net)

Indeed, aside from his “evangelist” persona, Leonard also possesses the heart of a showman—a P.T. Barnum-type marketer, if you will. He believes that’s what it takes in our American Idol culture to generate the attention this issue deserves. In the hope of reaching a wider audience, Leonard’s disturbing ditty has been recorded in a number of different genres—from rock to soul, from hip-hop to gospel. The song was the result, appropriately enough, of Leonard’s attendance in 2002 at a Society for

Maintenance and Reliability Professionals (MSRP) conference in Nashville, long a hotbed for music making.

“(I decided that) just going to the conference and talking to engineers or writing articles about this isn’t going to fix it; we’re going to write a song;” he says. And after enlisting some musicians who put his lyrics to music, “Now we have nine different genres of the same song.”

Since then, Leonard has been on a whirlwind schedule that takes him all over the country and to Europe (Brussels, e.g., to offer the opening remarks at the EuroMaintenance Conference), delivering the word to business groups regarding the maintenance and reliability crisis. That includes trips to the nation’s capitol, as well. Leonard was invited to speak be-



Graphs courtesy of Joel Leonard.

fore a congressional Facilities Forum, and was also able to gain the ear of various congressmen, congresswomen and senators, all in the hope of lighting fires under behinds and initiating movement.

"In the last several months I'm finally meeting with some people who can actually do something about it. When I met with (Senator) Ted Kennedy (before his illness) I challenged him by asking why there isn't an MIT or Harvard MBA program teaching the value contribution of maintenance. If you go to an average engineering or maintenance conference, there's at least four or five different tracks that teach maintenance guys and engineers how to communicate with upper management to ask them for the resources that they need.

"And if upper management already understood (maintenance's) value contribution, they could be managing towards that and the guys wouldn't have to be asking permission to do their jobs."

So how bad is the problem? The evidence is daunting.

For instance, when at that maintenance engineering conference in Nashville, the audience of engineers was asked how many would be retiring in the next 10 years. Answer—90 percent. And there's no shortage of other examples. For instance:

- According to Council of Competitiveness's Compete 2.0 Skills report, for every 10 workers who retire, there are only three to seven to replace them. The Bureau of Labor Statistics forecasts an annual shortage of 350,000 auto technicians through 2010.

- The American Welding Society states that the average welder today is middle-aged or older. They estimate that more than half of that segment's workforce is nearing retirement and that a potential shortage of 200,000 skilled welders may exist by 2010.

- The average age of the power management workforce approaches 50, according to industry reports, with half of them slated for retirement in the next 10 years. Perhaps worse, an Edison Electric Institute survey states that about 20 percent of the nation's electric transmission workforce is set to retire in the next five years.

Again, keep in mind that these shortages in skilled workers not only compromise the country's infrastructure; they also affect a typical company's bottom line. Who is going to repair the fleet trucks, the lift trucks and other necessary vehicles? Who is going to make welding repairs to your facility? Who is going to maintain your industrial motors and engines? Who will fix the plumbing? And speaking of plumbing, Leonard is fond of quoting John Gardner, a former U.S. Secretary of Health, Education and Welfare, to help make his point about the low regard that is held for the maintenance worker.

"The society that scorns excellence in plumbing, because plumbing is a humble activity, and tolerates shoddiness in philosophy, because philosophy is an exalted activity, will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water."

As with most everything else these days, Leonard points


out, even plumbing is much more than the low-tech trade of yesterday. He reminds that plumbing systems today are PLC-controlled and sensed, and contain high-tech lubricants and solvents and are integrated with electrical and electronic systems.

Leonard has traveled the globe preaching the gospel of reliable maintenance that is, essentially, two things—capacity and strategy. Maintenance should be considered part and parcel of a company's best practices; it should be considered by any good business as a strategic decision, not just a knee-jerk reaction to something broken that needs fixing.

"Maintenance is the capacity assurance provider," says Leonard. "And what we need is a structured, nationwide approach where we start investing in maintenance reliability as a value contributor—and start having MBA programs that teach that.

"It's not a zero-sum game out there. As the rest of the world gets caught up and realizes that the American Dream can be had by all, we shouldn't be bemoaning the success of others. What we should be doing is not forgetting what got us where we're at and start abandoning some of the key components that made us successful. And that a qualified, skilled workforce is not something to look down our nose at.

"We need 2,000,000 maintenance engineers. Where are we going to get them? Everyone wants to play, but no one wants to plow."

Amen, brother. 

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