

INNOVATION ACADEMY

CERTIFIED INNOVATION MENTOR PROGRAM

CASE STUDY

CIMP Helps **Exelon** Reap the **GIANT REWARDS OF INNOVATION**

BACKGROUND

Exelon operates the largest nuclear generation fleet in the United States, with 23 power reactors at 14 facilities in Illinois, Maryland, New Jersey, New York, and Pennsylvania. The Fortune 100 company employs about 34,000 people nationwide.

CHALLENGE

The nuclear power industry currently faces some daunting challenges in the marketplace, including a sharp decline in the price of natural gas, government subsidies for competing renewables like wind and solar power, and deregulated electricity markets in many states. Remaining competitive in such an environment would be tough enough by itself, but the nuclear industry is also heavily regulated and deeply risk-averse, making innovation difficult.

However, the need for landscape-changing solutions is clear. For example, Exelon recently announced the premature retirement of a well-run, fully operating nuclear facility with a good safety record because of lack of profitability. To survive and thrive during such a volatile time in the energy industry, Exelon must harness the transformational power of big, bold ideas.

NOTRE DAME SOLUTION

As economic challenges began to mount in its industry, Exelon made a significant investment in its future by declaring innovation a business imperative and sending individual leaders to Notre Dame's **Certified Innovation Mentor Program™**. One of those leaders was Jim Tusar, a senior manager who had been instrumental in generating new ideas with some of his teams but was looking to accelerate progress company-wide. "I wanted to learn more about a framework for innovation that I could leverage to improve the way I innovate and to teach others to innovate," he says. "We have lots of people with good ideas who don't know how to get them launched."

The most profound change-maker for Tusar was CIMP's set of tools for ideation. "CIMP teaches that your brain becomes conditioned to think in a certain way, and that's how your thinking can get into a rut," he says. "The tools we learned for 'rut-jumping'—leaping outside those conditioned patterns and sparking new thinking—were really valuable. I've been able to use those to train others in my company as well."

Tusar's CIMP project was an idea he'd been toying with for a while, but the program gave him the tools to accomplish it—including skills that helped him convince his Exelon colleagues that this challenging effort would be worthwhile.

“After completing the Certified Innovation Mentor™ program, I’m much better at mentoring others in innovation concepts and tools. I know how to help people through the process of generating ideas—making sure the ideas are new, impactful, properly evaluated, and eventually launched.”

– **Jim Tusar**, Senior Manager, Nuclear Fuels, Exelon

Tusar proposed mining the spent fuel pool at certain nuclear stations to find usable nuclear fuel assemblies that could be reinserted into the reactor core, challenging the commonly held orthodoxy that spent fuel was past its useful life. The potential savings, he reasoned, would be significant. “The project required various teams to collaborate and took considerable time and resources to accomplish,” he says. “So there was some resistance to overcome. I had to make use of the tools I learned to demonstrate the value of the effort and how it would deliver.”

THE BIG IMPACT

Tusar made his case, and the project went forward. The projected yield: at least \$5 million in fuel cost savings in 2018.

But that wasn’t the end of the story—Tusar and his Exelon colleagues took their CIMP training and ran with it. They orchestrated an innovation at two other nuclear reactors (no simple task because it had to pass muster with the Nuclear Regulatory Commission) that will save a total of \$5 million in the first few years of implementation. They also used what they learned about advanced data analytics to improve the accuracy of the predictions made by 3-D core simulation software, helping individual power stations optimize operations and meet capacity goals. Although still in the investigation phase, this initiative is also expected to realize fuel cost savings.

All told, these innovations will save Exelon more than \$10 million in the next few years via lower fuel costs, less spent



fuel generated, improved operating margin, and better predictive analytics. Over time, even more savings will accrue.

To accelerate this trend and make it self-sustaining, Tusar runs an innovation lab for his Nuclear Fuels Department and supports others proposing good ideas via Exelon’s Innovation Central platform. Since then, the number of feasible ideas in the pipeline has grown steadily each month. With the dramatic savings realized so far and the potential of exciting innovations to come, the future looks unquestionably brighter.

“Even though we’re dealing with certain economic challenges and transformations in the energy market, we can implement innovations at Exelon that will help us reduce costs, increase our revenue, work more efficiently, and position ourselves for success,” Tusar says. “Even stable, risk-averse organizations should innovate—it produces a chain reaction that inspires people to think bigger and solve problems proactively.”

ABOUT INNOVATION ACADEMY AND CIMP

Innovation Academy at Notre Dame’s IDEA Center offers a premier educational experience for organizations looking to create a sustainable culture of innovation. Our Certified Innovation Mentor Program (CIMP) provides a master-level education in innovation for front-line practitioners—plus a supportive community for sharing ideas and best practices. To learn more, contact Innovation Academy at innovationacademy@nd.edu.

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