



# THE PROJECT MANAGEMENT STANDARD

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## MESSAGE FROM THE CHAIR

*by Robert (Robb) Gries, P.E., CCM, PMP, Chair*

### Sustainability

The term "sustainability" is defined as the use of resources to meet current needs without sacrificing or compromising the ability to meet future needs. In the design and construction industry, this term is often used interchangeably with others such as "green" building, social responsibility, etc. In this Message from the Chair, I am going to use the term "sustainability" to address our need to have a continuity of operations which provides a consistent level of products and services to our members.

As the DPC SIG transitions to a PMI Community of Practice (CoP), the DPC SIG Board needs to ensure that all activities—current and future—have sufficient resources (e.g., personnel, financial, etc.) and meet a bona fide need. It is through this lens that the Board is evaluating everything that it does and plans to do for the foreseeable future. Stated another way, the Board sees no benefit in starting something if the DPC SIG cannot continue to provide it, especially if there isn't sufficient volunteers, money, or both.

In addition to products and services, the Board needs to identify future leaders and potential leaders. We need to provide them will opportunities for training such as PMI's Leadership Institute Meetings as well as encouragement, mentoring, and support. As the current Chair, I have worked with my fellow Board members, past and present, to implement a leadership culture within the DPC SIG.

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# NUCLEAR POWER: RIGHT ENERGY SOURCE FOR THE FUTURE

by Nikhil Chaubey – Project Information Manager, Fluor Power

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The United States decision regarding use of nuclear power will have a far reaching impact and has the potential to shift future energy sourcing. The nuclear industry is at the crossroads from where it can take the path to be leaders in this area or choose to be consumers of this technology. This article elaborates different approaches taken by various countries to move forward in nuclear power.

With increasing demands for energy and concerns of global warming, the world is looking for alternative source of energy. Approximately 80 percent of global energy needs come from fossil fuels. Fossil fuel is the biggest source of the greenhouse gas emissions which are believed to be the cause of global warming. According to a calculation based on the pattern of energy use, the earth's temperature may increase by approximately 6°C beyond 2030 and may lead to catastrophic problems worldwide.

It is estimated that global energy needs will increase by 44 percent by 2030. The higher energy demand will lead to higher fuel prices. This will also increase our dependence on overseas supplies of oil. The security of the oil supply is a global concern making the consumer countries vulnerable. The fluctuation of fuel prices also impacts the economies.

In order to meet these challenges, the United States needs to look for a cleaner, reliable, dependable, economically viable, and proven source of energy. Renewable energy sources such as wind and solar are definitely clean and safe but cannot meet the commercial demand. Nuclear power is a good answer to most of the issues.

Let's examine the approach taken by various countries in the nuclear area:

In 2006, China sent a high level delegation to United States to visit Idaho and Argonne national laboratories and few companies such as General Electric (GE) and Westinghouse. They were here to pick the best technology for their nuclear program. The Chinese delegation went back and decided to build 60 nuclear units in the next 20 years. They picked Westinghouse technology to build their first few units. At that time, Westinghouse was an American company. Currently, it is a Japanese-owned company bought by Toshiba in 2007.

The Chinese had shovels in the ground by 2008, and the completion of first four Westinghouse units is scheduled by end of 2011. They are also building two units with Russian reactors.

Recently, they revised their nuclear program in terms of number of units. It has gone up from 60 to 132, one of the key reasons being clean source. To meet these ambitious numbers, the biggest bottleneck they identified was forging the nuclear reactor vessel. In 2007, only Japan Steel Works (JSW) had the capability to forge these 500-ton steel vessels, and the orders were backed up for four years. JSW saw this as an opportunity and spent \$800 million to expand their capacity. By 2012, they can build 12 reactor vessels a year. The Chinese did not want to wait in the queue, so they built their own forging units. In fact, the first Chinese forging unit was ready in mid-2009, and they are building two more.

The Russians want to double their power generation from nuclear plants by 2020. To avoid the forging bottleneck, they too built the forging plants. They got their first 600-ton ingot ready in 2009. Britain, France, South Korea, and India are following this path.

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## NUCLEAR POWER: RIGHT ENERGY SOURCE CONTINUED

India plans to build over a dozen new plants using thorium for nuclear fuel. Thorium is twice as abundant as uranium and does not produce the plutonium everybody worries will be used to make weapons. They may take the lead in this technology.

Great Britain, Italy, Korea and Japan plan to build new plants. Some European countries are revisiting the nuclear policies to build new plants, and approximately 50 units are under construction worldwide in 14 countries; however, the United States has yet to begin.

Let's see what is going on in United States. In the 1960s to 1980s, the United States was a leader in building the nuclear plants, but, in the last few decades, no new nuclear power plant has been ordered or built. There were 150 nuclear supplier companies in 1990. Today, we have approximately 40. The knowhow of forging a 500-ton nuclear reactor is present, but we do not have the infrastructure. The United States will be importing the vessels. There are 30 odd applications for new units; most of them are for Westinghouse or Areva (French) reactors. GE is the only American company in the race, with a tie to Hitachi from Japan.

The United States should plan energy needs for future as well as try to maintain the edge in the nuclear industry. This industry needs both government and commercial support to take it to the levels where it should be. It can add needed jobs in the country, help the economy, and give us energy independence. There are risks with nuclear fuel, but they can be mitigated or eliminated with proper safety standards and proven technology and process.

This is the time to make decision and act; otherwise, the United States could be left behind.

**Sources:** [www.eia.doe.gov](http://www.eia.doe.gov)

Some facts are from Senator Lamar's September 21, 2009 speech.

## MESSAGE FROM THE CHAIR CONTINUED

We are always looking for bright, energetic people, who have initiative and can give the organization a needed boost, otherwise we will gradually fade out. As I reflect on where we've come from and where we're going I would like to point out that the DPC SIG has been around for 15 years, and we pride ourselves for being voted "SIG of the Year" by PMI in successive years. There is an amazing legacy to our organization as we have accomplished great things, such as producing the 'Construction Extension' to the PMBOK, and having members in 68 countries, to name a few. Any new volunteer board member inherits this great legacy, and will receive the support from outgoing board members necessary to ensure a smooth and successful transition. In regard to my own transition, I will look for ways to aid my successor in his/her efforts to keep the organization vibrant and moving forward.

***“On capital project success  
The single best payoff in  
terms of project success  
comes from having good  
project definition early.”***

**- Rand Corporation**

# CLEARING THE AIR IN KENTUCKY: KU SO<sub>2</sub> COMPLIANCE PROGRAM – A RETROFIT EFFORT OF MAMMOTH PROPORTIONS

by Robert Toet, PMP – Engineering Manager, Fluor Power

Fluor is now in the final stage of completing their Plant Betterment group’s flagship, the “Kentucky Utilities (KU) sulfur dioxide (SO<sub>2</sub>) Compliance Program.” The KU SO<sub>2</sub> Compliance Program is comprised of multiple projects for E.ON U.S. at the Ghent and E.W. Brown Stations in Kentucky to substantially reduce SO<sub>2</sub> emissions by retrofitting multiple wet-limestone forced oxidation flue gas desulfurization (FGD) systems (commonly referred to as “SO<sub>2</sub> scrubbers”).

As we are preparing for the final outage at the E.W. Brown site, which is scheduled to start in October, construction and commissioning will be wrapping up what can certainly be called a feat of mammoth proportions that has spanned more than five years of intense efforts by craft and staff in the Greenville, South Carolina home office and at the jobsites.

## Site Locations

The Ghent station is a 2,200 MW (gross) coal-fired power plant located 55 miles southwest of Cincinnati, Ohio on the Ohio River. The E.W. Brown Station is a 740 MW (gross) coal-fired power plant located 25 miles southwest of Lexington, Kentucky on Herrington Lake.

Here are some facts about this program:

|  | Ghent Site   | E.W. Brown Site   |
|--|--|---|
| <b>FGD Scope</b>                         | Three FGD systems were installed on three coal-fired units – 1, 3, and 4   | One common FGD was installed on three coal-fired units – 1, 2, and 3  |
| <b>Other New Scope/High Ticket Items</b> | <ul style="list-style-type: none"> <li>• Two concrete chimneys, lined with reinforced fiberglass plastic (RFP) flues, for units 1 and 4</li> <li>• Induced draft (ID) fans on units 2, 3, and 4</li> <li>• Reconnect unit 2 to existing unit 1 FGD</li> <li>• Two virtual frequency drives for unit 2</li> <li>• Limestone handling system, including an underground storage facility, conveyors, and limestone prep building</li> <li>• Three 63 t/hr capacity ball mills</li> <li>• Limestone unloading barge</li> <li>• Auxiliary power system sized for a future Unit 2 selective catalyst reduction (SCR) and future wet electrostatic precipitators (WEP) on all four boilers</li> <li>• Warehouse</li> <li>• Nine transformers</li> <li>• Service water pump upgrades</li> <li>• Two limestone storage tanks</li> </ul> | <ul style="list-style-type: none"> <li>• One concrete chimney, lined with a RFP flue</li> <li>• Induced draft (ID) fans on units 1 and 3</li> <li>• Disassemble, refurbish, and assemble the Ghent limestone prep system, including ball mills, for use at E.W. Brown</li> <li>• Limestone handling system, including truck unloading, stacking tube, conveyors, and prep building</li> <li>• Replace Unit 3 service water intake structure</li> <li>• Training building</li> <li>• Warehouse</li> <li>• Two limestone storage tanks</li> <li>• One fire water/quench water tank</li> </ul> |

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## CLEARING THE AIR IN KENTUCKY CONTINUED

|                                      | Ghent Site  | E.W. Brown Site  |
|--------------------------------------|---|--|
| <b>Steel and Ductwork Quantities</b> | 7,272 tons of structural steel<br>3,000 tons of ductwork                              | 3,275 tons of structural steel<br>2,240 tons of ductwork                                   |
| <b>Craft</b>                         | The Ghent site had 971 craft personnel during the peak of construction in March 2007. | The E.W. Brown site had 572 craft personnel during the peak of construction in March 2009. |
| <b>Safety Record (to date)</b>       | 4.5 million safe work hours without a lost time incident                              | More than 2.2 million safe work hours without a lost time incident                         |
| <b>Number of Audits</b>              | 37 discipline and quality audits  | 22 discipline and quality audits   |
| <b>Deliverables to Client</b>        | 2,960 AutoCAD translations  | 2,759 AutoCAD translations   |

The largest single concrete pour on this program was the Ghent unit 4 chimney pile cap, consisting of 6,000 cubic yards, poured in 30 continuous hours. The SO<sub>2</sub> scrubbers that have been installed use a single-absorber technology provided by Babcock Power Environmental. All were designed to remove 98 percent of SO<sub>2</sub> emissions. In the performance testing at Ghent, all three scrubbers achieved better than 99 percent removal.

Besides the activities remaining at the E.W. Brown site, at the Ghent site Fluor is also finishing up additional scope, e.g., installation of siding on the Ghent 1 FGD and SCR buildings, installation of axial ID fans on Ghent 4, and installation of bridge cranes for ID fan maintenance purposes on Ghent units 1 and 4.

The challenges thus far have been many, but these challenges were also met through excellence in project execution. In addition, personal satisfaction is achieved when all major goals are met, and we all know in the end it took the entire team to accomplish this incredible feat.

Scott Straight, director of project engineering at E.ON U.S., had this to say about Fluor: *“Fluor has been an extremely valuable partner with Kentucky Utilities and Louisville Gas & Electric for the last decade. They have designed and constructed seven SCRs for us and now are nearing the completion of a large FGD program where we have installed FGDs on three of our Ghent units and all three E.W. Brown units. Their professionalism, unwavering focus on safety, outage management, and manner in which they construct these very large projects is a gold standard for the industry. However, what stands out the most is the friendships we have gained while working together through the ups-and-downs of these difficult retrofit projects.”*

**[Download the complete article with photos.](#)**

# \$1.8 BILLION UN RENOVATION PROJECT BACK ON SCHEDULE, BUT STILL OVER BUDGET

Source: PM World Today – PMForum.com

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The project to renovate the United Nations Headquarters in New York is now only \$90 million over its \$1.876 billion budget compared with \$219 million two years ago, this according to the UN on 30 November. According to the same report, there is now also a good chance of returning the project to the black, while being on schedule for completion by late 2013.

"We will continue to seek opportunities to align the budget to the project and I remain confident that we will complete the project within the approved budget," Capital Master Plan (CMP) Executive Director **Michael Adlerstein** told a news conference. He cited lower inflation and prices for materials than when the renovation was budgeted.



**Michael Adlerstein with model of new UN headquarters; courtesy of New York Times.**

When completed, the 39-storey building towering over the East River and First Avenue in Manhattan will possess the 21st-century trappings of eco-friendly energy conservation. Its dulled glass façade will be replaced with a new glass curtain resplendent with the same bluish-green tint as in its first incarnation in 1952.

"The environmental performance of the Headquarters complex will be significantly improved," Mr. Adlerstein said. "Total energy consumption will be reduced by 50 per cent as compared to existing conditions. The carbon footprint of the compound will be reduced by over 45 per cent. The consumption of fresh water will be reduced by over 40 percent."

Approximately 3,300 of the more than 5,000 people that have to be moved from the Secretariat building have already been relocated and the remainder will be moved by early 2010. A new data centre in the basement is should be finished by March. "When the staff relocation is completed and the data centre migration is concluded, the renovation of the Secretariat will go into high gear," Mr. Adlerstein said.

Asked how long the building would last after work is completed, Mr. Adlerstein replied: "The renovation of the UN building should last forever. Like all buildings if there's cyclic maintenance, every 10 or 15 years which is the way that it should be done, which is the way that most organizations do, then it can go on forever. There are buildings that are hundreds of years old that survive very well."

"What's important is that governments and inter-governmental organizations like the UN often put aside that need in terms of the rest of their mission... so the funds are always in competition and the funds to fix up their house are not heavily competitive, which is a shame because then you end with a crisis like the Capital Master Plan where you have to vacate and do it wholesale," he added.

# CONSTRUCTION PROJECT SCHEDULING TODAY: ISSUES AND CONTROVERSIES

Source: PM World Today – PMForum.com

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*Editor's note: This editorial launches a new series of articles in PM World Today related to construction project scheduling, by one of the world's leading project scheduling experts. Earl Glenwright has nearly 40 years of experience in the field of construction project scheduling. He has agreed to provide a series of articles on various aspects of the topic for our readers. We hope this series provides new and useful information for those of you engaged in planning and managing construction projects around the world. This guest editorial introduces the series.*

PM World Today is featuring a new monthly series of presentations on contemporary construction scheduling issues and discussions about controversial aspects of construction scheduling in the real world of today's projects.

Construction Scheduling has been evolving from its beginning in 1957 until today. Consequently practitioners and management teams should upgrade their understanding of the principles, processes, practices, and how they can profit by taking full advantage of current techniques.

Hence we must put today's scheduling practices in a contemporary perspective.

To understand the issues, explanations, and remedies one must accept the reality that an evolution has occurred in the way we practice the use of scheduling principles and processes today. Many prior practices, albeit appropriate work-arounds of software and hardware limitations at the time they were used, are no longer appropriate.

In fact they are hindering full use of current hardware and software in the most effective way of achieving the full benefits that are now available. Good scheduling practices will enhance achieving on-time completion of construction projects which ultimately manifests itself in larger contributions that increase the amount of profit.

Experienced senior scheduling managers are not all in agreement but they do acknowledge the issues.

## [Read Complete Editorial](#)

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Membership  
Lapel Pin**



As a token of the DPC SIG's appreciation for your participation in the SIG, we would like to send you a lapel pin. We encourage all members to wear the pin at PMI® chapter and international events and to look for, and network with, other DPC SIG members wearing their pins. Show your pride in the DPC SIG! Send an email to [administrator@dpcsig.org](mailto:administrator@dpcsig.org).

*Be sure to include your mailing address.*

## Upcoming Events



**PMI® Global Congress  
North America  
9-12 October 2010**

**PMI Calendar  
of Events**

## **DPC SIG 2010 BOARD OF DIRECTORS**

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