



Project and Program Management for Energy Engineers and Energy Managers

By: S. Bobby Rauf, P.E., C.E.M, MBA

Title of Program: Project and Program Management for Energy Engineers and Energy Managers

Pre-requisite: Some knowledge and experience related to energy, engineering, or construction

Time/Duration: 8 hours. Eight (8) PDH's, 1.6 Credits or 0.8 CEU's.

Who Should Attend?

- Engineers
- Engineering Managers/Directors
- Project Managers
- Facilities Managers
- Energy Professionals
- Project Planners
- Construction Supervisors
- Construction Site Superintendents
- Construction Company Managers/Executives
- Project/Construction Safety Supervisors
- Technicians with Project Phase Responsibility

Brief Program Description and Objectives:

This course caters to Engineers, Facilities Managers, Construction Supervisors, Energy Professionals, and Technicians, who are directly or indirectly responsible for operation of manufacturing and institutional facilities, safe execution or completion of projects; projects involving construction, start-up and commissioning of manufacturing, commercial, and institutional facilities. In this program, the instructor shares proven best practices in the field of project management; learnt, vetted and proven over 34 years of project and program management experience in diverse industrial settings. Through this course, participants will be exposed to the A – Z of project management. The program begins with the formulation, vetting and acceptance of the project objective and takes the audience all the way to commissioning and project closure stage - navigating through all phases of project implementation or execution. All phases of typical large project – with budgets exceeding 0.5 million dollars, and schedules extending over multiple months - are outlined below. In addition to being introduced to



commercially available project management programs/tools, participants will get the opportunity to learn lessons that are seldom covered in textbooks and are often acquired through experience. The live, real time, versions of this program are designed to be interactive where audience is encouraged to participate and share their experiences, challenges, failures and successes; this enriches the audience's learning.

Topics to be covered:

1. Development of Energy Project objective, basic assumptions, scope of work and conduct financial analysis.
2. When project objective, scope, financial goals and funding limits are predetermined:
 - a) Verify objective and the scope of the project
 - b) Vetting of technical feasibility, constructability and sustainability
 - I. Have existing or available infrastructure limitations been considered?
 - c) Appetite for the magnitude of investment at the corporate or SBU level – business climate, short and long term.
 - d) Project implementation resource availability
 - e) Assessment or verification of financial analysis
 - I. Expected value of the project based on available data
 - II. Probabilities of states of nature considered.
 - III. Level of confidence and probability of success of the project.
 - IV. Time value of money based NPV analysis conducted - referenced on reasonable average cost of energy from local utility.
 - V. Life cycle cost consideration
 - f) Are the expected savings based on reasonable, plausible, or empirical data? Is the load profile over a reasonable or substantial period of time?
 - g) Verification of incentives – risk of “sunset” before commissioning
 - h) Are all possible incentives – utility, municipal, state and federal accounted for?



2. Project mapping and introduction to commercially available project management programs/tools
3. Project team formation and management approval
 - Assignment based on skills, expertise, experience and credentials
4. Development of functional specifications of the system or process
 - Functional specification and basic assumptions review, acceptance, finalization, approval and adoption.
6. Phased implementation of project versus single contiguous projects
 - Phase I -> Phase II -> Phase III, etc.
7. Identification and implementation of applicable safety measures during various phases of the project
 - Specific safety guidelines, policies, recommendations and safety performance metrics pertaining to various phases of project
8. Long lead components of the energy project
 - Design and specification development, quotation, bid selection, funding request development, funding approval process, purchase requisitions and purchase orders, order placement/procurement for long lead items
9. Non-Long lead components of the energy project
 - Design and specification development, quotation, bid selection, budget development, financial analysis, funding request development, funding approval process, purchase requisitions and purchase orders, order placement/procurement.
10. Protocol for communications and interpersonal transactions between all concerned employees, staff, supervision and members of management associated with the project



- Interpersonal Communication, Morale and Positive Reinforcement for the Team
11. Clarification of expectations, goals, schedule milestones
 - 12) Factory testing of equipment
 - 13) Receive equipment, material, tools and supplies for the installation phase.
 - 14) Pre-mobilization transfer of drawings, technical data and important safety information.
 - 15) Required training of installation crew and necessary communications to all concerned
 - Safety, security and documentation
 - 16) Installation
 - Pre-shift meetings and safety briefings
 - 17) Start-up, testing and commissioning
 - 18) Verification of projected output or energy savings
 - 19) Project closure

Instructor Bio:

Professor S. Bobby Rauf, P.E, C.E.M, MBA; member, ASEE, American Society of Engineering Education.

Bobby Rauf is the President, Chief Consultant and a Senior Instructor at Sem-Train, LLC. Bobby has over 25 years of experience in teaching undergraduate and post-graduate Engineering, Math, Business Administration and MBA courses, seminars and workshops. Professor Rauf is registered (PE) **Professional Engineer**, in the State of North Carolina and is a **Certified Energy Manager**.



Mr. Rauf was inducted as “**Legend in Energy**” by AEE, in 2014. He is a published author of multiple engineering and energy books and professional development courses. He holds a patent in process controls technology.

Professor Rauf is certified to instruct various engineering, ergonomics, and industrial safety courses. He has conducted certification training and trained engineers for Professional Engineering licensure exams in the United States, The United Kingdom, Kingdom of Saudi Arabia, The Netherlands and Ukraine, over the past ten years.

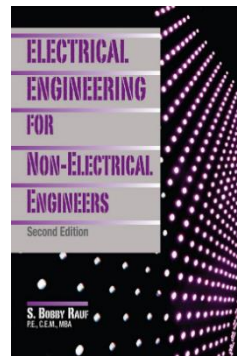
Mr. Rauf develops and instructs PDH (Professional Development Hour) and, continuing education, engineering skill building courses. He conducts these courses in form of webinars, live on-site presentations, workshops, pre-recorded audio and self-study texts. Some his major clients include **Texas A&M University, Saudi Aramco – KSA, University of North Carolina at Charlotte, McNeese University, Lamar University, Clemson University, Association of Energy Engineers, EPIC College - Canada; US Bureau of Reclamation, BHP Billiton, PDH Engineers, CED, and PDH Source**. He is also an Adjunct Professor at Gardner-Webb University.

Professor Rauf has also developed and published several self-study books that cater to the continuous professional development needs of Engineers, Technicians and Technical Managers.

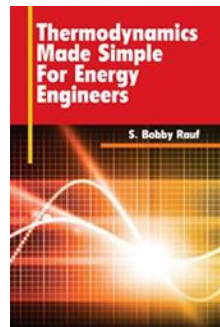
Mr. Rauf’s last full-time engineering employment, in the corporate world, was at PPG Industries, Inc. where he served as a **Senior Staff Engineer**. During his long career at PPG, his responsibilities included development and management of energy and ergonomics programs for multiple manufacturing plants, in the US and overseas. He also provided consultation and training services in, energy, electrical engineering, industrial safety, ergonomics and arc flash arena. His extensive engineering experience includes, power design, control system design, project management, process management, energy and utilities management, energy audits/assessments, plant maintenance, robotics, manufacturing automation, HVAC audits, and design of ergonomic equipment.

Professor Rauf’s publications include (Available through AEE, Amazon.com, and Barnes and Noble):

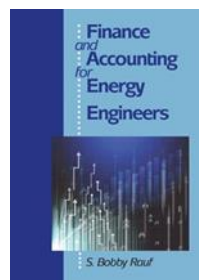
- 1) Text book titled “**Electrical Engineering for Non-Electrical Engineering,**” The Second Edition of this book was published in 2016 through Fairmont Press and CRC Press – Worldwide distribution.



- 2) Text book titled “**Thermodynamics Made Simple for Energy Engineers,**” Published in 2012 through Fairmont Press and CRC Press – Worldwide distribution.



- 3) Text book titled “**Finance and Accounting for Energy Engineers,**” Published in 2011 through Fairmont Press and CRC Press – Worldwide distribution.



Mr. Rauf of Sem-Train has provided training and/or consulting services to the following organizations over the last fifteen years:

1. **BHP Billiton**
2. **Saudi Aramco (Dammam, Kingdom of Saudi Arabia)**
3. **US Bureau of Reclamation (Hoover Dam)**
4. **CED**
5. **Balfour Beatty**
6. **Shaw Group**
7. **McNeese University**
8. **University of North Carolina, Charlotte**



9. Texas A&M University,
10. Clemson University,
11. PPG Industries, Inc.,
12. PDHengineer,
13. PPI, Professional Publications
14. University of Maryland Baltimore County,
15. EPIC (Canada)
16. Y-F Asia - Singapore

Testimonials from clients/participants:

- 1) Bobby seems very knowledgeable and passionate about what he is presenting. He is very good at using real-life experiences to illustrate or clarify how some of these concepts can be implemented.
- 2) The discussions about (energy project) management maxims, performance indicators, scheduling, and communication were very helpful. Also, useful, were the sections on professionalism and positive reinforcement, and project start-up/closeout.
- 3) Energy Project Management Seminar....provided a better understanding of the (energy) project screening and vetting process as well as project performance metrics.
- 4) “Bobby: I wanted to pass on my thoughts concerning the recently completed, Electrical Engineering for Non-Electrical Engineers. I found it to be very helpful, especially the section on Power Factor. I have had it explained to me a number of times, but your explanation was the best.
- 5) “Hi Bobby, I've enjoyed both of your pdhengineer.com webinars that I've attended.....I don't know how you get through a full 8 hours at such a high energy level!”
- 6) “Dear Bobby, it was such a pleasure to meet you and having you as the great instructor of our Electrical Engineering seminar. As I understood from the attendees they really enjoyed your course and learned a lot...”

Cancellation Policy: Full refund granted if registration is cancelled **30 days** or more prior to the scheduled date of the seminar; otherwise, registrant can apply the course credit toward attendance at another, scheduled, equivalent event, in the region, at a later date.

Sem-Train, LLC, reserves the right to cancel the seminar when minimum registration threshold is not met. In such case, Sem-Train, LLC, will issue full refund to the registrant. Registrants for live, in-person seminars, in some cases, may be given the option to attend the on-line, live, webinar, version of the seminar.

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