



### FEATURE REPORTS

#### Seven Tools for Project Success

**Summary:** Planning and executing a project is a big undertaking. Having the right tools is critical for effective project management. This article provides fundamentals that are useful for the novice or part-time project manager who is involved in small capital projects at the plant level, but many of the concepts are also equally applicable to all levels of expertise. The concepts and tools discussed include: project scope; a budget based on cost estimates; project schedule; organization chart; action item list; project execution plan; and a risk register.

**Related equipment and services:** Project management services, such as those that may be offered by EPC firms and consultants; software and courses to aid engineers in managing projects

**Relevant industries:** This article is relevant to all industries where new, revamp, re-design and expansion projects are being conducted. With the current shale-gas boom, such projects are taking place throughout the CPI

#### Boilers and Pressure Vessels

**Summary:** The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPV) governs the fabrication and testing of pressure vessels in the chemical process industries (CPI). The BPV requires that manufacturers maintain a quality control manual, the components of which are detailed in this article. Understanding the vessel manufacturer's requirements can be beneficial to CPI users in cases of vessel installation, alteration, repair, maintenance and testing.

**Related equipment:** boilers, heat-recovery steam generators, pressure vessels, transport tanks, fiber-reinforced pressure vessels, direct-fired steam-heating boilers, auxiliary equipment such as pipes, flanges, valves, gages

**Relevant industries:** Boilers and pressure vessels are common throughout the CPI

**Bonus Distribution**  
**Informex, January 21-24, Miami**

### FRACTIONATION COLUMN

**Summary:** This monthly column in *CE* is written by the technical director at Fractionation Research Inc., a consortium of end-users, engineering companies and distillation equipment providers that pool budgets on distillation research.

**Related equipment and services:** Distillation towers; trays and packings; tower-scanning equipment and services.

**Relevant industries:** This column addresses segments across the entire CPI.

### NEWSFRONT

#### Dehydrogenation technology

**Summary:** The increased exploitation of shale gas in the U.S. is causing a shift to lighter feedstocks for ethylene producers. This shift from naphtha to ethane cracking is reducing the propylene yields. As a result, propylene producers are looking to propane dehydrogenation (PDH) technology to make up the propylene shortfall while taking advantage of lower propane prices. This month's Newsfront will present the latest PDH technology and explore the rapidly changing market landscape.

**Relevant industries:** Petrochemicals

**Related equipment and services:** Engineering and Construction, process technology and licensing, catalysts

*Editorial material for consideration should be sent to senior editor Gerald Ondrey (gondrey@che.com).*

### EQUIPMENT NEWSFRONT

#### Trends in Weighing

**Summary:** Weighing is widely used throughout the chemical process industries (CPI), as well as throughout the product chain, with scales used for such tasks as unloading feedstock, dosing reactors and other process operations, and filling final products into packages prior to shipment. This equipment newsfront will present the latest in weighing technology launched on the market.

**Relevant industries:** All sectors of the CPI use weighing technology.

**Related equipment and services:** Proportioners, scales of all types (conveying, bagging, platform and so on), load cells and so on.

*Editorial material for consideration should be sent to contributing editor Joy LePree (jlepre@che.com).*

### FACTS AT YOUR FINGERTIPS

#### Dust control

**Summary:** Dust control in the CPI is important from both a process safety standpoint and from a health hazard standpoint. This one-page reference will provide a set of definitions and data related to dust safety and dust control.

**Related equipment:** Dust control systems and devices, including filters, collectors and so on; dust suppression methods, such as wet suppression systems, dust prevention

**Relevant industries:** Most sectors within the CPI have to consider dust control, but it is particularly important to those engaging in solids handling. This could include food, pharmaceuticals, mining, inorganic chemicals, and any place where solids are ground, milled or handled.

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### FOCUS

#### Performance Materials

This feature will include short summaries of some of the newest performance materials on the market, including ceramics, plastics and other polymers, adhesives, coatings and more.

**Relevant industries:** Performance materials are important in all sectors of the CPI.

**Related equipment and services:** All types of process equipment are relevant.

### ENGINEERING PRACTICE

#### Remote Thermal Imaging for Plant Maintenance

This article describes how to use remote thermal imaging to improve equipment operation and plant efficiency. Discussed are different technology types, diagnostic best practices and how to get the best return on investment from thermal imaging equipment.

**Relevant Industries:** Maintenance is an integral topic in all sectors of the CPI, and thermal imaging technology is applicable numerous types of mechanical and electrical equipment.

**Related equipment and services:** Rotary equipment, Process equipment (pumps, valves, heat exchangers, conveyors), electrical heat-tracing systems, steam networks and instrumentation.

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#### Sampling of Steam and Water from Pressurized Piping

**Summary:** Corrosion and deposition in boilers, steam turbines and process equipment are among the most common causes of temporary outages and system failures. Proper design and operation of sampling systems to monitor water and steam chemistry is essential, to minimize sampling errors and ensure that operators have accurate information to use when planning both operating and maintenance efforts. This article provides guidance for establishing proper sampling systems and protocols.

**Related equipment:** Steam plants, boilers, piping, steam turbines, analytical devices, corrosion-monitoring instruments, sampling nozzles, isolation valves, sample tubing, back-pressure regulators

**Related industries:** The production of high-pressure steam is carried out in all segments of the CPI.

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January 23, 2014

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