



VCEPractices

Comprehensive engineering practices that help optimize your equipment lifecycle costs



A Management System to design, build, buy, commission, maintain, monitor, test, inspect, repair & modify refinery equipment.

- Built on industry Best Practices
- Successfully used for major capital projects & revamps
- Customized to your site
- Consistent with regulatory requirements
- Low cost to license & maintain
- On-call support from technical experts

The VCEPractices Management System

The VCEPs are a management system consistent with PSM requirements - not just a collection of individual practices. The system details how to design, build, buy, commission, maintain, monitor, test, inspect, repair, and modify refinery equipment.

- Prescriptive yet flexible - empowers engineers to make decisions on preferences
- Complies with MOC procedures - requires documentation of deviation from requirements
- Assures standardization - ballot procedure assures uniformity throughout the company, and allows site specific preferences
- Internet access - provides network for technical committees
- Controlled distribution - delivered electronically and updated annually
- Functions as an archive - a centralized storehouse to safeguard your corporate memory

The VCEP system offers:

- Electronic Adobe PDF format, accessible via corporate network or E²G web server
- Hyperlinked and searchable
- Piping classes and valve data sheets accessible via web-based database
- Forms in MS Word for electronic data entry and API datasheets in MS Excel
- Deviations posted on website and linked to deviated Practice
- Website maintained by E²G for vendors - nothing to distribute
- Option to customize with your corporate name and logo
- Option to customize collection by adding or deleting practices



E²G Technical Leadership

E²G's leadership in technical service and support adds a dimension to the VCEPractices that other providers of specifications can't match.

Our highly responsive customer support provides access to the VCEP authors as well as ongoing input from specialists with hands-on, practical experience. You'll be working with recognized experts in the field who:



- Develop industry standards and training course instruction (API, ASME, NACE)
- Provide specialized engineering on projects for major clients
- Feed experience with aging equipment back into the VCEPs to continually help improve long-term equipment reliability

E²G can manage the VCEP process and provide expert guidance for owner-users without large technical staffs. Once the refinery assigns a site coordinator and contact for each section in the VCEP collection, contact information for the E²G technical specialist for each section is provided on our website. It's almost like adding a team of engineers to your staff, without the cost.

Why Engineers Choose the VCEPractices

Designed to satisfy industry directives, and focused on sharing industry Best Practices, the VCEPractices™ (VCEPs) have been used on numerous capital projects.

The Equity Engineering Group, Inc. (E²G) experts who wrote and maintain the VCEPs have all worked for major refiners and chemical companies, both in plants and central engineering groups. Today, they serve on the committees setting industry standards, and are leaders in research on new procedures to design and evaluate equipment. Thus, the VCEPs are not static - they're updated annually from industry-wide practical experience.

Once they use them, project engineers are the biggest supporters of E²G's VCEP's. Here's what they say about our

- Saves significant time over the long-term
- Focuses on important issues - not over-engineered
- Provides confidence in safety and reliability
- Frees up time to spend on other job priorities
- Gives access to experts who authored the Practices
- Consistent with "Big Oil" refining specifications

What I like is that I can call the expert at E²G any time who wrote the Practice and can get an explanation of why a particular requirement is in there. These guys are involved in all of the industry committees and know what's happening. Their business is to serve customers like me. They're not a refining competitor or an E&C company trying to sell me on their next job.

Reliability Engineer

This easily accessible web-based management system is part of our Virtual Central Engineering (VCE) group - a team of E²G technical specialists on call to advise on your fixed equipment reliability needs.

Packaged Industry Standards Are Not Enough

The VCEPs offer detailed and precise specifications compared to industry standards that often reflect the lowest common denominator. Other problems with generic industry standards or E&C company specifications are:

- Vagueness - industry standards are watered down to reach consensus and avoid potential litigation
- Lack of specificity - the need to fill in gaps results in added work and inconsistent design
- Short-sighted thinking - E&C specifications focus on minimum cost to build rather than optimized lifecycle costs and reliability
- Not up-to-date - many existing practices are outdated and do not reflect industry Best Practices
- Lack of accessibility and availability - many standards exist only in hard copy and are difficult to update and share

Compared to other collections of specifications, E²G's VCEPs are:

- Customized to the refining industry - including specialty items (for example, FCC slide valves, heavy wall Cr-Mo reactors)
- Detailed & comprehensive - saving time and money
- A complete management system - assuring compliance with PSM
- A state-of-the-art resource - containing both new equipment Practices and Maintenance Best Practices, updated annually
- Web-based information sharing - fostering a technical network, developing site expertise, facilitating creation of a corporate memory
- Low cost to license and maintain - providing valuable intellectual property with no cost to develop
- No hassle - E²G manages the entire process

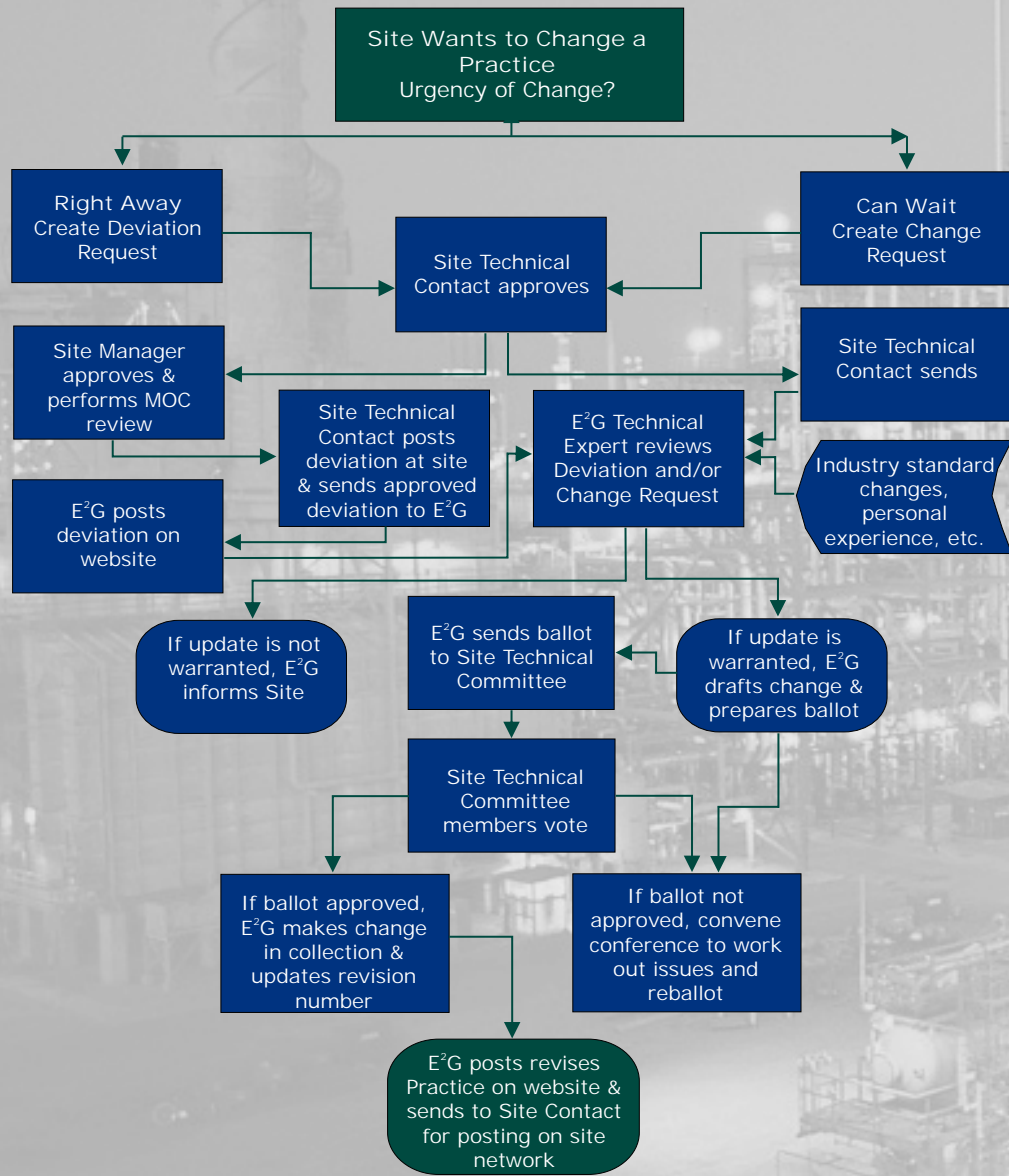
...On a higher plane than anything out there...what's important is that they're dynamic - you can update them because there's a feedback mechanism...

...They are quite detailed. I can actually purchase items with these practices, without needing to specify things separately...

*Project Manager
Major Gulf Coast Refinery*

The Equity Engineering Group, Inc. is the recognized leader on aging infrastructure service and support for the oil refining and petrochemical industries. E²G experts help improve your plant's profitability by supplying state-of-the-art products and services that ensure equipment operational availability, control inspection costs, and avoid costly shutdowns.

VCEP Change / Deviation Procedure



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