



# PROFESSIONAL LIABILITY UPDATE

A LOSS PREVENTION NEWSLETTER FOR THE DESIGN PROFESSION

MSP PL -05/2010 "Value Engineering: The Good, the Bad, and the Better"

May 2010

Professional Liability Update Newsletter

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## Value Engineering: The Good, the Bad, and the Better

Article courtesy of Professional Liability Agents Network (PLAN)

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**V**alue Engineering, or VE, is a concept that was conceived by General Electric (GE) during World War II. Faced with material and labor shortages, GE instituted a process designed to identify substitute materials and processes that would reduce costs or improve functionality and performance. The process of re-engineering products to improve cost-effectiveness and value gained steam, and eventually GE developed a systematic procedure to apply to all of its products. The success of that effort led many industries, including the construction field, to apply the same VE principles.

Today, project owners are turning to VE as a method to minimize waste and cost and to maximize

functionality and profitability on new construction projects. Performed correctly, VE is advantageous for all parties involved, and presents income opportunities for design firms who become certified value engineers. Performed incorrectly, however, VE presents the potential for added costs, time, and liabilities to the design firm of record.

Let's take a closer look at the good and the bad of VE, and how you can make the process work better for you in the future.

### The Good

Value Engineering refers to a detailed, systematic set of procedures implemented to achieve optimum value. The procedures typically involve:

- Gathering information about a product or function
- Analyzing the current engineering of the product or function
- Brainstorming creative alternatives to re-engineering the product or function
- Evaluating and testing the most promising ideas to create value
- Developing and presenting the best VE approach
- Implementing the new engineering process

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- Tracking results and following up as necessary.

Applied to a construction project, the goal of this VE process is to eliminate or re-engineer design and construction features that add cost but do not add corresponding value to a project. "Value" is typically measured as improved quality, functionality, life, utility and/or appearance.

With VE, certified value engineers analyze design concepts, specifications, construction techniques, materials, building systems, building types, and up-front versus life-cycle costs to arrive at a plan for achieving the best overall value. Often, the value engineer works closely with the architect or engineer of record. In fact, many value engineers prefer to include the designers on their VE teams.

This formal or "scheduled" VE is best planned at the onset of the project as an integral part of the design process. Ideally, a VE team includes the value engineer, key representatives of the owner, the prime design professional, the contractor, the construction manager (if any) and the project's professional cost estimator (if any).

Through formal meetings, the group identifies potential savings and improvements, large and small. The owner and the prime design professional evaluate these findings and discuss the impact of the group's recommendations on the project. Key to the cost-effectiveness of this approach is that the owner's decisions are implemented by the prime design professional during the initial design development phase, thereby eliminating the need to go back and revise schematic design documents.

Carried out in this manner, VE can be an enormous benefit to both the owner and the design professionals as a way of verifying the planning, design and financial wisdom of their decisions.

## The Bad

As with many systematic procedures that require a high level of expertise, Value Engineering has spawned some "wannabe" copycats. Throughout many industries, uncertified individuals have attempted to market their services as Value Engineering while, in



### 2010 Design Professional Series Exclusively for Design Professionals!

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- UDC v CH2M Hill Decision (Webinar)

Presented by Contract Solutions Group  
Presented on Wednesday, April 14, 2010



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COMING in June 2010!

- What Design Professionals Need to Know about Litigation (Seminar)

Presented by Cavignac & Associates



**Date:** Wednesday, June 16, 2010

**Time:** 8:00—10:00 am

**Registration Deadline:** **Friday, June 11, 2010**

**Cost:** \$70 per Participant\*

For more information, or to sign up: [LINK](#)

\* Proceeds Go to the Professional Organization of Your Choice

- Ethics for the Design Professional (Webinar)

Presented by

Professional Liability Agents Network (PLAN)



**Date:** Wednesday, June 23, 2010

**Time:** 11:00 am — 12:15 pm PDT

**Registration Deadline:** **Friday June 18, 2010**

**Cost:** \$85 per connection

For more information, or to sign up: [LINK](#)

- Improving Design Professional Collection Practices (Webinar)

**New Techniques to Reduce Late Payments and Write-Offs**

Presented by Contract Solutions Group



**Date:** Wednesday June 30, 2010

**Time:** 11:30 am—1:00 pm PDT

**Registration Deadline:** **Friday June 25, 2010**

**Cost:** \$129 per connection

For more information, or to sign up: [LINK](#)

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450 B Street, Suite 1800, San Diego, CA 92101-8005

Phone 619-234-6848 Fax 619-234-8601

Web Site [www.cavignac.com](http://www.cavignac.com)

reality, they are performing scaled-down services that focus primarily on cost-cutting, rather than value-building or cost effectiveness.

Within the construction industry, VE is sometimes used to describe a process marketed to project owners as a cost-cutting tool. This "informal" value

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engineering can be performed by design professionals, general contractors, construction managers, cost estimators or others who are not certified value engineers.

These cost consultants often provide advice to the owner throughout all phases of the project. There is usually no formal, pre-scheduled value engineering process. Recommendations to cut costs can occur late in the design process, usually without considering compensation for the added work for the design firm of record. Worse, cost-cutting changes can be made to the original design during the construction phase, sometimes without the designer being notified.

Worst case, this informal cost-cutting process can deteriorate into what amounts to unscheduled second-guessing of the original designer by the consultant hired to cut costs with little concern for long-term value. In fact, some of these so-called VE firms base their compensation on how much money they save the owner. This poor substitute for formal VE can undermine the designer of record and reduce the quality of the project.

Too often, this type of informal VE excludes or severely limits the involvement of key team members. Typically, the consultant unilaterally makes cost-cutting recommendations to the owner. The owner then decides what changes to make in the project scope, building systems or materials, and directs the design professional to revise the design concepts and previously prepared documents accordingly.

There are several issues to consider here. Introducing informal VE late in the course of the project – particularly during or after the construction documents phase – can be risky and expensive. You and your project team will face a whole new set of problems and potential liabilities.

Late VE can disrupt the design and construction drawing preparation process. It may mean rethinking fundamental decisions, and call for subsequent redesign and reproduction of construction documents to reflect the changes. All this will require additional time that will impact schedules and budgets. The result can be reduced quality, increased life-cycle costs and an unhappy client – all resulting in increased liabilities.

Certainly, if this informal VE results in adversarial relationships, there is a much greater likelihood of conflict and claims. There is also a greater potential for errors in revising the construction documents after bids have been received because of the tight time and budget constraints under which such revisions typically need to be made. Changes made in haste may not allow for proper coordination and checking. There is often significant pressure to accept a lesser level of quality or inferior products or building systems –



### 2010 Risk Management Series

- 7 Steps to Avoid Costly Employee Lawsuits (HR)  
Friday, May 21, 2010  
Registration: 7:30 am  
Program: 8:00 am - 10:00 am
- Sexual Harassment Prevention Training (HR)  
AB 1825 Compliant  
Friday, June 4, 2010  
Registration: 7:30 am  
Program: 8:00 am - 10:00 am
- Mid-Year Legal Update (HR)  
Friday, June 18, 2010  
Registration: 7:30 am  
Program: 8:00 am - 10:00 am
- OSHA 10 Hour Training  
Friday, July 16, 2010  
Registration: 6:30 am  
Program: 7:00 am - 5:00 pm

All training sessions available to our clients  
Reserve early / seating is limited!

Register for upcoming seminars

Contact Darcee Nichols at [dnichols@cavignac.com](mailto:dnichols@cavignac.com) or call 619-744-0596

\* **NOTE:** Due to the popularity of our seminars and limited space available, we regret we cannot provide refunds or credits with less than 72 hours advance notice of cancellation.

although these cheaper alternatives may significantly increase the costs of operation and maintenance over the life of the project.

## The Better

Properly executed, Value Engineering can lead to a better project for all parties involved, including the design firms. VE can identify better ways to build a better mousetrap – and your client's project.

Value Engineering (continued on page 4)





Value Engineering  
(continued from page 3)

You can  
learn of new  
techniques,

new systems and new materials from a qualified value engineer. VE can result in projects that apply the latest in technology, and result in high performance buildings with improved sustainability, greater energy efficiency and a longer, more profitable lifecycle.

Clearly, however, any design firm that hears the words "Value Engineering" associated with one of its projects should take notice. Ascertain whether the project owner is indeed hiring a certified value engineer. Determine whether a formal VE process is being instituted from the earliest design stage, or whether it's really just a cost-cutting exercise in disguise.

Here are some important questions you should consider:

- Who is the value engineer? Is he/she certified? What is his/her track record?
- Is the value engineer's compensation based solely or largely on the amount of cost savings generated?
- Does the VE process begin at the early design stage?
- What is my role in the VE team?
- If my design is evaluated and re-engineered, what is the extent of my responsibility to modify it?
- How will I be compensated for re-design work?
- What is my recourse if I disagree with the value engineer's recommendations?
- Do I have a responsibility to make changes that I believe are inappropriate?
- What happens if the changes affect the permits or licenses obtained for the original design?
- What if a lawsuit results from the redesign changes – am I liable?

Develop a clear understanding with your client as to the extent of your obligations to redesign in order to accommodate decisions based on the VE process. Your contract should include a clause to limit responsibility and liability for redesign imposed by others, and give you the ability to object to the recommendations of the value engineer. In addition, make certain any redesign you provide will be performed as an additional service and compensated for accordingly.

Of course, if you feel there is a threat to public health and safety if certain recommendations are implemented, document your refusal to make such

changes and follow up with both the value engineer and your client to try to reach a resolution. If your concerns are not allayed, you may have a duty to notify appropriate building safety agencies in accordance with your obligations under your license. Seek legal counsel before proceeding.

## Conclusion

During the design process, you engage in your own form of VE each and every day. You've made thousands of cost-benefit decisions based on your knowledge and experience. The quality of these decisions largely depends on your understanding of the owner's expectations, desires and requirements. Frequent, open and clear communication allows you to consider alternative solutions, propose choices for the owner, try different approaches and deliver creative and cost-effective design solutions.

If an owner proposes Value Engineering, point out that **while VE can add value, it doesn't always translate into cost savings**. The process typically adds additional design development fees with no guarantee of reduced construction or maintenance costs. The goal is long-term cost-effectiveness and value, not up-front cost reduction. ✨

**Disclaimer:** This article is written from an insurance perspective and is meant to be used for informational purposes only. It is not the intent of this article to provide legal advice, or advice for any specific fact, situation or circumstance. Contact legal counsel for specific advice.

## Cavnac & Associates

INSURANCE BROKERS

### Design Professionals Team

Risk . . . Needs to Be Managed



**Jeffrey W. Cavnac**, CPCU, ARM, RPLU  
Account Executive / President



**Celia Mondfrans**, AAI, CRIS  
Sr. Account Manager  
cmndfrans@cavnac.com



**Dorothy Amundson**, CIC, CWCA  
Account Executive



**Angela Durón**, CISR  
Account Manager  
aduron@cavnac.com



**Jeffrey J. Steen**, CIC, RPLU  
Account Executive



**Jolinda Kramer**, RPLU  
Sr. Account Manager  
jkramer@cavnac.com



Articles courtesy of Cavignac & Associates Employee Benefits Department

## LIVE WELL, WORK WELL

### Check Your Pressure

**M**ay is National High Blood Pressure Awareness and Prevention Month, so what better time to get your blood pressure checked and know your numbers!

High blood pressure, also known as hypertension, occurs when your resting blood pressure is consistently measured at 140/90 or greater. The higher number – your systolic pressure – indicates when the heart beats, and the lower number – your diastolic pressure – is when the heart is at rest.

The goal is to keep your blood pressure below this level – or below 130/80 if you are diabetic or have chronic kidney disease.

Because there are no symptoms of high blood pressure, it is often referred to as a silent killer. When left untreated, high blood pressure can cause heart failure, aneurysms, kidney failure or stroke. Talk to your doctor this month about how you can prevent or treat your high blood pressure. ✨



### Financial Spring Cleaning

**I**t's spring – time to assess, refresh and grow. But don't think this just applies to your garden. A little spring cleaning can help you grow your finances, too.

Treat your financial statements and bills like closets. Is there anything you're not using anymore? Could you reduce your cable package? Or eliminate your home phone? Consider what you're not "wearing" anymore, and think about what you could eliminate.



Get rid of winter bills with the season. Still have leftover holiday debt? Now is a good time to get rid of it. To do this, consider a one-time way to make money, such as a garage sale, selling online or volunteering for overtime at work.

Consider an automatic savings plan. Go to your bank's Web site and set up an automatic transfer from your checking to your savings each month. Already have an automatic savings plan? Set up one for something specific, such as a weekend away or a remodeling project. Even if you can only contribute \$20 a month to your new account, it easily adds up. ✨

### 100 Calories or Less!

**D**id you know that one snack-sized bag of potato chips has about the same number of calories as an apple *and* one cup of strawberries *and* one cup of carrots with low-calorie dip?

When trying to lose weight, one of the most important points to consider is eating fewer calories than you did previously. But this doesn't mean that you necessarily have to eat less, just smarter. Filling up with healthier alternatives can satisfy your hunger while still monitoring your caloric intake.

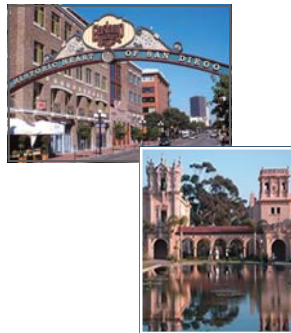
Consider some of these healthier 100-calorie or less options, next time you're hungry for a snack.

- 2 cups raspberries
- 1 cup blueberries
- 1 medium-sized apple
- 1 hard-boiled egg
- 6 oz. fat-free yogurt
- 1 stick string cheese
- 1 handful roasted peanuts
- 2 tbsp. hummus with ¼ cup fat-free pretzels
- 2/3 cup whole grain cereal with ¼ cup fat-free milk ✨



# Community Bulletin Board

*"Neighbors helping neighbors in San Diego"*



- ✧ Design Tours
- ✧ Web Site
- ✧ Questions? E-mail [info@SDArchitecture.org](mailto:info@SDArchitecture.org)



- ✧ Meow Madness—June 5th
- ✧ Web Site



- ✧ Web Site
- ✧ Summer Night on the Midway
- ✧ Questions? Contact **Alicia Gettys** by phone at **619-232-7451** or e-mail [agettys@ymca.org](mailto:agettys@ymca.org)



## Monarch Schools



- ✧ How You Can Help
- ✧ Web Site



### Mission:

The Society for Design Administration advances management and administrative professionals in the A/E/C industry through education, networking and resources.

- ✧ Become an SDA Member
- ✧ Web Site
- ✧ For more information, e-mail [vicepresident@sdasandiego.org](mailto:vicepresident@sdasandiego.org)



The San Diego Police Foundation supports the men and women who "protect and serve" by raising community awareness of important

unbudgeted or "discretionary" needs that will improve crime-prevention and law enforcement efficiency. The Foundation puts your tax-deductible contributions to measureable work in local communities.



- ✧ Web site
- ✧ Hands to Paws Canine Unit Benefit—June 5th
- ✧ For more information, contact [info@sdpolicefoundation.org](mailto:info@sdpolicefoundation.org)



### Mission:

To provide quality and compassionate services for the survival, health and independence of seniors living in poverty

- ✧ New Senior Center Opens
- ✧ Web Site

