Many owner-design professional agreements include value engineering provisions that require the designer to participate in, or even lead, a value engineering process:

Example #1
If, after bidding, the proposed cost for the construction of the Project exceeds the Construction Budget, the Architect will propose and/or review appropriate value engineering and incorporate the approved value engineering in the plans and specifications at the Architect’s expense.

Example #2
Subconsultant shall consider all factors having a significant effect on construction costs, including, but not limited to, trends in resource costs, quantity surveys, cost engineering, value engineering, site conditions, and construction market competition in preparing its estimated price.

Example #3
The Owner will secure the services of an experienced General Contractor to provide constructability reviews and make value engineering proposals for the design team.

Example #4
The Design Professional shall perform any and all value engineering and cost savings services as may be requested and/or required for the Project.

Example #5
If acts or omissions of the Architect result in defects or errors in documents prepared by the Architect which cause the Cost of the Work to increase over the stipulated sum in the Owner’s Agreement with the Contractor and/or require further design work to be performed to complete the Work (“Corrective Design Work”), then the Architect will submit, at Architect’s cost, for Owner’s approval, value engineering to bring the Cost of the Work within the stipulated sum (without limiting the scope or the quality of the Work) and/or Corrective Design Work as needed.

These five examples are from actual professional services agreements. What none of five agreements contained, however, is a definition of value engineering (VE) or a description of the VE process.
Don’t Confuse Value Engineering with Cost Cutting

VE is a structured process that evaluates a project for the purpose of achieving the owner’s functional requirements at the lowest construction and operational cost over the life of the facility. Independent VE teams evaluate various design concepts, materials and construction methods while maintaining the owner’s project-specific “value” parameters. In contrast, cost cutting involves making scope and cost trade-offs that rarely, if ever, preserve value or project quality.

The VE Process

“Real” value engineering is guided by the principles of the Society of the American Value Engineers (SAVE) www.value-eng.org. VE can be applied at any point in the design and construction process. However, VE yields the best results when implemented early in the design process. The VE process includes these six phases:

Information Phase—The Information Phase focuses on evaluating the project’s functional criteria and design concepts in conjunction with their cost impacts. During this phase the owner’s project objectives and definition of value are established.

Creative Phase—In this Phase, brainstorming is used to identify a broad range of value engineering options.

Evaluation Phase—In this Phase, the VE Team and project team evaluate and rank the VE options developed during the Creative Phase with the emphasis on cost savings and value improvement.

Development Phase—In the Development Phase, the highest ranked options are exposed to a more in depth cost-value analysis leading to the development of formal VE recommendations.

Presentation Phase—The final step in the VE process, is the presentation of the VE recommendations to stakeholders including the owner, the facility operating staff and the design team. The presentation addresses the basis for each recommendation including cost-benefit projections.

Construction Phase—During construction, value engineering is accomplished using VE change proposals submitted by the construction team.

Value Engineering (VE): The systematic application of recognized techniques that identify the functions of the facility, establish the worth of those functions, and provide the necessary functions to meet the required performance at the lowest overall cost. Value engineering is performed by an independent team (not associated with original design) focusing on ways to lower construction cost during the design phase of a project. (Unfortunately, many VE applications have resulted in ideas negatively impacting function of the project for sake of reducing costs. Thus, value engineering came to be identified by many as a cost-cutting exercise.

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Risk Management Guidance

Design professionals should address value engineering head on when negotiating professional services agreements. Not all VE is created equal and rarely, if ever, are VE requirements clearly defined in professional services agreements. Here are steps design professionals can take to assure they execute agreements that effectively address VE risks.

Delete All References to VE—The best solution to managing obscure value engineering requirements is to simply delete all references to VE in the contract. It is likely that the client will not know what they intended by including VE in the agreement making it easier for them to agree to the deletions.

Address Traditional Budget Control—Explain that cost estimates will be prepared at the end of each design phase and that it is not unusual to make scope, quality and cost trade-offs to keep the project in budget. Clarify that value engineering is different and requires the client to retain a qualified VE Team skilled in performing a formal VE process.

Recommend a Qualified VE Team—Explain to the client that a true VE is a detailed and structured process involving the use of an independent VE Team. Advise the client that the Society of American Value Engineers can assist in recommending a qualified VE Team. Architects using the AIA B 101 Owner Architect Agreement 2007 have the advantage of positioning value engineering as an additional service as set forth at Article § 4.1.10 which specifically references the AIA Standard Form Agreement B204™–2007 Value Analysis. See Side Bar.

B204–2007, Standard Form of Architect’s Services: Value Analysis, for use where the Owner employs a Value Analysis Consultant

AIA Document B204™–2007 establishes duties and responsibilities when the owner has employed a Value Analysis Consultant. This document provides the architect’s services in three categories: pre-workshop, workshop and post-workshop. The services include presenting the project’s goals and design rationale at the value analysis workshop, reviewing and evaluating each value analysis proposal, and preparing a value analysis report for the owner that, among other things, advises the owner of the estimate of the cost of the work resulting from the implementation of the accepted value analysis proposals.

AIA Document B204–2007 may be used in two ways: (1) incorporated into the owner/architect agreement as the architect’s sole scope of services or in conjunction with other scope of services documents, or (2) attached to AIA Document G802™–2007, Amendment to the Professional Services Agreement, to create a modification to an existing owner/architect agreement. B204–2007 is a scope of services document only and may not be used as a stand-alone owner/architect agreement. B204 was revised in 2007 to align, as applicable, with AIA Document B101™–2007.

AIA B-Series: Owner/Architect Agreements
http://www.aia.org/contractdocs/aia076745

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Construction Management and Design-Build—

Construction management contracts often include preconstruction services that include the evaluation of the design team’s selection of materials, equipment and facility systems. Be careful that the client understands these services are different from the formal SAVE process. Similarly, design professionals need to clearly understand VE requirements when contracting with design-builders. The Design Build Institute of America (DBIA) supports the use of the formal SAVE process which, if required, will increase design costs and extend the overall project timeline.

Include Contractual Protection—There are also contract provisions design professionals can use to manage VE risks.

When You Participate in a VE Process

“As an additional service, the Design professional shall, on a time and material basis, participate in Client initiated VE including attendance at VE meetings and revisions to the Instruments of Service.”

When You Disagree with VE Recommendations

The Client, to the fullest extent permitted by law, shall waive all claims against the Design Professional and indemnify, defend and hold the Design professional harmless from any and all damages, liabilities, penalties, including attorneys’ fees and all other legal expenses which relate in any way to Client’s decision to incorporate VE recommendations that the Design Professionals objects.

Value engineering is not the cost cutting that occurs when actual or estimated project costs exceed available funds. VE is a formal process conducted by qualified professionals. Don’t allow the confusion between VE and cost cutting lead to problems. Address the differences head on in contract negotiations. Make sure the client understands what VE is and what it isn’t.