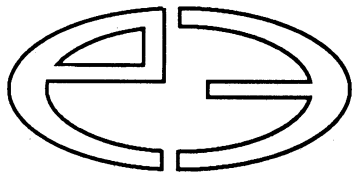




PHOENIX ENGINEERING CORP.

John E. Veteto
President

1155 Kelly Johnson Blvd., #310 • Colo. Spgs. • CO • 80920
(719) 528-8066 • FAX (719) 260-7206



PHOENIX ENGINEERING CORPORATION

November 28, 1989

City of Cambridge Purchasing Dept/Room 303 City Hall
795 Massachusetts Ave
Cambridge, MA 02139

Attn: City Council

RE: Construction of Payson Park Reservoir

In the early 1970's, the U.S. General Accounting Office found in a survey that actual costs of large government construction projects exceeded budgeted costs by an average of 50%. Today we accept these cost overruns as a fact of life.

There is an approach that enables management to improve its control over cost, quality and timeliness. This approach, known as Project Management Oversight (PMO), involves evaluation of business actions or decisions before the actions are completed or the decisions implemented. PMO represents a fundamental departure from conventional tracking, which may detect faulty practices, but not until after their effects have been felt. The primary objective of PMO evaluation is to *prevent* loss.

Phoenix Engineering's PMO technique can be applied to all plans and programs, in either the private or public sectors, that are reasonable, available for planning, managed by designated individuals, subject to measurement and prone to control and accounting. Although the applications are diverse, Phoenix Engineering has focused on control of construction cost and management of related capital investment.

The most important improvements that management can anticipate as a result of PMO evaluation are those effecting:

- o Project performance in relation to adherence to budget, schedule and quality targets.
- o Credibility with regulatory bodies, lenders, contractors and with its own personnel.
- o Economy in terms of hard-core savings resulting from the application of preferred practices to operations.

In a PMO evaluation, emphasis is placed on evaluation of owner risk. Phoenix Engineering is therefore required to understand the environment in which the business operates and the potential losses to which it may be exposed. The evaluation is to determine whether the risk should be disregarded, assumed, shifted to others or managed. In addition, PMO enables Phoenix Engineering to recommend the resources to be assigned for risk management.

PMO is done up front, before money has been spent, and is concerned with issues of planning and risk management. As a result of considerable experience, Phoenix Engineering has identified a list of preferred practices. Such practices are simply those that have been found successful. These preferred practices provide guidelines rather than mandates. The implementation of a particular preferred practice or a particular control is of far less importance than whether the objective is likely to be accomplished. To put it another way, PMO deals with the likelihood of achieving the objectives of control on a pro-

active basis, rather than with the minutia of specific practices. Therefore, all controls that can be tested are tested using computer technology where practical.

In PMO, the nature of control tests depend to some degree on the phase of the evaluation at which the tests are applied. Two major phases are distinguished: the planning, which covers the development of the primary control plan; and the compliance, which covers the monitoring of performance in relation to that plan. In the first phase, work involves judicious reading of documents and holding of interviews to determine that preferred practices have been considered and that the system will incorporate controls that flag departures from plans and targets before economy and efficiency can be impaired. In the compliance phase, Phoenix Engineering is in a position to test transactions and to analyze the impact of significant variance on cost, timing and quality. These tests analyze the functioning of controls, the completeness and accuracy of reports, as well as identifying certain unfavorable conditions. Phoenix Engineering is interested primarily in determining whether practices can be improved to reduce losses or mitigate other negative effects.

In the PMO evaluation, *time is of the essence*--Phoenix Engineering conveys deficiencies verbally, recommends what should be done and takes a guiding role in the corrective action. This is different than a financial audit where the management letter represents an endeavor to apprise management of deficiencies and to encourage corrective action.

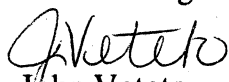
Another objective of the PMO evaluation is to convey the impact of deficiencies on profits and where possible, on amounts at risk in quantitative terms. Without this kind of quantification an owner is seriously handicapped in setting meaningful priorities for corrective action and in determining the resources to be committed in readdressing deficiencies.

Although the PMO evaluation draws upon many conventional techniques it takes an essentially innovative approach based on (1) reviewing prospective and pending transactions rather than completed ones, and (2) covering all controls without distinction between accounting and operational controls. Phoenix Engineering, above all, maintains a positive attitude toward the individuals whose actions are being reviewed. We have a genuine desire to assist such individuals to a more effective and timely performance. Consequently, Phoenix Engineering conveys findings without delay, so the problem areas can be addressed.

The Project Management Oversight evaluation is not financial auditing, nor is it management consulting, although it has elements of both. The chief thrust of the PMO evaluation is toward early, pragmatic and continuous corrective action. The PMO evaluation is not investment management, project management, or construction management; this control-oriented new approach is directed toward ensuring that managers follow good preferred practices, that they take timely and effective action on unfavorable conditions and that such actions are subject to effective oversight.

This approach is innovative, practical, cost effective and the applications are as broad as your imagination. For more information and a definitive key activity outline please call or write me. Thank you for your time.

Sincerely,
Phoenix Engineering Corporation


John Veteto
President

Partial Project/Client List

The Principals of Phoenix Engineering have provided services for:

Family Housing Renovation
Loring AFB, Maine

Danac, Inc.

Residence Hall
University of California

Zimkor Industries, Inc.

V.A. Medical & Regional Office
White River, VT

Smalley Company, Inc.

U.S. Army Hospital
Ft. Carson, CO

U.S. Engineering Co.

Consolidated Space Operations Ctr.
Falcon AFS, CO

Marathon Steel Co.

Brady Pump Station
Tuscon, AZ

Bechtel Constructors

CASS Facilities
Grand Forks AFB, ND

CBI NA-CON, Inc.

Consolidated Space Operations Ctr.
Falcon AFS, CO

Contel Federal Systems

Titan IV Modules
Vandenburg AFB, CA

Zimmerman Metals

Sacramento County Jail
Sacramento, CA

Bechtel Construction

Rocky Creek Water Pollution Ctrl.
Macon, GA

CBI NA-CON, Inc.

Consolidated Support Center
Cannon AFB, NM

Tempo West, Inc.

North Warning System O&M
Alaska & Northern Canada

Canadian General Electric

California State Prison
Vacaville, CA

Bechtel Civil & Mineral

Twin Assembly Staging Towers
Las Vegas, NV

Burke & Associates

CASS Facilities
Dyess AFB, TX

CBI NA-CON, Inc.

Naval Refueling Enclosure
Bremerton, WA

K-Span of Colorado

McCarran International Airport
Las Vegas, NV

U.S. Engineering Co.

4.

S-856

Comm. received from Phoenix Engineering
Corporation relative to the construction
of Payson Park Reservoir.

In City Council,

Dec. 18, 1989

Placed on file