

MARCH 1999, Volume 11, Number 3

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David Jacob, President Doren Associates Tel. (949) 786-0052 Fax: (949) 522-4033 E-mail: dorend@sorangenet.campus.mci.net

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# DESIGN/BUILD PROJECT DELIVERY OF THE EASTERN TRANSPORTATION CORRIDOR – ORANGE COUNTY, CA

ONE OF THE LARGEST DESIGN/BUILD TRANSPORTATION PROJECTS IN THE UNITED STATES

#### ABSTRACT

The presentation will focus on the design/build project delivery process as it was applied on the Eastern Transportation Corridor (ETC) a 26 mile \$750 million design/build project in Orange County California. This new world of design/build will be described with respect to the owner, designer and constructor. This presentation was made to the recent PMI '98 International Symposium in Long Beach, CA in October 1998. The paper submitted to PMI received PMI's Donald S. Barrie Award as the Best Paper in the Design-Procurement-Construction Track at PMI '98 as presented by the PMI Educational Foundation. CH2M HILL recently received notice that the ETC project was selected by the Orange County Engineering Council to receive the 1999 Engineering Project Achievement Award. CH2M HILL was also notified that the ETC was selected by the Civil Engineers and Land Surveyors of California to receive the 1999 Kenward S. Oliphant Memorial Award for Excellence in Engineering.

#### PRESENTER Frank Jenes, P. E., Vice President CH2M HILL

Mr. Jenes received is a registered professional engineer in Calif., Wash. and Ariz. He has been active in PMI since 1978, was a founding member and President of the Puget Sound Chapter and was national Vice President - Region 3. He has been with CH2M HILL for 27 years. He has had an active role in major transportation and environmental projects including most recently two design/build projects as Corridor Design Manager of the Eastern Transportation Corridor (ETC) and currently is Operation Manager for Design of the Foothill

Transportation Corridor-South (FTC-S), both in Orange County, California.



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#### THE PRESIDENT'S COLUMN

**BY ANY STANDARD OF MEASUREMENT**, our January, '99 dinner meeting was an unqualified success! Certainly our guest speaker, Frank Addeman from Walt Disney Imagineering, was terrific and his presentation was enthusiastically received. You will find a review of his presentation elsewhere in this issue.

But what impressed me most was the attendance at this event. There were ninety people—yes 90! Our previous high water mark was 75. Equally impressive was that about one-third of the attendees were first-timers.

Is there an ever growing interest in the profession of project management from the corporate as well as employee perspective? And does our increasing attendance provide a manifestation of that upward trend? My answer to both questions is a resounding YES!

When I first joined PMI-OC some four years ago our average attendance at each dinner meeting was in the low 30's. Each subsequent year it has substantially increased. Two years ago it was in the 50's and last year we experienced an average slightly over 70 per meeting. Our Chapter must be doing something right. By "right" I mean that we are definitely providing quality programs for our Chapter members and guests. Although I don't want to diminish the impact of the fine speakers we have been able to attract, I think that an equally important feature of our monthly programs is the excellent forum they provide for networking in a relaxing social and professional environment. By "networking" I mean the opportunity to exchange thoughts on project management and other business issues of common interest; for job seekers and job providers to meet and exchange ideas on career aspirations—and who knows? for those "unattached" attendees who might possibly meet their "significant other."

The PMI motto is "…*building professionalism in project management*…<sup>™</sup>" Does PMI comply with our motto? You bet it does—in all respects, even in a *legal* sense. One of our newer members, Mike Krebs, a former student of mine at UCI, gave me this tidbit, which I would like to share with you. The Taft-Hartley Act, which became law early in this century, states there are five criteria required for a discipline to call itself a Profession;

- A Common Body of Knowledge
- An Accrediting Mechanism
- A Statement of Ethics
- Disciplinary Procedures
- Standards of Competency

I am sure you will agree with me that PMI meets these criteria without equivocation.

Joining and sustaining your membership at PMI is vital to the health of your career. Furthermore, joining the Orange County Chapter is decidedly the capstone to those aspirations.

Hope to see at our next meeting.

Dave Jacob

# PLANNING FOR SUCCESS: DISNEY'S ANIMAL KINGDOM PROJECT FROM FRANK ADDEMAN

by Gwen Vangelisto

A VIEW INTO DISNEY'S ANIMAL KINGDOM PROJECT astounds with the question "what is the most difficult project constraint to overcome?"

- Building the 'Tree of Life' which consists of over 300 animals carved into a man-made tree.
- Obtaining and transporting the Black Rhino.
- Contracting for the best 30 year thatch in the world.

The answer would be obtaining the Black Rhino, which has a lead time of five years. These near-extinct animals can only be obtained in Texas where they are bred and raised, but the order for them must be placed five years before delivery is required. The other constraints, which are only a sampling of the many the project encountered, are almost as difficult and certainly unique to this project.

Who could imagine that planning would need to include that wild animals might be smart enough to use the habitat to build bridges and gateways to possibly escape? Who would know that the lions first goal would be to start digging up the Serengeti grass that took more than two years to grow? Who might anticipate timing the building of retainer walls, buildings, roads, and bridges so that the teams did not disrupt each other? Coordination certainly takes on a higher meaning when considering that 125 contractors and WDI groups were used for creating the exotic park where tourists could observe wild animals in a natural habitat and be entertained by shows, rides, artwork, and events.

Frank Addeman from Walt Disney Imagineering took us on a voyage through the plans of designing, building, and implementing the latest and greatest Disney 500-acre theme park.

The project amassed in challenges. They prioritized and tracked development by scenes in the park to ensure that everything fit together. 90 miles of irrigation was required for the 24,000 trees and millions of shrubs that were planted in record time. Over 100,000 square feet per month of themed shotcrete walls and 10 miles per month of underground piping had to be installed. More than 100 themed and backstage buildings were built. Though the creative designs were in the works for many years, the project took about 3.5 years from solid design to implementation.

Mr. Addeman used Primavera software to design and track the WBS, critical paths, and timeline. Detailed risk analysis and contingency plannings were performed. Earned value was used within work packages. All of the components made for the success of the project. Lessons learned were complex, but then it's difficult to just say "Next time we are going to ask the giraffes what kind of plants their stomachs are sensitive to."

Disney's Animal Kingdom opened in Florida, on schedule, within budget, and amazed expectations in April 1998.

#### TRY YOUR KNOWLEDGE ON PMP EXAM QUESTIONS

(Answers are on page 6)

Here is a sample of some questions:

- 1. When an organization chooses a project selection model, the most important criterion is:
  - a. Flexibility b. Capability c. Realism d. Ease of use e. Cost
- 2. Which term describes a modification of a logical relationship that delays a successor task?

| a. Lag   | b. Lead        | c. Float |
|----------|----------------|----------|
| d. Slack | e. None of the | above    |

3. If BCWS = \$2200; BCWP = \$2000; ACWP = \$2500, the CV is:

| a. \$300  | b. –\$300    | c. \$500 |
|-----------|--------------|----------|
| d. –\$500 | e. None of t | he above |

- 4. Of the following qualifications, which one is the most important for the project manager?
  - a. Has supervisory experience
  - b. Is a qualified negotiator
  - c. Is profit-oriented
  - d. Is educated in a technical field
  - e. Works well with others

# Project Management Professional (PMP) 1999 Certification Workshop

".... Building Professionalism in Project Management..."

Be recognized for working in Project Management. Apply for a PMP Certification.

**Purpose of Workshop:** The purpose of this workshop is to help PMI Members prepare for the PMP Certification Exam by providing the materials and guidance for members to prepare for the exam. The sessions are conducted by PMI members from the Southern California area who are PMP's, or are recognized as experts in the subject matters being instructed.

Training will be provided at Fluor-Daniel in the Park Place Business Center, 3353 Michelson, Irvine, at the Jamboree Rd Exit of I-405 near the 55 Freeway. Bldg. 3345, down escalator, turn right to Rm. 37-26. THIS LOCATION IS SUBJECT TO CONFIRMATION.

| Saturdays 8am-5pm |              |                      |
|-------------------|--------------|----------------------|
| Date:             | <u>Time:</u> | PMBOK Area           |
| 10 Apr            | (8-12)       | Overview/Study Prep  |
|                   | (1-5)        | Integration          |
| 24 Apr            | (8-12)       | Scope                |
|                   | (1-5)        | Time                 |
| 8 May             | (8-12)       | Cost                 |
|                   | (1-5)        | Contracts            |
| 22 May            | (8-12)       | Risk                 |
|                   | (1-5)        | Communications       |
| 5 Jun             | (8-12)       | Human Resources      |
|                   | (1-5)        | Quality              |
| 19 Jun            | (8-5)        | Comprehensive Review |

Exams may be taken at a Sylvan Technical Training Center convenient to you after the training is complete.

**WORKSHOP FEE:** MUST BE PAID PRIOR TO 1ST CLASS SESSION. A COPY OF THE PMBOK IS ALSO REQUIRED, WHICH MAY BE ORDERED FROM PMI OR PURCHASED AT THE FIRST SESSION FOR \$25.00.

> Make check payable to "PMI-OC" Mail to "P.O. Box 8026; Newport Beach, CA 92658-8026"

(Include your return address, office and home phone and FAX number, and e-mail address)

**PMI-Orange County PMP Workshop Registration / Information:** Call: Cathy Jackson at 949-733-3601.....**PMP Workshop Registrar** 



# **MONTHLY DINNER MEETING**

TUESDAY, FEBRUARY 9, 1999

Program: DESIGN/BUILD PROJECT DELIVERY OF THE EASTERN TRANSPORTATION CORRIDOR–ORANGE COUNTY, CA

| Location: | Holiday Inn                                  |
|-----------|--|
|           | 2726 Grand Avenue, Santa Ana                 |
|           | Next to the 55 Freeway at the Dyer Road Exit |

| Time: | 5:30 - 6:20 | Sign-In and Net  | working  |
|-------|-------------|------------------|----------|
|       | 6:20 - 7:30 | Announcements    | , Dinner |
|       | 7:30 - 8:50 | Speaker          |          |
|       | 8:50 - 9:00 | Closing and Adjo | ournment |
| Cost: | In Advance  | Members          | \$25.00  |
|       |             | Non-Members      | \$27.50  |
|       | At the Door |                  | \$30.00  |

Please register online at http://www.pmi-oc.org

| Or mail your check to: | PMI - Orange County       |            |
|------------------------|---------------------------|------------|
|                        | P. O. Box 8026            |            |
|                        | Newport Beach, California | 92658-8026 |

#### MEET YOUR CHAPTER BOARD MEMBERS

# WARREN S. NOGAKI, PMP

Vice President of Professional Development

Coordinator of Chapter PMP Workshops 1994–1997

Warren has been employed at Caltech's Jet Propulsion Laboratory since 1987. He was initially assigned as the manager of the Management

Support Systems group (Cost and Schedule) for the ASAS (Army) field intelligence system. He has subsequently worked as a Technical Support staff member on the development of project management systems and tools and in the study of Labwide management issues.

Retired from the Air Force in 1987, his last Air Force job was as the Deputy of the Air Force Controller's Cost Programs Division. This was preceded, at the Pentagon from 1983– 1986 as Special Assistant to the Deputy for Cost and Economic Analyses, Assistant Secretary of the Air Force for Financial Management.

Between 1975 and 1983 he worked as a supervisor of planning, schedule and cost management groups at Space Division's Minuteman/Peacekeeper (ballistic missiles) program offices and the Los Angeles Air Force Station's Space Launch and Control Office. His earlier Air Force assignments included tours of duty in Minuteman Missile operations and as a maintenance officer at several stateside and overseas bases.

Warren graduated with a Bachelor of Science from the U.S. Air Force Academy and an MBA from the University of Missouri, Columbia. He was raised in Bergenfield, New Jersey and was born in Seattle, Washington.

#### ANSWERS TO PMP EXAM QUESTIONS

- 1. c. Realism. The model should reflect the objectives of the company and its managers; consider the realities of the organization's limitations on facilities, capital and personnel; and include risk factors the technical risks of performance, cost and time and the risk of customer rejection.
- 2. **a. Lag.** For example, in a finish-to-start dependency with a 10-day lag, the successor activity cannot start until 10 days after the predecessor has finished.
- 3. d. -\$500. CV=BCWP-ACWP; or 2000-2500=-500. A negative CV means that the work completed on the project thus far is cost more than the original budget.
- 4. e. Works well with others. Project management requires getting things done through people who do not report to the PM. The ability to influence team members, as well as other key stakeholders, is crucial for success.



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#### PMI Orange County MILESTONES

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**MILESTONES** is published for the members of the Orange County Chapter of the Project Management Institute for the purpose of notifying members of meetings, Chapter activities, member accomplishments, and to provide information regarding project management in local business and government agencies. Advertising is welcome. However, its publication does not constitute endorsement by the Chapter or the Project Management Institute.

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| Editor:   | Edward J. (Ed) Fern |
|-----------|---------------------|
| Printing: | Sir Speedy Printing |

Advertising inquiries should be directed to:

PMI-Orange County Chapter Attention: Ed Fern P. O. Box 8026 Newport Beach, CA. 92658-8026 or edfern@time-to-profit.com

# PMI LA

## **TOOL TIME MEETING**

THE TOOL TIME MEETING is your opportunity to see and learn about the latest tools, services, and opportunities in the project management field. Vendors from the major and emerging software companies, as well as service providers and consultants, will provide information and demonstrate their latest tools and services for project managers. You will be able to roam at your leisure from booth to booth and talk one-on-one to 20 exhibitors. Get to know the products and services available to the project management profession by attending this educational and social event.

Date: February 11, 1999 Time: 6:30 to 9:30 PM

Place: The Proud Bird Restaurant 1022 Aviation Boulevard (just South of LAX) Los Angeles

Food and Drink: Hors D'oeuvres Cash Bar

Cost: \$5 ONLY with reservation

Reservations: Call PMILA 909-340-1780

## COMPUTER-BASED TRAINING FOR PROJECT MANAGEMENT

Time is always precious. Other activities always seem to have a higher priority. When do you and your colleagues find time to prepare for the Project Management Certification? Attending classes is often inconvenient and may be scheduled at times when your retention rate is low.

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# E-MAIL

If you would like to make an E-mail announcement to all PMI members, contact RStein@PTSStaffing.com.

#### WHAT IS PMI?

#### THE PROJECT MANAGEMENT INSTITUTE

is a non-profit professional organization dedicated to advancing the state-of-theart in project management. Anyone involved or interested in project management, regardless of industry or discipline, is encouraged to attend the monthly meeting to find out more about PMI and the Orange County Chapter.

### ORANGE COUNTY WEB SITE

Visit our web site at: http://www.pmi-oc.org to reserve your place at the meeting and to stay informed of events that are important to members and to project management.

# **COMING EVENTS**

### **FEBRUARY METING - TUESDAY, FEBRUARY 9**

DESIGN/BUILD PROJECT DELIVERY OF THE EASTERN TRANSPORTATION CORRIDOR Frank Jenes, CH2M Hill, Inc.

### **MARCH MEETING - TUESDAY, MARCH 9**

YOUR ERP PROJECT IS IN TROUBLE WHAT DO YOU DO? Phil Quigley, IBM

### **APRIL METING - TUESDAY, APRIL 12**

TIME-TO-PROFIT PROJECT MANAGEMENT IN NEW PRODUCT DEVELOPMENT Ed Fern, Time-to-Profit, Inc.

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