



OBO's Value Engineering Program

Presentation for
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Kathy Bethany
Value Engineering Manager
Overseas Buildings Operations
US Department of State

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Why this Topic?

- Return on Investment (ROI)
 - Greater than \$20 to \$1 (last 5 years \$41 to \$1)
- VE saves on average 2.6% of the \$1.5B OBO annual construction program
- Quality & functionality improved
- Project life cycle cost savings
- Project schedule maintained (or improved)

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Agenda

- Who is DOS/OBO?
 - DOS = Department of State
 - OBO = Overseas Buildings Operations
- How Does OBO Apply VE?
- Results of VE at OBO?



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Who/What is DOS/OBO?

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US Department of State

Mission Statement

Create a more secure, democratic, and prosperous world for the benefit of the American people and the international community

Goals

- ❖ Protect the U.S. and Americans
- ❖ Advance democracy, human rights, and other global interests
- ❖ Promote international understanding of American values and policies
- ❖ Support U.S. diplomats, government officials, and all other personnel at home and abroad who make these goals a reality



How

- ❖ Represent and convey U.S. policies to foreign governments and international organizations through American embassies and consulates in foreign countries and diplomatic missions
- ❖ Negotiate and conclude agreements and treaties
- ❖ Coordinate and support international activities of other U.S. agencies, hosts official visits, and perform other diplomatic missions
- ❖ Lead interagency coordination and manage the allocation of resources for foreign relations

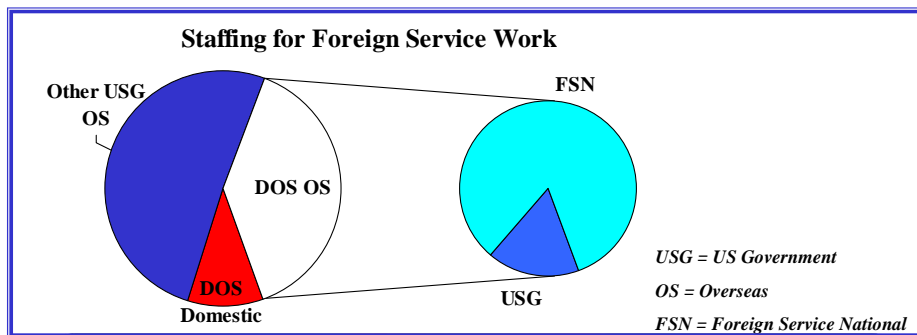
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Department of State Facts

- 57,000 Department of State employees
- 60,000 USG employees from 27 USG agencies
- 267 Missions (Embassies, Consulates, etc) in 188 Countries
- 8.4 million visa applicants per year



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Overseas Buildings Operations

- OBO Mission
 - To provide safe, secure, and functional facilities for the conduct of U.S. diplomacy and the promotion of U.S. interests worldwide.
- OBO is the USG Overseas Property Manager
 - Plan, design, build, operate, and maintain all USG Facilities
 - \$1.4 billion Annual Program
 - Lease, buy, and sell all property
 - Manage over 15,000 Properties, 46.6 million SM

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Doing Business Challenges



Labor and Materials



Construction Quality



Local Bureaucracy



Logistics



Shipping



Security

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Shipping and Logistics Challenges



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Dar Es Salaam, Tanzania August 7, 1998



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Nairobi, Kenya August 7, 1998



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The New Construction Program

The Construction Program:

- 140 new embassy and consular compounds (FY06-FY18)
- Total capital cost of \$15 billion
- Funded over 13 years
- Annual cost of \$1.4 billion

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Current OBO Workload

- 36 NEC /Annex projects under design/construction (\$3.2B)
- 24 rehab projects underway (\$332.2M)
- 197 Compound Security and FE/BR replacement projects (\$190M) underway
- 14 NEC/Annex projects in FY 06
- 76 NEC projects in Long-Range Overseas Buildings Plan (\$6.5B)
- 17,681 properties at 265 locations to serve

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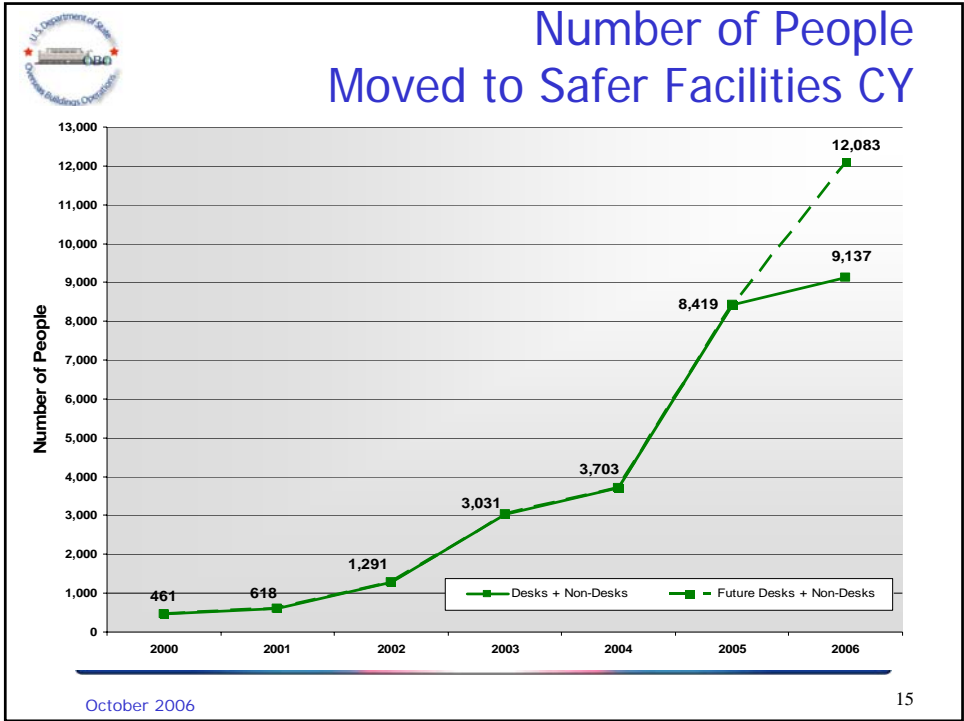


Capital Construction Projects Under Design/Construction

• Accra	90.3	• Kathmandu	90.7
• Accra USAID	22.6	• Kathmandu USAID	21.0
• Algiers	90.5	• Khartoum	106.7
• Astana	90.3	• Kigali	106.0
• Athens annex	77.6	• Kingston	71.8
• Baghdad NEC	612.0	• Kingston USAID	15.3
• Bamako	71.9	• Lome	72.9
• Bamako USAID	19.2	• Managua	79.9
• Beijing	434.0	• Managua USAID	13.9
• Belmopan	63.8	• Mumbai	122.9
• Berlin	143.0	• Nairobi USAID	34.1
• Bogota annex	28.0	• Panama City	100.6
• Bridgetown	31.9	• Phnom Penh USAID	14.0
• Ciudad Juarez	96.1	• Port au Prince	108.5
• Conakry USAID	17.3	• Quito	98.9
• Freetown	60.2	• Rangoon	86.0
• Jerusalem annex	22.5	• Skopje	75.7
• Kampala USAID	27.8	• Taipei (design)	9.4
			3,227.3

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How does OBO Apply VE?

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What is Value Engineering?



- A Process...
 - Function Oriented
 - Systematic
 - Team Approach
 - Applied Creativity
- ...which concentrates on:
 - Lowest Life Cycle
 - Quality
 - Performance
 - Initial Cost Reduction

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VE Program Required by:

- Congress
 - Section 36 of the Office of Federal Procurement Policy Act (41 U.S.C. 401, et seq.)
- OMB
 - Circular A-131 – Value Engineering
- Federal Acquisition Regulations (FAR)
 - Part 48 – Value Engineering

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OBO VE Program Requirements

- All Projects:
 - over \$1,000,000
 - with problems
 - over budget
 - or with potential for improvement
- Must have either a VE study or Waiver in place before they reach the 35% design stage

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Components of OBO VE Program

- VE Studies
 - Planning
 - Design
 - Waivers
- Construction
 - Contractor Proposed VE Recommendations (VECPs)
- Analysis & Lessons Learned
 - VE Assessment Program
 - Trends

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VE Study Goal



*A functional facility
worth its cost.*



Typical OBO VE Study Schedule

- Pre-Study Familiarization
 - A/E or D/B delivers design documents (including cost estimate)
- Value Engineering Study
 - Information (function analysis; cost models)
 - Speculation/Creative
 - Evaluation
 - Development
 - Presentation (oral & written)
- Post Study
 - Approval
 - Implementation



VE Study Resources

At OBO most VE studies contracted out

- VE services Indefinite Delivery/Indefinite Quantity (IDIQ) Contractors
- Design services IDIQ
- Other Federal Agencies (e.g., US Army COE)
- Other



Design VE Studies

- Performed at 35% submission
- Performed by independent VE team (contractor)
- Design/bid/build
 - Generally performed at the 35% Design Submission
 - Independent “hard-hitting” VE team
 - VE Recommendations incorporated into Design
- Design/build
 - Generally performed at the design development submission
 - Independent “hard-hitting” VE team
 - VE recommendations negotiated into contract via changes clause



Planning VE Studies

- Independent VE Study**
 - Performed on draft Request for Proposal (RFP) Package
 - All available info studied (including SRP; SUD; Blocking/Stacking; Site Test Fits; Risk Assessments; CWE's Schedules; procurement plans, etc.)
 - Limited Participation of Planning A/E & OBO team required
 - Develop VE report
- Optional (rarely used) Facilitated "Charette"**
 - Include Risk Assessment & SRP prep as part of Workshop
 - Full Participation of Planning A/E & OBO team required for duration of the Charette
 - Develop Concept Design & Charette report for use in RFP package



OBO Implementation

- Team given VE report for review
- VE acceptance memo
 - VE recommendations must be implemented, unless approval from division director obtained
- Planning RFP, Design or Design/Build contract modified as required
- Delays or cost increases as a result of VE can be added to the project as a result of the VE with a decision memo from the appropriate management official



OBO VE Waivers

VE waivers allowed for limited reasons:

- Extensive life-cycle cost analysis
- Replacement historical building finishes
- Same design as another that had VE study
- Management, shipping, American contractor mark-ups make up the majority of the costs

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Value Engineering Change Proposals (VECP)

- VECP is submitted by the construction contractor
- If the VECP is accepted the construction contractor shares the savings (up to 55%)
- VECP must be reviewed within 45 days
- VECP results are reported annually to OMB

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OBO Value Engineering (VE) Results

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Value Engineering Program Summary

Value Engineering is a function oriented, systematic, applied creativity, team process which concentrates on lowering life cycle costs while improving quality and performance. The OBO VE program requires at least one independent VE study, or a waiver, on all projects with an estimated cost of construction greater than \$1M.

Results From OBO VE Program

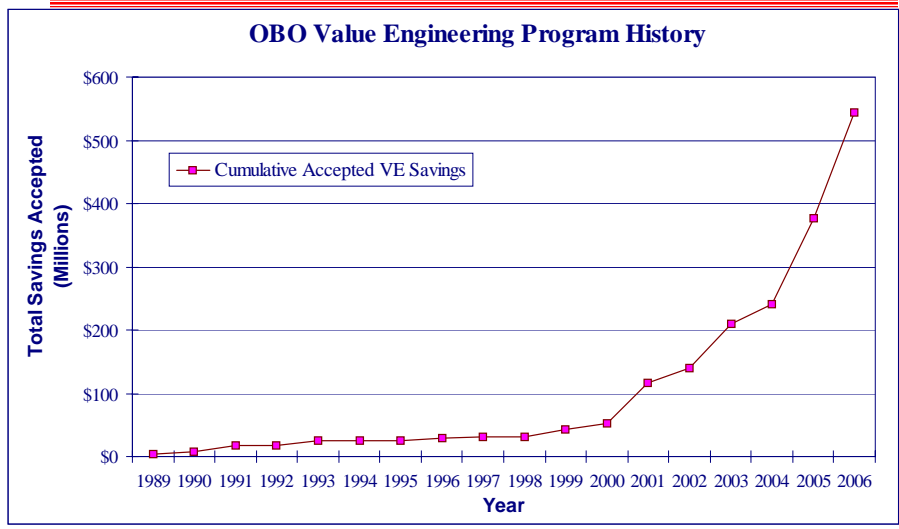
	From 1987 -- 2005	From 2000 -- 2006
VE Program Cost:	\$9.3M (156 Studies)	\$8.3M (137 Studies)
Total Saved:	\$381.3M (includes \$49.3M O&M)	\$500.4M (includes \$98.1M O&M)
Return on Investment	\$40 to \$1	\$60 to \$1
# of VE Ideas Implemented	1570	1675

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Results From OBO VE Program



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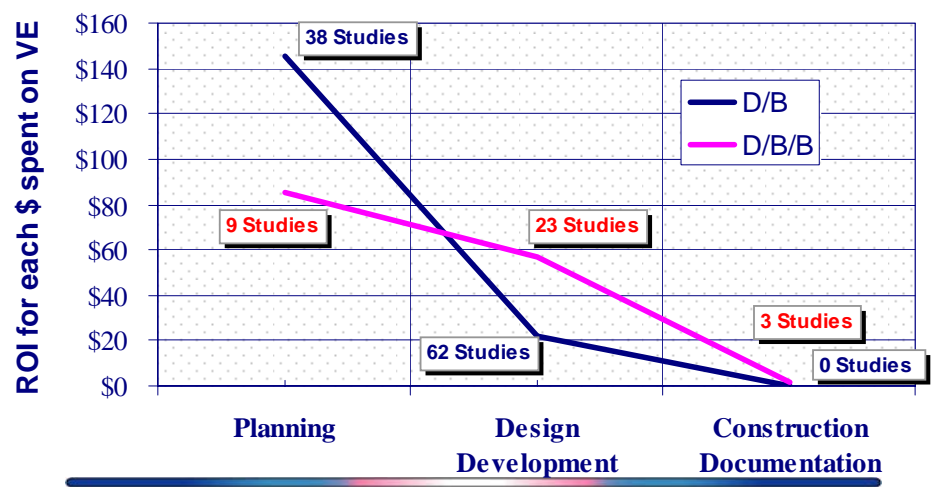
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OBO VE Program Return on Investment

Projects from 2000 to 2006 included

(Special Study Projects not included)



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New Embassy Compound (NEC) (Typical Standard Structures)



- Main Office Building (Chancery)
- USAID Annex Office Building
- General Services Support Building(s)
- Marine Security Guard Quarters (MSGQ)
- Utility Systems & Parking Facility
- Recreation Center
- Perimeter Security System

VE Results (4 Studies):
71 ideas yield \$14.5M in Savings

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VE Program Performance Indicators

FY 2004 Results:

21 VE Studies had 263 implemented VE recommendations for a total savings of \$32M which includes \$12M in O&M cost savings

- % Proposed Savings by VE Team*
 - Goal 10% **(Actual 16.6%)**
- % Accepted VE recommendations*
 - Goal 4% **(Actual 5.8%)**
- Return on Investment
 - Goal \$20 to \$1 **(Actual \$25 to \$1)**

* compared to estimated cost of construction

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VE Program Performance Indicators

FY 2005 Results:

20 VE Studies had 157 implemented VE recommendations for a total savings of \$135M which includes \$4M in O&M cost savings

- % Proposed Savings by VE Team*
 - Goal 10% **(Actual 21.5%)**
- % Accepted VE recommendations*
 - Goal 4% **(Actual 6.9%)**
- Return on Investment
 - Goal \$20 to \$1 **(Actual \$97 to \$1)**

* compared to estimated cost of construction

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VE Program Performance Indicators

FY 2006 Results:

32 VE Studies had 380 implemented VE recommendations for a total savings of \$168M which includes \$50M in O&M cost savings

- % Proposed Savings by VE Team*
 - Goal 10% **(Actual 17.9%)**
- % Accepted VE recommendations*
 - Goal 4% **(Actual 8.9%)**
- Return on Investment
 - Goal \$20 to \$1 **(Actual \$78 to \$1)**

* compared to estimated cost of construction

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Reasons For OBO VE Program Success

- Upper Management Support
- Full Time VE Program Manager
- Follow VE Process
- Constant Improvements/Lessons Learned
- Qualified/Independent VE Teams

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More Information



Kathy Bethany
Value Engineering Manager
Overseas Buildings Operations
US Department of State
Phone: 703.875.6369
email: bethanykf@state.gov

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