



# Cost Reduction and Effectiveness Improvement (CREI) Process



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# Presentation Summary



*To provide a short history and description of DoN's CREI process.*

- Expected takeaways
  - CREI provides a process to highlight cost reduction investment opportunities.
  - CREI provides positive incentives to encourage investment.
  - CREI, although tailored to the DoN organization, provides a model for any echelon of command.

# Backdrop to CREI

## Many Processes, Many Products



Smart Manning

Workload reduction, incentives for recruiting & retention, training improvements

Capital for Labor

High return investments to reduce system ownership costs and manpower demands for naval weapons systems

Tools, Materials, and Working Conditions

Promote local initiatives to reduce workload, increase efficiency, and enhance quality of life ashore

Information Investments

Provide enabler to meet business demands while reducing labor intensive processes

Commercial Operations and Support Cost Savings Initiative

To reduce operating and support cost in fielded systems using commercially available technology

Revolution in Business Affairs

Incorporate best business practices into DoN

“Smart” Pilots and Programs

Smart Card, Smart Link, Smart Base, Smart Ship, Smart Gator, Smart Carrier, Smart Squadron, etc.

# Backdrop to CREI

## Business Practice Shortfalls



- Few incentives for risk taking.
- No incentive to invest if savings fall to another organization.
- Investment decision process sub-optimized.
  - Fragmented efforts.
  - Different groups with different standards.
  - Some potential “good ideas” don’t get the visibility needed to get funded.

# CREI Process Goals



- Quality corporate-level decisions.
  - Council Co-chaired by Navy Secretariat, OPNAV, and HQMC.
  - Representation includes Secretariat, OPNAV, HQMC, and Fleet.
- Positive incentives for claimant participation:
  - Protection of unrealized savings.
  - Visibility.
  - CREI Council policing action.

# CREI Process



CREI Council will, each POM/PR cycle:

- Call for new initiative proposals to be submitted by Claimants and assessed by N81/NCCA
- Conduct an annual review to assess and prioritize investments that:
  - Yield high return on investment (savings)
  - Reduce workload
  - Enhance quality of life and quality of service
  - Improve readiness
- Provide Annual Report to SECNAV/CNO/CMC

# CREI Council



## Navy Secretariat

DASN (Plans, Programs, & Resources)\*  
Director, Office of Program Appraisal

Representatives of:

ASN (Manpower & Reserve Affairs)  
ASN (Installations & Environment)

## Navy Headquarters (OPNAV)

OPNAV (N8B)\*  
OPNAV (N4B)  
OPNAV (N7B)

Director, Programming Division (N80)  
Director, Assessment Division (N81)  
Director, Office of Budget (N82)

## Fleet

CLF Fleet Maintenance Officer  
CPF Fleet Maintenance Officer

## Marine Corps Headquarters (HQMC)

Deputy for Programming\*  
Deputy for Resources

\* Council co-chair

# Typical CREI Timeline



Aug	Initiative data call
Mid-Oct	Initiative inputs due
Mid-Nov	Resource Sponsor endorsements due
Mid-Nov	SYSCOM technical, schedule, and cost/benefit ratings due
Mid-Nov	Fleet endorsements due
Mid-Nov	N80/N81/NCCA initiative assessments complete
Dec	CREI Council meets
Dec	N80 publish prioritized initiatives list
Feb-Mar	CPAM Output
Apr	Sponsor Change Proposals Due

# Incentives for Participation



- Resource Sponsors keep the savings from initiatives they sponsor.
  - To promote initiative at the claimant level, sponsors should develop similar gain sharing arrangements with their claimants.
  - Recapitalization should be a Resource Sponsor/HQMC Proponent priority when reinvesting savings.
  - Corporate Navy - Marine Corps keeps the savings from corporately funded proposals
- CREI Council policing action.
- CREI visibility.

# CREI Product



- Corporate level agreement on priority ranking of initiatives.
  - Ranking reflects financial return, workload reduction, quality of life (service) improvement and readiness improvement.
  - Fleet input.
  - Results incorporated into POM build and budget review processes.
- Annual Report to DoN leadership.

**CREI process is integrated into PPBS**

# CREI Initiative Objectives

More than R-TOC



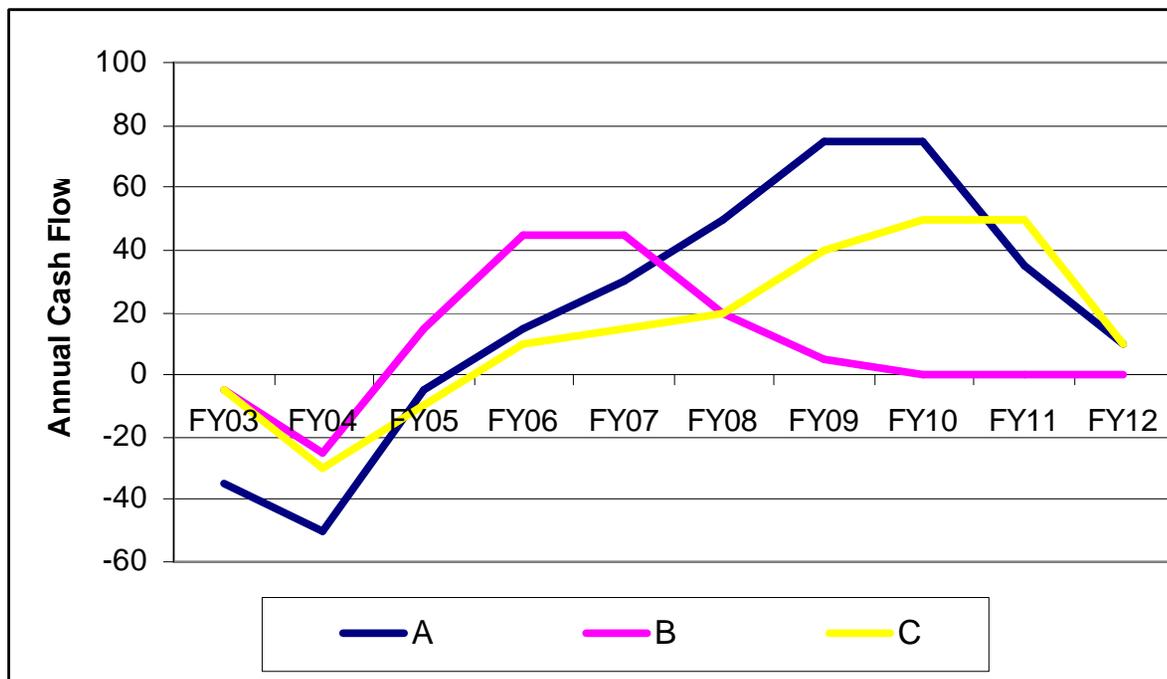
- Cost reduction
- Workload reduction
- Readiness/performance improvement
- Quality of Life/Service enhancement

# CREI Metrics



- Cost Reduction
  - Internal Rate of Return (IRR)
  - SYSCOM Risk Evaluation (Confidence Factor)
  - Savings-to-Investment Ratio (SIR, or “ROI Ratio”)
  - Payback Period (or Year)
  - Net Present Value (NPV)

# IRR vs. NPV



Initiative	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	TOTAL
<b>A</b>	-35	-50	-5	15	30	50	75	75	35	10	200
<b>B</b>	-5	-25	15	45	45	20	5	0	0	0	100
<b>C</b>	-5	-30	-10	10	15	20	40	50	50	10	150
	<b>Analysis</b>					<b>Ranking</b>					
	Initiative	NPV (2.7%)	NPV (15%)	IRR	PB Pd	Initiative	NPV (2.7%)	NPV (15%)	IRR	PB Pd	
	<b>A</b>	\$154.3	\$38.7	25.2%	5.9 yrs	<b>A</b>	1	2	3	2	
	<b>B</b>	\$86.3	\$45.2	75.8%	3.3 yrs	<b>B</b>	3	1	1	1	
	<b>C</b>	\$117.2	\$36.3	33.4%	6 yrs	<b>C</b>	2	3	2	3	

# CREI Metrics



- Workload Reduction
  - Value of saved man-years
  - Total man-years saved
  - Average annual man-years saved
  - FYDP average annual man-years saved

# CREI Metrics

## Manpower Value



- Cost of Manpower Estimating Tool (COMET).
  - Developed by the Navy Center for Cost Analysis.
  - The preferred tool for estimating direct and variable indirect manpower costs.
- “Average” sailor cost used for evaluating CREI initiatives.
  - Weighted average of E-1 to O-6 across the Navy.
  - Does not discriminate between O-level and I-level manpower.

# CREI Metrics



- Readiness / Performance
  - Mean Time Between Failure/Maintenance (MTBF/MTBM)
  - Not Mission Capable (NMC) or Partial Not Mission Capable (PNMC) percent
  - C-rating or percent time with C3/C4 casualties
  - User/operator priority

# CREI Metrics



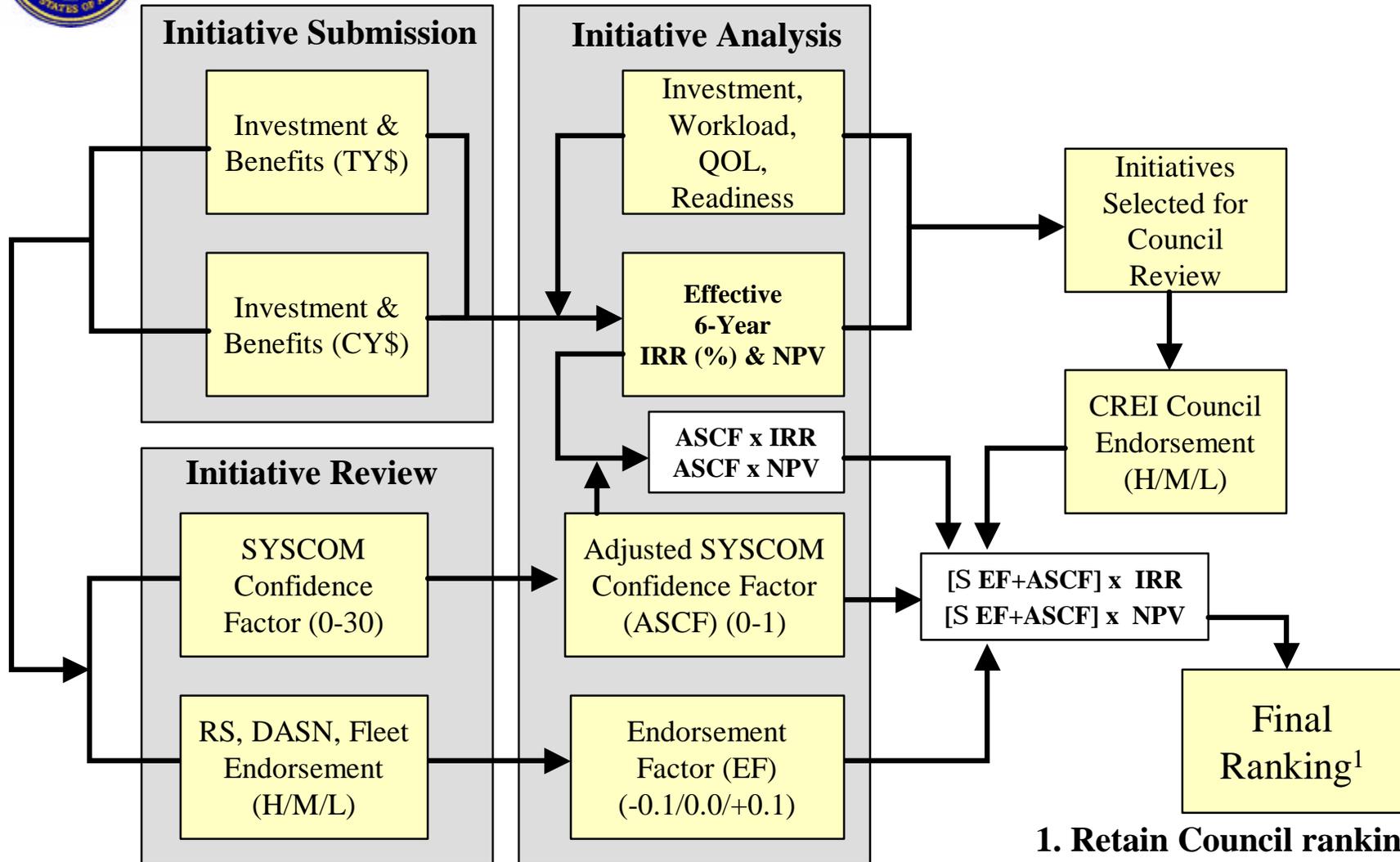
- Quality of Life / Service
  - Initiative-unique
  - Workload-related
  - Qualitative assessment
  - User (Fleet) priority

# Initiative Prioritization



- Initiatives ranked based on:
  - Cost/benefit analysis (IRR and NPV)
  - Risk/confidence analysis
  - Stakeholder priorities
  - Council ranking of selected initiatives
- Prioritized list is a tool used in the normal POM and budget processes.
- DoN leadership has opportunity to corporately fund initiatives at end of the programming phase and throughout the budgeting phase.

# Ranking Process Flow



# PR-03 Initiative Statistics



- 110 initiatives submitted
  - 29 NAVAIR
  - 66 NAVSEA
  - 7 SPAWAR
  - 2 Other (NAVFAC/N46)
  - 6 USMC
- Overall data quality of submissions has improved
- Initiatives encompass a potential FY03 investment of \$350M (\$1.2B over the FYDP and \$1.5B over 10 years).
- Potential 10-year return of \$912M of budget savings and cost avoidance and an average annual reduction of over 4,100 man-years of labor.

# Initiative Submission



- Narrative.
  - Submitting office and sponsor information.
  - Narrative description of initiative.
  - Schedule confidence basis.
  - Cost methodology and cost/benefit confidence basis.
  - Technical confidence basis.
- Spreadsheet.
  - Program baseline.
  - Budget year investment and benefit summary.
  - Constant year investment and benefit summary.
  - Cost Analysis Improvement Group (CAIG) categories for O&S savings.

# SYSCOM Confidence Factor



- Technical, Schedule, and Cost/Benefit each ranked on scale of 1-10 for total score of 3-30.
- Total score divided by 30 to obtain confidence factor.
- Two major SYSCOM's averages and standard deviations were 26.07/2.158 and 26.47/1.961, nearly identical statistically.
- Average modified to match populations.
- Similar adjustments to USMC and other SYSCOM confidence factors.
- Overall, modified confidence factors ranged from 0.64 to 1.00

# Endorsement Factor



- Adjustment to SYSCOM confidence factor based on Resource Sponsor, DASN, CLF, and CPF endorsement (High/Medium/Low).
- Adjustment of +0.1 for High, 0.0 for Medium, -0.1 for Low.
- Range of adjusted SYSCOM confidence factor in PR03 was 0.39-1.38.

# Initiative Analysis



- Effective 6-year Internal Rate of Return and NPV
  - 80% of 5-yr return + 20% of 10-yr return.
  - Focuses on the near term but recognizes outyear returns.

# PR-03 Final Ranking Formula

Prior to Council Review



## Initiatives ranked by IRR

$$[\text{SEF} + \text{CF}] \times [\text{Eff 6-yr IRR}]$$

- $\Sigma$ EF is the sum of the RS/DASN/Fleet endorsement factors.
- CF is the SYSCOM confidence factor.
- Eff 6-yr IRR is the effective 6-year IRR.

# PR-03 Final Ranking Formula

Prior to Council Review



## Initiatives ranked by NPV

$$[\text{SEF} + \text{CF}] \times [\text{Eff 6-yr NPV}]$$

- $\Sigma$ EF is the sum of the RS/DASN/Fleet endorsement factors.
- CF is the SYSCOM confidence factor.
- Eff 6-yr NPV is the effective 6-year NPV.

# PR-03 Final Ranking Formula

Prior to Council Review



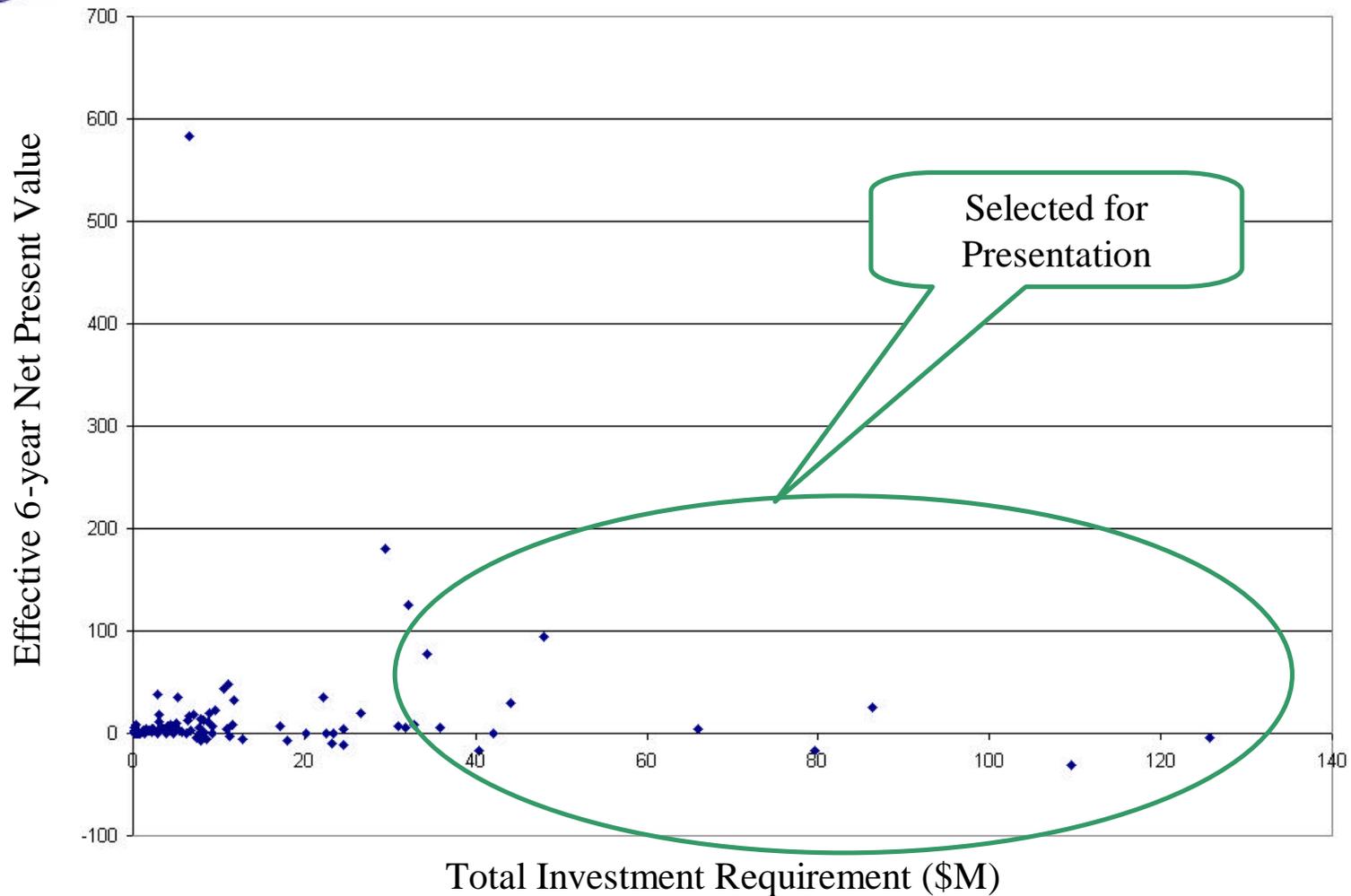
- Final preliminary rank is weighted combination of IRR and NPV rank
  - Final rank is  $\frac{2}{3}$  of IRR rank and  $\frac{1}{3}$  NPV rank.



# Selecting Initiatives for CREI Council Review

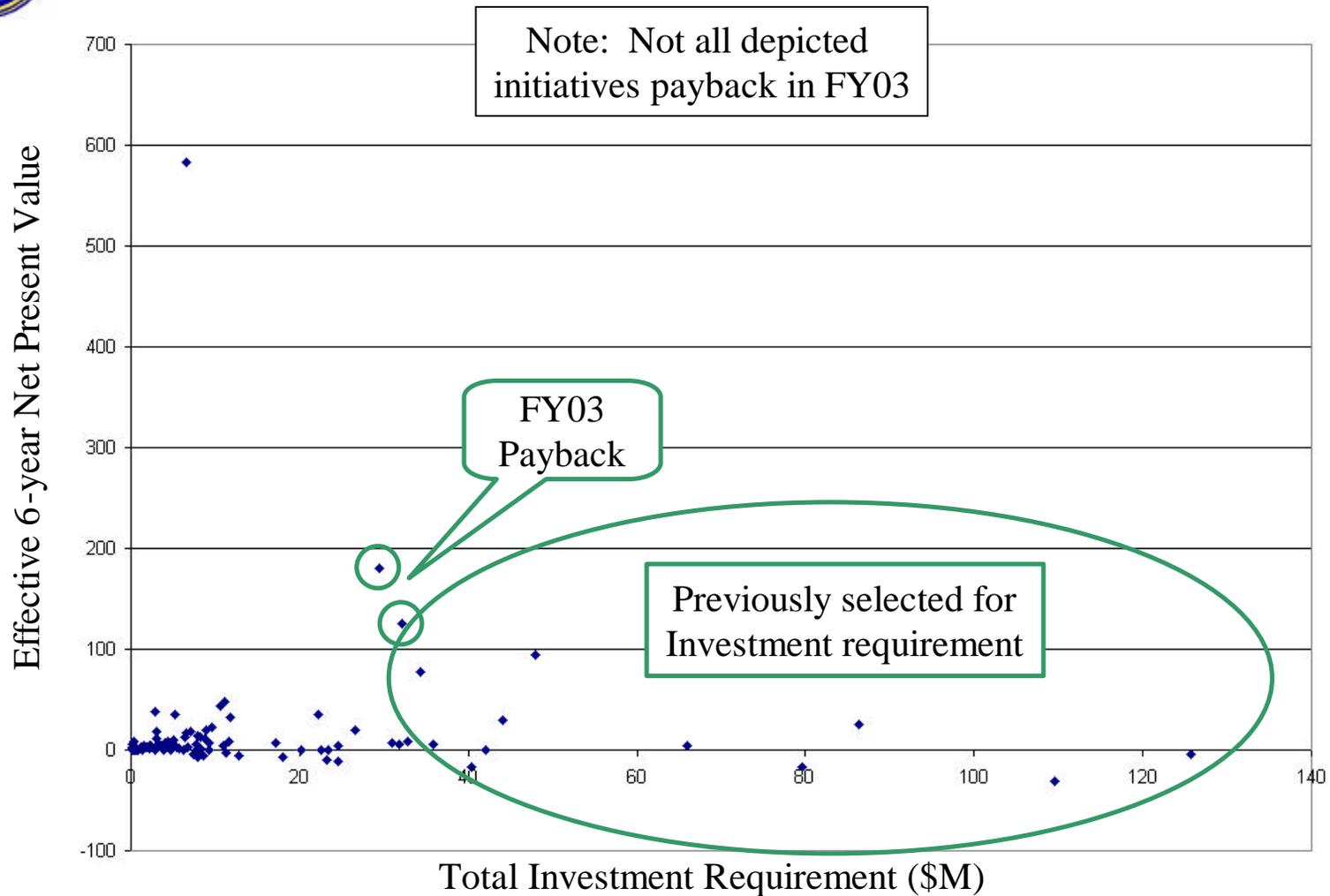
# Effective 6-yr NPV vs. Investment

Total Investment Requirement >\$30M



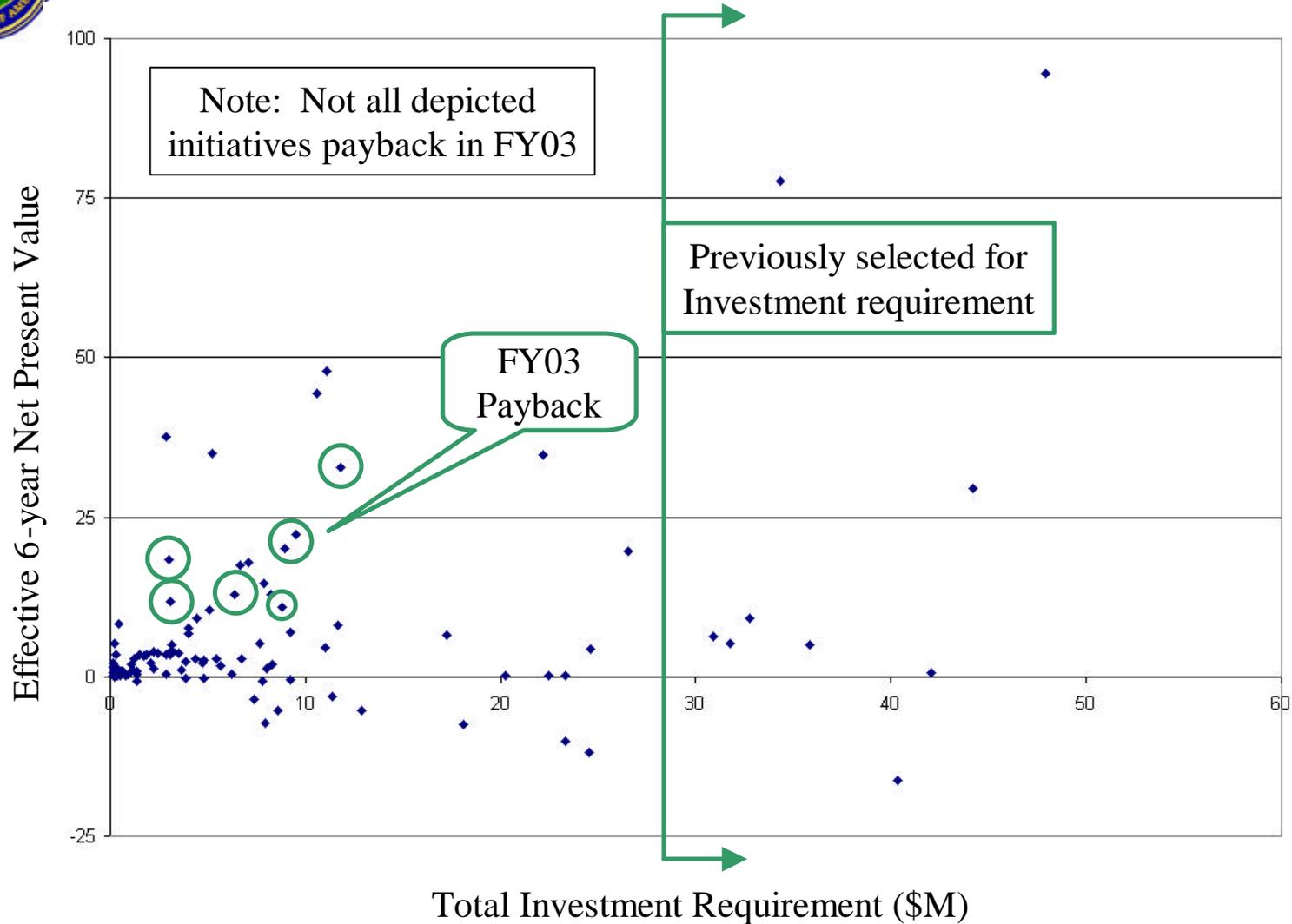
# Effective 6-yr NPV vs. Investment

## Initiatives with Immediate Payback and NPV >\$10M



# Effective 6-yr NPV vs. Investment

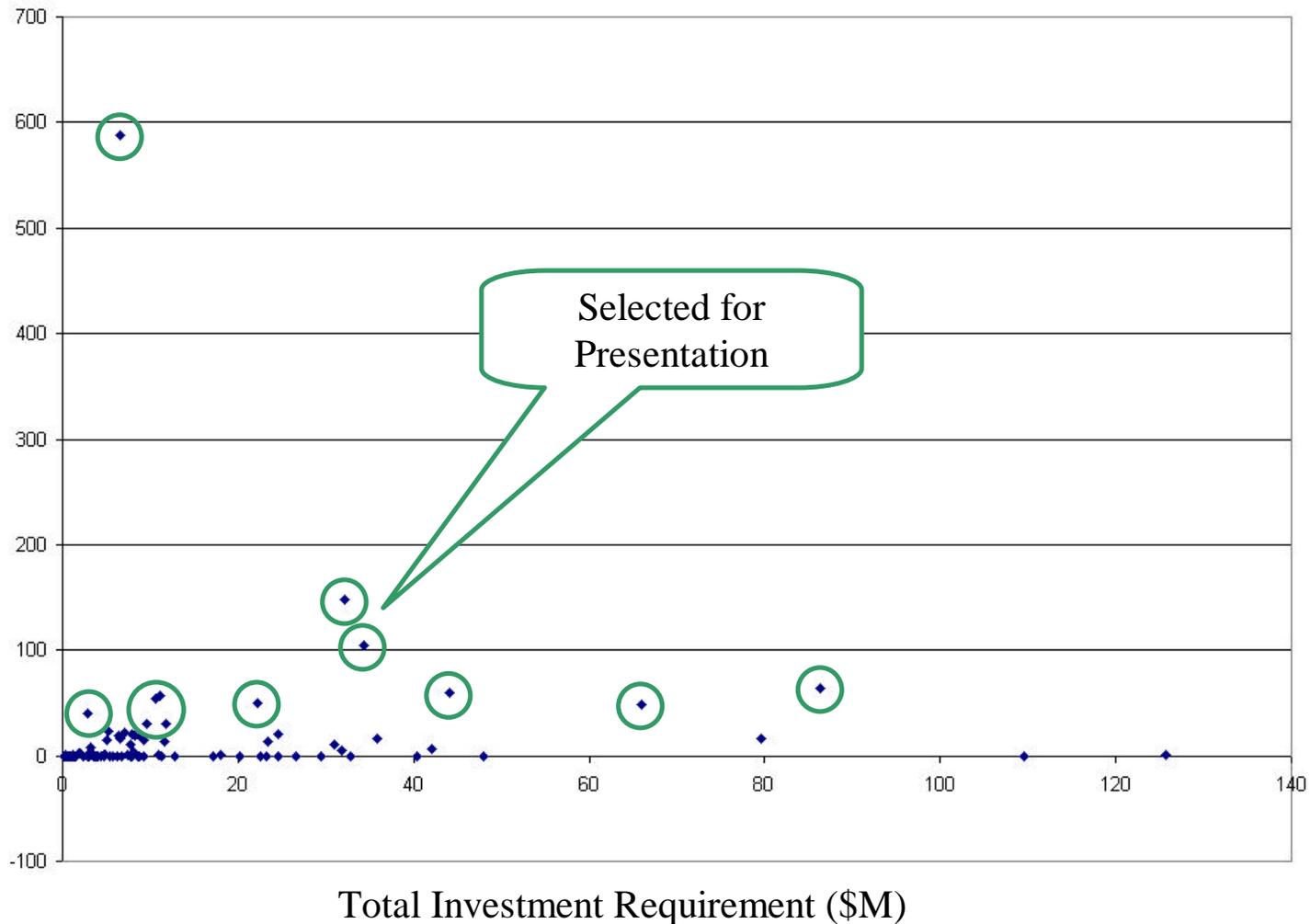
## Initiatives with Immediate Payback and NPV >\$10M



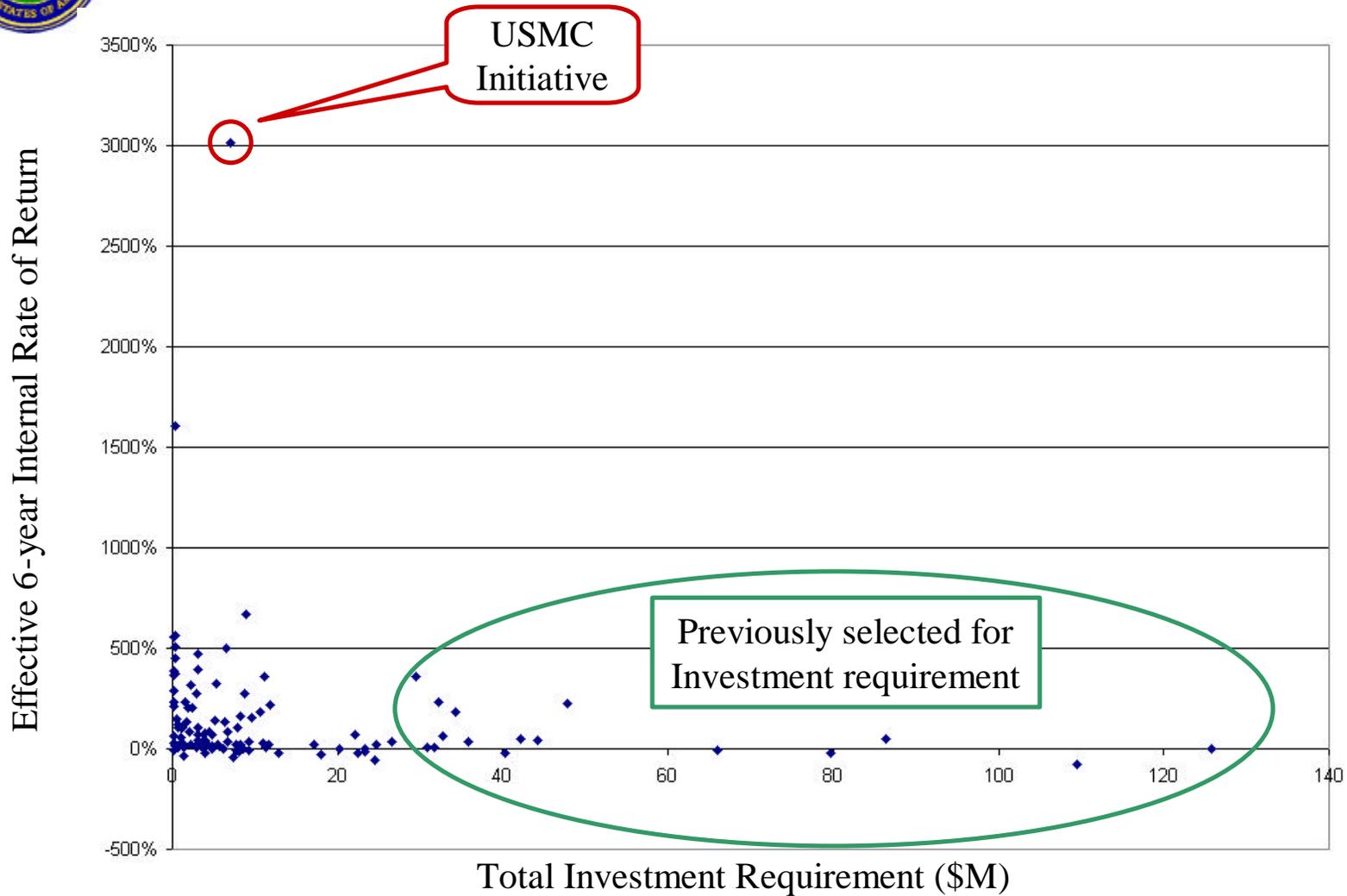
# Effective 6-yr. NPV of Workload Reduction vs. Investment Requirement



Effective 6-year Net Present Value  
Of Workload Reduction



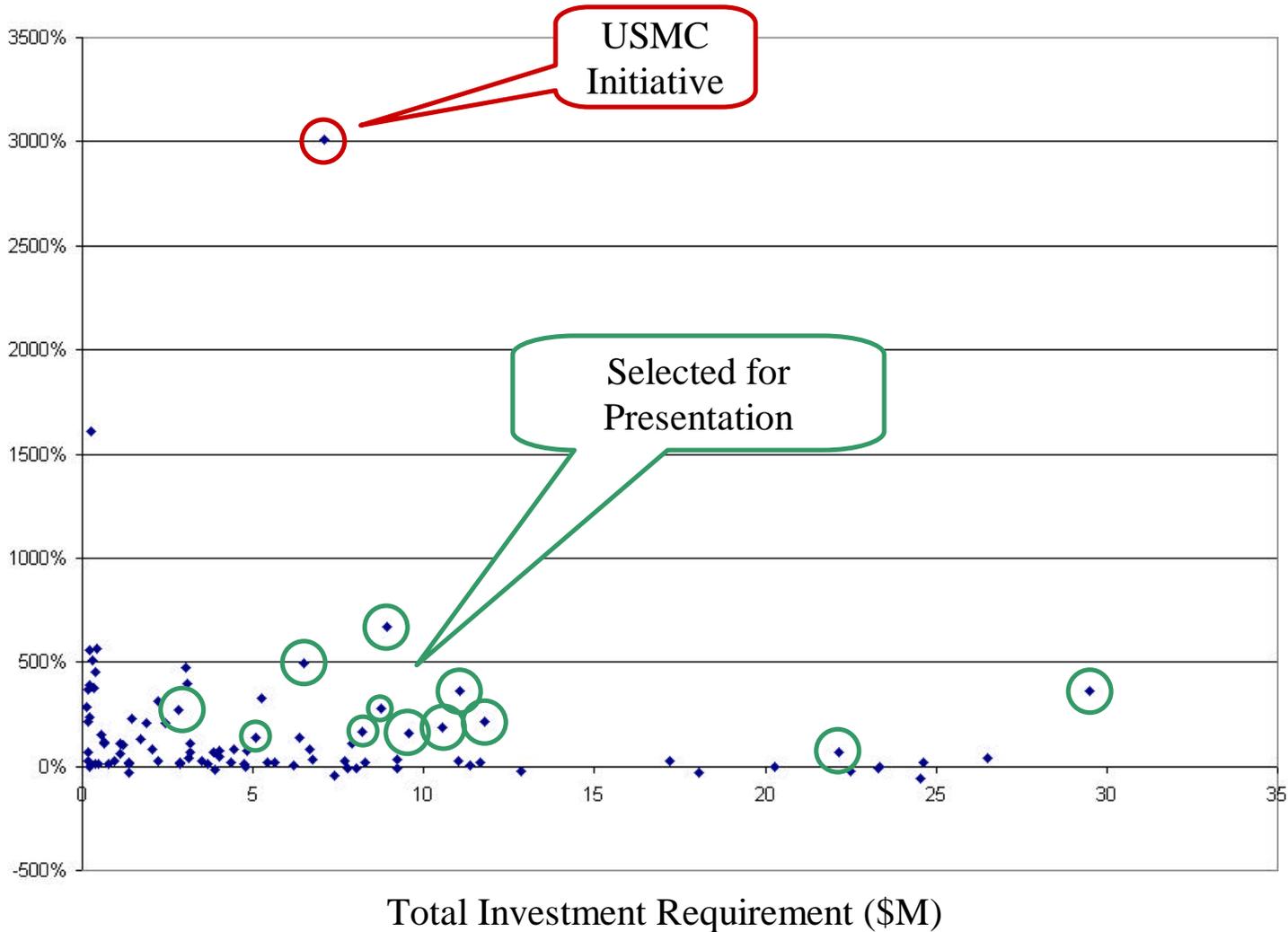
# Effective 6-yr IRR vs. Investment



# Effective 6-yr IRR vs. Investment



Effective 6-year Internal Rate of Return

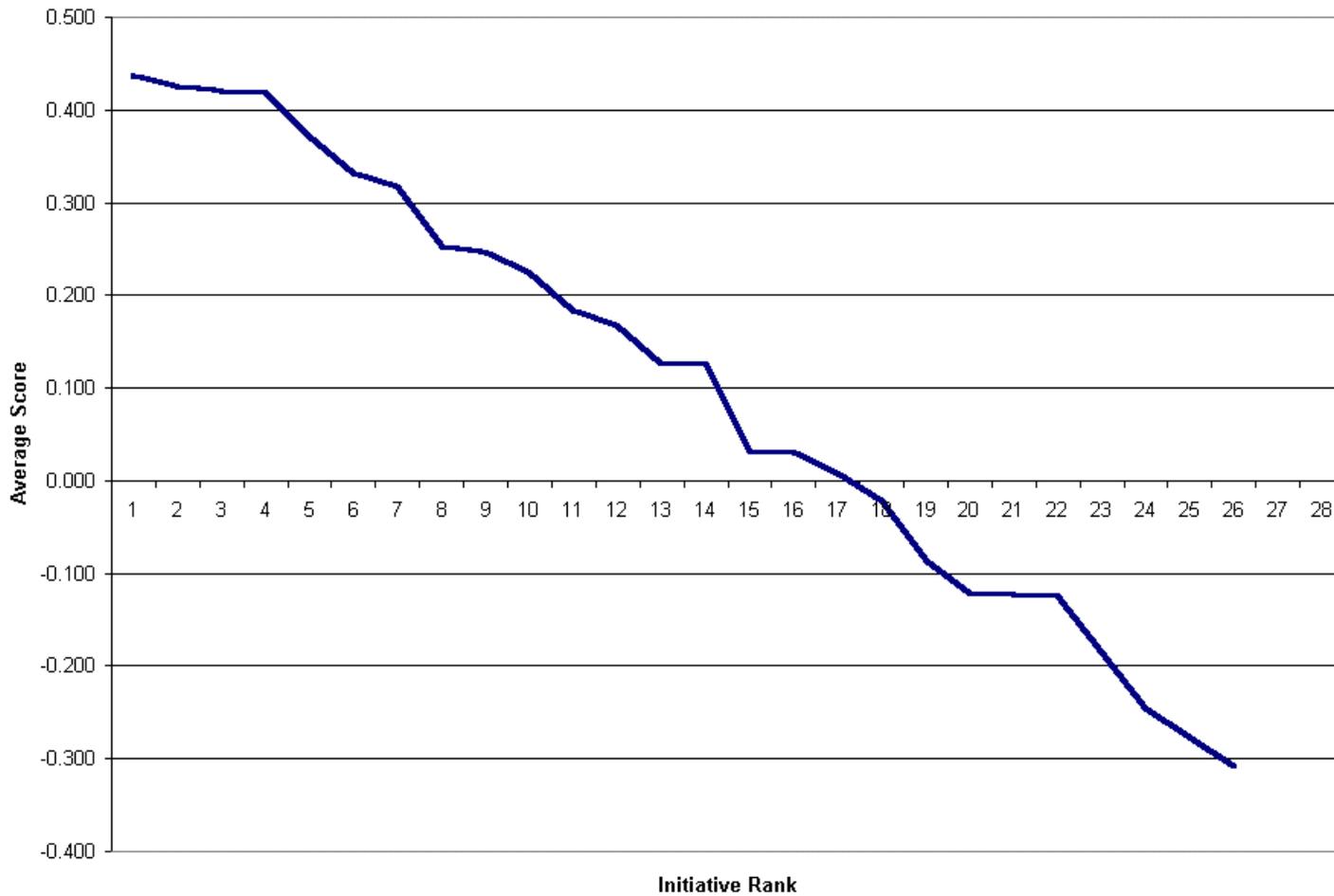


# CREI Council Endorsement



- CREI Council members voted High, Medium, or Low and numerically ranked the top 5 initiatives they reviewed.
  - Endorsements valued +0.4 for High, 0 for Medium, and -0.4 for Low.
  - Top 5 initiatives scored:
    - #5 = +0.42
    - #4 = +0.44
    - #3 = +0.46
    - #2 = +0.48
    - #1 = +0.50
- Average score substituted for previous RS/DASN/Fleet endorsement factor.

# Results of CREI Council PR03 Review



# PR-03 Final Ranking



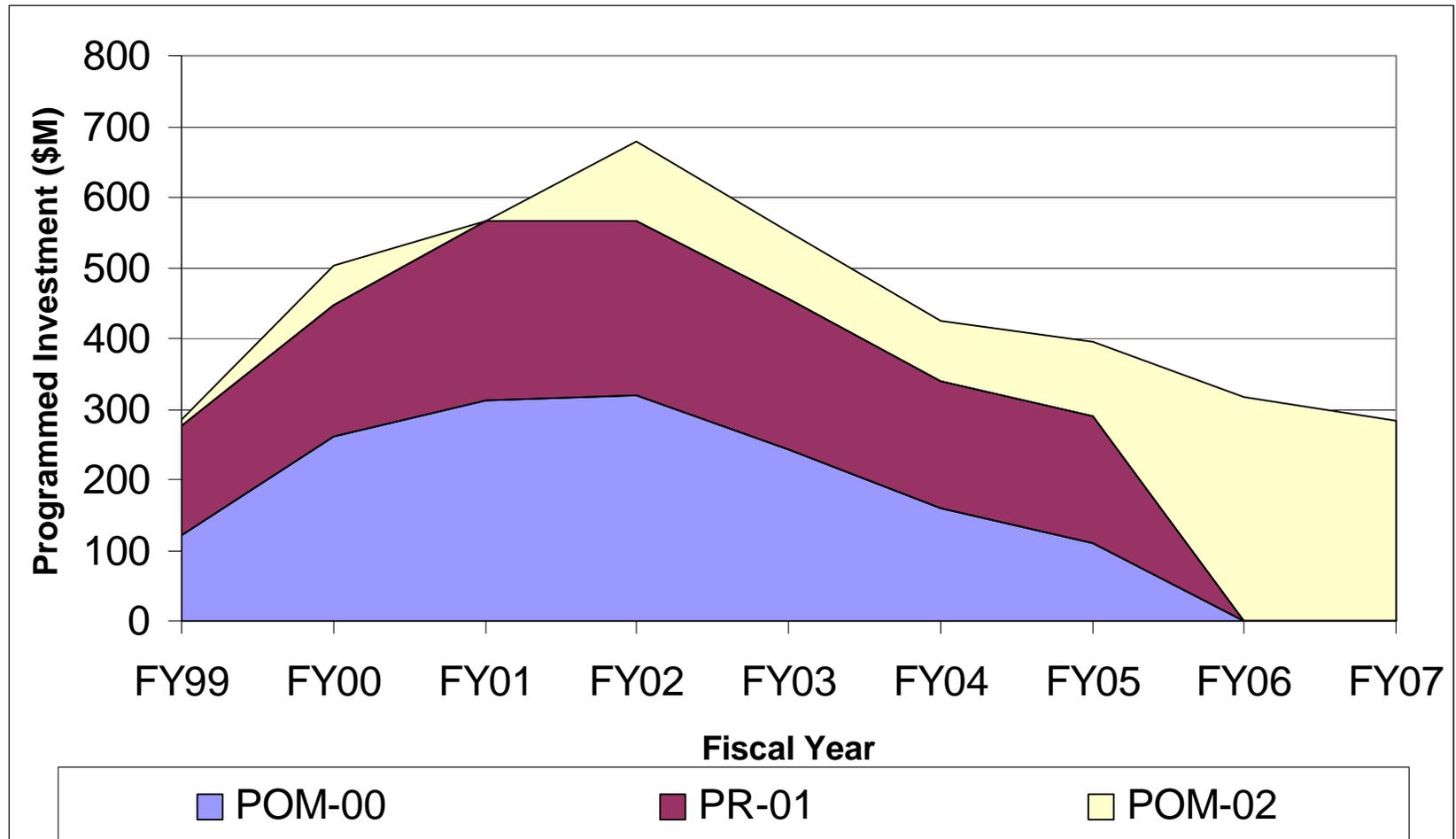
- Initiatives ranked by IRR:  $[\Sigma\text{EF} + \text{CF}] \times [\text{Eff 6-yr IRR}]$ 
  - $\Sigma\text{EF}$  is the sum of the RS/DASN/Fleet endorsement factors or Council endorsement.
  - CF is the SYSCOM confidence factor.
  - Eff 6-yr IRR is the effective 6-year IRR.
- Initiatives ranked by NPV:  $[\Sigma\text{EF} + \text{CF}] \times [\text{Eff 6-yr NPV}]$ 
  - $\Sigma\text{EF}$  is the sum of the RS/DASN/Fleet endorsement factors or Council endorsement.
  - CF is the SYSCOM confidence factor.
  - Eff 6-yr NPV is the effective 6-year NPV.
- Initiative rank is weighted combination of IRR and NPV rank (2/3 of IRR rank and 1/3 NPV rank).

# Final Ranking



- Council reviewed initiatives are “lifted” out of the overall prioritized list.
- Council reviewed initiatives are re-ordered in Council priority order and replaced into the holes vacated in the previous step.
- Council co-chairs approve final prioritized list.
- Prioritized list turned over to Resource Sponsors via POM/PR Serial addendum.

# CREI Investment Today



# Review - Addressing Business Practice Shortfalls Through Process Improvement



Before CREI	After CREI
<ul style="list-style-type: none"><li>• Few incentives for risk taking<ul style="list-style-type: none"><li>– No incentive to invest if savings fall to another organization</li></ul></li><li>• Investment decision process sub-optimized<ul style="list-style-type: none"><li>– Fragmented efforts</li><li>– Different groups with different standards</li><li>– Some potential “great ideas” don’t get the visibility needed to get funded</li></ul></li></ul>	<ul style="list-style-type: none"><li>• Positive incentives for claimant participation:<ul style="list-style-type: none"><li>– Protection of unrealized savings</li><li>– CREI Council policing action</li><li>– Visibility</li></ul></li><li>• Quality corporate-level decisions<ul style="list-style-type: none"><li>– Council Co-chaired by Navy Secretariat, OPNAV, and HQMC</li><li>– Representation includes Secretariat, OPNAV, HQMC, and Fleet</li></ul></li></ul>