



# ***CEROS 2005***

## ***A Work in Progress***

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***New Ocean  
Technology  
for Hawaii***

**The National Defense Center of Excellence for Research in Ocean Sciences**



# CEROS OVERVIEW

*CEROS solicits and supports innovative technologies for national maritime military applications and sustained technology-based economic development in Hawaii*

- The CEROS program produced significant results for the DoD including 9 patents and over 120 new jobs for participating companies (LMI Report, February 2003)
- Through June 2004, the CEROS program has funded 174 projects for \$65,754,619



## *Lessons Learned – 1993-2004*

CEROS is -

“Mobile” annual funding for Development and Demonstration of “Gap” Technologies or Prototype Systems

CEROS Plus Factors -

- Builds Tech-based Capability in Hawaii
- Addresses Near-Term Maritime Technology Needs of “local” Commands
- Reduces Technical Risk of Innovation and Development
- Provides Value for Funds Invested through Efficient Program Process



## *Lessons Learned 1993-2004*

- CEROS is Not -
  - Structured nor Staffed to be a Full-Service, One-Stop Funding Shop to take a Company from Idea to IPO
- Because -
  - Companies Don't Know What, Don't Know How, or Don't Care (Task is Daunting)
  - Leading Edge is Narrow (Innovation is Difficult)
  - Talent Pool is Not Deep (Sector is Developing)
  - Technical-Business Capabilities Mismatch (A Good Idea is Just the Beginning)
  - Hawaii is 5 Time Zones from Washington DC (Transition is a Contact Sport)



# PROGRAM CHARACTERISTICS

*1993-2004*

- Open Solicitation through Broad Agency Announcement (BAA) from DARPA
- 5 Technical Topic Areas
- Seeking Near-Term Results with DoD Relevance and Residual Benefit for Hawaii
- Project Selection through Competitive Evaluation
- Negotiated Fixed Price, Level of Effort State Contracts
- Emphasis on Innovation and Potential Military or Commercial Utility



## *Some Typical CEROS Results*

- PROOF OF CONCEPT / PROTOTYPING FOR ENTRY INTO PROGRAM OF RECORD
- PRODUCTS TO FILL NEAR-TERM COMMAND REQUIREMENTS
- LEVERAGE FOR R&D PROGRAMS (e.g. ONR)
- SOFTWARE FOR COMMERCIAL OR COTS PRODUCTS
- FOLLOW-ON DEMONSTRATIONS FOR DARPA



## PROGRAM STATUS FY04

- CEROS (as part of NELHA) exempt from State Procurement Code
- CEROS used exemption to implement a “streamlined” procurement plan
- CEROS plan: 9 months from October solicitation to executed contracts in June
- Exemption enabled CEROS to control contract process and to obtain highly qualified expert advice for project review and selection



## POTENTIAL CHANGES FOR FY05

- CEROS will lose exemption from State Procurement Code in January 2005
- Procurement process for non-exempt CEROS will be different
- Changes required TBD
- Downside Risk: State may lack SOP for concept-based programs like CEROS
- Downside Consequence: Change may jeopardize CEROS program quality



## MEANWHILE ...

- CEROS + State working to limit downside consequences and avert a programmatic train wreck
- FY05 Goal #1: maintain program quality
- FY05 Goal #2: finalize a procurement plan and launch the FY05 technical program on or about 1 October
- FY05 Goal #3: produce executed FY05 program contracts by 30 June 2005
- Desired Result: FY05 = A “typical” CEROS procurement

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# HELPFUL HINTS

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## WHAT DOES CEROS WANT?

- Technically Important, “Leading Edge” Projects
- Near-term Results: Proof-of-Concept, Prototype Development or Technology Demonstration
- Projects with DoD Relevance and Residual Benefit to Hawaii
- Clear, Complete, Compelling Submissions
- “Right-sized” Projects at Realistic Prices



# WHAT TO TELL CEROS

- What's the Problem?
- What do you Intend to Do?
- Why is your Project Important?
- How do you Intend to Do It?
- Who will Do It?
- What will you Deliver at the End of the Work?
- What's New or Different in this Work?
- What are the Project's Hard Parts or Risks?
- What are the Potential Pay-offs or Benefits?
- How will you Spend the Money?
- Why are you requesting CEROS support?

# FIRST SUBMISSION

- The First Submission (by whatever name) is Crucial to Ultimate Success
  - “Project Abstract” (Exempt CEROS)
  - “Proposal” (Non-Exempt CEROS)
- Must be Clear, Concise and Compelling
- What’s the Problem?
- What’s the Plan?
- Hint: Use Declarative Sentences
- Hint: Avoid Weasel Words and Arm-Waving
- Hint: Don’t SWAG Cost Estimates



# TECHNICAL EVALUATION

- **GENERAL CONSIDERATIONS:** Is the concept technically competitive? Does the product have near-term application or transition potential? Will the effort produce “residual value” for Hawaii? Is the proposed effort appropriate for CEROS support?
- **TECHNICAL QUALITY (40%):** Does the proposed work address a relevant and important technical need or problem? Will it advance the State-of-the-Art?
- **APPROACH & CAPABILITIES (20%):** Is the proposed technical approach adequate and appropriate? Is the team qualified? Is technical risk addressed?
- **ANTICIPATED BENEFITS (20%):** Will the proposed work advance technical, military and/or commercial competence? Will it generate sustained benefits?
- **COST & BUDGET (20%):** Is the budget reasonable and realistic? Does the effort have notable leverage, cost saving or value-added aspects?
- **RECOMMENDATION:** Invite Full Proposal? (Yes/No)



# MILITARY S&T EVALUATION

- **GENERAL CONSIDERATIONS:** Is the concept competitive? Does the proposed work make sense? Is the budget reasonable? Is transition likely?
- **RELEVANCE:** Is the proposed work relevant to command technical requirements or needs?
- **IMPORTANCE:** Is the proposed deliverable important to command technical capabilities and needs?
- **RECOMMENDATION:** Do you recommend requesting a full proposal? (Yes/No)



# FIRST CUT

- Exempt CEROS:
  - CEROS RAB reviews Technical Evaluations + S&T Recommendations
  - RAB Recommends Projects for Full Proposals
  - Total Funding Requested by Recommended Projects (typically) ~2X Available
- Non-Exempt CEROS:
  - Selection Panel Evaluates Submissions and Generates Priority List
  - Priority-Listed Projects Proceed to Negotiations





# SECOND SUBMISSION

- The Second Submission Provides Substance to Justify CEROS Support
  - “Full Technical Proposal” (Exempt CEROS)
  - “Best and Final Offer” (Non-Exempt CEROS)
- Must be Clear, Complete and Compelling
- Proposal must Justify Technical Claims and Methods
- Hint: Present Project as a Series of Distinct Tasks leading to Final Result
- Hint: Break Out Costs by Task and Performer
- Hint: Identify and Address Project Risks and “Hard Parts”
- Hint: Avoid Puffery (“Don’t blow smoke in the jurymen’s eyes”)



# PROPOSAL EVALUATION

- TECHNICAL EVALUATION per Solicitation for Maritime Military Technical Quality, Relevance and Importance; for Approach and Capabilities; Anticipated Benefits and Transition Potential; and Cost and Budget
  - Quality - 40%
  - Approach, Benefits and Cost - 20% each
- RECOMMENDATION to the CEROS Research Advisory Board:
  - Fund Essentially as Proposed;
  - Fund with Suggested Limitations or Modifications;
  - Reconsider if Additional Funds become Available; or
  - Do Not Consider for Funding – Reject
- COMMENTS on each criteria and summary Comments on Overall Evaluation



## SECOND CUT

- Exempt CEROS:
  - CEROS RAB reviews Proposal Evaluations + Reviewer Recommendations
  - RAB “Draws the Line”: Recommends Projects for Negotiation and Funding
  - RAB Provides Negotiation Targets for Technical Scope of Work and Funding
  - CEROS Negotiates and Executes Contracts
- Non-Exempt CEROS:
  - Selection Panel Evaluates and Accepts or Rejects Best & Final Offers
  - Contracts Issued for Accepted Projects



# FINAL THOUGHTS

- Procurement Plan for FY05 Core Program Not Finalized
- CEROS requesting Exemption from State Procurement Code for FY05 Program
- Goal: Announce Program on or about October 1<sup>st</sup>
- Goal: Retain “Typical” CEROS Process for FY05
- Stay Tuned: Watch CEROS Website for Updates

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# BACKGROUND SLIDES

*New Ocean  
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## ***PURPOSE:***

**SOLICIT AND SUPPORT INNOVATIVE TECHNOLOGY DEVELOPMENT FOR NATIONAL MARITIME MILITARY APPLICATIONS AND SUSTAINED TECHNOLOGY-BASED ECONOMIC DEVELOPMENT IN HAWAI'I**

- ◇ **DEMONSTRATE CAPABILITIES**
- ◇ **BUILD RESIDUAL BENEFITS**

## ***FOCUS AREAS:***

- ◇ **OCEAN ENVIRONMENTAL PRESERVATION**
- ◇ **SHALLOW WATER SUREVEILLANCE TECHNOLOGIES**
- ◇ **NEW OCEAN PLATFORM AND SHIP CONCEPTS**
- ◇ **OCEAN INSTRUMENTS AND ENGINEERING TOOLS**
- ◇ **UNIQUE PROPERTIES OF THE DEEP OCEAN ENVIRONMENT**

## ***STATUS:***

- ◇ **INITIATED IN 1993 THROUGH A GRANT TO HTDC, A STATE AGENCY**
- ◇ **GRANT ADMINISTRATION TRANSFERRED TO NELHA, JANUARY 1996**
- ◇ **TOTAL FUNDING (1993 – 2004) = \$72.6 MILLION**
- ◇ **SOLICITS PROPOSALS THROUGH BROAD AGENCY ANNOUNCEMENTS**
- ◇ **EVALUATES PROPOSALS COMPETITIVELY FOR TECHNICAL MERIT, INNOVATION AND RELEVANCE TO CEROS OBJECTIVES**
- ◇ **FUNDED 174 PROJECTS FOR \$65.8 MILLION SINCE APRIL 93**
- ◇ **144 PROJECTS COMPLETED THROUGH JUNE 2004**
- ◇ **\$7M FOR CEROS IN FY05 APPROPRIATION**



# CEROS PRIORITIES

- ➔ Focus Core technical program on maritime military technology needs
- ➔ Catalyze innovative technical development and demonstrations
- ➔ Solicit and support technically important projects with transition potential
- ➔ Enhance sustainable commercial technology capabilities in Hawaii
- ➔ Maintain program quality, control costs and deliver results



# CEROS PROGRAM DESCRIPTION

*From BAA-CEROS-04-01 October 2003*

- The National Defense Center of Excellence for Research in Ocean Sciences (CEROS) is soliciting proposals for concept development and demonstration of ocean technologies and applied ocean sciences for military maritime purposes. Of particular interest are proposals for development and demonstration of advanced technologies for Shallow Water Surveillance, Ocean Environmental Preservation, New Ocean Platform and Ship Concepts, Ocean Instruments and Engineering Tools, and Unique Properties of the Deep Ocean Environment. Innovative concepts and new approaches are being sought to advance technology, enhance capabilities and infrastructure in Hawaii, and demonstrate beneficial maritime military utility and commercial development potential for the Department of Defense.

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# FY04 PROGRAM DEVELOPMENT

- Identify Topics of Interest (DARPA, Fleet, etc.)
- Industry Day (September)
- DARPA Broad Agency Announcement (October)
- 5-Page Paperless Project Abstracts
- Server-Based Abstract Evaluations
- Select Projects + Request Full Proposals
- Server-Based Proposal Evaluation
- RAB Recommends Projects for Funding
- NELHA BoD Authorizes Negotiation + Funding
- Negotiate Terms & Conditions
- Prepare Contracts
- Execute Contracts
- Begin Project Work (June 2004)



# FY05 NON-EXEMPT “STRAWMAN”

- Identify Topics of Interest (DARPA, Fleet, etc.)
- Industry Day (31 August)
- State Posts Request for Proposals
- 6-Page (Paperless?) Project Proposals
- Proposal Evaluation + Ranking (Priority List)
- Discussions with Priority-Listed Offerors
- Request Best & Final Offers
- Evaluate Best & Final Offers
- Final Funding Decision (Draw the Line)
- Prepare Contracts
- Execute Contracts
- Begin FY05 Project Work



# SUBMISSIONS/SELECTIONS

1993-2004

	BAA	ABSTRACTS	PROPOSALS	FUNDED
93 CORE	MAY 93	0	79	12
94 CORE	MAR 94	160	28	16
95 CORE	DEC 94	114	32	11
96 CORE	DEC 95	95	31	12
97 CORE	DEC 96	103	31	16
98 CORE	OCT 97	66	28	19
99 CORE	OCT 98	99	27	15
00 CORE	OCT 99	96	25	15
01 CORE	OCT 00	69	17	14
02 CORE	OCT 01	66	17	10
03 CORE	OCT 02	100	21	15
04 CORE	OCT 03	82	21	19
TOTALS		1050	357	174



## S&T ADVISORS' ROLE

- Suggest Technical Topics for Solicitation
- Present Command Technical Needs at CEROS Industry Day
- Provide Guidance to Potential Proposers
- Review Project Abstracts for Relevance and Importance to Command Needs
- Recommend and Rank Projects for Further Review
- Attend Post-Selection DARPA Reviews as Available



## CEROS RESEARCH ADVISORY BOARD

- William Bass, Captain USN (Retired) Former Executive Director, HTDC
- H. Bruce Baxter, Former Technical Director, PMRF
- Jeffrey E. Haun, Office of Naval Research Global Office, London and Former Director of CEROS
- Gary Jensen, Captain USN (Retired), Director of ONR Global Mid-Pacific Branch Office
- Maurice Kaya, DBEDT Chief Technology Officer
- J. Richard Seesholtz, Admiral USN (Retired) Former Oceanographer of the Navy