DCN: 11690

BASE VISIT REPORT

NAVAL DISTRICT WASHINGTON, SOUTH POTOMAC: NAVAL SURFACE WARFARE CENTER INDIAN HEAD, MD

July 22, 2005

LEAD COMMISSIONER: None

ACCOMPANYING COMMISSIONER: None

COMMISSION STAFF: David Epstein, Lester Farrington

LIST OF ATTENDEES:

NAME	ORGANIZATION	PHONE	EMAIL
John Verneul	NSWC HQ	202 781-3447	JOHN.VERNUIL@NAVY.MIL
Chris Reams	Indian Head Division, NSWC Division Yorktown Detachment	757 887-4762 X219	reamscs@ih.navy.mil
Miguel Mafuz	Corporate Operations (051F)	301 744-4575	"Miguel.mafuz@navy.mil"
Robert Kaczmarek	NSWC Indian Head	301 744-1195	Robert.kaczmarek@navy.mil
Joseph Anderson	NSWC Indian Head	301 744-2228	joseph.d.anderson@navy.mil
Constance Murphy	NSWC Indian Head	301 744-6497	constance.murphy@navy.mil
Lester Farrington	BRAC	703 699-2914	lester.farrington@wso.whs.mil
David Epstein	BRAC	703 699-2947	david.epstein@wso.whs.mil
Tom Russell	NSWC Indian Head	301 744-4270 Personal Cell: 703 801-2340	Thomas.p.russell@navy.mil
CDR Steve Conway	NSWC Indian Head	301 744-4301	Stephen.conway@navy.mil
Ken Zimms	NSWC Indian Head, Detachment Earle	732 866-2801	Kenneth.zimms@navy.mil

Stan Moore	NSWC Indian Head	301 744-4549	Stanley.moore@navy.mil
Beryl Willoughby	NDW South Potomac	301 744-4854	beryl.willoughby@navy.mil
Amy O'Donnell	NSWC Indian Head	301 744-4568	amy.j.odonnell@navymil
Harvey Camp	NSWC Indian Head	301 744-6555	Harvey.camp@navy.mil
"Parul McDonald	NSWC Indian Head	301 744-4575	parul.mcdonald@navy.mil
John Bohanan	Office of Congressman Hoyer	301 483-1577	john.bohanan@mail.house.mil

BASE'S PRESENT MISSION: The mission of the Naval Surface Warfare Center Indian Head Division is to "rapidly move any energetic product from concept through production, to operational deployment."

SECRETARY OF DEFENSE RECOMMENDATION: There are two recommendations that affect Naval Surface Warfare Center Indian Head Division and its detachments at Yorktown, Earle, and Seal Beach.

- Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, underwater weapons, and energetic materials, to Naval Air Weapons Station China Lake, CA.

- Realign Naval Surface Warfare Center, Yorktown, VA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

- Realign Naval Surface Warfare Center Division Indian Head, MD, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

- Realign Naval Surface Warfare Center Division Earle, NJ, by relocating weapon and armament packaging Research and Development & Acquisition to Picatinny Arsenal, NJ.

- Realign Naval Weapons Station Seal Beach, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except underwater weapons and energetic materials, to Naval Air Weapons Station China Lake, CA.

SECRETARY OF DEFENSE JUSTIFICATION:
The justifications for the five recommendations listed above are in the same order as the recommendations:

- This recommendation realigns and consolidates those facilities working in Weapons & Armaments (W&A) Research, Development & Acquisition, and Test and Evaluation (RDAT&E) into a Naval Integrated RDAT&E center at the Naval Air Warfare Center, China Lake, CA. Additional synergistic realignments for W&A was achieved at two receiver sites for specific focus. The Naval Surface Warfare Center, Dahlgren, VA, is a receiver specialty site for Naval surface weapons systems integration and receives a west coast site for consolidation. This construct creates an integrated W&A RDAT&E center in China Lake, CA, energetics center at Indian Head, MD, and consolidates Navy surface weapons system integration at Dahlgren, VA. All actions relocate technical facilities with lower overall quantitative Military Value (across Research, Development & Acquisition and Test & Evaluation) into the Integrated RDAT&E center and other receiver sites with greater quantitative Military Value.

  Consolidating the Navy's air-to-air, air-to-ground, and surface launched missile RD&A, and T&E activities at China Lake, CA, would create an efficient integrated RDAT&E center. China Lake is able to accommodate with minor modification/addition both mission and lifecycle/sustainment functions to create synergies between these traditionally independent communities.

  During the other large scale movements of W&A capabilities noted above, Weapon System Integration was specifically addressed to preserve the synergies between large highly integrated control system developments (Weapon Systems Integration) and the weapon system developments themselves. A specialty site for Naval Surface Warfare was identified at Dahlgren, VA, that was unique to the services and a centroid for Navy surface ship developments. A satellite unit from the Naval Surface Warfare Center, Port Hueneme, San Diego Detachment will be relocated to Dahlgren.

  The Integrated RDAT&E Center at China Lake provides a diverse set of open-air range and test environments (desert, mountain, forest) for W&A RDAT&E functions. Synergy will be realized in air-to-air, air-to-ground, and surface launched mission areas.

  This recommendation enables technical synergy, and positions the Department of Defense to exploit center-of-mass scientific, technical and acquisition expertise with weapons and armament Research, Development & Acquisition that currently resides at 10 locations into the one Integrated RDAT&E site, one specialty site, and an energetics site. (applies to recommendations #1, #2, and #5)

- This recommendation realigns and consolidates those gun and ammunition facilities working in Weapons and Armaments (W&A) Research (R), Development & Acquisition (D&A). This realignment would result in a more robust joint center for gun and ammunition Research, Development & Acquisition at Picatinny Arsenal, NJ.

This location is already the greatest concentration of military value in gun and ammunition W&A RD&A.

Picatinny Arsenal is the center-of-mass for DoD's Research, Development & Acquisition of guns and ammunition, with a workload more than an order of magnitude greater than any other DoD facility in this area. It also is home to the DoD's Single Manager for Conventional Ammunition. Movement of all the Services' guns and ammunition work to Picatinny Arsenal will create a joint center of excellence and provide synergy in armament development for the near future and beyond, featuring a Joint Packaging, Handling, Shipping and Transportation (PHS&T) Center, particularly important in this current time of high demand for guns and ammunition by all the services. Technical facilities with lower quantitative military value are relocated to Picatinny Arsenal.

This recommendation includes Research, Development & Acquisition activities in the Army and Navy. It promotes jointness, enables technical synergy, and positions the Department of Defense to exploit center-of-mass scientific, technical, and acquisition expertise within the weapons and armament Research, Development & Acquisition community that currently resides at this DoD specialty location. (applies to recommendations #3 and #4)

MAIN FACILITIES REVIEWED (attachments #1 - #4 apply):
We did not visit any facilities of the command other than the headquarters building. Most of the command is in the classified area.

KEY ISSUES IDENTIFIED: (attachment #5 applies)
In response to our questions, it appeared that the employees and the command did not always understand the planned execution of the consolidation efforts and they explained that they had previously requested clarification of many of the items we asked about. They had inadequate time to respond to the data calls and the recommendations which emerged were not always done in a logical and connected manner. We will be sending questions to the Clearinghouse on Monday, July 25th.

INSTALLATION CONCERNS RAISED
In general, it appears to us that major flaws exist throughout the recommendations in that they are not consistent with the basic concept of creating an Integrated Naval Weapons and Armament Center at China Lake and specialty sites for Weapon Systems Integration at Dahlgren, Guns/Ammo at Picatinny and Energetics at Indian Head. Indian Head is not only affected by work being realigned out that is inextricably linked to its core mission, but there is also move of other activities' workload to both China Lake and Picatinny that is in actuality Energetics workload that should have been realigned to Indian Head. Additionally, the small Energetics workload at China Lake was not redirected Indian Head. We observed that this has happened at numerous other bases.

- The recommendations needed clarification, as explained below:
  - The recommendation to realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, underwater weapons, and energetics materials, to Naval Air Weapons Station China Lake, CA needs clarification because 1) Indian Head is the center of excellence for energetics, not just energetics materials, and 2) Dahlgren is the center of excellence for weapons systems integration. They suggested that the recommendation be rewritten: *Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, underwater weapons, Energetics, and weapons systems integration to Naval Air Weapons Station China Lake, CA.*

  - The recommendation to realign Naval Surface Warfare Center, Yorktown, VA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD needs clarification because it seems that energetics should have been moved to Indian Head, Weapons and Armaments weapons systems integration should have gone to Dahlgren, Weapons and Armaments electronics should have gone to the Indian Head detachment at Ventura County/Pt. Mugu (or wherever that goes), and Weapons and Armaments RD&A and T&E should have gone to Picatinny and the recommendation should be rewritten "*Close Naval Surface Warfare Center, Yorktown, VA, and relocate all Weapons and Armaments energetics to Naval Surface Warfare Center Indian Head, MD, except that the electronics depot function and personnel go to Yorktown VA, NAWC Point Mugu Detachment because it supports Yorktown.*

  - The recommendation to realign Naval Surface Warfare Center Division Indian Head, MD, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ should be clarified because it should have specifically excluded energetics.

  - The recommendation to realign Naval Surface Warfare Center Division Earle, NJ, by relocating weapon and armament packaging Research and Development & Acquisition to Picatinny Arsenal, NJ needs clarification as it appears that this recommendation was only intended to be about the specialty site for guns and ammunition at Picatinny. Accordingly, it appears that the recommendation should be rewritten *Realign Naval Surface Warfare Center Indian Head, MD, Earle detachment by relocating the Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation for guns and ammunition packaging, handling, storage and transportation to Picatinny Arsenal, NJ.*

- The recommendation to realign Naval Weapons Station Seal Beach, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except underwater weapons and energetic materials, to Naval Air Weapons Station China Lake, CA appears to be flawed because 1) it improperly refers to "Naval Warfare Center Seal Beach" when it should have addressed "Naval Surface Warfare Center Indian Head, Seal Beach detachment." Also, see the Seal Beach write-up for another possible revision.

- In addition, they recommended the addition of a recommendation to relocate all Weapons and Armaments weapons systems integration RD&A and T&E from NSWC Indian Head to NSWC Dahlgren. Furthermore, it appears to us that consideration should have been give to moving
  - Weapons and Armaments RD&A and T&E, except guns/ammo, weapons system integration, and energetics from Dahlgren to NAWC China Lake, CA;
  - Weapons and Armaments RD&A for energetics from NAWC China Lake to NSWC Indian Head.

- As reflected on page 4 of attachment @5, some major pieces of equipment, for which the capability would be needed at both Indian Head and the command gaining by the proposed recommendation, was either not budgeted for the move or the move was only budgeted in part. A classic example of this was exemplified in the case of the large twin screw explosives mixing machine.

- The University of Maryland is the only school in the USA that has a major in energetics. NSWC Indian Head has 14 of the country's 25 PhDs that specialize in the synthesis and physics of new Energetic molecules and their scale-up. Indian Head is clearly the national center of excellence.

- The base has received a variety of excellence awards.

COMMUNITY CONCERNS RAISED:
See above

REQUESTS FOR STAFF AS A RESULT OF VISIT:
N/A

DCN: 11690

Epstein, David, CIV, WSO-BRAC

From: Chris Goode [cgoode@hyjekfix.com]
Sent: Wednesday, August 03, 2005 6:35 PM
To: Epstein, David, CIV, WSO-BRAC; 'Bohanan, John'
Cc: Farrington, Lester, CIV, WSO-BRAC
Subject: Re: Indian Head Follow-up

David,

1. China Lake energetics was not touched by the DoD recommendation. China Lake has a small pilot plant that could easily be absorbed by Indian Head. We estimate 50 to 100 man years. That would allow you to shutdown a costly facility at China Lake.

2. Picatinny has about 40 -50 man years of energetics; basically hands-on R&D work that could be consolidated at Indian Head; another costly facility eliminated.

3. Dahlgren has energetics associated with warheads (a few work years) that is going to China Lake and Picatinny Arsenal. Weapons and Armaments work from Dahlgren to China Lake should also say "except for energetics". If the recommendation stands to send "guns and ammunition" from Dahlgren to Picatinny, that too should say "except for energetics."

4. Crane has pyrotechnics and it should probably just stay put; they have the facilities and range to test pyros there.

A few questions:

- Would you like us to draft a recommendation that consolidates these above functions to Indian Head?

- Do you plan to put maritime guns at Picatinny or do you believe they'll stay at Dahlgren?... this could affect how a recommendation would be drafted.

- Regarding China Lake, as we stated, we think the weapons simulation R&D work should stay at Indian Head because all of the production and fleet support will stay co-located at Indian Head. If it absolutely has to move, Dahlgren is more appropriate, because it's more systems integration, and its closer to Indian Head.

- Regarding Earle Det, as stated, we think the packaging piece of the PHS&T should remain at Earle and not go to Picatinny because it's already consolidated very effectively at Earle, but if some packaging absolutely has to go to Picatinny, we think only "guns and ammunition" not "weapons and armaments", ie, the non-energetics packaging, should go. Otherwise, the Navy's specialty items, missiles, insensitive munitions, etc, will be handled by the Army which has no background or expertise in specialty ammunition.

- Regarding Seal Beach, we still believe the Quality Evaluation function should stay at Seal and not go to China Lake so you keep the QE together; QE is a discipline honed by Indian Head and consequently, Indian Head does about 70% of Navy's QE work. Again, this is not a weapons and armaments issue and it really has no synergy with China Lake.

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Pls let us know if you need anything else and we'll re-adjust in the morning, thanks again, Chris.

At 03:02 PM 8/3/2005, Epstein, David, CIV, WSO-BRAC wrote:

> Chris/John: Besides Yorktown and Indian Head, what commands that were in the DOD recommendation, if any, do energetics. In other words, in your opinions, in order to correct the DOD recommendation, would it be sufficient for the Commission to approve something like "move all Yorktown energetics to Indian Head; other Yorktown work goes to xxxx" and "move all guns and ammunition work, except energetics, from Indian Head to Picatinny?"
>
> David

From: Chris Goode [mailto:cgoode@hyjekfix.com]
Sent: Tuesday, August 02, 2005 10:48 AM
To: David.Epstein@wso.whs.mil; lester.Farrington@wso.whs.mil
Cc: dfix@hyjekfix.com
Subject: Indian Head Follow-up

David, Les: thanks again for the meeting last week regarding Indian Head. John Brough, the Indian Head poc who made the presentation asked me to pass these to you.

Let me know if you need any additional information and good luck during the final few weeks. Chris.

Chris,

Last Wednesday we were asked if we had any questions that we would like the BRAC staffers to ask Mr. Al Shaffer. Hopefully it is not too late, but here are a few:

> During the scenario analysis phase were there any changes to the capacity and MIL value data that adjusted the rankings of any activity? Were there any significant changes to certified data after the initial submission that affected MIL value rankings?
>
> When were the Capacity and MIL value databases frozen?
>
> Was any concern registered by anyone in the process regarding the validity of the certified data?

John

Chris Goode
Hyjek & Fix, Inc.
Suite 560
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037
Main: (202) 223-4800
Fax: (202) 223-2011

DCN: 11690

Email: cgoode@hyjekfix.com
Website: www.hyjekfix.com

Chris Goode
Hyjek & Fix, Inc.
Suite 560
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037
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BASE VISIT REPORT

NAVAL DISTRICT WASHINGTON, SOUTH POTOMAC: NAVAL SURFACE WARFARE CENTER
INDIAN HEAD, MD
July 22, 2005 and Community Visit on July 27, 2005

LEAD COMMISSIONER: None

ACCOMPANYING COMMISSIONER: None

COMMISSION STAFF: David Epstein, Lester Farrington

LIST OF ATTENDEES:

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Harvey Camp	NSWC Indian Head	301 744-6555	Harvey.camp@navy.mil
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SECRETARY OF DEFENSE JUSTIFICATION:

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- In addition, they recommended the addition of a recommendation to relocate all Weapons and Armaments weapons systems integration RD&A and T&E from NSWC Indian Head to NSWC Dahlgren. Furthermore, it appears to us that consideration should have been give to moving
  - Weapons and Armaments RD&A and T&E, except guns/ammo, weapons system integration, and energetics from Dahlgren to NAWC China Lake, CA;
  - Weapons and Armaments RD&A for energetics from NAWC China Lake to NSWC Indian Head.

- As reflected on page 4 of attachment @5, some major pieces of equipment, for which the capability would be needed at both Indian Head and the command gaining by the proposed recommendation, was either not budgeted for the move or the move was only budgeted in part. A classic example of this was exemplified in the case of the large twin screw explosives mixing machine.

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- The base has received a variety of excellence awards.

COMMUNITY CONCERNS RAISED:
See above

REQUESTS FOR STAFF AS A RESULT OF VISIT:
N/A

DCN: 11690

Epstein, David, CIV, WSO-BRAC

From: Bensberg, William C. CIV NAVWPNSTA N00W1C [william.bensberg@navy.mil]
Sent: Wednesday, July 27, 2005 3:50 PM
To: WSO-BRAC Epstein (E-mail); WSO-BRAC Farrington (E-mail)
Cc: Rodriguez, Antonio V CIV (NSWC-SB)
Subject: NSWC Det Seal Beach

David and Les, regarding our phone conversation today pertaining to the NSWC Indian Head Div Det Seal Beach recommendation, I suggest you call Tony Rodriguez directly for clarification of your questions. Tony is the detachment director of NSWC and can be reached today and tomorrow (not Friday) at (562)626-7727

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PERSONNEL & COST IMPLICATIONS at INDIAN HEAD due to DOD RECOMMENDATIONS

General

- Recurring savings are essentially achieved through the elimination of positions based on the premise that increased synergy will be achieved by consolidating functions at the macro-level without any consideration of breaking synergy resulting from shared facilities, equipment, skills and knowledge across lower level enabling technologies.
- Large number of eliminations over the entire Technical area will result in a capacity shortfall, as the current excess capacity is very small. Cannot determine, as future capacity requirements were removed from the released data.
- No Recurring Savings are achieved through shutting down facilities, as they are almost always joint utilized.
- Duplication of facilities and equipment will actually occur further increasing sustainment costs to DoD.

Gun Propulsion (energetics) - from Indian Head to Picatinny

Move 37 Eliminate 6 (16.2%)

- Energetics Center created at Indian Head & Specialty Site for Guns & Ammo at Picatinny.
- Indian Head gun data collected from a full closure scenario, with all work going to either China Lake (Weapons) or Picatinny (Guns and Ammo) - Therefore gun and ammo work identified was almost all energetics.
- Facilities, Equipment and People support multiple areas of Energetics – Therefore, facilities cannot be closed, equipment moved will have to be replaced, and skills lost will have to be replaced.
- Greater synergy will be broken across Energetics, than will be created at Picatinny - Savings through eliminations is not real.
- Indian Head Gun Propulsion requires very expensive Energetics facilities that would need to be duplicated at Picatinny.
- Picatinny showed no excess capacity, stated they would need MILCONs - Tech JCSG reduced to Amber Rehab and allowed only 25% .
- Only 25% of equipment required was allowed by [redacted]

PHS&T from Earle to Picatinny
Move 54 Eliminate 9 (16.6%)

- PHS&T is a Detachment of Indian Head, integrated as a Department, and fully supported from Indian Head.
- PHS&T within the Navy is already consolidated within Indian Head Division at Earle.
- PHS&T is not consolidated within the Army - only Conventional Ammo at Picatinny.
- Most of PHS&T workload is not Conventional Ammo, but specialized ammunition.
- Greater synergy exists between PHS&T at Earle and Earle's Logistics mission than Picatinny's Conventional Ammo mission. - Savings through eliminations is not real.
- PHS&T is a World Class Organization consistently winning awards for their packaging designs. Will lose the knowledge base as most employees live 20 to 30 minutes south of Earle. Will not move and commute to Picatinny is over 2 hours.

Missle Simulation Design from Indian Head to China Lake
Move 80 Eliminate 14 (12.5%)

- Missle Simulation is full spectrum at Indian Head from design to fabrication to in-service support.
- Design personnel support development of Energetics process control systems
- Only Design portion relocated to China Lake.
- Greater synergy broken at Indian Head, than gained at China Lake - Savings through eliminations is not real.

Quality Evaluation (QE) from Seal Beach to China Lake
Move 20 Eliminate 4 (20%)

- A Detachment of Indian Head, integrated as a Department, and fully supported from Indian Head. This action does not close the Detachment.
- Determines if the Service life of fielded Ordnance and Weapons can be extended from a safety viewpoint.
- The majority of the Navy's QE Program (both NAVSEA & NAVAIR) is conducted by Indian Head Division (Indian Head, Seal Beach, & Yorktown sites).
- Requires a markedly different engineering discipline and frame of mind, not normally associated with RDT&A and benefits greatly from co-location and management with other QE workload. Was aligned with Indian Head Division ~7 Years ago for this reason.
- Synergy is greater with other Quality Evaluation Programs than combining it with Weapons RDT&A - Savings through eliminations is not real.

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Proposed Priorities

1) Cancel Gun Propulsion from Indian Head to Picatinny
   - Part of our Core Energetics Mission/Workload.
   - Significantly builds the Energetics capability at Picatinny.
   - Makes continued Joint Consolidation of Energetics at Indian Head more difficult.

2) Cancel total recommendation - consolidation of Weapons at China Lake
   - China Lake still has an Energetics capabiliy (~200 workyears).
   - ~2500 additional Weapons positions at China Lake will result in a labor rate we cannot compete with.
   - Missle Simulation Design & Seal Beach QE not part of Core Energetics Mission/Workload.

3) Cancel PHS&T from Earle to Picatinny
   - Not critical to Energetics Core capability, but important from a direct workload generation viewpoint.

DoD 045 - Alternative Receivers

Scenario: _____ **Due:** _____

Recommended Alternative (Description):
Move Energetics R&D from China Lake (CL) to Indian Head (IH)

Reason for Alternative Suggestion:
Indian Head is the only place in the U.S. with a full-spectrum hands-on capability, from cradle to grave (i.e. basic research to demil). The Navy has been consolidating energetics at IH during the past 4 decades: explosives engineering facility from NWC Yorktown, warhead explosive loading from NSW Yorktown, explosives & underwater R&D from White Oak, QE - Ordnance from NOC, QE from Concord, And Energetics S&T from NRL. The Weapons Divsion, NAWC (CL) has a recognized role within the Navy in the R&D of new missile propellants, and has supported White Oak in explosive research. However, CL had no capability to support the development of non-composite rocket propellants or gun propellants. In the composite propellant are, CL is limited to pilot-scale processing of these materials and cannot support any limited/surge production. IH already provides to the Navy and DoD all of the capability in the composite propellant/explosive area which is duplicated at CL; with the addition of a full capability for other rocket and gun propellants, as well as limited production for all materials. The bulk of the R&D work in composite propellants for the Navy and other DoD activities is already done by private industry, due to its investment in production capability for large rocket motors. Reestablishment of the necessary full-spectrum energetics capability at NAWC CL, or at any site other than IH, will be very expensive.

Activities Involved:
Indian Head Division
NAWC China Lake

Impacts (Positive and Negative) on Personnel, Equipment, MILCON, Cost, Mission, Etc.:

Data Sources Used for Alternative Development:

During BRAC 1995, the scenario to move the energetics capability resident at IH to CL was evaluated. Once COBRA analyzed the cost, the ROI did not support the scenario.

In 1999 in response to the section 912c legislation another review of the potential to consolidate the capability resident at Indian Head with that at China Lake was conducted. Since this was not being done under a BRAC legislation the focus was somewhat different, but did include an analysis of facilities, equipment and people at both sites engaged in energetics work. This study also concluded that there were facilities, equipment and technical capabilities at Indian Head that were not resident at China Lake. A few examples of this were gun propellant development, underwater warheads, and energetics manufacturing technology.

Submitting Activity CO _____ **Date:** _____

Echelon Approval (If outside NAVSEA): _____**Date:** _____

Quarterback Approval (include date): _____ **Date:** _____

CONGRESSIONAL - DAHLGREN
INDIAN HEAD

DCN: 11690 DRAFT

DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION
2521 CLARK STREET, SUITE 600
ARLINGTON, VIRGINIA 22202
(703) 699-2950

MEMORANDUM OF MEETING

DATE: **August 1, 2005**

TIME: **10:30 AM – 11:30 AM**

PHONECONS WITH REPRESENTATIVE STENY HOYER:

CONGRESSMAN Steny Hoyer, Maryland (202) 225-4131 ncourt, Commander, Navy Region Southwest, Phone: (619) 532-2925, E-Mail: jose.betancourt@navy.mil

SUBJECT: Congressman Hoyer's positions on certain bases in and near Maryland

PARTICIPANTS:

David Epstein, Senior Analyst, Navy Team*

Lester C. Farrington, Senior Analyst, Joint Issues Team

MEETING SUMMARY:

This write-up documents two phone conversations between Congressman Hoyer and the two senior staffers. This is a summary of the topics generally discussed, but some bases were discussed with one staffer, others with the other, and some with both.

- NSWC Dahlgren, a center for excellence for Navy guns and for ship simulators is performing work that belongs at Dahlgren and the Congressman plans to discuss this matter with Mr. Warner of Virginia. However, Mr. Hoyer appears to see some positives in the DOD recommendation in that Aberdeen would likely benefit from Picatinny becoming the Center of Excellence for **Integrated** Weapons & Armaments Specialty Site for Guns and Ammunition.
- The Congressman is very interested in keeping Indian Head as the Center of Excellence for Energetics. He seems to believe that because Indian Head remained as a potential closure until shortly before the official list was published, it was not seriously considered as a "gainer." He expressed concern that some energetics work appears to be headed to China Lake and other facilities, rather than to Indian Head, where it belongs.
- Mr. Hoyer noted the benefits of St. Inigoes, MD and observed that if the commissioners had not taken pity on Charleston after deciding to close its two major bases, St. Inigoes,

which is free from electronic interference might well have emerged as the center of east coast SPAWAR activities. Along with that observation, may be some concern about the apparent movement towards greater concentration of SPAWAR work in Norfolk.

* Denotes individual responsible for completing the memorandum

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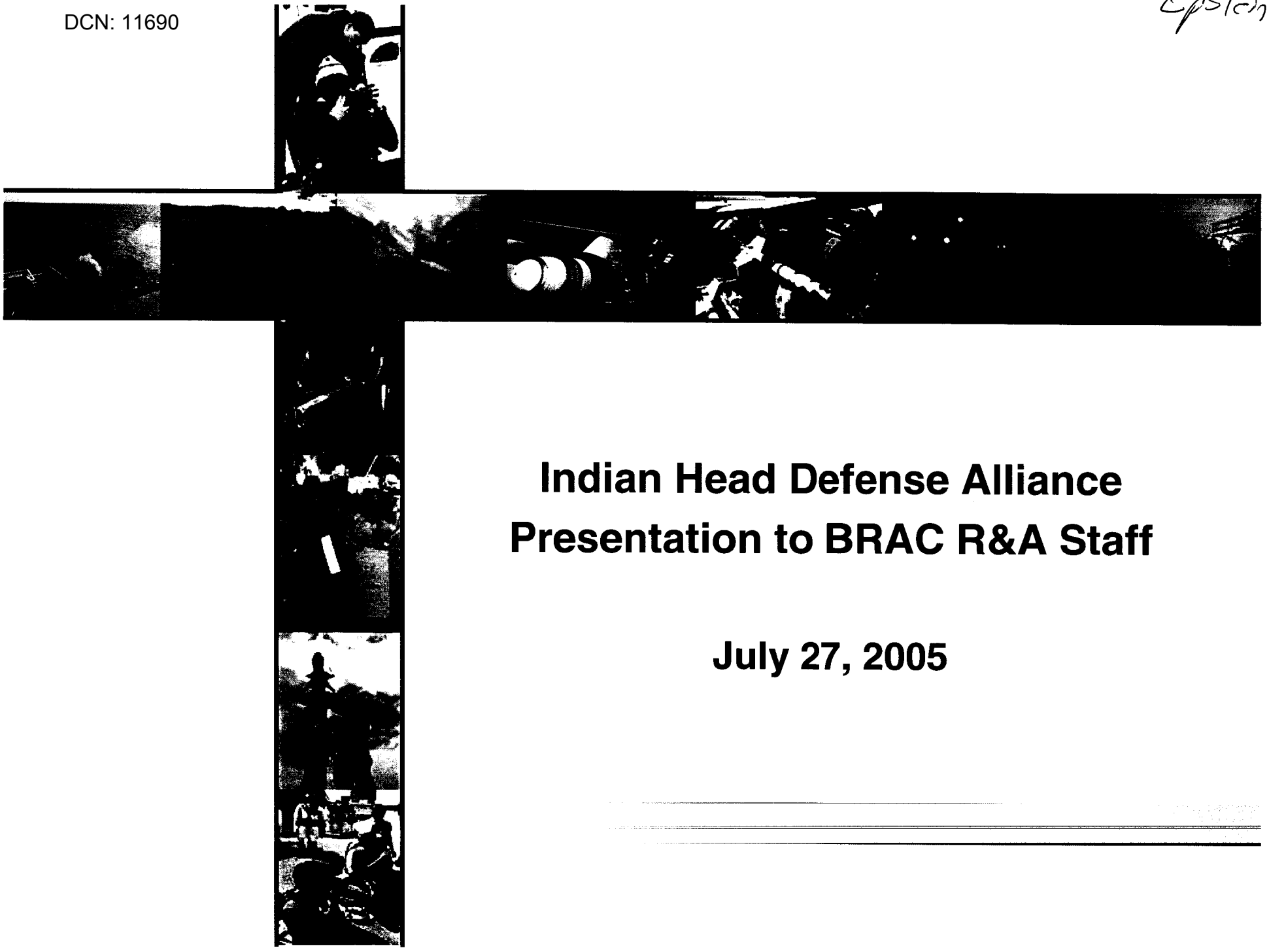
Epstein



Indian Head Defense Alliance
Presentation to BRAC R&A Staff

July 27, 2005

Indian Head Recommendations

- **<u>Overturn</u> the total DoD recommendations to create:**
  - Integrated Weapons and Armaments RDAT&E capability at China Lake
  - Integrated Weapons & Armaments Specialty Site for Guns and Ammunition at Picatinny Arsenal
- **Rationale for our recommendations:**
  - Severs existing synergy in energetics capability at Indian Head carefully constructed over last 40 years
  - Savings are significantly overstated
  - Significant movement of functions among numerous facilities are inconsistent with the goals of the construct proposed
  - Disrupts RDAT&E at other affected bases, e.g. Dahlgren, Crane, Pt Mugu, Pt Hueneme and other facilities

Indian Head
Community Observations

- Closure of NSWC, Indian Head was put on the table early and removed late (April 8, 2005) in the DoD BRAC process.

- Options to build on past consolidations at Indian Head were never studied – it was too late in the process. Missed the opportunity for Indian Head to be considered for additional consolidation of energetics.

- DoD designates Indian Head as the Energetics Center; however, removes, does not add, energetics work.

- Indian Head personnel loss appears minimal but has significant long term impacts to warfighting capability.

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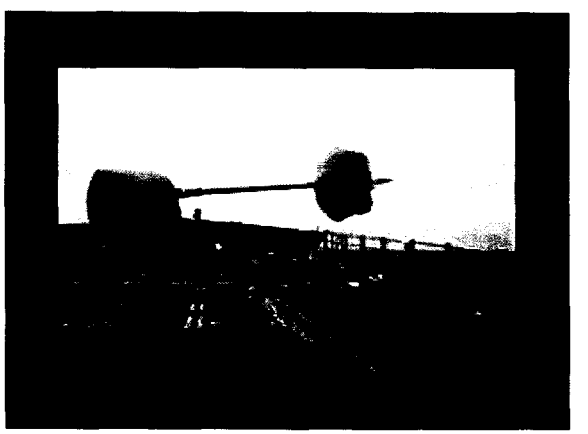
Indian Head Background

- **Indian Head is the only full-spectrum energetics capability in DoD: S&T, design and development, in-service engineering, process development, scale-up and limited production.**



- **Most (800) energetics scientists in the world.**
- **Only R&D center for underwater warheads.**
- **Only R&D center for high-risk chemicals.**
- **Only torpedo fuel maker for US, NATO, Japan.**
- **Responsible for 70% of all explosives transitioned into service since 1985.**

Picatinny taken off table only "service" that "sleeps" w/ ordnance (Forrestal, Iowa)
IH never looked at as decision

No commercial market

Indian Head Mission

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- **Mission focused on energetics:**
  - **"...explosives, propellants, pyrotechnics, reactive materials, related chemicals and fuels and their application in propulsion systems and ordnance..." Navy Energetics Leadership Board**
  - **Includes bombs, warheads, mines, fuzes, countermeasures, flares, obscurants, safe-arm devices, arming-fire devices, unguided rockets, missile rocket motors, ramjets, gas generators, gun projectiles and propelling charges and cartridge and propellant activated devices – Navy Energetics Leadership Board and Energetics IPT**
- **Predominantly RDAT&E with significant Industrial workload**
  - **Capabilities captured within Technical Weapons and Armaments JCSG and Industrial Munitions JCSG**
- **Tenant organizations at Seal Beach, McAlester, Yorktown, and Earle that directly support energetics or complement energetics mission**
- **Prior BRACs and Navy decisions have consolidated energetics work at Indian Head**

300 WY production (MV has Industrial)
800 WY scientists
Picatinny is not into energetics

This BRAC: not data driven — strategy driven

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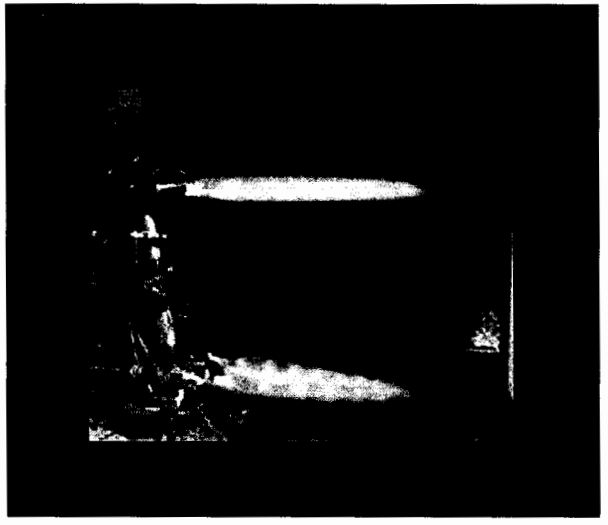
Consolidated Energetics

- **Pentagon has consolidated energetics at Indian Head over last 40 years.**
- **Necessary due to exit of industrial base.**
- **Ongoing energetics consolidation at Indian Head 1966 – present:**
  - **2000: Naval Research Lab (Energetics)**
  - **1998: PHS&T - Earle NJ**
  - **1998: Joint CAD PAD Program**
  - **1998: Quality Evaluation Detachments**
  - **1994: White Oak Underwater Explosives**
  - **1993: Naval Ordnance Center**
  - **1990: Yorktown Explosive Loading**
  - **1988: Technical Center for Explosive Safety**
  - **1988: Yorktown Explosive Development**
  - **1977: Ordnance Environmental Support**
  - **1975: CAD PAD (Air Force & Army) - Frankfort**
  - **1973: CAD PAD (Navy) - Dahlgren**
  - **1966: CAD PAD RDT&E - Macon**



EPA etc made hard for private sector

DoD Recommendation: Create a Navy Integrated Weapons and Armaments RDAT&E capability at China Lake

- Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, underwater weapons, and energetic materials, to Naval Air Weapons Station China Lake, CA.

- Realign Naval Weapons Station Seal Beach, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except underwater weapons and energetic materials, to Naval Air Weapons Station China Lake, CA.

- Realign Naval Surface Warfare Center, Yorktown, VA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

- Creates an .., "energetics center" at Indian Head, MD.

Impact to Indian Head: Weapons & Armaments to China Lake

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- **Moves non-energetics from Indian Head and Seal Beach to China Lake.**
- **Indian Head non-energetics capability predominantly in weapons simulation and test sets for fire control.**
  - **China Lake currently has no capability in this area.**
  - **Industrial capability for manufacture of test sets and simulators would remain at Indian Head.**
    - **Severs mission into two locations; Indian Head and China Lake.**
    - **Breaks single life-cycle responsibility.**
  - **Synergy of the work in this area lies more at Indian Head, but should a move outside of Indian Head be required, Dahlgren not China Lake, makes more sense.**

training weapons simulators

this stays at Indian Head

why separate production ~~from~~ low rate R+D

Impact to Indian Head: Weapons & Armaments to China Lake

- **Seal Beach's (a detachment of Indian Head) non-energetics capability is predominantly in test measurement and diagnostic equipment.**
  - **This is a Quality Evaluation function; not core to China Lake.**
  - **Seal Beach became a detachment of Indian Head in 1998 because the predominance of the Navy's Quality Evaluation takes place at Indian Head.**
  - **About 70% of the Navy's Quality Evaluation program resides within the Indian Head Division.**

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DoD Recommendation: Create an Integrated Weapons & Armaments Specialty Site for Guns and Ammunition

- **Realign Naval Surface Warfare Center Division Indian Head, MD, by relocating gun and ammunition Research and Development & acquisition to Picatinny Arsenal, NJ.**
- **Realign Naval Surface Warfare Center Division Earle, NJ, by relocating weapon and armament packaging Research and Development & acquisition to Picatinny Arsenal, NJ.**

Never got scenario like this
They got closure scenarios Moved W/ A ROATE
1) Tech 002 to CL
2) Mouc 002 to Picatinny
3) Tech 15 left Energetics at IH but did not address guns
Then scenario on guns, except energetic

Impact to Indian Head: Guns and Ammunition to Picatinny Arsenal

- Moves Energetics (gun propulsion) from Indian Head to Picatinny Arsenal. Moves weapon and armament packaging RD&A from the PHST Detachment, Earle NJ to Picatinny.
- The science related to naval gun propulsion is a critical technology for the Navy that must be preserved.
  - Ordnance safety aboard ship is paramount.
  - Navy invests more than any other service to assure safety of energetics. "Sailors sleep on their Ordnance"
  - Navy has consolidated energetics at Indian Head over the past 40 years to leverage domain knowledge inside Indian Head.
- Picatinny does not have the facilities and equipment to perform Indian Head's specialized naval energetics (gun propulsion) mission. - Picatinny hires IH
- People, facilities, and equipment used for energetics (gun propulsion) are also used for other energetics (missiles, rockets, warheads, CAD/PAD) at Indian Head.

Ammo handling
Gun barrel wear
Safety

Impact to Indian Head: Guns and Ammunition to Picatinny Arsenal

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- **Facilities and equipment to enable an equivalent capability are significant and underestimated by the Army and the TJCSG.**
  - **No interaction was allowed between the Indian Head technical folks and the Army to assure that the capabilities that were moving were fully understood and adequately addressed**
  - **Aggressive assumptions were necessary to make a payback of 13 years**
- **Both Aberdeen and Picatinny routinely use Indian Head for gun propellant R&D work.**
  - **Future Combat Systems propellant, others**
- **There will be no savings from personnel reduction**
  - **Additional personnel will need to be retained or hired at Indian Head as a result of the need to support non-gun energetics**

IH were not allowed to interact w/ panel, nor w/ Picatinny. No visits

< 25% of equipment
< 33% of equipment

No costs for equipment installation
Picatinny has no excess capacity

yet they priced this as follow

Impact to Indian Head: Packaging from Earle to Picatinny

DGN-11690

- **Packaging, Handling, Storage, and Transportation (PHS&T) at Earle is a Detachment of Indian Head. Two issues:**

  1. **DoD recommendation severs the packaging from the handling, storage, and transportation; takes the "P" from the "HS&T"!**

  2. **This packaging mission will include all of the Navy's weapons and armaments, not just guns and ammunition.**

- **Picatinny Arsenal is focused on ammunition packaging of conventional ammunition.**

- **Naval environment requires unique technologies and solutions; e.g. specialized non-conventional ammunition (missiles, rockets, torpedoes, warheads, vertical launchers, shock sensitive weapons).**

Picatinny has 5% of DoD's PHS&T
Navy PHS&T to Picatinny 29%

Impact to Indian Head: Packaging from Earle to Picatinny

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- **Earle has done this work for years due to safety and insensitive munitions considerations:**
  - **Aligned by the Navy with Indian Head due to recognized synergy with Indian Head's energetics mission**
  - **Remained at Earle to provide instant access to current ship-loading operations, storage and transportation functions, which enables them to develop fast solutions to real world Navy problems**
  - **Small organization with key niche role; "world class" design capability with awards for innovative packaging designs**
  - **Only DoD integrated PHS&T organization due to unique Navy mission**
  - **Key to assuring safety of ordnance within the Navy logistics cycle**

~ 63 people
Only DoD integrated PHS&T
Lots of PHS&T is not being consolidated

Impact to Indian Head: Packaging from Earle to Picatinny

- **Significant inconsistency between recommendation and justification to create a joint PHS&T Center at Picatinny.**
  - **Does not consolidate the Army and other services' PHS&T activities that currently reside:**
    - **Army Missile Packaging (Redstone Arsenal, Huntsville, AL)**
    - **Army Transportation (McAlester, OK)**
    - **Air Force PHS&T (Wright Patterson AFB, Hill AFB, Warner Robins AFB)**
    - **Naval Aviation Support Equipment (NAWC Lakehurst)**
  - **Instead, moves a Navy activity that is already consolidated at Earle, NJ.**

Picatinny only does packaging of conventional ammo
This is only 5% of Indian Head's work

"Energetics Center" at Indian Head

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- Recommendation creates an "energetics center" at Indian Head; no additional energetics missions move to Indian Head.
- Instead, moves gun energetics to Picatinny Arsenal:
  - Consolidation of guns taken from a scenario (Tech-0002) to relocate all RDAT&E work from Indian Head (to Picatinny and China Lake)
- Consolidates only those capabilities currently at the Indian Head Division Yorktown Detachment
  - Currently integrated into Indian Head business and technical base
  - Unique mission area focused on explosives, pressed and melt cast
- Missed the opportunity to consolidate Navy energetics R&D at Indian Head:
  - Small part of China Lake workload that they are having difficulty sustaining was not evaluated
  - Energetics workload is being re-located to China Lake and Picatinny

costs don't justify consolidat...

Navy energetics enterprise

China Lake has 50-100 energetics people

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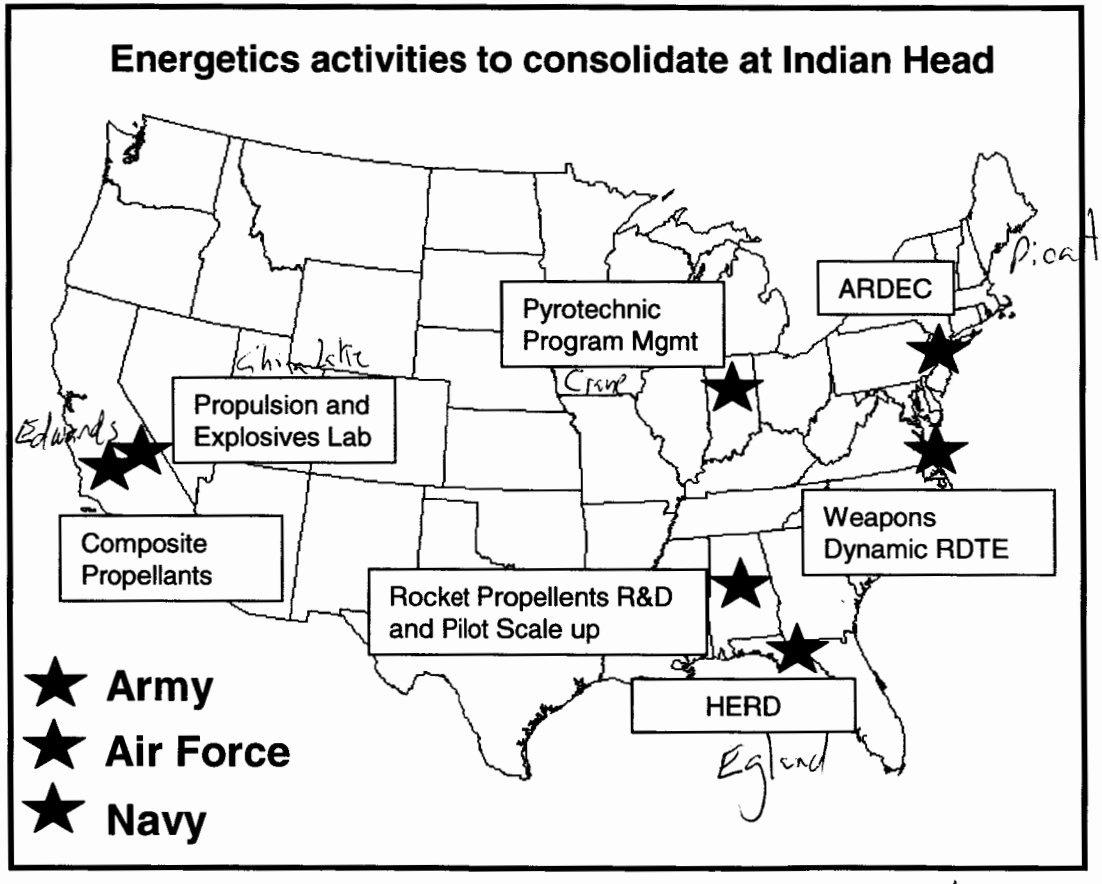
Potential for Smart Consolidation at Indian Head

- **Energetics is infrastructure intensive.**
- **High direct labor due to expensive, complex processes.**
- **Best way to realize savings is through a consolidation of direct labor to the site with a complete energetics life cycle capability and robust environmental footprint.**
- **Pentagon should stay on track and complete full energetics consolidation at Indian Head.**



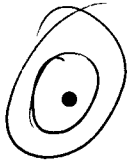
weapon developers try to keep their own

Brian Simmons - BRAC

Additional Considerations

- **Unequalled success in nurturing and sustaining energetics technical competency**
  - **Strong technical staff, growing, adding new PhD's**
  - **Linked with the University of Maryland Center for Energetics Concept Development (CECD) to provide educational and research**
  - **Energetics Technology Center (ETC) being established in Charles County**

Alternatives to Overturning Recommendations



- **Remove Indian Head from the action to consolidate guns at Picatinny**
  - Gun capability is predominantly (all but 1 or 2 work-years) energetics
- **Move Dahlgren's Energetics (explosive warheads) to Indian Head vice China Lake and Picatinny**
  - Indian Head develops the explosives for underwater & surface warheads
  - Indian Head retains underwater warheads and creates synergy with Dahlgren's surface warheads
  - Technical knowledge can be preserved since people are within commuting distance
- **Evaluate moving China Lake energetics R&D to Indian Head**
  - Small capability that has been difficult and costly to sustain at China Lake
  - Allows China Lake to focus on Weapon Systems and utilize Indian Head as the Energetics R&D Center (Industry Model)
  - Minimal additional facilities needed at Indian Head to accommodate China Lake energetics R&D

Masters in Energetics will address simulation

Alternatives to Overturning Recommendations

- **Realign the Indian Head weapons simulation R&D capabilities to Dahlgren vice China Lake** ~40 WY
  - **Work is more closely aligned with Dahlgren Weapon Systems Integration mission**
  - **Workforce will be more likely to be retained due to proximity of Indian Head and Dahlgren**
- **Retain Earle as a Navy Detachment of Indian Head**
  - **Assures continued focus on safety in handling ordnance aboard ship and in port**
- **Retain test measurement and diagnostic equipment at Indian Head's Seal Beach Detachment** or Corona
  - **Has no relation to China Lake's Weapons and Armament mission.** @ Corona
  - **Increases sustainment cost of remaining mission**

Summary & Conclusions

- **<u>Overturn</u> the total DoD recommendations to create:**
  - Integrated Weapons and Armaments RDAT&E capability at China Lake
  - Integrated Weapons & Armaments Specialty Site for Guns and Ammunition at Picatinny Arsenal
- **Rationale for our recommendations:**
  - Severs existing synergy in energetics capability at Indian Head carefully constructed over last 40 years
  - Savings are significantly overstated
  - Significant movement of functions among numerous facilities are inconsistent with the goals of the construct proposed
  - Disrupts RDAT&E at other affected bases, e.g. Dahlgren, Crane, Pt Mugu, Pt Hueneme and other facilities

Back Up Slides

Relevant – Iraq and Afghanistan

- Thermobaric bomb fielded in 68 days.
- Shoulder launched Multi Purpose Assault Weapon (SMAW) in 270 days.
- All CAD/PADs supporting ALL aviators.
- Training and deploying EOD techs to assist in Iraq and Afghanistan.
- Exploiting IEDs as key member of Combined Explosive Exploitation Cell (CEXC) and Terrorist Explosive Device Assessment Cell (TEDAC).

No Encroachment

- Not encroached.
- Peninsula bordered by water and Federal / State land.
- Space, facilities, and environmental footprint to grow.
- Majority of energetics testing conducted indoors using instrumented bomb-proof facilities to research/analyze energetics materials and to minimize environmental damage.

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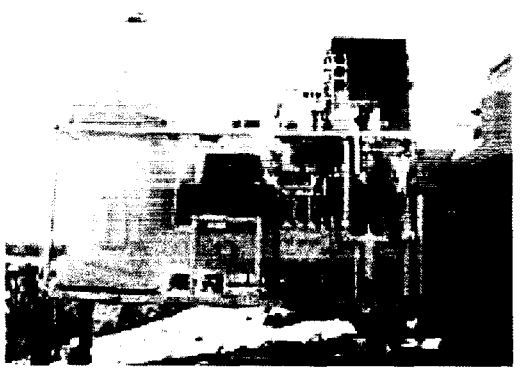
Environmental Realities

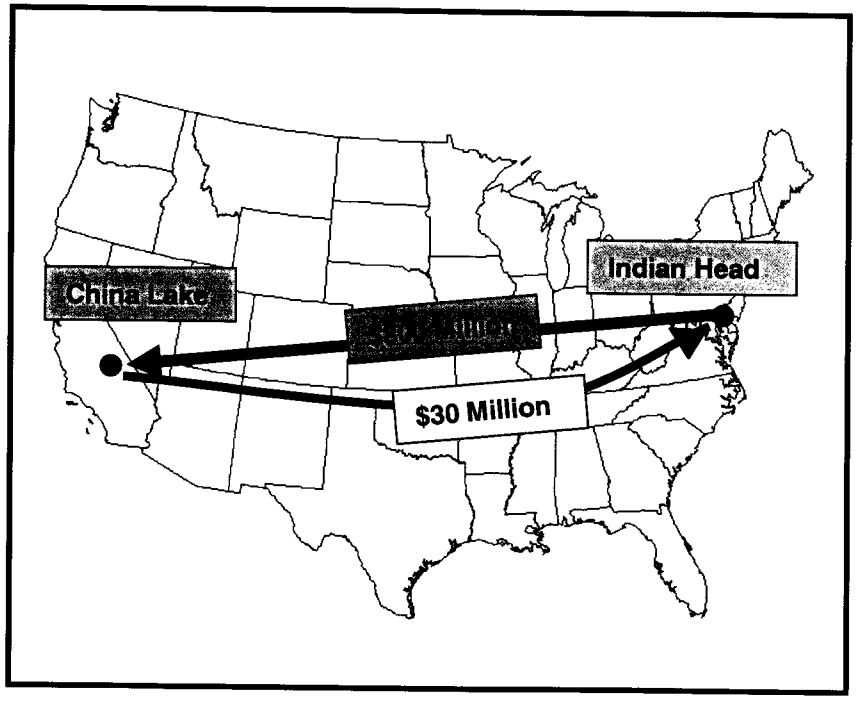
- **$100M invested in environmental compliance.**
- **Environmental compliance takes years of effort and expertise to obtain permits.**
- **Transfer of compliance is not an automatic.**
- **Recent actions since BRAC 95:**
  - **Air pollution control system to remove acid gas and heavy metal emissions**
  - **Continuous Propellant Twin Screw Extruder decreases HAZMAT and air emissions compared to batch processing**
  - **Joint venture with Sweden called Closed Loop Energetics and Volatile Emissions Reduction reduces VOC emissions by 95%**
  - **Installation of low nitrogen oxide burners reduces 250 ton/year of NOx**
  - **Installation of an ultraviolet radiation system to destroy volatile emissions**
  - **Significant waste water improvements**



break synergy this time

Efficiency / Cost to Move

- BRAC 93' & 95' Indian Head closure scenarios rejected due to cost.
- Navy 95' certified data estimated $800M to move IH to China Lake.
- $69M invested in IH since BRAC 95.
- July 99 DoD plan to change claimancy to NAVAIR and move to China Lake rejected.
- Current Activities:
  - $40M in savings/cost avoidance and 300 indirect labor work years eliminated.
  - 40% reduction in facility costs via demolition, shutdown, consolidation: 974 to 503 buildings / 2.1M sq ft to 1.2M sq ft.



Joint

JITC, DISA

250 personnel

IH, NSWC

1774 Personnel

CBIRF, USMC

394 personnel

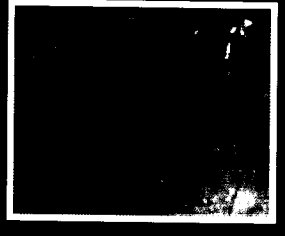
Total Personnel: >3000

Logistics Center, Atlantic

182 Personnel

Joint EOD Center

326 personnel

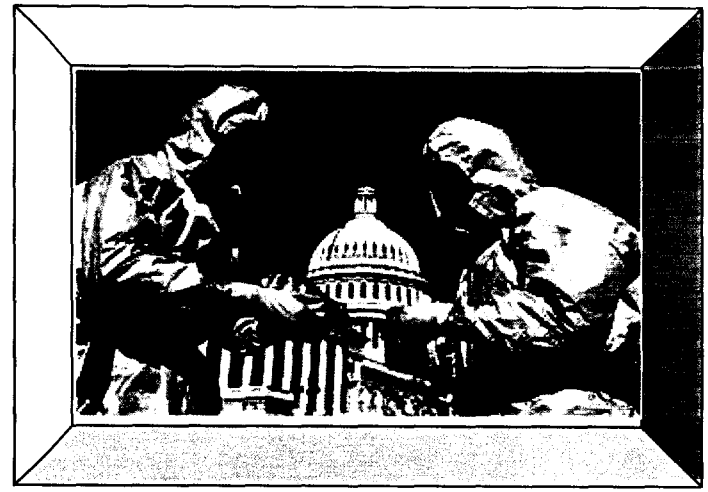


NOSSA (Ordnance Safety)

113 Personnel

Anti-Terrorism

- Home to the Chemical Biological Incident Force (CBIRF)
- 400 + Marines
- CBIRF location based on threat
- Real world response:
  - Anthrax attack response October 2001
  - Ricin attack response February 2004



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Community Matters

- ✓ Strong community support
- ✓ Excellent Quality of Life
- ✓ Affordable housing
- ✓ School testing above US average
- ✓ Room to accept more students
- ✓ Technical programs to ensure new energetics scientists
- ✓ Close to Washington DC

Point of Contact

DCN: 11690

- This briefing was prepared by the The Indian Head Defense Alliance
- We welcome your comments and would be pleased to answer your questions
- POC: Mr. John Bloom, President, Indian Head Defense Alliance
- Phone: 301-753-6345
- Fax: 301-753-5604
- Email: JB52390@aol.com

DCN: 11690

NSWC INDIANHEAD

Farrington, Lester, CIV, WSO-BRAC

From: Mcdonald, Parul S CIV NAVSURFWARCENDIV [parul.mcdonald@navy.mil]

Sent: Monday, July 25, 2005 6:14 PM

To: Giaquinto, Joseph N CAPT NAVSURFWARCENDIV

Cc: Lester.Farrington@wso.whs.mil; David.Epstein@wso.whs.mil; John.Bohanan@mail.house.gov; Verheul, John W CIV NSWC HQ; LaCamera, J. Jerry CIV NAVSURFWARCENDIV; Stine, Gail Y CIV NAVSURFWARCENDIV; Conway, Stephen J CDR; Russell, Thomas P CIV NAVSURFWARCENDIV; Odonnell, Amy J CIV NAVSURFWARCENDIV; Harvey.Caomp@navy.mil; Bertucci, Nicholas CIV NAVSURFWARCENDIV; Kaczmarek, Robert E CIV 40; Zimms, Kenneth H Naval Surface Earle; Stanley.Moord@navy.mil; Rodriguez, Antonio V CIV (NSWC-SB); ReamsCS@ih.navy.mil; Anderson, Joseph D CIV NAVSURFWARCENDIV; Murphy, Constance M CIV NAVSURFWARCENDIV; Mafuzgonzalez, Miguel J CIV NAVSURFWARCENDIV; Willoughby, Beryl T CIV HN1; Mcdonald, Parul S CIV NAVSURFWARCENDIV

Subject: Minutes from BRAC Commission Visit to IHD on 22 July 2005

Attachments: Meeting Minutes BRAC Commission visit of 22 Jul 05.doc; Attachments.zip

Good Evening Sir,

Attached are the meeting minutes with attachments from the BRAC Commission Visits to IHD on 22 July 05. The only actions still outstanding are:

1. Energetics POCs for Army and Air Force
2. Information on unique facilities and equipment that would need to be duplicated

We will provide the above information via email as soon as possible. If you have any questions, please give Miguel Mafuz, Connie Murphy or myself a call.

v/r
Parul

Head, Corporate Operations Department
Naval Surface Warfare Center
Indian Head Division
Phone 301-744-4575/DSN 354
Fax 301-744-6425
Email Parul.McDonald@navy.mil

<<Meeting Minutes BRAC Commission visit of 22 Jul 05.doc>> <<Attachments.zip>>

DCN: 11690

BRAC Commission Visit to IHD on 22 July 05
Meeting Minutes

1. The attendee list is included as attachment (1).

2. The meeting began at 1300 with an Indian Head Site presentation (attachment (2)) given by Ms. Beryl Willoughby. The questions asked by the BRAC Commission Staff Analysts follow:

   Q: How many military, civilians and contractors work at Indian Head site by tenant?
   A: Ms. Willoughby provided the Indian Head 2004-2005 Base Guide to the Commission staff. The numbers they were interested in are contained in that document.

   Q: Is NSWC inside the restricted area?
   A: Yes. The majority of NSWC, IHD is inside the restricted area, however, we do occupy some buildings outside the restricted area.

   Q: The Commission staff asked about what type of work was done at the IHD detachments.
   A: Mr. Christopher Reams described the IHD Yorktown Detachment mission and Mr. Kenneth Zimms described the IHD Earle Detachment mission.

   Q: Does IHD work with Crane on Special Forces work?
   A: Yes, the IHD Yorktown Detachment works with Crane on Sonobuoy work.

3. Dr. Thomas Russell then presented the Indian Head Division Command Brief (attachment (3)). The discussion follows:

   Q: What is IHD's overhead rate?
   A: $36/hr ($18/hr General and Admin. plus $18/hr Production Expense)

   Q: Is IHD industrially funded?
   A: Yes, IHD is Working Capital Funded (WCF).

   Q: Is IHD involved in IED problem?
   A: Yes, because of our expertise in energetics, in particular the materials and how they initiate and react. IHD works closely with EODTECH Division and other organizations. We are currently working with NRL to provide our expertise to help guide and test some of their novel directed energy concepts, etc.

   Q: What does China Lake have that warrants moving weapons simulation piece there?
   A: This would consolidate missile functions for the Navy at China Lake. There is currently no mission or capability at CL in this area.

   Q: Is this a mistake?
   A: We fully support the recommendation. However, it is our understanding that there is currently no mission or capability at CL in weapons simulation. It is similar to existing capabilities at Dahlgren.

   Q: What do you think about the transfer of the IHD W&A RDAT&E mission to China Lake?
   A: The work in W&A is aligned with our energetics mission because it is a critical link. 3000 miles is a long way to interact.

Q: Impact of moving?
A: We will work with China Lake to make sure it will work.

Q: How critical is energetics to weapons?
A: Energetics is the business end of the weapon, without this there would be no effect on target and weapons would effectively be high priced vehicles. To paraphrase Admiral Nanos "Without weapons (ordnance) an Aircraft Carrier is nothing but a big cruise liner."

The BRAC Commission Staff Analysts asked for a simple definition of energetics to educate people that are not familiar. IHD provided them the Naval Energetic Enterprise (NEE) definition of energetics obtained from Mr. Stephen Mitchell.

4. Dr. Thomas Russell gave a presentation on the BRAC recommendations for IHD (attachment (4)).

Mr. Epstein has a problem with the wording of the recommendation relative to Yorktown. It is confusing because it looks as if Yorktown comes to IHD and then gets moved again.

There is some confusion relative to the Seal Beach number of personnel impacted (reference viewgraph 5 of attachment (4)).

The BRAC Commission Staff Analysts stated that the movement of the TMDE function from IHD Seal Beach Detachment to China Lake did not make sense.

Q: Should the TMDE function from the IHD Seal Beach Detachment be realigned to someone else?
A: This question was related to depot work and the analyst was informed that the work he was referring to was part of Weapons Station Seal Beach and not part of the IHD Detachment.

Q: What types of people are employed at the IHD Yorktown Detachment?
A: 60 % Engineers (mechanical & chemical, support full spectrum life cycle), 30% Technicians and 10% support

Q: IHD Yorktown Detachment personnel age range?
A: Late 30s to upper 40s

Q: Will they move?
A: If the resources are made available to maintain the capability most of these individuals will move the IHD.

Not all of the IHD Yorktown Detachment capabilities are planned to move to IHD per COBRA (reference viewgraph 7 of attachment (4)).

Q: Have you posed the capabilities issue (of the IHD Yorktown Detachment relocation) to the Navy chain of command?
A: Yes.

BRAC Commission Staff Analysts requested an electronic copy of the request and answer today. They stated that if they wait for the normal channels, BRAC will be over. The stated

they are not the normal channel but they would be happy to submit the request to the clearing house for IHD. An electronic copy of the issues posed is included as attachment (5).

Q: What other work does IHD Earle Detachment do besides that related to guns & ammo?
A: 2 work-years of PHS&T related to guns & ammo; other PHS&T work related to missiles, underwater warheads and other ordnance items.

Q: What should be the recommendation then?
A: If the intent was to create a guns & ammo specialty site at Picatinny Arsenal, then action should read, realign the W&A PHS&T guns & ammo function of IHD Earle Detachment to Picatinny Arsenal.

IHD Earle Detachment PHS&T Center is located on a logistics Weapons Station doing logistics work for the Navy. There will be a Fleet impact if this function is moved to Picatinny. (reference viewgraph 9 of attachment (4)).

Q: What is the distance between Earle & Picatinny?
A: 2 hour drive

Q: For the relocation of IHD's gun & ammo functions to Picatinny Arsenal, if the recommendation was only for non-energetics functions, what would be the number of personnel impacted instead of 43?
A: Zero.

Q: Have you polled the potential personnel impacted for the recommendation (IHD gun & ammo functions to Picatinny) as it is?
A: Yes.

Q: How many people would relocate?
A: Zero.

If IHD's guns & ammo energetics work is relocated to Picatinny, Picatinny will need to replicate the equipment, facilities and personnel at Picatinny since these will still be needed to meet the mission of the energetic center.

Q: Have you asked for clarification concerning the conflict between the creation of an energetics center at IHD and the potential relocation of the guns & ammo energetics work from IHD to Picatinny?
A: Yes.

Q: How long ago?
A: A couple of weeks.

Q: What does non-energetics Weapons Engineering involved?
A: Weapons Simulation

Q: Have you polled the potentially impacted personnel of this group?
A: Yes and only a few would move.

Q: Is there synergy between work done at China Lake and the Weapons Simulation work that IHD is supposed to relocate there?
A: It is our understanding that this work would constitute a new mission for China Lake.

Mr. Farrington stated how that even though this work would be a new mission for China Lake, the JCSG was attempting to create synergies that we are not aware of to position the DoD for the future.

Q: Do you have a POC at China Lake that we can discuss this with?
A: Yes, we can provide a POC.

Q: Does the Army and Air Force specialize in energetics?
A: Yes, the Army conducts energetics work at Picatinny Arsenal, ARL and Redstone Arsenal. The Air Force conducts energetics work at Eglin AFB and Edwards AFB.

Q: How many people does the Army have doing energetics work?
A: Not definitely sure. Probably less than 100-150 at Picatinny Arsenal, ARL and Redstone Arsenal combined.

Q: How many people does the Air Force have doing energetics work?
A: Less than 30-40 at Eglin AFB and less than 40 at Edwards AFB.

Q: Can you provide contact points for the Army and Air Force energetics work?
A: Yes.

Q: How do you believe the language of the recommendations should be reworded and how many positions would this then affect?
A: We provided the following wording and FTE numbers:

1. Close IHD Yorktown Detachment and Relocate W&A RDAT&E Energetics to IHD (45 personnel). Realign W&A RDAT&E Non-Energetics Quality Evaluation to NAVAIR Pt Mugu Yorktown Detachment (7 personnel).

2. Realign IHD Earle Detachment W&A Packaging, Handling, Storage and Transportation (PHS&T) RD&A for Guns & Ammunition and relocate to Picatinny Arsenal (2 personnel)

3. Realign IHD Gun & Ammunition RD&A (except energetics) and relocate to Picatinny Arsenal (0 personnel).

5a. Realign W&A RDAT&E (except guns & ammo, underwater weapons, energetics and weapons simulation) at IHD and relocate to China Lake (32 personnel).

5b. Realign W&A RDAT&E weapons simulation at IHD and relocate to Dahlgren (20 personnel).

Q: Do you have any substantial unique facilities and equipment that would need to be duplicated for any of the recommendations?
A: Yes.

Q. Can you provide an example:

A. Yes, There will be a substantial cost for replicating facilities and equipment at Picatinny to execute the IHD guns & ammo energetics mission if it is relocated. These facilities and equipment are also needed at IHD to execute its energetics mission so therefore will need to be replicated at Picatinny. For this example, the facilities would include the high energy nitramine propellant processing equipment and facilities as well as twin-screw mixing and extrusion facilities and equipment. This would include all of scale-up horizontal mixing equipment and facilities as well as our twin-screw mixing extrusion equipment and facilities. We have a 20-mm, 37-mm, 40-mm, and 88-mm twin-screw mixing and extrusion capability. The 88-mm facility is a newly built facility that cost approximately $30M to construct including equipment. An additional cost would be necessary for the 20-mm, 37-mm, and 40-mm extruder facilities. The 88-mm facility is a multi-story bldg. Exact square footage and cost to establish this facility can be provided.

Q. Can you provide this information by email today?
A. We will provide the information as soon as possible.

DCN: 11690

BRAC COMMISSION STAFF VISIT

22 July 05

NAME	ORGANIZATION	PHONE	E-MAIL
JOHN VERKELL	NSWC HQ	202-781-3447	JOHN.VERKELL@NAVY.MIL
Chris Reams	IH DIV NSWC, YTN. Det.	757-887-4762 ext 219	reamscs@ih.navy.mil
MIGUEL MAFUZ	CORP OPS (051F)	301 744 4575	MIGUEL.MAFUZGONZALEZ@NAVY.MIL
ROBERT KACZMAREK	NSWC IHD	301 744-1195	robert.kaczmarek@navy.mil
Joseph D. Anderson	" "	" " 2228	→ Joseph.D.Anderson@Navy.mil
Constance M Murphy	NSWC, IHD	301-744-6497	constance.murphy@navy.mil
LESTER C. FARRINGTON	BRAC	703-699-2914	LESTER.FARRINGTON@WSO.WHS.MIL
David Epstein	BRAC/Navy	703 699-2947	David.Epstein@WSO.whs.mil
*Tom Russell	NSWC/IHD	301-744-4270	Thomas.J.Russell@navy.mil
COR STEVE CONWAY	NSWC IHD	301-744-4301	STEPHEN.CONWAY@NAVY.MIL
Ken Zimmc	NSWC IHD Det Earle (PHST)	732 866-2801	Kenneth.Zimms@navy.mil
STAN MOORE	NSWC/IHD	(301)744-4549	stanley.moore@navy.mil
Beryl Willoughby	NDW South Potomac	(301) 744-4854	beryl.willoughby@Navy.mil
Amy O'Donnell	NSWC/IHD	301 744.4568	AMY.J.odonnell@navy.mil
Harvey Camp	NSWC/IHD	301 744 6555	Harvey.Camp@navy.mil
Paral McDonald	NSWC/IHD	301-744-4575	paral.McDonald@navy.mil

T. Russ

NAVSEA
WARFARE CENTERS
INDIAN HEAD

BRAC 2005 Recommendations for IHD

CAPT Joseph N. Giaquinto
Commanding Officer

Presented by: Dr. Thomas Russell

22 July 2005

NAVSEA
WARFARE CENTERS
INDIAN HEAD

Agenda

- Recommendation for IHD
- Personnel Impacted
- BRAC Recommendations
- Other Issues
- Conclusion

2

Recommendation for IHD

- Language from the Technical JCSG recommendation titled "Create a Naval Integrated Weapons and Armaments Research, Development & Acquisition, Test & Evaluation Center", pp's Tech15-18 of the DoD Base Closure and Realignment Report, Volume I, Part 2 of 2: Detailed Recommendations, May 2005 :
  - "Additional synergistic realignments for W&A was achieved at two receiver sites for specific focus.....This construct creates an integrated W&A RDAT&E center in China Lake, CA, **energetics center at Indian Head, MD**, and consolidates Navy surface weapons system integration at Dahlgren, VA."

3

Recommendation for IHD

1. ~~Realign~~ close Yorktown Det W&A RDAT&E and relocate to IHD
2. Realign Seal Beach Det W&A RDAT&E (except underwater weapons and energetic materials) and relocate to China Lake
3. Realign Earle Det W&A ~~Packaging~~ RD&A and relocate to Picatinny Arsenal
4. Realign IHD Gun and Ammunition RD&A and relocate to Picatinny Arsenal except energetics
5. Realign W&A RDAT&E (except gun/ammo, underwater weapons and energetic materials) at IHD and relocate to ~~China Lake~~ Dahlgren

4

Personnel Impacted

Geographic Sites	Gaining	Losing	Net Gain (Loss)
Naval Weapons Station, Yorktown, VA		179 (49)	(179)
Naval Weapons Station, Seal Beach, CA		71 (24)	(71)
Naval Weapons Station, Earle, NJ		63 (63)	(63)
Indian Head Division, NSWC, Indian Head, MD	42	137	(95)

The number in red ( ) indicates IHD's share per COBRA data

5

Realign Yorktown Detachment W&A RDAT&E and relocate to IHD

- Number of positions potentially affected: 49 per scenario input (current staffing is 52)
- Our understanding of the recommendation is to fully realign Yorktown Detachment
- Implementation challenges
  - To the extent that people do not relocate, technical expertise will need to be rebuilt
  - Maintaining Navy's unique organic capabilities that currently exist at Yorktown

6

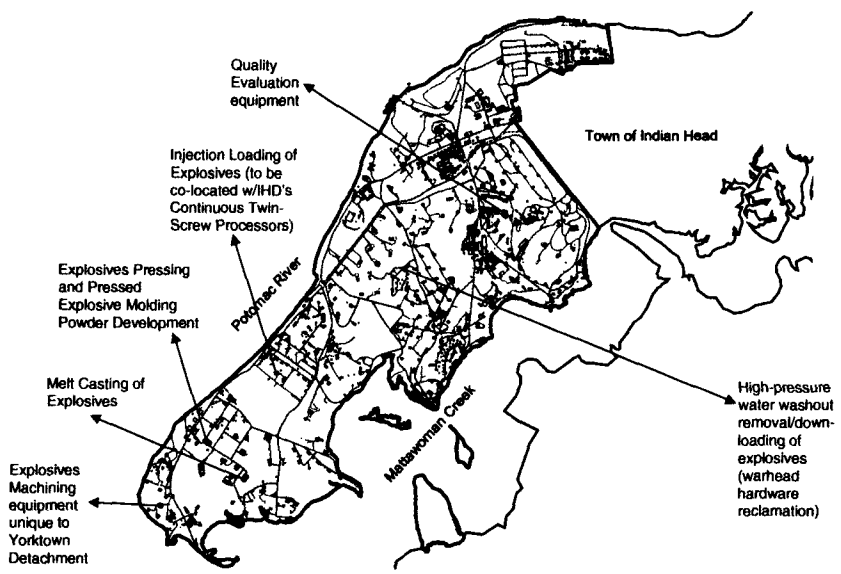
Realign Yorktown Detachment W&A RDAT&E and relocate to IHD

- Implementation challenges (con't)

Capability currently at Yorktown	Capability planned for movement to IHD per COBRA	Existing Capability at IHD
Melt cast processing	No	No
Pressed explosive molding powder development	No	No
Explosives pressing capability	Yes	No
Castable plastic bonded explosive processing	No	Yes
Explosive injection loading	No	No
High-pressure water washout removal/downloading of explosives	No	No
Specific explosive machining capability	No	No
Category II magazine storage	No	Yes
Quality evaluation	Yes	No

7

Proposed Placement for Incoming Yorktown Capabilities



8

Realign Earle Detachment W&A Packaging RD&A and relocate to Picatinny Arsenal

- Number of positions potentially affected: 63 per scenario input (current staffing is 70)
- Areas for clarification
  - Recommendation refers solely to "W&A packaging RD&A". Earle Detachment performs W&A packaging and handling, storage & transportation (PHS&T) RD&A
  - Recommendation was made as part of a larger recommendation that creates a "Specialty Site for Guns and Ammunition" at Picatinny
    - Earle Detachment performs only 2 work-years in gun & ammo packaging, handling, storage and transportation

9

Realign Earle Detachment W&A Packaging RD&A and relocate to Picatinny Arsenal

- Implementation challenges
  - Maintaining existing capability to support the Fleet:
    - Rapid access to ships and loading/unloading operations
    - Rapid access to Military Sealift Command facilities such as CONREP facility, forklift training course, and simulated ship cargo hold
    - Rapid access/interaction with the Atlantic Ordnance Command Detachment Earle's lean pilot program
  - To the extent that people do not relocate, technical expertise will need to be rebuilt

10

Realign IHD Gun and Ammunition RD&A and relocate to Picatinny Arsenal

- Number of positions potentially affected: 43 per scenario input
- Areas for clarification
  - Recommendation states RD&A but scenario data calls collected RDAT&E
  - The COBRA input was extracted from a scenario that moved all RDAT&E functions out of IHD and that did not take into account the recommendation to establish IHD as an "energetics center"
    - All IHD gun & ammo work is on energetics (propellants, propulsion components, etc.) for large caliber ammo

11

Realign IHD Gun and Ammunition RD&A and relocate to Picatinny Arsenal

- Implementation challenges
  - To the extent that people do not relocate, technical expertise will need to be rebuilt
  - If gun energetics is included in the realignment, additional costs will be required to replicate the unique IHD capabilities at Picatinny

12

Realign IHD Non-Energetic W&A to China Lake

- Number of positions potentially affected: 94 per scenario input (current workload at 68)
- Non-Energetics Weapons Engineering
- Implementation challenges
  - To the extent that people do not relocate, technical expertise will need to be rebuilt

13

DCN: 11690

Farrington, Lester, CIV, WSO-BRAC

From: Don Fix [dfix@hyjekfix.com]
Sent: Friday, July 22, 2005 7:24 PM
To: David.Epstein@wso.whs.mil; Lester.Farrington@wso.whs.mil
Subject: Indian Head Defense Alliance Input

Attachments: Recommendation Revisions.doc

Recommendation Revisions.doc (...

David / Les,

As a follow-up to your visit to Indian Head today and your subsequent discussions with Chris Goode from our office (H&F represents the Indian Head Defense Alliance), we wanted to provide you with the attached revisions to the current recommendations regarding the Integrated Weapons & Armaments RDA,T&E Center at China Lake, and the Integrated Weapons & Armaments Specialty Site for Guns and Ammunition at Picatinny.

The underlying focus of our recommended revisions (shown in bold italics on the attached documents) was to align "systems integration" at Dahlgren, "guns and ammo" at Picatinny, and "Energetics" at Indian Head which is consistent with the DOD recommendation of creating a Naval Integrated W&A Center and associated specialty sites.

Understand from Chris that the Alliance is scheduled to meet with you on Wednesday (7/27) at 1pm. We'll have backup data for these recommended revisions at that time and can also provide you with any info before the meeting if it's required. Additionally, you will also be receiving an email from one of the Alliance board members (John Trick) over the weekend that provides a definition of "energetics". John was the Navy's principal representative on the Laboratory Joint Cross Service Group in BRAC 95.

In addition to the contact info listed below, you can reach me on my cell at 202-309-3000 or on my home phone at 703-299-0007.

Regards,
Don

Donald J. Fix
Hyjek & Fix, Inc.
2100 Pennsylvania Avenue, N.W.
Suite 560
Washington, D.C. 20037
tel : 202-223-4800
fax : 202-223-2011

DCN: 11690

Create a Naval Integrated Weapons & Armaments Research, Development & Acquisition, Test & Evaluation Center

Recommendation Revisions:

- Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, underwater weapons, ***Energetics***, and ***weapons systems integration (weapons simulation)*** to Naval Air Weapons Station China Lake, CA.

- Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments ***weapons systems integration (weapons simulation)*** Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Dahlgren, VA.

- Realign Naval Surface Warfare Center Dahlgren, VA by relocating all Weapons and Armaments Research, Developmental & Acquisition, and Test & Evaluation, except guns/ammo, weapons systems integration, and ***Energetics (explosive warheads)*** to Naval Air Weapons Station China Lake, CA.

- Realign Naval Surface Warfare Center Dahlgren, VA by relocating all Weapons and Armaments ***Energetics (explosive warheads)*** Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

- Realign ***Naval Surface Warfare Center Indian Head Division, Seal Beach Detachment***, CA by relocating all the Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation except, underwater weapons, ***Energetics***, ***Quality Evaluation and test measurement and diagnostic equipment (TMDE)*** to Naval Air Weapons State China Lake, CA.

- ***Close*** Naval Surface Warfare Center ***Indian Head Division, Yorktown Detachment***, VA by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

- Realign Naval Air Warfare Center China Lake, CA by relocating all Weapons and Armaments ***Energetics*** Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

DCN: 11690

Create an Integrated Weapons & Armaments Specialty Site for Guns and Ammunition

Recommendation Revisions:

- Realign Naval Surface Warfare Center Division Indian Head, MD by relocating gun and ammunition Research and Development & Acquisition, ***except Energetics*** to Picatinny Arsenal, NJ.

- Realign Naval Surface Warfare Center ***Indian Head*** Division, Earle ***Detachment***, NJ by relocating ***guns and ammunition*** packaging Research and Development & Acquisition to Picatinny Arsenal, NJ.

DCN: 11690

Farrington, Lester, CIV, WSO-BRAC

To: Bohanan, John
Subject: RE: IHD

Thanks, J

From: Bohanan, John [mailto:John.Bohanan@mail.house.gov]
Sent: Saturday, July 23, 2005 9:05 AM
To: 'Lester.Farrington@wso.whs.mil'
Subject: Fw: IHD

-----Original Message-----
From: Bohananmaryk@cs.com <Bohananmaryk@cs.com>
To: Bohanan, John <John.Bohanan@mail.house.gov>
Sent: Sat Jul 23 08:59:53 2005
Subject: IHD

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DCN: 11690

Create a Naval Integrated Weapons & Armaments Research, Development & Acquisition, Test & Evaluation Center

Recommendation Revisions:

- Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, underwater weapons, ***Energetics***, and ***weapons systems integration (weapons simulation)*** to Naval Air Weapons Station China Lake, CA.

- Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments ***weapons systems integration (weapons simulation)*** Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Dahlgren, VA.

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- Realign ***Naval Surface Warfare Center Indian Head Division, Seal Beach Detachment***, CA by relocating all the Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation except, underwater weapons, ***Energetics***, ***Quality Evaluation and test measurement and diagnostic equipment (TMDE)*** to Naval Air Weapons State China Lake, CA.

- ***Close*** Naval Surface Warfare Center ***Indian Head Division, Yorktown Detachment***, VA by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

- Realign Naval Air Warfare Center China Lake, CA by relocating all Weapons and Armaments ***Energetics*** Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

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Create an Integrated Weapons & Armaments Specialty Site for Guns and Ammunition

Recommendation Revisions:

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- Realign Naval Surface Warfare Center ***Indian Head*** Division, Earle ***Detachment***, NJ by relocating ***guns and ammunition*** packaging Research and Development & Acquisition to Picatinny Arsenal, NJ.

DCN: 11690

Farrington, Lester, CIV, WSO-BRAC

From: Bohanan, John [John.Bohanan@mail.house.gov]

Sent: Friday, July 22, 2005 10:22 PM

To: 'David.Epstein@wso.whs.mil'; 'Lester.Farrington@wso.whs.mil'

Attachments: Brac IHD recommendations to staff; Bohanan, John.vcf

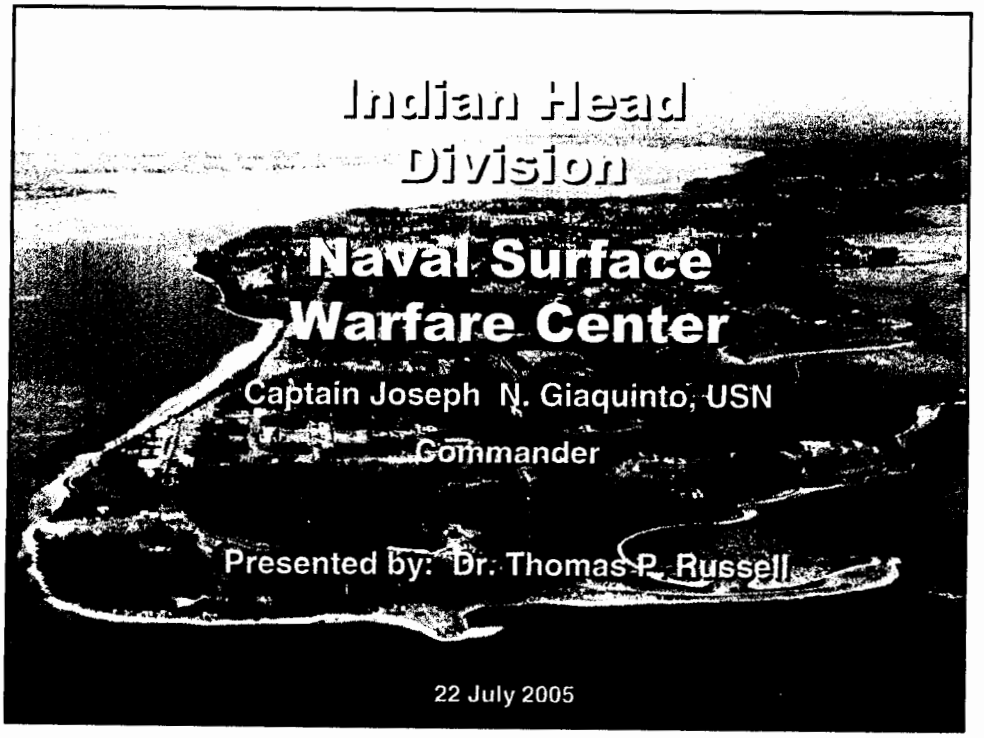
Messrs. Epstein and Farrington,
I saw Congressman Hoyer immediately following the meeting this afternoon and he directed me to be sure you received this information which is a summary of the thoughts from around the table today. He also asked me to very cogently convey to you his appreciation for this time you have taken to understand and learn more about this important portion of the BRAC recommendations. The actions you are considering are very important to preserving existing synergy at installations that would give up jobs and functions, causing great disrpution, with little potential recurring benefits to the DoD.

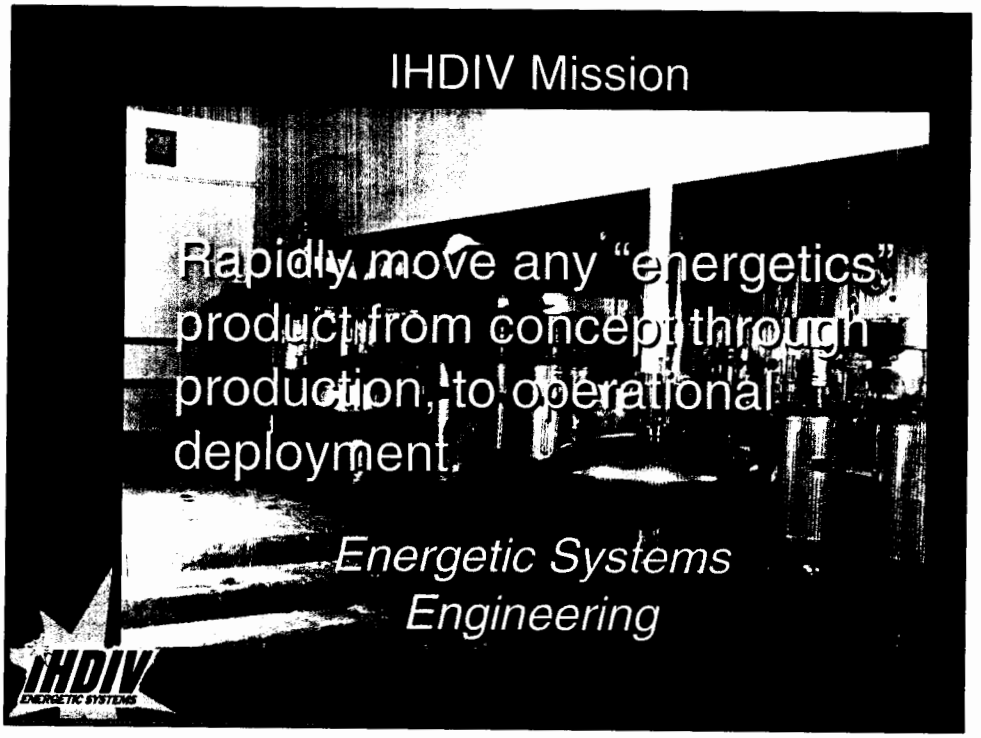
Please do not hesitate to contact me any time over the weekend either via this e-mail or my cell phone at:
202.225.8339

We will be sure to quickly go to credible sources to get you additional information should you require it. Again, thank you both sincerely for your continued dedicated service to ensure that this is a fair and valuable process. Don't hesitate to contact me for anything in the coming weeks if we can assist. Congressman Hoyer will likely follow up with Chairman Principi, Commissioner Coyle and other members of the BRAC whom he knows to discuss his thoughts on the DoD recommendations.

<<Brac IHD recommendations to staff>>

John L. Bohanan, Jr.
Senior Advisor
Congressman Steny Hoyer
301-705-9633 or 301-843-1577
fax: 301-843-1331
<<Bohanan, John.vcf>>


Indian Head
Division
Naval Surface
Warfare Center
Captain Joseph N. Giaquinto, USN
Commander
Presented by: Dr. Thomas P. Russell
22 July 2005


IHDIV Mission
Rapidly move any "energetics" product from concept through production, to operational deployment.
Energetic Systems
Engineering
IHDIV
ENERGETIC SYSTEMS

History

Early Development of the Powder Factory ~1900

Indian Head

Location

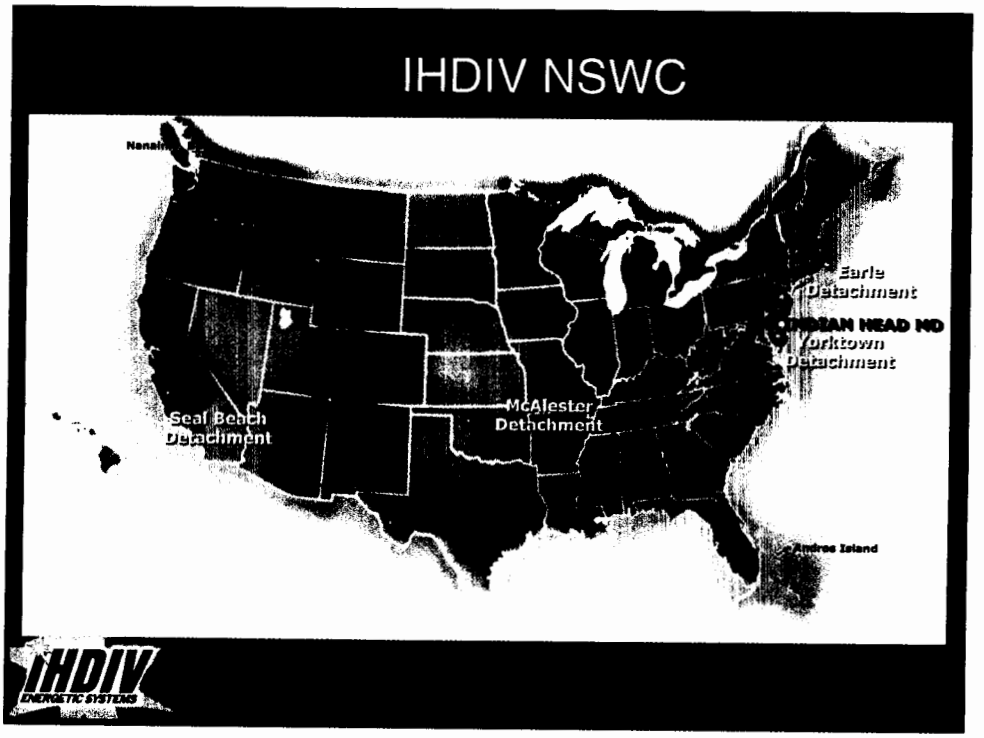
- Strategically isolated on a peninsula
- 3,400 acres
- Close proximity to major Universities and technical organizations

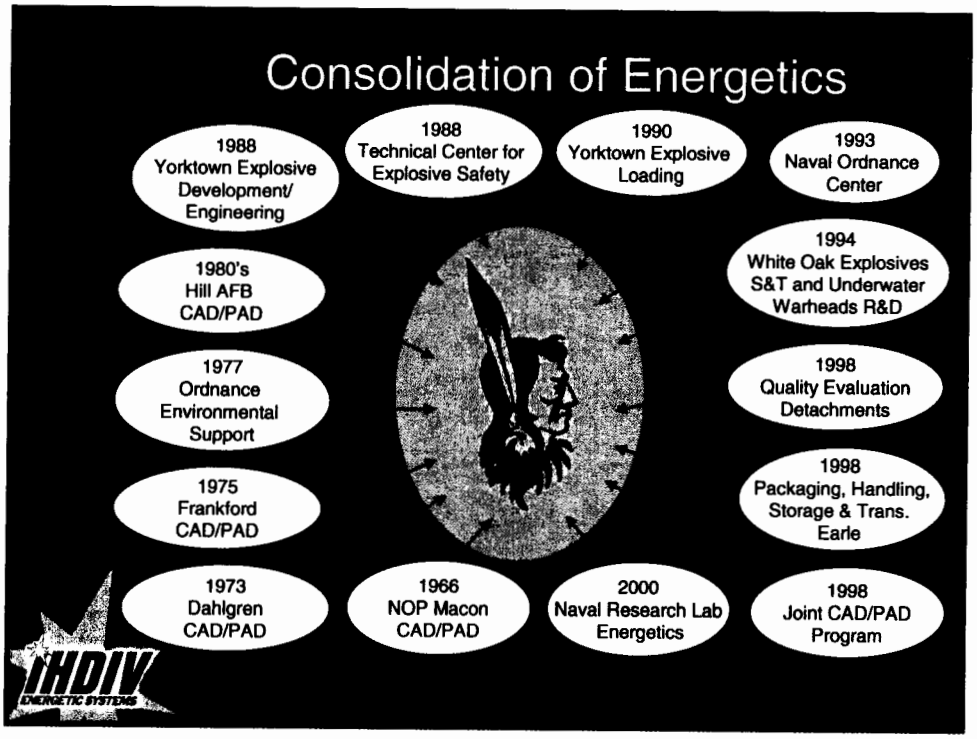
Major Commands

- Indian Head Division, Naval Surface Warfare Center
- Chemical Biological Incident Response Force (CBIRF)
- Joint Interoperability Test Command (JITC)
- Naval Explosive Ordnance Disposal Technology Division
- Naval Ordnance Safety and Security Activity (NOSSA)
- Naval Sea Logistics Center, Atlantic

Ideal location near Washington, DC

DCN: 11690


IHDIV NSWC
Earle Detachment
Yorktown Detachment
Seal Beach Detachment
McAlester Detachment
Andros Island
IHDIV
ENERGETIC SYSTEMS


Consolidation of Energetics
1988 Yorktown Explosive Development/ Engineering
1988 Technical Center for Explosive Safety
1990 Yorktown Explosive Loading
1993 Naval Ordnance Center
1994 White Oak Explosives S&T and Underwater Warheads R&D
1998 Quality Evaluation Detachments
1998 Packaging, Handling, Storage & Trans. Earle
1998 Joint CAD/PAD Program
2000 Naval Research Lab Energetics
1966 NOP Macon CAD/PAD
1973 Dahlgren CAD/PAD
1975 Frankford CAD/PAD
1977 Ordnance Environmental Support
1980's Hill AFB CAD/PAD
IHDIV
ENERGETIC SYSTEMS

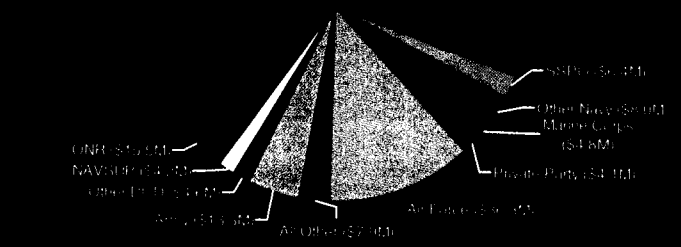
National Source for Energetics Expertise

- Largest Energetics Workforce in DoD
  - Total 848 dedicated workers
  - 700 Scientists & Engineers
  - 55 PhDs
- Collaborative relationship with academia e.g.,UM/JHU/CSM
  - Graduate curriculum in energetics
  - Specialized research projects
  - Technician training
- Experience based on mentoring culture
- Energetics expertise is grown in-house

IHDIV ENERGETIC SYSTEMS

Developing the Next Generation of Energetics Experts

FY04 Sponsor Base



Total Reimbursable = $304.5M

IHDIV ENERGETIC SYSTEMS

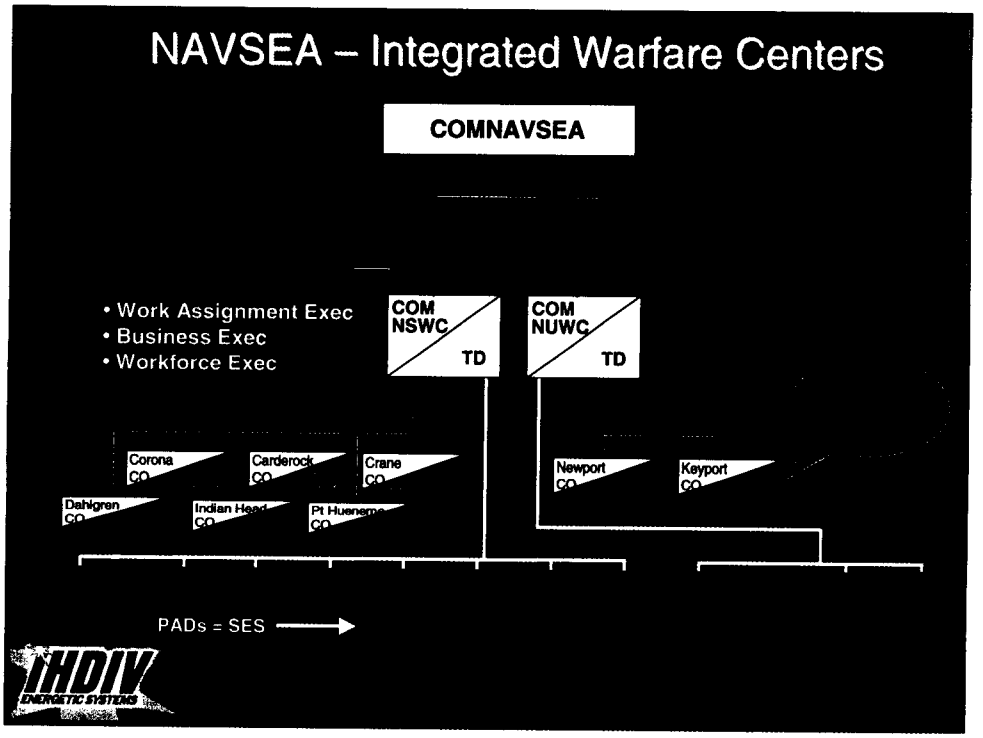
Indian Head is a Joint Asset

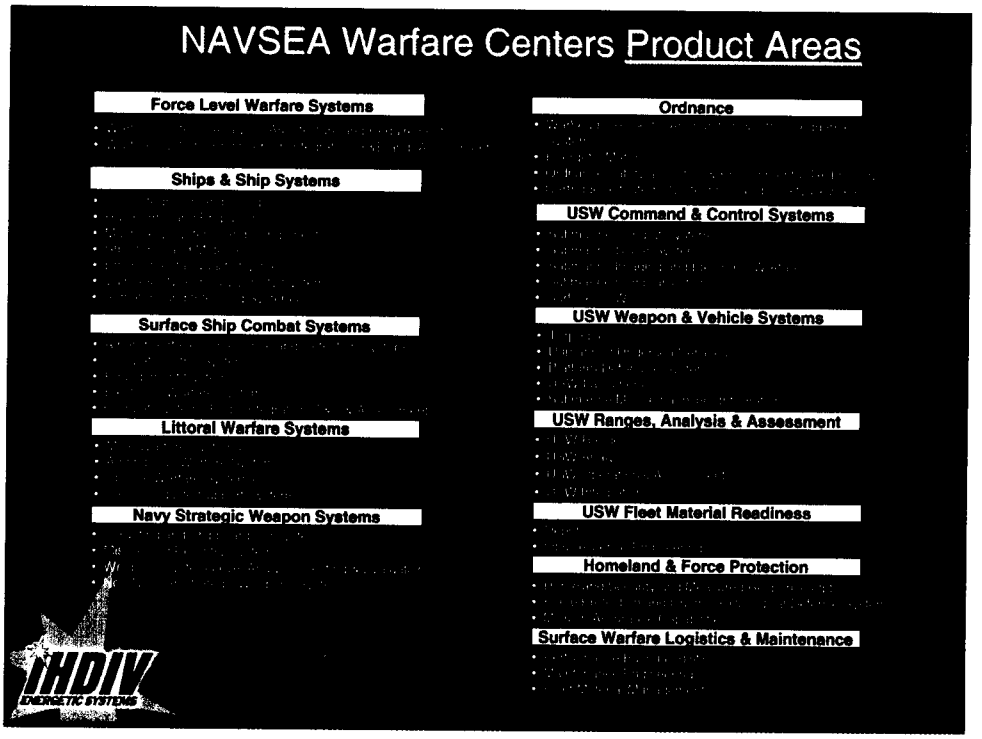
Relationships

- Industry
- Universities
- DOD Labs
- DOE Labs
- Other Government:
  - Homeland Defense
  - DTRA
  - DARPA
  - NASA
  - DOT / FAA
  - Justice
  - Intelligence
  - State
  - Corps of Engineers

NAVSEA Warfare Center Product Area Alignment…

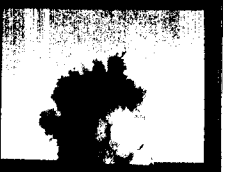
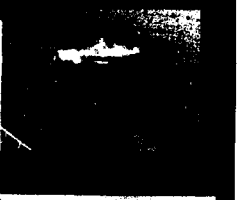
- **Ordnance is a designated NAVSEA Product Area (PA):**
  - Brings Crane, Dahlgren and Indian Head Energetics expertise and capabilities together under a single Product Area Director (PAD)
  - Ensures teaming and collaboration across the Warfare Centers
  - Responsibility to sustain required core competency in Energetics
  - Increase efficiency/effectiveness
    - Utilize best capability
    - Minimize overlap
    - Focus investments


NAVSEA – Integrated Warfare Centers
COMNAVSEA
• Work Assignment Exec
• Business Exec
• Workforce Exec
COM NSWC
TD
COM NUWC
TD
Corona CO
Carderock CO
Crane CO
Dahlgren CO
Indian Head CO
Pt Hueneme CO
Newport CO
Keyport CO
PADs = SES
IHDIV
ENERGETIC SYSTEMS


NAVSEA Warfare Centers Product Areas
Force Level Warfare Systems
Ships & Ship Systems
Surface Ship Combat Systems
Littoral Warfare Systems
Navy Strategic Weapon Systems
Ordnance
USW Command & Control Systems
USW Weapon & Vehicle Systems
USW Ranges, Analysis & Assessment
USW Fleet Material Readiness
Homeland & Force Protection
Surface Warfare Logistics & Maintenance
IHDIV
ENERGETIC SYSTEMS

Indian Head Energetics

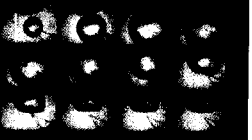
- Explosives and Insensitive Munitions
- Underwater Warheads
- Gun, Rocket, and Missile Propulsion
- CAD/PAD
- Energetic Chemicals
- Ordnance Evaluation
- Packaging, Handling, Storage & Transportation


IHDIV ENERGETIC SYSTEMS

Explosives and Insensitive Munitions

- **Lead U.S. Lab for Explosives**
  - Over 70% explosives in service were developed by IHD
  - World leader in Underwater and IM Explosives
- **Home of Thermobarics for OEF & OIF**
- **Meeting future DOD requirements**
  - Hard target penetration
  - Smaller ordnance
  - "Dial-a-yield" ordnance


2003 NATO NIMIC Insensitive Munitions Award
2000 ONR Dr. Arthur Bisson Prize for Naval Technology Achievement (success in transitioning Navy explosives to U.S. weapons)

IHDIV ENERGETIC SYSTEMS

Reduced Cost and Development Cycle Time

Transitioned Explosives to Service Use

NAVY Weapons

APOBS	SM-80 ERGM	LAW	STD Missile Initiator
ERGM	Hellfire Booster		
MK50 Torpedo	JASSM Booster	MK98 MND	Quickstrike
RAW	APOBS	SABRE	LAW
5/54" Projectile	Hellfire	ERGM	SMAW NE
MK48-2 DFD	MK98 MNS	MLRS CARGO	JSOW/BLU-108
AMRAAM	SRAW 5"	MK24 DFD SEAL Weapon	
STD Missile	AMRAAM	MK50 Torpedo	Tactical Tomahaw
BLU-110, 111, & 116 GP Bombs			

Hellfire Booster
Carl Gustaf MLRS
Hellfire Main Charge

AIR FORCE

AIM-9X Sidewinder
JASSM Booster AMRAAM BLU-118B GP Bomb Family

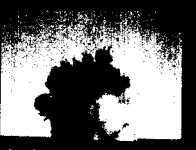
IHDIV ENERGETIC SYSTEMS

IHDIV Developed Over 70% of Explosives Transitioned to Service Use Since 1985

Underwater Warheads

- **Modeling & Simulation (DYSMAS)**
  - Predict ship hull damage
  - Design next-generation "survivable" ship hull

DYSMAS Simulation



- **Canistered Countermeasure Anti-Torpedo**
  - Transitioning IHD warhead, explosive and fuze technology into acquisition
  - First MEMS-based torpedo exploder
    - Reduced exploder size from 118 in³ to 15 in³
    - Leveraging MANTECH to reduce exploder cost from $20K to $1K per unit

2003 ONR Cheapskate Award for Affordability

Underwater Shock Test

IHDIV ENERGETIC SYSTEMS

Only DOD R&D Capability for UW Warheads (Torpedo, Mine, Mine Countermeasures)

Gun, Rocket, and Missile Propulsion Engineering

- **Navy's gun propulsion laboratory**
  - NSFS propellant
    - Doubles launch energy
    - Extends stand-off distance from 13 to 60 miles
    - Lower barrel erosion
- **Aircraft rockets and JATO engineers**
  - First HERO-safe 2.75" rocket motor for tri-service use
- **Missile propulsion engineers**
  - Standard Missile
  - Tomahawk
- **5" Zuni Rocket program**
  - Cost and cycle time reduction

IHDIV ENERGETIC SYSTEMS

Cartridge Actuated Devices (CAD) Propellant Actuated Devices (PAD)

- **Devices for:**
  - Escape Systems
  - Weapons Development
  - Missile Staging
  - Fire Extinguishing
  - Crew Egress
  - other Safety Systems (e.g..Air Bags)
- **Joint Program supporting USN, USAF, US Army, other DoD, NASA, State Department, and over 50 FMS countries**
- **Life Cycle Commodity Program Manager**
  - 3100 items
- **Lean Manufacturing and Reengineering**

David Packard Excellence in Acquisition Award Winner for Innovation

IHDIV ENERGETIC SYSTEMS

Energetic Chemicals

- **Research and scale-up of energetic materials**
- **Forensic energetic evaluations**
  - EMNA – Navy rep for Blue Team
- **Sole world producer of Otto Fuel**
  - Biazzi/Moser Nitration Plants
  - Agile Chem Facility – Consolidating 2 plants to 1
- **Unique chemicals for weapon systems**
  - Explosive ingredients
  - Propellant ingredients

IHDIV ENERGETIC SYSTEMS

IHDIV is the only source for high-risk energetic chemicals

Guaranteeing the Warfighter's Safety and Effectiveness

- **Quality Evaluation** (Result of aging and service-use)
  - Safety
  - Reliability
  - Performance
- **NAVSEA**
  - Standard Missile
  - Gun propellants
  - Undersea weapons
  - Mine countermeasure systems

  (Results feed design, acquisition, and maintenance/logistics)
- **NAVAIR**
  - Aircraft rockets
  - JATOS
  - CAD/PADs
  - Tomahawk (Functional Ground Test)
- **SSP MK4/MK5 RVs**

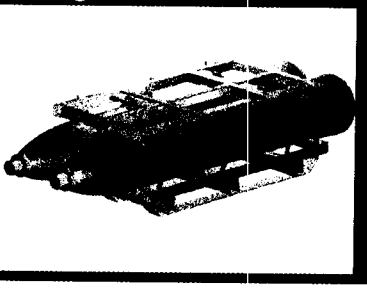
IHDIV ENERGETIC SYSTEMS

Ensuring a safe and reliable ordnance stockpile

Packaging, Handling, Storage and Transportation

- PHS&T of ordnance
  - Design
  - Test/Qualify
  - Prototype
  - Follow on Support

2002/2004 WorldStar and AmeriStar Packing Awards for Strapless Bomb Pallet/AMRAAM Handling Beam



Weapons Simulation

Ensure operational readiness of U.S. and Allied Forces

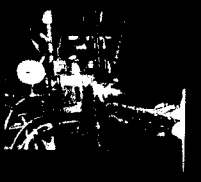
- Unique equipment required to certify and maintain platform weapons systems
  - Missile simulators / trainers
  - Weapons system test / diagnostic / training equipment
- Training systems required to maintain warfighter proficiency
  - Integrated Maritime Portable Acoustic Scoring & Simulator (IMPASS)

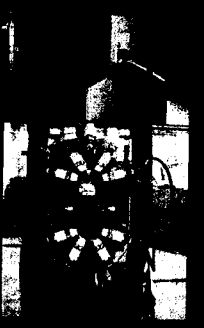
Critical link between Indian Head's energetics and safe effective deployment of the resulting high-tech weaponry

Energetics Manufacturing Technology

One of ten (only Government) ONR MANTECH Centers of Excellence

- Develop/Improve energetic manufacturing technologies
- Scale-up and transition to industry
- Solve energetics manufacturing problems for industry/PMs
- Improve producibility, affordability, availability and safety
- Provide sole source, back up & emergency supplier
- Provide rapid response to military needs
- Reduce manufacturing cost of energetic materials

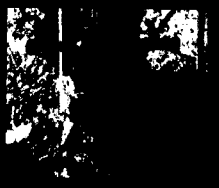




IHDIV ENERGETIC SYSTEMS

We do what energetics industry can't or won't do

Rapid Response for OEF & OIF



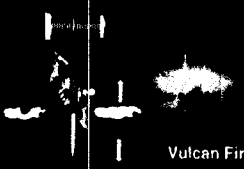
- BLU-118/B Thermobaric Bomb for tunnel defeat capability in 67 days
- Thermobaric Shoulder-Launched Multipurpose Assault Weapon (SMAW-NE) in 9 months
- Accelerated production of CAD/PAD aircrew ejection rocket motors
- Test/Certify explosive detection devices (with EODTECHDIV)
- Ultrasonic-test inspection of Sparrow rocket motors

IHDIV ENERGETIC SYSTEMS

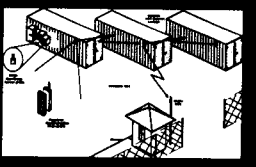
Three Energetics-Related Advanced Concept Technology Demonstrations

- Thermobaric Weapons (2002, sponsored by PACCOM)

- Agent Defeat Warhead (2002, sponsored by US Central Command)



- Advanced Technology Ordnance Surveillance (ATOS) (2001, sponsored by EUCOM)

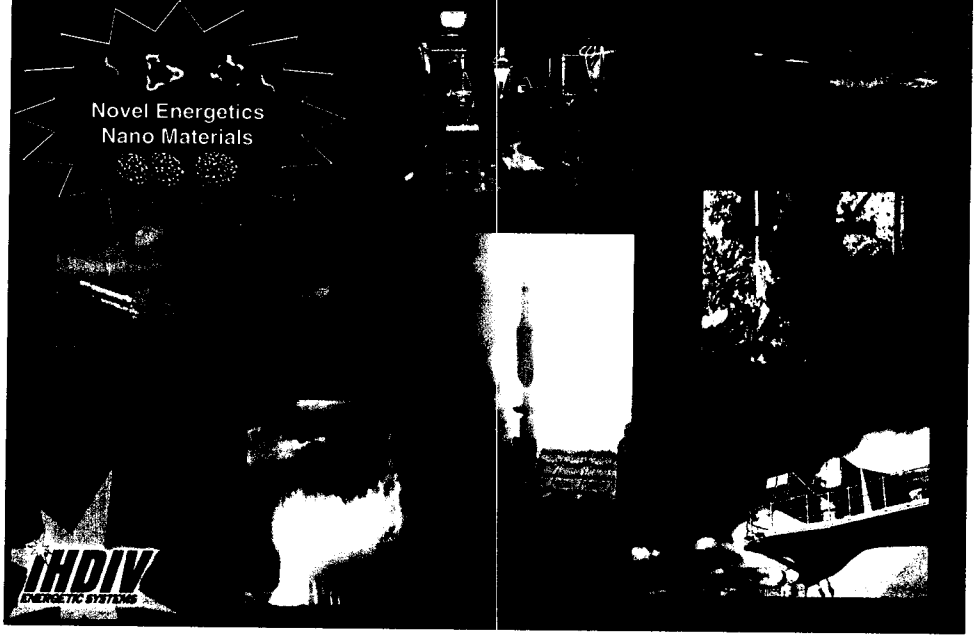


IHDIV ENERGETIC SYSTEMS

Developing Transformational Technologies

Swoosh and Boom experts!

Novel Energetics
Nano Materials



IHDIV ENERGETIC SYSTEMS

DCN: 11690

Farrington, Lester, CIV, WSO-BRAC

From: emjay [emjay@erols.com]
Sent: Friday, July 22, 2005 11:14 PM
To: 'David.Epstein@wso.whs.mil'; 'Lester.Farrington@wso.whs.mil'
Subject: Indian Head Defense Alliance Input; Enegetics Definitions

Attachments: ENERGETICS Definitions.doc

ENERGETICS Definitions.doc (31..

David/Les - Attached are two definitions of Energetics. The first is a broad definition applicable to all Energetics across DOD. It was developed by the Laboratory Joint Cross Service Group (JCSG) during BRAC 1995. I was the Navy's Principal Representative on the Laboratory JCSG in BRAC 1995. The definition was developed by bringing together the principal DOD Activity stakeholders (Technical Director or Department Head level) who were engaged in Energetics R&D. Representatives from Picatinny Arsenal, MICOM Huntsville, Eglin AFB (HERD), Phillips Lab (Edwards AFB), and myself, representing the Navy Activities developed the definition through consensus.

The second definition was developed more recently by the Navy Energetics Leadership Board, made up representatives from all the Navy Activities engaged in Energetics. It is not as broad as the above definition, because it focuses only on Navy Energetics. Of note; however, is that it also includes in addition to Explosives, Propellants and Pyrotechnics, the new technology area of Reactive Materials, and also adds "related chemicals and fuels" which was missed in the first definition because of their lesser importance, at the time.

Both of these definitions are also consistent with the Industry model which is divided into major Weapons System developers and a small number of Ordnance (Energetics) specialty houses. Ever tightening EPA Regulations have driven the cost of maintaining and operating Energetics facilities continuously upwards and the shift from high volume conventional munitions to small volume precision guided munitions has driven Energetics workload down. Over the past couple of decades, the Weapons System developers have all shed their costly Energetics arms and now rely on the few Energetics specialty houses that remain.

Please feel free to call me, if you have any additional questions or require additional information.

John Trick (703) 768-1696
Member, Indian Head Defense Alliance Board of Directors

DCN: 11690

ENERGETICS

Energetics is defined as: Explosives, Propellants, and Pyrotechnics including their related component application in Weapons and Space launched Vehicles. Typically, this would include all applications through the following components: Conventional Rocket Motors; Tactical Missile Motors; Strategic Missile Motors; Gun Ammunition Propelling Charge; Rocket Assisted Projectile Motor; Space Propulsion Booster; Orbit Transfer Vehicle Propulsion; Cruise Missile Booster; Gas Generators; CAD/PAD/AEPS; Torpedo Propulsion; Anti Armor Warheads; High Explosive Warheads; Hard Target Warheads; Fuel Air Explosives; Underwater Explosives; Demolition Explosives; Explosive Devices; Incendiary Devices; Signal Devices (Light, Sound, Smoke). Additionally, energetics includes the related technology associated with Explosives, Propellants, and Pyrotechnics such as: chemical synthesis and characterization; environmental engineering of energetics processes and materials; energetics manufacturing technology (MANTECH); energetics demilitarization and disposal; etc.

Dr. Craig Dorman
Deputy Chair, Laboratory Joint Cross-Service Group
BRAC 95

Energetics according to the Navy Energetics Leadership Board: "...explosives, propellants, pyrotechnics, reactive materials, related chemicals and fuels and their application in propulsion systems and ordnance..."

Includes bombs, warheads, mines, fuzes, countermeasures, flares, obscurants, safe-arm devices, unguided rockets, missile rocket motors, ramjets, gas generators, gun projectiles and propelling charges and cartridge and propellant activated devices.

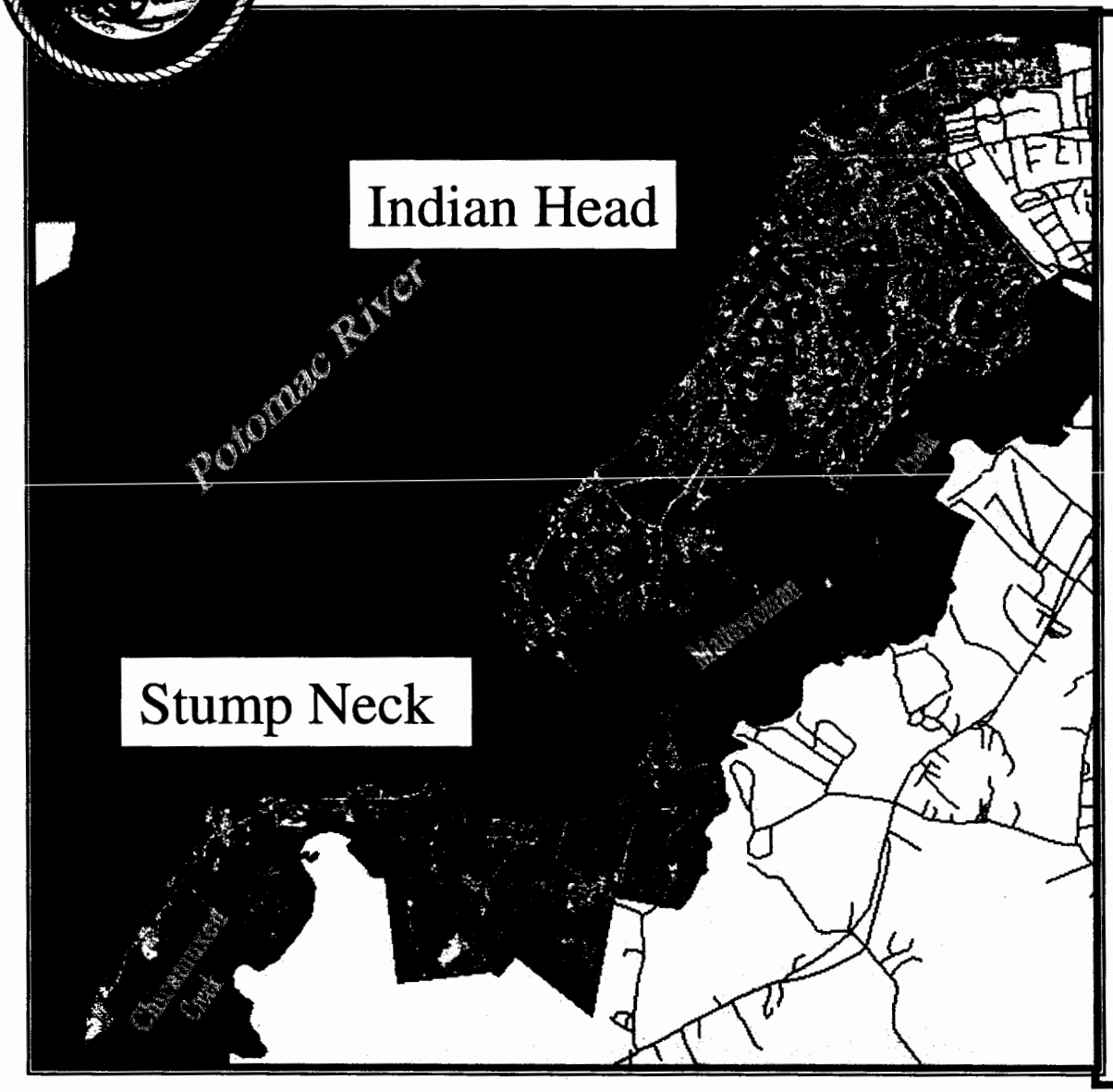
What is "Energetics?"

- Defined as, "...explosives, propellants, pyrotechnics, reactive materials, related chemicals and fuels, and their application in propulsion systems and ordnance..." *
- Includes bombs, warheads, mines, fuzes, countermeasures, flares, obscurants, safe-arm devices, arming-firing devices, unguided rockets, missile rocket motors, ramjets, gas generators, gun projectiles and propelling charges, and cartridge and propellant actuated devices.

* From the signed Navy Energetics Leadership Board (NELB) and Energetics IPT (EIPT) charters

DCN: 11690

Indian Head & Stump Neck Sites



LAND:

	Acres
• Indian Head	1,961
• Stump Neck	1,224
• Total Acres	*3,185*

INFRASTRUCTURE:

- Industrial Complex
- 1,730 Facilities
- $1.2B PRV
  - $430M Mission
  - $408M PWC
  - $343M NDW
- 5.8 MSF
  - 2.6 MSF Mission
  - 0.75 MSF PWC
  - 2.5 MSF NDW
- 127 Miles of Roads
- Utilities-Steam, Electricity, Potable Water, River Water, Sewage, & Compressed Air

Indian Head / Stump Neck Tenants

NAVSURFWARCEN Indian Head Division (NSWC IH)

- Energetics from concept through production, to operational deployment.

Naval Explosive Ordnance Disposal Technology Division (EODTECHDIV)

- Single manager of EOD Technology and Training for DOD.

USMC Chemical Biological Incident Response Force (CBIRF)

- Consequence management through agent ID, search & rescue, emergency medical care.

NAVSEA Logistics Center Atlantic (SEALOG)

- Life-cycle logistics support products and information technology.

Naval Ordnance Safety & Security Activity (NOSSA)

- DoN authority in explosives safety and ordnance environmental compliance.

Joint Interoperability Test Command (JITC)

- JSC certifier of DOD IT and National Security Systems interoperability requirements.

Expansion Capacity

- Indian Head—56.2 acres
  - 2700 additional Personnel (2 story offices, surface parking)
  - 7700 additional Personnel (5 story offices, 3 level parking)
- Stump Neck (Rum Point)—27.6 acres
  - 884 additional Personnel (2 story offices, surface parking)
  - 952 additional Personnel (3 story offices, surface parking)
- Above acreage does not include areas within restricted area (dry house area) or admin area where consolidation of existing low density land utilization could easily yield additional expansion capacity.

Create a Naval Integrated Weapons & Armaments Research, Development & Acquisition, Test & Evaluation Center

Recommendation: Realign Naval Surface Warfare Center Crane, IN, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, combat system security, and energetic materials to Naval Air Weapons Station China Lake, CA.

Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, underwater weapons, and energetic materials, to Naval Air Weapons Station China Lake, CA.

Realign Naval Air Station Patuxent River, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except the Program Executive Office and Program Management Offices in Naval Air Systems Command, to Naval Air Weapons Station China Lake, CA.

Realign Naval Base Ventura County, Point Mugu, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Air Weapons Station China Lake, CA.

Realign Naval Weapons Station Seal Beach, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except underwater weapons and energetic materials, to Naval Air Weapons Station China Lake, CA.

Realign Naval Surface Warfare Center, Yorktown, VA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

Realign Naval Base Ventura County, Port Hueneme, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except weapon system integration, to Naval Air Weapons Station China Lake, CA.

Realign Fleet Combat Training Center, CA (Port Hueneme Detachment, San Diego, CA), by relocating all Weapons and Armaments weapon system integration Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Dahlgren, VA.

Realign Naval Surface Warfare Center Dahlgren, VA, by relocating all Weapons & Armaments Research, Development & Acquisition, and Test & Evaluation, except guns/ammo and weapon systems integration to Naval Air Weapons Station China Lake, CA.

Justification: This recommendation realigns and consolidates those facilities working in Weapons & Armaments (W&A) Research, Development & Acquisition, and Test and Evaluation (RDAT&E) into a Naval Integrated RDAT&E center at the Naval Air Warfare Center, China Lake, CA. Additional synergistic realignments for W&A was achieved at two receiver sites for specific focus. The Naval Surface Warfare Center, Dahlgren, VA, is a receiver specialty site for

Naval surface weapons systems integration and receives a west coast site for consolidation. This construct creates an integrated W&A RDAT&E center in China Lake, CA, energetics center at Indian Head, MD, and consolidates Navy surface weapons system integration at Dahlgren, VA. All actions relocate technical facilities with lower overall quantitative Military Value (across Research, Development & Acquisition and Test & Evaluation) into the Integrated RDAT&E center and other receiver sites with greater quantitative Military Value.

Consolidating the Navy's air-to-air, air-to-ground, and surface launched missile RD&A, and T&E activities at China Lake, CA, would create an efficient integrated RDAT&E center. China Lake is able to accommodate with minor modification/addition both mission and life-cycle/sustainment functions to create synergies between these traditionally independent communities.

During the other large scale movements of W&A capabilities noted above, Weapon System Integration was specifically addressed to preserve the synergies between large highly integrated control system developments (Weapon Systems Integration) and the weapon system developments themselves. A specialty site for Naval Surface Warfare was identified at Dahlgren, VA, that was unique to the services and a centroid for Navy surface ship developments. A satellite unit from the Naval Surface Warfare Center, Port Hueneme, San Diego Detachment will be relocated to Dahlgren.

The Integrated RDAT&E Center at China Lake provides a diverse set of open-air range and test environments (desert, mountain, forest) for W&A RDAT&E functions. Synergy will be realized in air-to-air, air-to-ground, and surface launched mission areas.

This recommendation enables technical synergy, and positions the Department of Defense to exploit center-of-mass scientific, technical and acquisition expertise with weapons and armament Research, Development & Acquisition that currently resides at 10 locations into the one Integrated RDAT&E site, one specialty site, and an energetics site.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is $358.1M. The net of all costs and savings to the Department during the implementation period is a cost of $148.7M. Annual recurring savings to the Department after implementation are $59.7M with a payback expected in 7 years. The net present value of the costs and savings to the Department over 20 years is a savings of $433.4M.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 375 jobs (258 direct jobs and 117 indirect jobs) over the 2006-2011 period in the Martin County, IN, economic area, which is 4.4 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 543 jobs (258 direct jobs and 285 indirect jobs) over the 2006-2011 period in the Lexington Park, MD, Micropolitan Statistical Area, which is 1.0 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 5,012 jobs (2,250 direct jobs and 2,762 indirect jobs) over the 2006-2011 period in the Oxnard-Thousand Oaks-Ventura, CA, Metropolitan Statistical Area, which is 1.2 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 97 jobs (47 direct jobs and 50 indirect jobs) over the 2006-2011 period in the San Diego-Carlsbad-San Marcos, CA, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 76 jobs (45 direct jobs and 31 indirect jobs) over the 2006-2011 period in the Santa Ana-Anaheim-Irvine, CA, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 142 jobs (61 direct jobs and 81 indirect jobs) over the 2006-2011 period in the Virginia Beach-Norfolk-Newport News, VA-NC, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 91 jobs (52 direct jobs and 39 indirect jobs) over the 2006-2011 period in the Washington-Arlington-Alexandria, DC-VA-MD-WV, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 333 jobs (155 direct jobs and 178 indirect jobs) over the 2006-2011 period in the King George County, VA, economic area, which is 2.4 percent of economic area employment.

The aggregate economic impact of all recommended actions on these economic regions of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: This recommendation has the potential to impact air quality at Indian Head and China Lake. Archeological and historical sites exist on NSWC Dahlgren, which may impact current construction and operations. This recommendation has the potential to impact land use constraints or sensitive resource areas at Indian Head and China Lake. This recommendation has no impact on dredging; marine mammals, resources, or sanctuaries; noise; threatened and endangered species or critical habitat; waste management; water resources; or wetlands. This recommendation will require spending approximately $0.2M for waste management activities and $1.1M for environmental compliance activities. These costs were included in the payback calculation. This recommendation does not otherwise impact the costs

of environmental restoration, waste management, and environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the bases in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

Create an Air Integrated Weapons & Armaments Research, Development & Acquisition, Test & Evaluation Center

Recommendation: Realign Hill Air Force Base, UT, by relocating Weapons and Armaments In-Service Engineering Research, Development & Acquisition, and Test and Evaluation to Eglin Air Force Base, FL. Realign Fort Belvoir, VA, by relocating Defense Threat Reduction Agency National Command Region conventional armament Research to Eglin Air Force Base, FL.

Justification: Eglin is one of three core integrated weapons and armaments RDAT&E centers (with China Lake, CA, and Redstone Arsenal, AL) with high MV and the largest concentration of integrated technical facilities across all three functional areas. Eglin AFB has a full spectrum array of Weapons & Armaments (W&A) Research, Development & Acquisition, and Test & Evaluation (RDAT&E) capabilities. Accordingly, relocation of Hill AFB and DTRA NCR W&A capabilities will further complement and strengthen Eglin as a full spectrum W&A RDAT&E Center.

The overall impact of this recommendation will be to: increase W&A life cycle and mission related synergies/integration; increase efficiency; reduce operational costs; retain the required diversity of test environments; and facilitate multiple uses of equipment, facilities, ranges, and people. Hill AFB and DTRA NCR technical facilities recommended for relocation have lower quantitative MV than Eglin AFB in all functional areas.

This recommendation includes Research, D&A, and T&E conventional armament capabilities in the Air Force and DTRA NCR. It consolidates armament activities within the Air Force and promotes jointness with DTRA NCR. It also enables technical synergy, and positions the DoD to exploit center-of-mass scientific, technical, and acquisition expertise within the RDAT&E community that currently resides as DoD specialty locations. This recommendation directly supports the Department's strategy for transformation by moving and consolidating smaller W&A efforts into high military value integrated centers, and by leveraging synergy among RD&A, and T&E activities. Capacity and military value data established that Eglin AFB is already a full-service, integrated W&A RDAT&E center. Relocation of W&A D&A In-Service Engineering (ISE) from Hill AFB to Eglin AFB will increase life cycle synergy and integration. ISE encompasses those engineering activities that provide for an "increase in capability" of a system/sub-system/component after Full Operational Capability has been declared. ISE activities mesh directly with on-going RDAT&E at Eglin AFB.

Relocation of DTRA NCR W&A technical capabilities will increase life cycle synergy and integration at Eglin AFB. Conventional armament capabilities possessed by DTRA NCR directly complement on-going RDAT&E at Eglin AFB. Cost savings from the relocation of DTRA NCR to Eglin AFB will accrue largely through the elimination of the need for leased

space, and by virtue of the fact that Eglin AFB can absorb the DTRA NCR (and Hill AFB) functions without the need for MILCON.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is $2.7M. The net of all costs and savings to the Department during the implementation period is a savings of $4.9M. Annual recurring savings to the Department after implementation are $1.4M with payback expected in 2 years. The net present value of the costs and savings to the Department over 20 years is a savings of $17.9M.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 64 jobs (33 direct jobs and 31 indirect jobs) over the 2006-2011 period in the Ogden-Clearfield, UT, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 114 jobs (67 direct and 47 indirect jobs) over the 2006-2011 period in the Washington-Arlington-Alexandria, DC-VA-MD-WV, Metropolitan Division, which is less than 0.1 percent of economic area employment.

The aggregate economic impact of all recommended actions on these economic regions of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: Additional operations may impact archeological sites at Eglin AFB and restrict operations. Additional operations may compound the need for explosive safety waivers at Eglin AFB. Additional operations may further impact threatened and endangered species and/or critical habitats at Eglin AFB. Modification of Eglin AFB's treatment works may be necessary. This recommendation may impact wetlands at Eglin AFB. This recommendation has no impact on air quality; dredging; marine mammals, resources, or sanctuaries; noise; or water resources. This recommendation will require spending approximately less than $0.05M for environmental compliance activities. This cost was included in the payback calculation. This recommendation does not otherwise impact the costs of environmental restoration, waste management, and environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the bases in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

Create an Integrated Weapons & Armaments Specialty Site for Guns and Ammunition

Recommendation: Realign the Adelphi Laboratory Center, MD, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Surface Warfare Center Division Crane, IN, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign the Fallbrook, CA, detachment of Naval Surface Warfare Center Division Crane, IN, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Surface Warfare Center Division Dahlgren, VA, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign the Louisville, KY, detachment of Naval Surface Warfare Center Division Port Hueneme, CA, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Air Warfare Center Weapons Division China Lake, CA, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Surface Warfare Center Division Indian Head, MD, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Surface Warfare Center Division Earle, NJ, by relocating weapon and armament packaging Research and Development & Acquisition to Picatinny Arsenal, NJ.

Justification: This recommendation realigns and consolidates those gun and ammunition facilities working in Weapons and Armaments (W&A) Research (R), Development & Acquisition (D&A). This realignment would result in a more robust joint center for gun and ammunition Research, Development & Acquisition at Picatinny Arsenal, NJ. This location is already the greatest concentration of military value in gun and ammunition W&A RD&A.

Picatinny Arsenal is the center-of-mass for DoD's Research, Development & Acquisition of guns and ammunition, with a workload more than an order of magnitude greater than any other DoD facility in this area. It also is home to the DoD's Single Manager for Conventional Ammunition. Movement of all the Services' guns and ammunition work to Picatinny Arsenal will create a joint center of excellence and provide synergy in armament development for the near future and beyond, featuring a Joint Packaging, Handling, Shipping and Transportation (PHS&T) Center, particularly important in this current time of high demand for guns and ammunition by all the services. Technical facilities with lower quantitative military value are relocated to Picatinny Arsenal.

This recommendation includes Research, Development & Acquisition activities in the Army and Navy. It promotes jointness, enables technical synergy, and positions the Department of Defense to exploit center-of-mass scientific, technical, and acquisition expertise within the weapons and armament Research, Development & Acquisition community that currently resides at this DoD specialty location.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is $116.3M. The net of all costs and savings to the Department during the implementation period is cost of $81.2M. Annual recurring savings to the Department after implementation are $11.3M with a payback expected in 13 years. The net present value of the costs and savings to the Department over 20 years is a savings of $32.6M.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 11 jobs (5 direct jobs and 6 indirect jobs) over the 2006-2011 period in Bakersfield, CA, Metropolitan Statistical Area which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 83 jobs (43 direct jobs and 40 indirect jobs) over the 2006-2011 period in the Bethesda-Frederick-Gaithersburg, MD, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 421 jobs (289 direct jobs and 132 indirect jobs) over the 2006-2011 period in Martin County, IN, economic area, which is 4.9 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 126 jobs (67 direct jobs and 59 indirect jobs) over the 2006-2011 periods in the Edison, NJ, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 506 jobs (296 direct jobs and 210 indirect jobs) over the 2006-2011 periods in the Louisville, KY-IN, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 302 jobs (146 direct jobs and 156 indirect jobs) over the 2006-2011 periods in the San Diego-Carlsbad-San Marcos, CA, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 76 jobs (43 direct jobs and 33 indirect jobs) over the 2006-2011 periods in the Washington-Arlington-Alexandria, DC-VA-MD-WV, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 202 jobs (93 direct jobs and 109 indirect jobs) over the 2006-2011 periods in the King George County, VA, economic area, which is 1.4 percent of economic area employment.

The aggregate economic impact of all recommended actions on these economic regions of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: This recommendation is expected to impact air quality at Picatinny, which is in severe non-attainment for Ozone. This recommendation may have a minimal effect on cultural resources at Picatinny. Additional operations may further impact threatened/endangered species at Picatinny, leading to additional restrictions on training or operations. This recommendation has no impact on dredging; land use constraints or sensitive resource areas; marine mammals, resources, or sanctuaries; noise; waste management; or wetlands. This recommendation will require spending approximately $0.3M for environmental compliance activities. This cost was included in the payback calculation. This recommendation does not otherwise impact the costs of environmental restoration, waste management, and environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the bases in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

Defense Research Service Led Laboratories

Recommendation: Close the Air Force Research Laboratory, Mesa City, AZ. Relocate all functions to Wright Patterson Air Force Base, OH.

Realign Air Force Research Laboratory, Hanscom, MA, by relocating the Sensors Directorate to Wright Patterson Air Force Base, OH, and the Space Vehicles Directorate to Kirtland Air Force Base, NM.

Realign Rome Laboratory, NY, by relocating the Sensor Directorate to Wright Patterson Air Force Base, OH, and consolidating it with the Air Force Research Laboratory, Sensor Directorate at Wright Patterson Air Force Base, OH.

Realign Air Force Research Laboratory, Wright Patterson Air Force Base, OH, by relocating the Information Systems Directorate to Hanscom Air Force Base, MA.

Realign Army Research Laboratory Langley, VA, and Army Research Laboratory Glenn, OH, by relocating the Vehicle Technology Directorates to Aberdeen Proving Ground, MD.

Realign the Army Research Laboratory White Sands Missile Range, NM, by relocating all Army Research Laboratory activities except the minimum detachment required to maintain the Test and Evaluation functions at White Sands Missile Range, NM, to Aberdeen Proving Ground, MD.

Justification: This recommendation realigns and consolidates portions of the Air Force and Army Research Laboratories to provide greater synergy across technical disciplines and functions. It does this by consolidating geographically separate units of the Air Force and Army Research Laboratories.

DCN: 11690

Indian Head

1/2

Yorktown –
R&D on new explosive body
dev – all spec/config mgt
Transition technology
demil pr
full spectrum of explosives technology
done it for 60 years

Earle –
pkg handling storage & transportation
full spectrum whole logs
apple for ordnance

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name
Naval District Washington South Potomac
started prior to 1900
consolidation of energetics began ~~[illegible]~~ has been done over time
National source for Energetics Expertise
Energetics degree only one in country
$36 [illegible] + salary
– good synergy/relationship w/ ~~industry~~ universities
Only DOD facility for ~~[illegible]~~ underwater systems
Energetic Chemicals
Swoosh & Boom Experts!

DCN: 11690

9/2

WX work aligned w/ energetics

parallel Energetics only

.43 – would move

duplicate energetics capability @ Picatinny

68 – very few

WS work @ +H not being done @ C.L.

Twin screw machines (mixers) to make propellants.
$25M?

Create a Naval Integrated Weapons & Armaments Research, Development & Acquisition, Test & Evaluation Center

Recommendation: Realign Naval Surface Warfare Center Crane, IN, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, combat system security, and energetic materials to Naval Air Weapons Station China Lake, CA.

Realign Naval Surface Warfare Center Indian Head, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except gun/ammo, underwater weapons, and energetic materials, to Naval Air Weapons Station China Lake, CA.

Realign Naval Air Station Patuxent River, MD, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except the Program Executive Office and Program Management Offices in Naval Air Systems Command, to Naval Air Weapons Station China Lake, CA.

Realign Naval Base Ventura County, Point Mugu, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Air Weapons Station China Lake, CA.

Realign Naval Weapons Station Seal Beach, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except underwater weapons and energetic materials, to Naval Air Weapons Station China Lake, CA.

Realign Naval Surface Warfare Center, Yorktown, VA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Indian Head, MD.

Realign Naval Base Ventura County, Port Hueneme, CA, by relocating all Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation, except weapon system integration, to Naval Air Weapons Station China Lake, CA.

Realign Fleet Combat Training Center, CA (Port Hueneme Detachment, San Diego, CA), by relocating all Weapons and Armaments weapon system integration Research, Development & Acquisition, and Test & Evaluation to Naval Surface Warfare Center Dahlgren, VA.

Realign Naval Surface Warfare Center Dahlgren, VA, by relocating all Weapons & Armaments Research, Development & Acquisition, and Test & Evaluation, except guns/ammo and weapon systems integration to Naval Air Weapons Station China Lake, CA.

Justification: This recommendation realigns and consolidates those facilities working in Weapons & Armaments (W&A) Research, Development & Acquisition, and Test and Evaluation (RDAT&E) into a Naval Integrated RDAT&E center at the Naval Air Warfare Center, China Lake, CA. Additional synergistic realignments for W&A was achieved at two receiver sites for specific focus. The Naval Surface Warfare Center, Dahlgren, VA, is a receiver specialty site for

Naval surface weapons systems integration and receives a west coast site for consolidation. This construct creates an integrated W&A RDAT&E center in China Lake, CA, energetics center at Indian Head, MD, and consolidates Navy surface weapons system integration at Dahlgren, VA. All actions relocate technical facilities with lower overall quantitative Military Value (across Research, Development & Acquisition and Test & Evaluation) into the Integrated RDAT&E center and other receiver sites with greater quantitative Military Value.

Consolidating the Navy's air-to-air, air-to-ground, and surface launched missile RD&A, and T&E activities at China Lake, CA, would create an efficient integrated RDAT&E center. China Lake is able to accommodate with minor modification/addition both mission and life-cycle/sustainment functions to create synergies between these traditionally independent communities.

During the other large scale movements of W&A capabilities noted above, Weapon System Integration was specifically addressed to preserve the synergies between large highly integrated control system developments (Weapon Systems Integration) and the weapon system developments themselves. A specialty site for Naval Surface Warfare was identified at Dahlgren, VA, that was unique to the services and a centroid for Navy surface ship developments. A satellite unit from the Naval Surface Warfare Center, Port Hueneme, San Diego Detachment will be relocated to Dahlgren.

The Integrated RDAT&E Center at China Lake provides a diverse set of open-air range and test environments (desert, mountain, forest) for W&A RDAT&E functions. Synergy will be realized in air-to-air, air-to-ground, and surface launched mission areas.

This recommendation enables technical synergy, and positions the Department of Defense to exploit center-of-mass scientific, technical and acquisition expertise with weapons and armament Research, Development & Acquisition that currently resides at 10 locations into the one Integrated RDAT&E site, one specialty site, and an energetics site.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is $358.1M. The net of all costs and savings to the Department during the implementation period is a cost of $148.7M. Annual recurring savings to the Department after implementation are $59.7M with a payback expected in 7 years. The net present value of the costs and savings to the Department over 20 years is a savings of $433.4M.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 375 jobs (258 direct jobs and 117 indirect jobs) over the 2006-2011 period in the Martin County, IN, economic area, which is 4.4 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 543 jobs (258 direct jobs and 285 indirect jobs) over the 2006-2011 period in the Lexington Park, MD, Micropolitan Statistical Area, which is 1.0 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 5,012 jobs (2,250 direct jobs and 2,762 indirect jobs) over the 2006-2011 period in the Oxnard-Thousand Oaks-Ventura, CA, Metropolitan Statistical Area, which is 1.2 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 97 jobs (47 direct jobs and 50 indirect jobs) over the 2006-2011 period in the San Diego-Carlsbad-San Marcos, CA, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 76 jobs (45 direct jobs and 31 indirect jobs) over the 2006-2011 period in the Santa Ana-Anaheim-Irvine, CA, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 142 jobs (61 direct jobs and 81 indirect jobs) over the 2006-2011 period in the Virginia Beach-Norfolk-Newport News, VA-NC, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 91 jobs (52 direct jobs and 39 indirect jobs) over the 2006-2011 period in the Washington-Arlington-Alexandria, DC-VA-MD-WV, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 333 jobs (155 direct jobs and 178 indirect jobs) over the 2006-2011 period in the King George County, VA, economic area, which is 2.4 percent of economic area employment.

The aggregate economic impact of all recommended actions on these economic regions of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: This recommendation has the potential to impact air quality at Indian Head and China Lake. Archeological and historical sites exist on NSWC Dahlgren, which may impact current construction and operations. This recommendation has the potential to impact land use constraints or sensitive resource areas at Indian Head and China Lake. This recommendation has no impact on dredging; marine mammals, resources, or sanctuaries; noise; threatened and endangered species or critical habitat; waste management; water resources; or wetlands. This recommendation will require spending approximately $0.2M for waste management activities and $1.1M for environmental compliance activities. These costs were included in the payback calculation. This recommendation does not otherwise impact the costs

of environmental restoration, waste management, and environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the bases in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

Create an Air Integrated Weapons & Armaments Research, Development & Acquisition, Test & Evaluation Center

Recommendation: Realign Hill Air Force Base, UT, by relocating Weapons and Armaments In-Service Engineering Research, Development & Acquisition, and Test and Evaluation to Eglin Air Force Base, FL. Realign Fort Belvoir, VA, by relocating Defense Threat Reduction Agency National Command Region conventional armament Research to Eglin Air Force Base, FL.

Justification: Eglin is one of three core integrated weapons and armaments RDAT&E centers (with China Lake, CA, and Redstone Arsenal, AL) with high MV and the largest concentration of integrated technical facilities across all three functional areas. Eglin AFB has a full spectrum array of Weapons & Armaments (W&A) Research, Development & Acquisition, and Test & Evaluation (RDAT&E) capabilities. Accordingly, relocation of Hill AFB and DTRA NCR W&A capabilities will further complement and strengthen Eglin as a full spectrum W&A RDAT&E Center.

The overall impact of this recommendation will be to: increase W&A life cycle and mission related synergies/integration; increase efficiency; reduce operational costs; retain the required diversity of test environments; and facilitate multiple uses of equipment, facilities, ranges, and people. Hill AFB and DTRA NCR technical facilities recommended for relocation have lower quantitative MV than Eglin AFB in all functional areas.

This recommendation includes Research, D&A, and T&E conventional armament capabilities in the Air Force and DTRA NCR. It consolidates armament activities within the Air Force and promotes jointness with DTRA NCR. It also enables technical synergy, and positions the DoD to exploit center-of-mass scientific, technical, and acquisition expertise within the RDAT&E community that currently resides as DoD specialty locations. This recommendation directly supports the Department's strategy for transformation by moving and consolidating smaller W&A efforts into high military value integrated centers, and by leveraging synergy among RD&A, and T&E activities. Capacity and military value data established that Eglin AFB is already a full-service, integrated W&A RDAT&E center. Relocation of W&A D&A In-Service Engineering (ISE) from Hill AFB to Eglin AFB will increase life cycle synergy and integration. ISE encompasses those engineering activities that provide for an "increase in capability" of a system/sub-system/component after Full Operational Capability has been declared. ISE activities mesh directly with on-going RDAT&E at Eglin AFB.

Relocation of DTRA NCR W&A technical capabilities will increase life cycle synergy and integration at Eglin AFB. Conventional armament capabilities possessed by DTRA NCR directly complement on-going RDAT&E at Eglin AFB. Cost savings from the relocation of DTRA NCR to Eglin AFB will accrue largely through the elimination of the need for leased

space, and by virtue of the fact that Eglin AFB can absorb the DTRA NCR (and Hill AFB) functions without the need for MILCON.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is $2.7M. The net of all costs and savings to the Department during the implementation period is a savings of $4.9M. Annual recurring savings to the Department after implementation are $1.4M with payback expected in 2 years. The net present value of the costs and savings to the Department over 20 years is a savings of $17.9M.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 64 jobs (33 direct jobs and 31 indirect jobs) over the 2006-2011 period in the Ogden-Clearfield, UT, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 114 jobs (67 direct and 47 indirect jobs) over the 2006-2011 period in the Washington-Arlington-Alexandria, DC-VA-MD-WV, Metropolitan Division, which is less than 0.1 percent of economic area employment.

The aggregate economic impact of all recommended actions on these economic regions of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: Additional operations may impact archeological sites at Eglin AFB and restrict operations. Additional operations may compound the need for explosive safety waivers at Eglin AFB. Additional operations may further impact threatened and endangered species and/or critical habitats at Eglin AFB. Modification of Eglin AFB's treatment works may be necessary. This recommendation may impact wetlands at Eglin AFB. This recommendation has no impact on air quality; dredging; marine mammals, resources, or sanctuaries; noise; or water resources. This recommendation will require spending approximately less than $0.05M for environmental compliance activities. This cost was included in the payback calculation. This recommendation does not otherwise impact the costs of environmental restoration, waste management, and environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the bases in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

Create an Integrated Weapons & Armaments Specialty Site for Guns and Ammunition

Recommendation: Realign the Adelphi Laboratory Center, MD, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Surface Warfare Center Division Crane, IN, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign the Fallbrook, CA, detachment of Naval Surface Warfare Center Division Crane, IN, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Surface Warfare Center Division Dahlgren, VA, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign the Louisville, KY, detachment of Naval Surface Warfare Center Division Port Hueneme, CA, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Air Warfare Center Weapons Division China Lake, CA, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Surface Warfare Center Division Indian Head, MD, by relocating gun and ammunition Research and Development & Acquisition to Picatinny Arsenal, NJ.

Realign Naval Surface Warfare Center Division Earle, NJ, by relocating weapon and armament packaging Research and Development & Acquisition to Picatinny Arsenal, NJ.

Justification: This recommendation realigns and consolidates those gun and ammunition facilities working in Weapons and Armaments (W&A) Research (R), Development & Acquisition (D&A). This realignment would result in a more robust joint center for gun and ammunition Research, Development & Acquisition at Picatinny Arsenal, NJ. This location is already the greatest concentration of military value in gun and ammunition W&A RD&A.

Picatinny Arsenal is the center-of-mass for DoD's Research, Development & Acquisition of guns and ammunition, with a workload more than an order of magnitude greater than any other DoD facility in this area. It also is home to the DoD's Single Manager for Conventional Ammunition. Movement of all the Services' guns and ammunition work to Picatinny Arsenal will create a joint center of excellence and provide synergy in armament development for the near future and beyond, featuring a Joint Packaging, Handling, Shipping and Transportation (PHS&T) Center, particularly important in this current time of high demand for guns and ammunition by all the services. Technical facilities with lower quantitative military value are relocated to Picatinny Arsenal.

This recommendation includes Research, Development & Acquisition activities in the Army and Navy. It promotes jointness, enables technical synergy, and positions the Department of Defense to exploit center-of-mass scientific, technical, and acquisition expertise within the weapons and armament Research, Development & Acquisition community that currently resides at this DoD specialty location.

Payback: The total estimated one-time cost to the Department of Defense to implement this recommendation is $116.3M. The net of all costs and savings to the Department during the implementation period is cost of $81.2M. Annual recurring savings to the Department after implementation are $11.3M with a payback expected in 13 years. The net present value of the costs and savings to the Department over 20 years is a savings of $32.6M.

Economic Impact on Communities: Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 11 jobs (5 direct jobs and 6 indirect jobs) over the 2006-2011 period in Bakersfield, CA, Metropolitan Statistical Area which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 83 jobs (43 direct jobs and 40 indirect jobs) over the 2006-2011 period in the Bethesda-Frederick-Gaithersburg, MD, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 421 jobs (289 direct jobs and 132 indirect jobs) over the 2006-2011 period in Martin County, IN, economic area, which is 4.9 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 126 jobs (67 direct jobs and 59 indirect jobs) over the 2006-2011 periods in the Edison, NJ, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 506 jobs (296 direct jobs and 210 indirect jobs) over the 2006-2011 periods in the Louisville, KY-IN, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 302 jobs (146 direct jobs and 156 indirect jobs) over the 2006-2011 periods in the San Diego-Carlsbad-San Marcos, CA, Metropolitan Statistical Area, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 76 jobs (43 direct jobs and 33 indirect jobs) over the 2006-2011 periods in the Washington-Arlington-Alexandria, DC-VA-MD-WV, Metropolitan Division, which is less than 0.1 percent of economic area employment.

Assuming no economic recovery, this recommendation could result in a maximum potential reduction of 202 jobs (93 direct jobs and 109 indirect jobs) over the 2006-2011 periods in the King George County, VA, economic area, which is 1.4 percent of economic area employment.

The aggregate economic impact of all recommended actions on these economic regions of influence was considered and is at Appendix B of Volume I.

Community Infrastructure Assessment: A review of community attributes indicates no issues regarding the ability of the infrastructure of the communities to support missions, forces, and personnel. There are no known community infrastructure impediments to implementation of all recommendations affecting the installations in this recommendation.

Environmental Impact: This recommendation is expected to impact air quality at Picatinny, which is in severe non-attainment for Ozone. This recommendation may have a minimal effect on cultural resources at Picatinny. Additional operations may further impact threatened/endangered species at Picatinny, leading to additional restrictions on training or operations. This recommendation has no impact on dredging; land use constraints or sensitive resource areas; marine mammals, resources, or sanctuaries; noise; waste management; or wetlands. This recommendation will require spending approximately $0.3M for environmental compliance activities. This cost was included in the payback calculation. This recommendation does not otherwise impact the costs of environmental restoration, waste management, and environmental compliance activities. The aggregate environmental impact of all recommended BRAC actions affecting the bases in this recommendation has been reviewed. There are no known environmental impediments to implementation of this recommendation.

Defense Research Service Led Laboratories

Recommendation: Close the Air Force Research Laboratory, Mesa City, AZ. Relocate all functions to Wright Patterson Air Force Base, OH.

Realign Air Force Research Laboratory, Hanscom, MA, by relocating the Sensors Directorate to Wright Patterson Air Force Base, OH, and the Space Vehicles Directorate to Kirtland Air Force Base, NM.

Realign Rome Laboratory, NY, by relocating the Sensor Directorate to Wright Patterson Air Force Base, OH, and consolidating it with the Air Force Research Laboratory, Sensor Directorate at Wright Patterson Air Force Base, OH.

Realign Air Force Research Laboratory, Wright Patterson Air Force Base, OH, by relocating the Information Systems Directorate to Hanscom Air Force Base, MA.

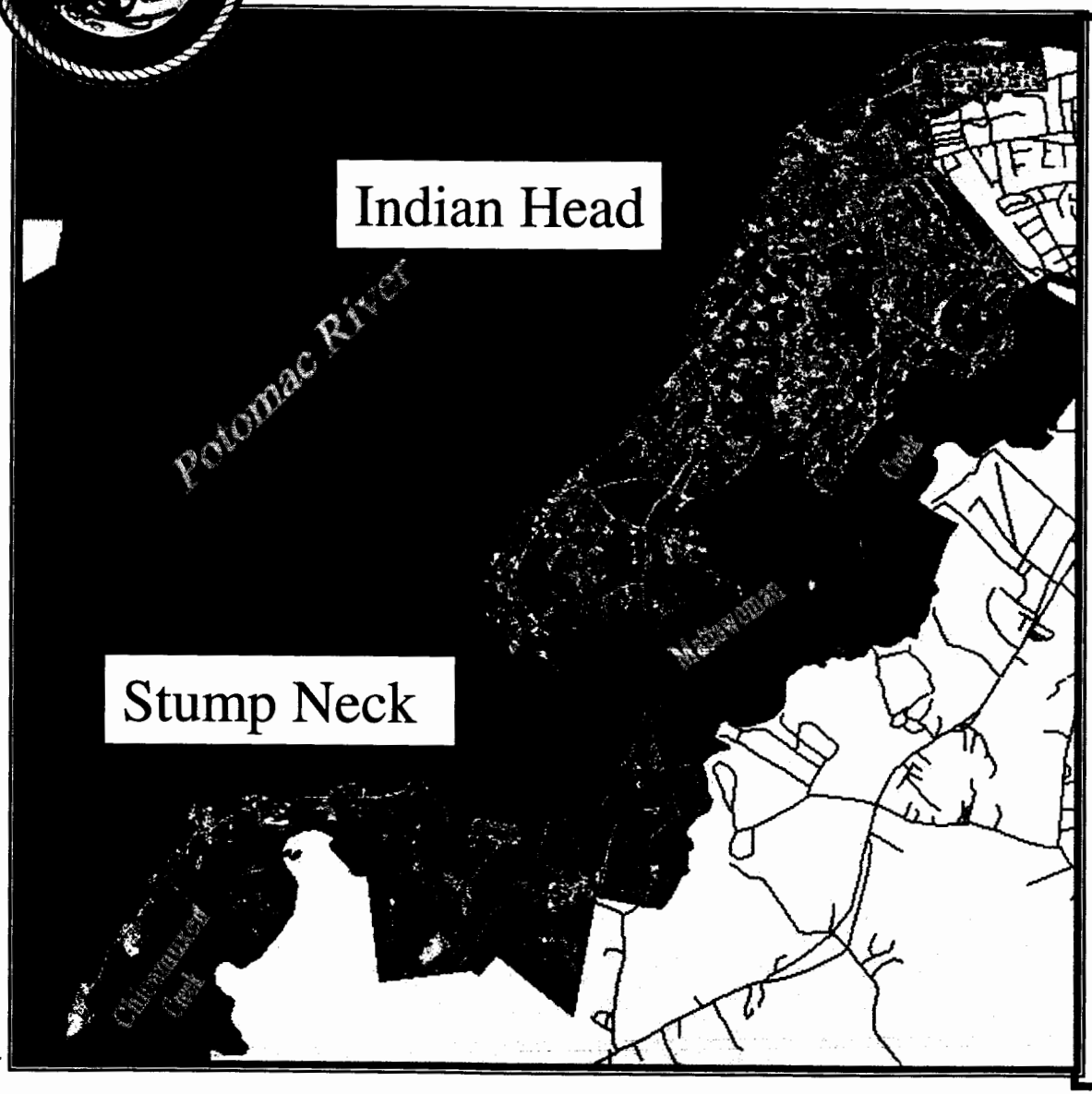
Realign Army Research Laboratory Langley, VA, and Army Research Laboratory Glenn, OH, by relocating the Vehicle Technology Directorates to Aberdeen Proving Ground, MD.

Realign the Army Research Laboratory White Sands Missile Range, NM, by relocating all Army Research Laboratory activities except the minimum detachment required to maintain the Test and Evaluation functions at White Sands Missile Range, NM, to Aberdeen Proving Ground, MD.

Justification: This recommendation realigns and consolidates portions of the Air Force and Army Research Laboratories to provide greater synergy across technical disciplines and functions. It does this by consolidating geographically separate units of the Air Force and Army Research Laboratories.

DCN: 11690

Indian Head & Stump Neck Sites



LAND:

	Acres
•Indian Head	1,961
•Stump Neck	1,224
•Total Acres	*3,185*

INFRASTRUCTURE:

- Industrial Complex
- 1,730 Facilities
- $1.2B PRV
  - •$430M Mission
  - •$408M PWC
  - •$343M NDW
- 5.8 MSF
  - •2.6 MSF Mission
  - •0.75 MSF PWC
  - •2.5 MSF NDW
- 127 Miles of Roads
- Utilities-Steam, Electricity, Potable Water, River Water, Sewage, & Compressed Air

2 #

Indian Head / Stump Neck Tenants

DCN: 11690

NAVSURFWARCEN Indian Head Division (NSWC IH)

- Energetics from concept through production, to operational deployment.

Naval Explosive Ordnance Disposal Technology Division (EODTECHDIV)

- Single manager of EOD Technology and Training for DOD.

USMC Chemical Biological Incident Response Force (CBIRF)

- Consequence management through agent ID, search & rescue, emergency medical care.

NAVSEA Logistics Center Atlantic (SEALOG)

- Life-cycle logistics support products and information technology.

Naval Ordnance Safety & Security Activity (NOSSA)

- DoN authority in explosives safety and ordnance environmental compliance.

Joint Interoperability Test Command (JITC)

- JSC certifier of DOD IT and National Security Systems interoperability requirements.

Expansion Capacity

- Indian Head—56.2 acres
  - 2700 additional Personnel (2 story offices, surface parking)
  - 7700 additional Personnel (5 story offices, 3 level parking)
- Stump Neck (Rum Point)—27.6 acres
  - 884 additional Personnel (2 story offices, surface parking)
  - 952 additional Personnel (3 story offices, surface parking)
- Above acreage does not include areas within restricted area (dry house area) or admin area where consolidation of existing low density land utilization could easily yield additional expansion capacity.

NAVSEA
WARFARE CENTERS
INDIAN HEAD

BRAC 2005 Recommendations for IHD

CAPT Joseph N. Giaquinto
Commanding Officer

Presented by: Dr. Thomas Russell

22 July 2005

NAVSEA

Agenda

- Recommendation for IHD
- Personnel Impacted
- BRAC Recommendations
- Other Issues
- Conclusion

2

Recommendation for IHD

- Language from the Technical JCSG recommendation titled "Create a Naval Integrated Weapons and Armaments Research, Development & Acquisition, Test & Evaluation Center", pp's Tech15-18 of the DoD Base Closure and Realignment Report, Volume I, Part 2 of 2: Detailed Recommendations, May 2005 :
  - "Additional synergistic realignments for W&A was achieved at two receiver sites for specific focus.....This construct creates an integrated W&A RDAT&E center in China Lake, CA, **energetics center at Indian Head, MD**, and consolidates Navy surface weapons system integration at Dahlgren, VA."

3

Recommendation for IHD

1. Realign Yorktown Det W&A RDAT&E and relocate to IHD
2. Realign Seal Beach Det W&A RDAT&E (except underwater weapons and energetic materials) and relocate to China Lake
3. Realign Earle Det W&A Packaging RD&A and relocate to Picatinny Arsenal
4. Realign IHD Gun and Ammunition RD&A and relocate to Picatinny Arsenal
5. Realign W&A RDAT&E (except gun/ammo, underwater weapons and energetic materials) at IHD and relocate to China Lake

4

Personnel Impacted

Geographic Sites	Gaining	Losing	Net Gain (Loss)
Naval Weapons Station, Yorktown, VA		179 (49)	(179)
Naval Weapons Station, Seal Beach, CA		71 (24)	(71)
Naval Weapons Station, Earle, NJ		63 (63)	(63)
Indian Head Division, NSWC, Indian Head, MD	42	137	(95)

The number in red ( ) indicates IHD's share per COBRA data

5

Realign Yorktown Detachment W&A RDAT&E and relocate to IHD

- Number of positions potentially affected: 49 per scenario input (current staffing is 52)
- Our understanding of the recommendation is to fully realign Yorktown Detachment
- Implementation challenges
  - To the extent that people do not relocate, technical expertise will need to be rebuilt
  - Maintaining Navy's unique organic capabilities that currently exist at Yorktown

6

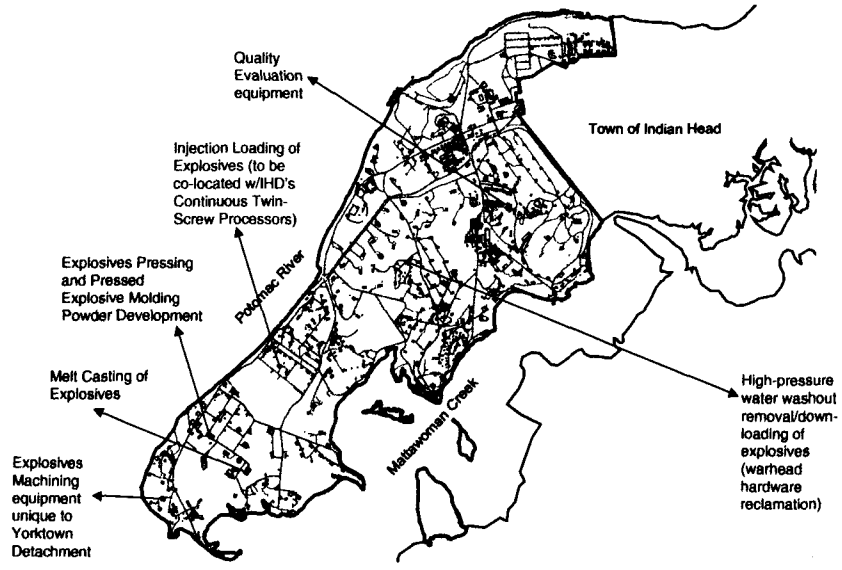
Realign Yorktown Detachment W&A RDAT&E and relocate to IHD

- Implementation challenges (con't)

Capability currently at Yorktown	Capability planned for movement to IHD per COBRA	Existing Capability at IHD
Melt cast processing	No	No
Pressed explosive molding powder development	No	No
Explosives pressing capability	Yes	No
Castable plastic bonded explosive processing	No	Yes
Explosive injection loading	No	No
High-pressure water washout removal/downloading of explosives	No	No
Specific explosive machining capability	No	No
Category II magazine storage	No	Yes
Quality evaluation	Yes	No

7

Proposed Placement for Incoming Yorktown Capabilities



8

Realign Earle Detachment W&A Packaging RD&A and relocate to Picatinny Arsenal

- Number of positions potentially affected: 63 per scenario input (current staffing is 70)
- Areas for clarification
  - Recommendation refers solely to "W&A packaging RD&A". Earle Detachment performs W&A packaging and handling, storage & transportation (PHS&T) RD&A
  - Recommendation was made as part of a larger recommendation that creates a "Specialty Site for Guns and Ammunition" at Picatinny
    - Earle Detachment performs only 2 work-years in gun & ammo packaging, handling, storage and transportation

9

Realign Earle Detachment W&A Packaging RD&A and relocate to Picatinny Arsenal

- Implementation challenges
  - Maintaining existing capability to support the Fleet:
    - Rapid access to ships and loading/unloading operations
    - Rapid access to Military Sealift Command facilities such as CONREP facility, forklift training course, and simulated ship cargo hold
    - Rapid access/interaction with the Atlantic Ordnance Command Detachment Earle's lean pilot program
  - To the extent that people do not relocate, technical expertise will need to be rebuilt

10

Realign IHD Gun and Ammunition RD&A and relocate to Picatinny Arsenal

- Number of positions potentially affected: 43 per scenario input
- Areas for clarification
  - Recommendation states RD&A but scenario data calls collected RDAT&E
  - The COBRA input was extracted from a scenario that moved all RDAT&E functions out of IHD and that did not take into account the recommendation to establish IHD as an "energetics center"
    - All IHD gun & ammo work is on energetics (propellants, propulsion components, etc.) for large caliber ammo

11

Realign IHD Gun and Ammunition RD&A and relocate to Picatinny Arsenal

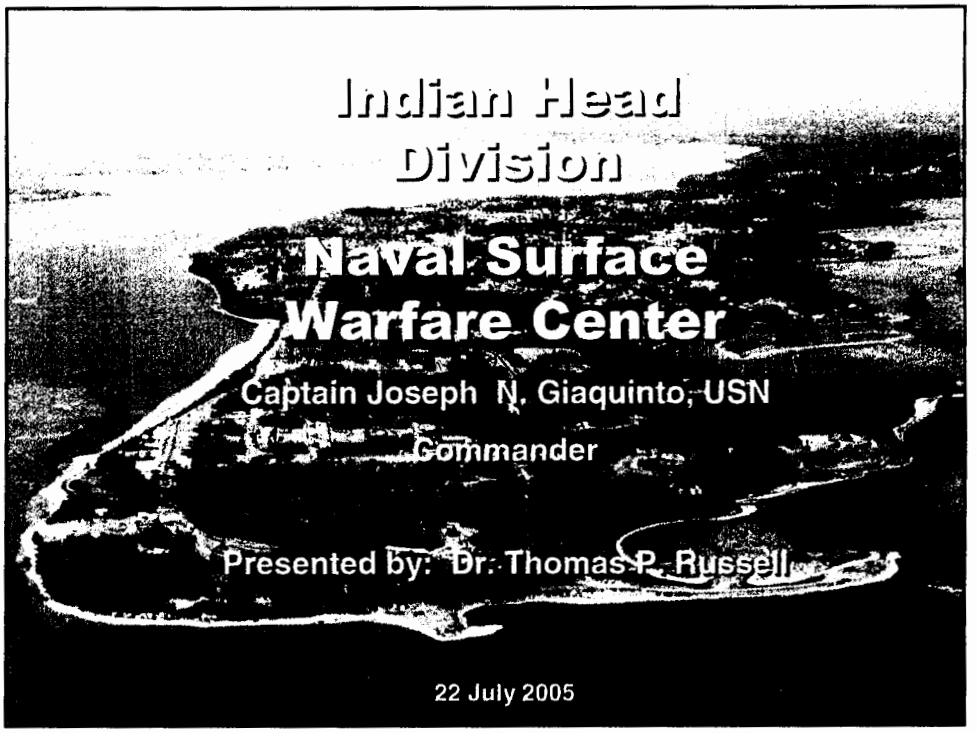
- Implementation challenges
  - To the extent that people do not relocate, technical expertise will need to be rebuilt
  - If gun energetics is included in the realignment, additional costs will be required to replicate the unique IHD capabilities at Picatinny

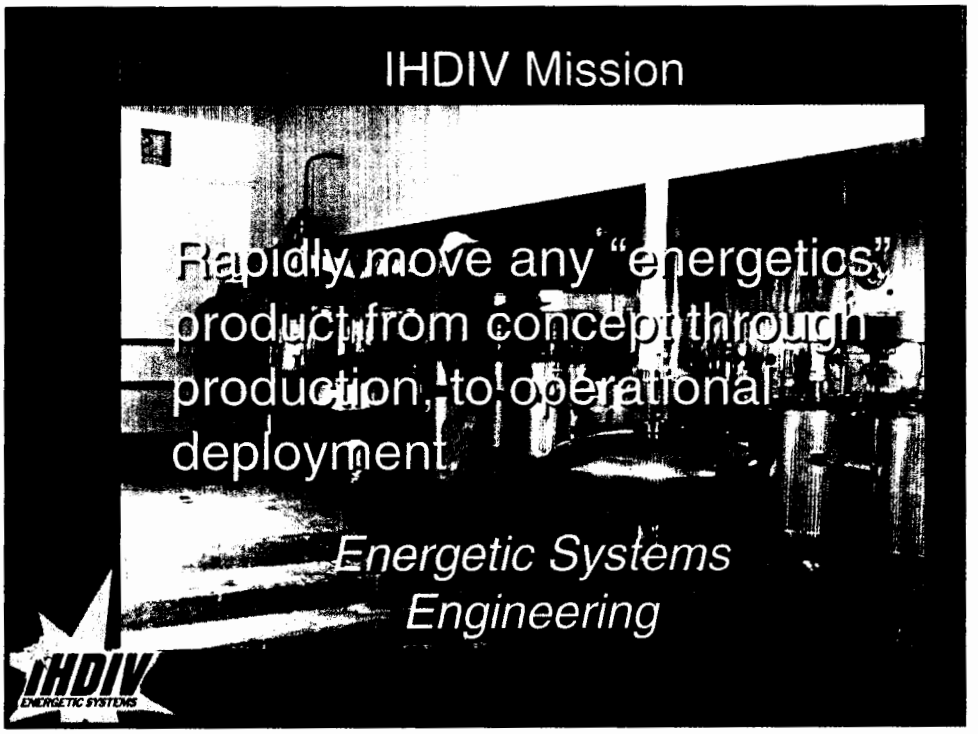
12

Realign IHD Non-Energetic W&A to China Lake

- Number of positions potentially affected: 94 per scenario input (current workload at 68)
- Non-Energetics Weapons Engineering
- Implementation challenges
  - To the extent that people do not relocate, technical expertise will need to be rebuilt

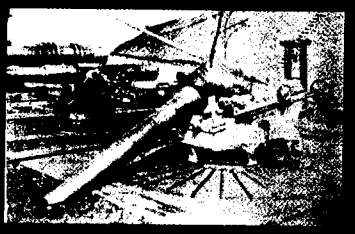
13


Indian Head
Division
Naval Surface
Warfare Center
Captain Joseph N. Giaquinto, USN
Commander
Presented by: Dr. Thomas P. Russell
22 July 2005


IHDIV Mission
Rapidly move any "energetics" product from concept through production, to operational deployment.
Energetic Systems
Engineering
IHDIV
ENERGETIC SYSTEMS

#1

History



Early Development of the Powder Factory ~1900

Indian Head

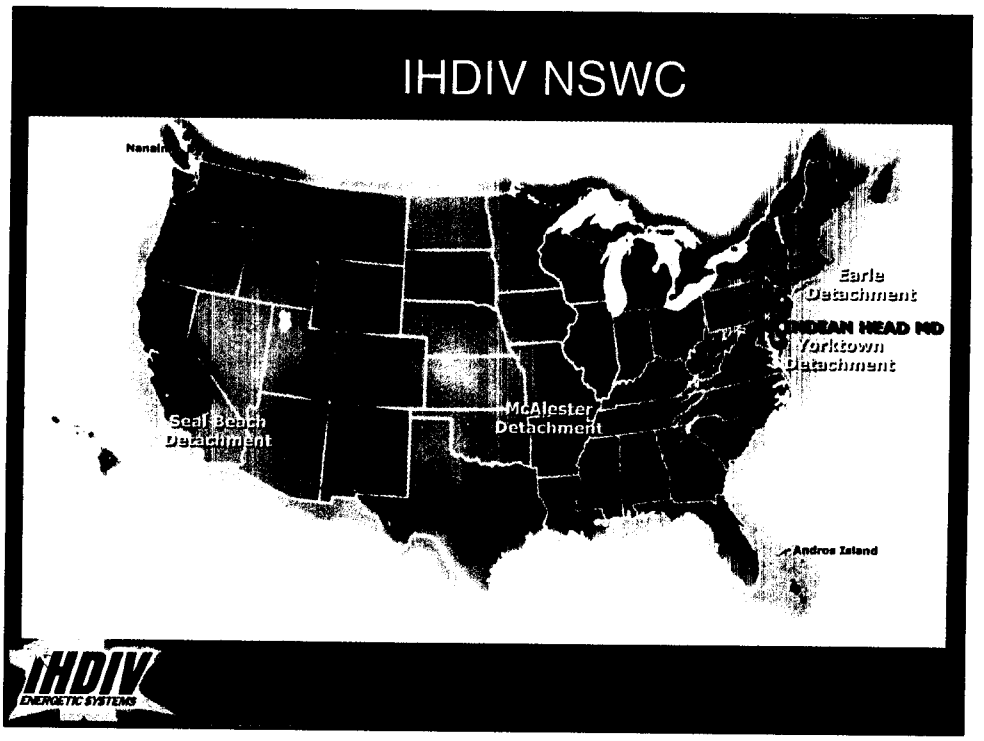
Location

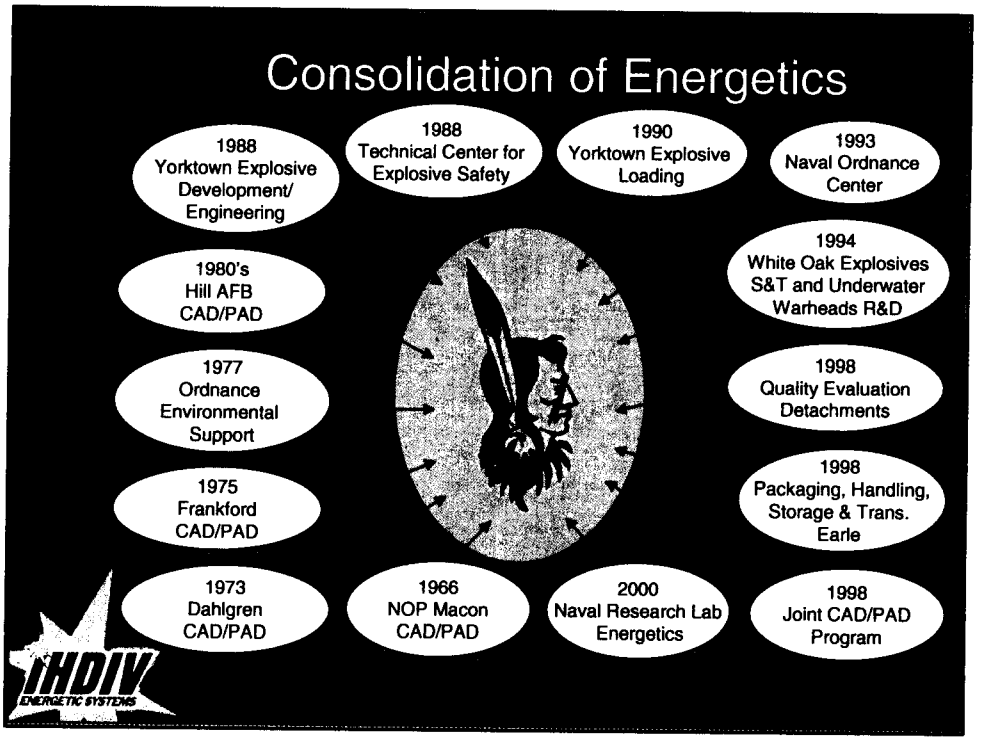
- Strategically isolated on a peninsula
- 3,400 acres
- Close proximity to major Universities and technical organizations

Major Commands

- Indian Head Division, Naval Surface Warfare Center
- Chemical Biological Incident Response Force (CBIRF)
- Joint Interoperability Test Command (JITC)
- Naval Explosive Ordnance Disposal Technology Division
- Naval Ordnance Safety and Security Activity (NOSSA)
- Naval Sea Logistics Center, Atlantic

Ideal location near Washington, DC


IHDIV NSWC
Earle
Detachment
INDIAN HEAD MD
Yorktown
Detachment
McAlester
Detachment
Seal Beach
Detachment
Andros Island
IHDIV
ENERGETIC SYSTEMS


Consolidation of Energetics
1988
Yorktown Explosive
Development/
Engineering
1988
Technical Center for
Explosive Safety
1990
Yorktown Explosive
Loading
1993
Naval Ordnance
Center
1980's
Hill AFB
CAD/PAD
1994
White Oak Explosives
S&T and Underwater
Warheads R&D
1977
Ordnance
Environmental
Support
1998
Quality Evaluation
Detachments
1975
Frankford
CAD/PAD
1998
Packaging, Handling,
Storage & Trans.
Earle
1973
Dahlgren
CAD/PAD
1966
NOP Macon
CAD/PAD
2000
Naval Research Lab
Energetics
1998
Joint CAD/PAD
Program
IHDIV
ENERGETIC SYSTEMS

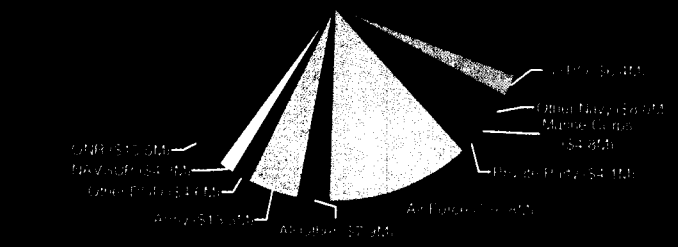
National Source for Energetics Expertise

- Largest Energetics Workforce in DoD
  - Total 848 dedicated workers
  - 700 Scientists & Engineers
  - 55 PhDs
- Collaborative relationship with academia e.g.,UM/JHU/CSM
  - Graduate curriculum in energetics
  - Specialized research projects
  - Technician training
- Experience based on mentoring culture
- Energetics expertise is grown in-house

IHDIV ENERGETIC SYSTEMS

Developing the Next Generation of Energetics Experts

FY04 Sponsor Base



Total Reimbursable = $304.5M

IHDIV ENERGETIC SYSTEMS

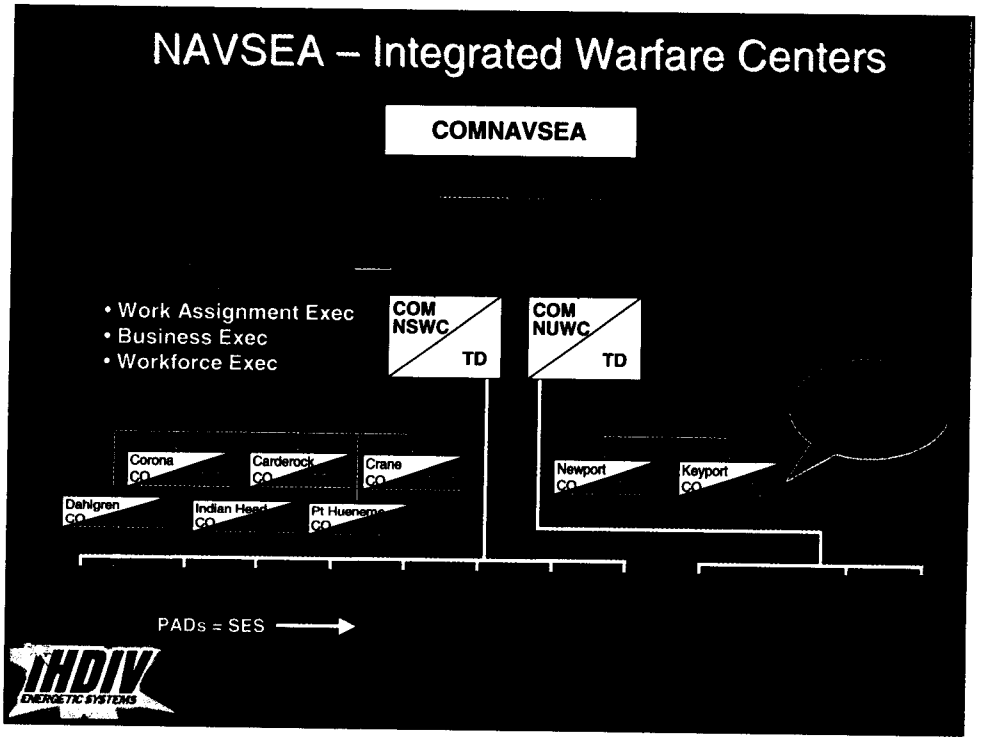
Indian Head is a Joint Asset

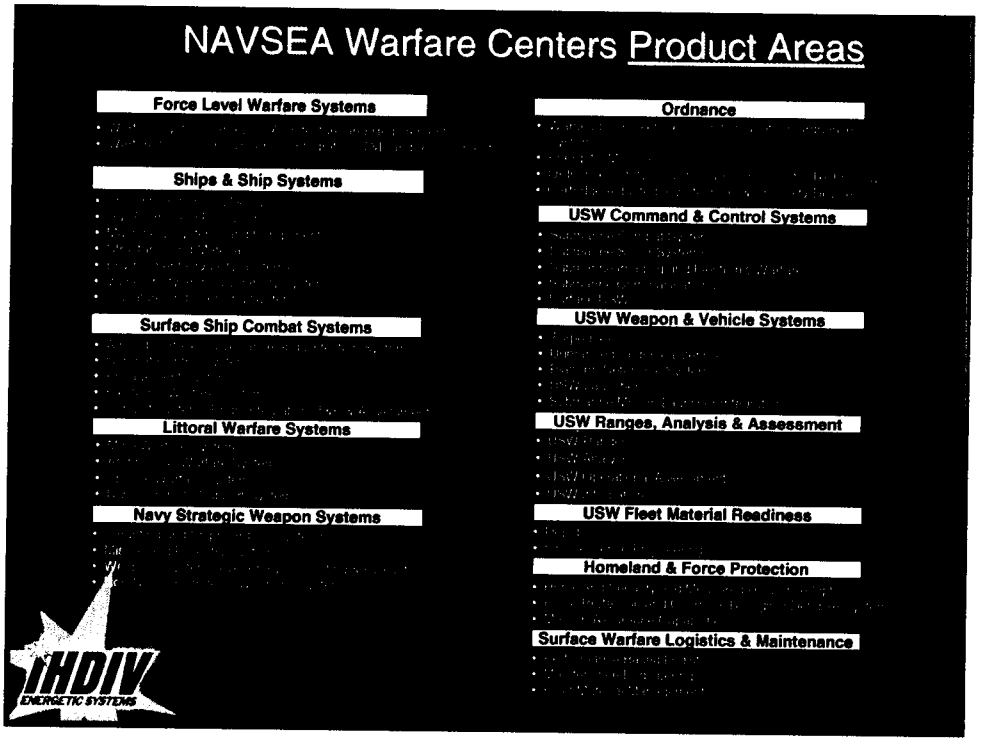
Relationships

- **Industry**
- **Universities**
- **DOD Labs**
- **DOE Labs**
- **Other Government:**
  - Homeland Defense
  - DTRA
  - DARPA
  - NASA
  - DOT / FAA
  - Justice
  - Intelligence
  - State
  - Corps of Engineers

NAVSEA Warfare Center Product Area Alignment…

- **Ordnance is a designated NAVSEA Product Area (PA):**
  - Brings Crane, Dahlgren and Indian Head Energetics expertise and capabilities together under a single Product Area Director (PAD)
  - Ensures teaming and collaboration across the Warfare Centers
  - Responsibility to sustain required core competency in Energetics
  - Increase efficiency/effectiveness
    - Utilize best capability
    - Minimize overlap
    - Focus investments


NAVSEA – Integrated Warfare Centers
COMNAVSEA
• Work Assignment Exec
• Business Exec
• Workforce Exec
COM NSWC TD
COM NUWC TD
Corona CO
Carderock CO
Crane CO
Dahlgren CO
Indian Head CO
Pt Hueneme CO
Newport CO
Keyport CO
PADs = SES
IHDIV
ENERGETIC SYSTEMS


NAVSEA Warfare Centers Product Areas
Force Level Warfare Systems
Ships & Ship Systems
Surface Ship Combat Systems
Littoral Warfare Systems
Navy Strategic Weapon Systems
Ordnance
USW Command & Control Systems
USW Weapon & Vehicle Systems
USW Ranges, Analysis & Assessment
USW Fleet Material Readiness
Homeland & Force Protection
Surface Warfare Logistics & Maintenance
IHDIV
ENERGETIC SYSTEMS

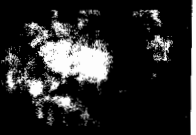
Indian Head Energetics

- Explosives and Insensitive Munitions
- Underwater Warheads
- Gun, Rocket, and Missile Propulsion
- CAD/PAD
- Energetic Chemicals
- Ordnance Evaluation
- Packaging, Handling, Storage & Transportation

IHDIV ENERGETIC SYSTEMS

Explosives and Insensitive Munitions

- **Lead U.S. Lab for Explosives**
  - Over 70% explosives in service were developed by IHD
  - World leader in Underwater and IM Explosives
- **Home of Thermobarics for OEF & OIF**
- **Meeting future DOD requirements**
  - Hard target penetration
  - Smaller ordnance
  - "Dial-a-yield" ordnance



2003 NATO NIMIC Insensitive Munitions Award
2000 ONR Dr. Arthur Bisson Prize for Naval Technology Achievement (success in transitioning Navy explosives to U.S. weapons)

IHDIV ENERGETIC SYSTEMS

Reduced Cost and Development Cycle Time

Transitioned Explosives to Service Use

NAVY Weapons

APOBS	SM-80 ERGM	LAW	STD Missile Initiator
ERGM	Hellfire Booster		
MK50 Torpedo	JASSM Booster	MK98 MND	Quickstrike
RAW	APOBS	SABRE	LAW
5/54" Projectile	Hellfire	ERGM	SMAW NE
MK48-2 DFD	MK98 MNS	MLRS CARGO	JSOW/BLU-108
AMRAAM	SRAW 5"	MK24 DFD SEAL Weapon	
STD Missile	AMRAAM	MK50 Torpedo	Tactical Tomahaw
BLU-110, 111. & 116 GP Bombs			

Hellfire Booster
Carl Gustaf
MLRS
Hellfire Main Charge

AIR FORCE

AIM-9X Sidewinder
JASSM Booster
AMRAAM
BLU-118B
GP Bomb Family

IHDIV ENERGETIC SYSTEMS

IHDIV Developed Over 70% of Explosives Transitioned to Service Use Since 1985

Underwater Warheads

- **Modeling & Simulation (DYSMAS)**
  - Predict ship hull damage
  - Design next-generation "survivable" ship hull

DYSMAS Simulation

- **Canistered Countermeasure Anti-Torpedo**
  - Transitioning IHD warhead, explosive and fuze technology into acquisition
  - First MEMS-based torpedo exploder
    - Reduced exploder size from 118 in³ to 15 in³
    - Leveraging MANTECH to reduce exploder cost from $20K to $1K per unit

2003 ONR Cheapskate Award for Affordability

Underwater Shock Test

IHDIV ENERGETIC SYSTEMS

Only DOD R&D Capability for UW Warheads (Torpedo, Mine, Mine Countermeasures)

Gun, Rocket, and Missile Propulsion Engineering

- **Navy's gun propulsion laboratory**
  - NSFS propellant
    - Doubles launch energy
    - Extends stand-off distance from 13 to 60 miles
    - Lower barrel erosion
- **Aircraft rockets and JATO engineers**
  - First HERO-safe 2.75" rocket motor for tri-service use
- **Missile propulsion engineers**
  - Standard Missile
  - Tomahawk
- **5" Zuni Rocket program**
  - Cost and cycle time reduction

IHDIV ENERGETIC SYSTEMS

Cartridge Actuated Devices (CAD) Propellant Actuated Devices (PAD)

- **Devices for:**
  - Escape Systems
  - Weapons Development
  - Missile Staging
  - Fire Extinguishing
  - Crew Egress
  - other Safety Systems (e.g..Air Bags)
- **Joint Program supporting USN, USAF, US Army, other DoD, NASA, State Department, and over 50 FMS countries**
- **Life Cycle Commodity Program Manager**
  - 3100 items
- **Lean Manufacturing and Reengineering**

IHDIV ENERGETIC SYSTEMS

David Packard Excellence in Acquisition Award Winner for Innovation

Energetic Chemicals

- **Research and scale-up of energetic materials**
- **Forensic energetic evaluations**
  - EMNA – Navy rep for Blue Team
- **Sole world producer of Otto Fuel**
  - Biazzi/Moser Nitration Plants
  - Agile Chem Facility – Consolidating 2 plants to 1
- **Unique chemicals for weapon systems**
  - Explosive ingredients
  - Propellant ingredients

IHDIV ENERGETIC SYSTEMS

IHDIV is the only source for high-risk energetic chemicals

Guaranteeing the Warfighter's Safety and Effectiveness

- **Quality Evaluation** (Result of aging and service-use)
  - Safety
  - Reliability
  - Performance
- **NAVSEA**
  - Standard Missile
  - Gun propellants
  - Undersea weapons
  - Mine countermeasure systems

  (Results feed design, acquisition, and maintenance/logistics)
- **NAVAIR**
  - Aircraft rockets
  - JATOS
  - CAD/PADs
  - Tomahawk (Functional Ground Test)
- **SSP MK4/MK5 RVs**

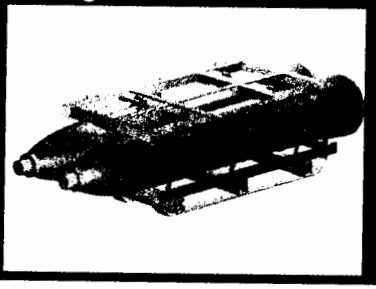
IHDIV ENERGETIC SYSTEMS

Ensuring a safe and reliable ordnance stockpile

Packaging, Handling, Storage and Transportation

- PHS&T of ordnance
  - Design
  - Test/Qualify
  - Prototype
  - Follow on Support

2002/2004 WorldStar and AmeriStar Packing Awards for Strapless Bomb Pallet/AMRAAM Handling Beam



IHDIV ENERGETIC SYSTEMS

Weapons Simulation

Ensure operational readiness of U.S. and Allied Forces

- Unique equipment required to certify and maintain platform weapons systems
  - Missile simulators / trainers
  - Weapons system test / diagnostic / training equipment
- Training systems required to maintain warfighter proficiency
  - Integrated Maritime Portable Acoustic Scoring & Simulator (IMPASS)

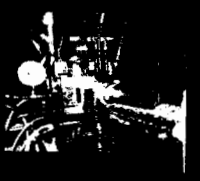
IHDIV ENERGETIC SYSTEMS

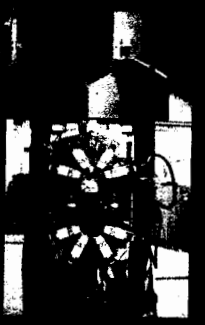
Critical link between Indian Head's energetics and safe effective deployment of the resulting high-tech weaponry

Energetics Manufacturing Technology

One of ten (only Government) ONR MANTECH Centers of Excellence

- Develop/Improve energetic manufacturing technologies
- Scale-up and transition to industry
- Solve energetics manufacturing problems for industry/PMs
- Improve producibility, affordability, availability and safety
- Provide sole source, back up & emergency supplier
- Provide rapid response to military needs
- Reduce manufacturing cost of energetic materials



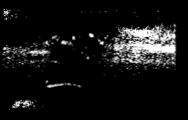


IHDIV ENERGETIC SYSTEMS

We do what energetics industry can't or won't do

Rapid Response for OEF & OIF

- BLU-118/B Thermobaric Bomb for tunnel defeat capability in 67 days
- Thermobaric Shoulder-Launched Multipurpose Assault Weapon (SMAW-NE) in 9 months
- Accelerated production of CAD/PAD aircrew ejection rocket motors
- Test/Certify explosive detection devices (with EODTECHDIV)
- Ultrasonic-test inspection of Sparrow rocket motors

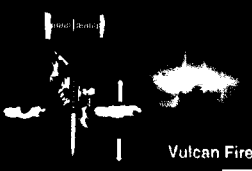


IHDIV ENERGETIC SYSTEMS

Three Energetics-Related Advanced Concept Technology Demonstrations

- Thermobaric Weapons (2002, sponsored by PACCOM)

- Agent Defeat Warhead (2002, sponsored by US Central Command)



- Advanced Technology Ordnance Surveillance (ATOS) (2001, sponsored by EUCOM)

IHDIV ENERGETIC SYSTEMS

Developing Transformational Technologies

Swoosh and Boom experts!

Novel Energetics
Nano Materials

IHDIV ENERGETIC SYSTEMS

DCN: 11690

BRAC COMMISSION STAFF VISIT 22 July 05

NAME	ORGANIZATION	PHONE	E-MAIL
JOHN VERHELL	NSWC HQ	202-781-3447	JOHN.VERHELL@NAVY.MIL
Chris Reams	IH DIV NSWC, YTN. Det.	757-887-4762 ext 219	reamscs@ih.navy.mil
MIGUEL MAFUZ	Coord Ops (051F)	301 744 4575	MIGUEL.MAFUZGONZALEZ@NAVY.MIL
ROBERT KACZMAREK	NSWC IHD	301 744-1195	robert.kaczmarek@navy.mil
Joseph D. Anderson	" "	" " 2228	→ Joseph.D.Anderson@Navy.mil
Constance M Murphy	NSWC, IHD	301-744-6497	constance.murphy@navy.mil
LESTER C. FARRINGTON	BRAC	703-699-2914	LESTER.FARRINGTON@WSO.WHS.MIL
David Epstein	BRAC/Navy	703 699-2947	David.Epstein@ wso.whs.mil
*Tom Russell	NSWC/IHD	301-744-4270	Thomas.P.Russell@Navy.mil
COR STEVE CONWAY	NSWC IHD	301-744-4301	STEPHEN.CONWAY@NAVY.MIL
Ken Zimmc	NSWC IHD Det Earle (PHST)	732 866-2801	Kenneth.Zimms@navy.mil
STAN MOORE	NSWC/IHD	(301)744-4549	stanley.moore@navy.mil
Beryl Willoughby	NDW South Potomac	(301) 744-4854	beryl.willoughby@navy.mil
Amy O'Donnell	NSWC/IHD	301 744 4568	AMY.J.Odonnell@navy.mil
Harvey Camp	NSWC/IHD	301 744 6555	Harvey.Camp@navy.mil
Paral McDonald	NSWC/IHD	301-744-4575	paral.McDonald@navy.mil

T. Russ 7801-2340

Indian Head Base (UTT)

DCN: 11690

The Naval Surface Warfare Center, Indian Head, is the National Center for the research, development and testing of energetics (explosives, propellants,, pyrotechnics, chemicals and their application to ordnance) as well as the home for several tenant commands including the Marines' Chemical Biological Incident Response Force (CBIRF), the Joint Interoperability Test Command (JITC) and the Explosive Ordnance Disposal Technology Division. The Base has been located in Indian Head for 113 years, occupies 3,400 acres along the Potomac River, employs approximately 3,500 civilian and military personnel and is valued well over $1.5B. It plays a critical role in national security.

Indian Head:

A True National Asset

- Has Critical military value to the warfighter
- Home to the largest concentration of technical and scientific workforce dedicated to energetic materials/products in support of the warfighter
- Has an established environmental footprint that meets all regulatory standards – may not be approved elsewhere
- Significant level of cross-service collaboration and jointness
- Has space to receive and support additional assets
- Protected from encroachment and fully supported by the community

Energetics

- World Leader in Energetics
- Developed over 70% of all explosives transitioned to service use since 1985
- Full-Spectrum Capability: S&T through Production and In-Service Support
- Crisis Response – can rapidly move any Energetics product from concept through production, to operational deployment
- Essential to The Ordnance Industry
- Only organic facility capable of sustaining manufacturing technology
- Only source for numerous energetic chemicals as well as several energetic ordnance components
- 112 million spent in energetics modernization since 1989
- Home to the new Detonation Science Facility, Continuous Processing Facility and the Energetics Chemical Laboratory
- Only DOD R&D capability for Underwater Warheads
- Joint Program Office (JPO) and consolidated Tri-Service life-cycle support activity for Cartridge and Propellant Activated Devices (CAD/PADs) for aircrew escape and propulsion systems

The 911 number when you do need a Rocket Scientist

DoD 045 - Alternative Receivers

Scenario: _____ **Due:** _____

Recommended Alternative (Description):
Move Energetics R&D from China Lake (CL) to Indian Head (IH)

Reason for Alternative Suggestion:
Indian Head is the only place in the U.S. with a full-spectrum hands-on capability, from cradle to grave (i.e. basic research to demil). The Navy has been consolidating energetics at IH during the past 4 decades: explosives engineering facility from NWC Yorktown, warhead explosive loading from NSW Yorktown, explosives & underwater R&D from White Oak, QE - Ordnance from NOC, QE from Concord, And Energetics S&T from NRL. The Weapons Divsion, NAWC (CL) has a recognized role within the Navy in the R&D of new missile propellants, and has supported White Oak in explosive research. However, CL had no capability to support the development of non-composite rocket propellants or gun propellants. In the composite propellant are, CL is limited to pilot-scale processing of these materials and cannot support any limited/surge production. IH already provides to the Navy and DoD all of the capability in the composite propellant/explosive area which is duplicated at CL; with the addition of a full capability for other rocket and gun propellants, as well as limited production for all materials. The bulk of the R&D work in composite propellants for the Navy and other DoD activities is already done by private industry, due to its investment in production capability for large rocket motors. Reestablishment of the necessary full-spectrum energetics capability at NAWC CL, or at any site other than IH, will be very expensive.

Activities Involved:
Indian Head Division
NAWC China Lake

Impacts (Positive and Negative) on Personnel, Equipment, MILCON, Cost, Mission, Etc.:

Data Sources Used for Alternative Development:

During BRAC 1995, the scenario to move the energetics capability resident at IH to CL was evaluated. Once COBRA analyzed the cost, the ROI did not support the scenario.

In 1999 in response to the section 912c legislation another review of the potential to consolidate the capability resident at Indian Head with that at China Lake was conducted. Since this was not being done under a BRAC legislation the focus was somewhat different, but did include an analysis of facilities, equipment and people at both sites engaged in energetics work. This study also concluded that there were facilities, equipment and technical capabilities at Indian Head that were not resident at China Lake. A few examples of this were gun propellant development, underwater warheads, and energetics manufacturing technology.

Submitting Activity CO _____ **Date:** _____

Echelon Approval (If outside NAVSEA): _____**Date:** _____

Quarterback Approval (include date): _____ **Date:** _____

DCN: 11690

What is currently at NDW West Area, Indian Head?

- Naval District Washington West Division (NDW West)
  - Infrastructure responsibility
- Naval Surface Warfare Center, Indian Head Division
  - RDAT&E for energetics
  - Low rate manufacturing of energetics
  - Indian Head Division Detachment, Yorktown, VA focused on explosives
  - Indian Head Division Detachment, Earle, NJ focused on Ordnance Packaging, Handling, Storage and Transportation (PHS&T)
  - Indian Head Division Detachment, Seal Beach, CA focused on missile Quality Evaluation (QE) and General Purpose Electronic Test Equipment (GPETE)
  - Indian Head Division Detachment, McAlester, OK focused on special weapon support
- Chemical Biological Incident Response Force (CBIRF)
- Explosive Ordnance Disposal (EOD) Technology Division
- Naval Ordnance Safety and Security Activity (NOSSA)
- Joint Interoperability Test Center (JITC)
- Naval Sea Logistics Center, Atlantic Division

Summary of Capabilities

- RDAT&E for Explosives and Insensitive Munitions; Underwater Warheads; Gun, Rocket, and Missile Propulsion; CAD/PAD; Energetic Chemicals; Ordnance Quality Evaluation; Packaging, Handling, Storage and Transportation
  - Largest concentration of scientists and engineers engaged in hands-on work in energetics
- Low rate manufacturing of Rockets, JATOs, Warheads, Cartridge Actuated Devices (CADs) and Propellant Actuated Devices (PADs) for Aircrew Escape Systems, Chemicals and High Energy Gun Propellants
- Tri-service Joint Program Office (JPO) for CAD/PAD
- Navy Manufacturing Technology Center for Energetics
- First responder for Chemical Biological Incidents
- RDAT&E for Explosive Ordnance Disposal
- Navy explosive safety, ordnance environmental and security program management
- Interoperability certification of C4I systems

Facilities

- 3,400 acres protected from encroachment by geography (not including Indian Head Division Detachments)
- Over 2000 buildings for laboratories, operational facilities, test facilities and office space

  - Approximately 1,300,000 square feet of facilities supporting RDAT&E and manufacturing of explosives and propellants
  - Unique energetic facilities/capabilities such as Explosive Clean Room for MEMS S&A, Twin-screw mixing and extruding, specialty energetic chemicals, nitramine gun propellants, CADs/PADs, detonation chemistry and physics, underwater warheads
  - Lab and office space to accommodate the approximately 800 IHDIV scientists and engineers engaged in energetics research and scale-up
- Test facilities for Ordnance PHS&T systems and material handling equipment
- Facilities to exploit technology and intelligence to develop and deliver EOD information, tools, equipment, and their life cycle support, to meet the needs of Joint Service EOD operating forces and other customers
- Training facilities for chemical and biological incident response
- Advanced technology test bed facility for interoperability certification

DCN: 11690

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- Advanced technology test bed facility for interoperability certification

DCN: 11690

Issues/Concerns with BRAC Recommendation to Realign NSWC Det Earle (Naval PHST Center) by relocating weapon and armament packaging RD&A to Picatinny Arsenal, NJ

1. Degradation of Ordnance PHST services provided to Operational Forces due to:

    a. Physical relocation off an Ordnance Logistic facility (WPNSTA Earle) to a in-land Army facility
    b. Loss of workload base and experienced personnel
    c. Change of focus to guns and ammunition
    d. Uncertainties about the NAVSEA Technical Warrant

Discussion: The PHST Center was moved from NAD Hingham to WPNSTA Earle in 1950 to be closer to Ordnance Logistics Operations. PHST is an imperative to efficient and safe movement of explosives and requires daily attention. Synergies with WPNSTA Earle include knowledge and rapid access to ship's loading and unloading operations, access to the MSC training facilities which include a simulated ship's cargo hold, forklift training course and a Connected Replenishment rig set up a half mile from the PHST Center. PHST is also an active participant for the Fleet Forces Command lean pilot program with the Ordnance Detachment at Earle, requiring daily contact with the ordnance handlers.

As a working capital activity, we have executed at better than 90% productive ratio and currently are executing 63 work years. If approved, this BRAC recommendation expects a loss of at least 15%, equating to direct Fleet support work not being executed. PHST has worked hard to work across all programs and maintain a focus on the total end-to-end logistics picture and as talented engineers/technicians leave, more programs will contract PHST work out or go to other activities, resulting in stovepipe operations, which do not maximize the total system output.

The BRAC Recommendation states the proposed relocation will "feature a Joint PHST Center, particularly important in this current time of high demand for guns and ammunition for all services". The PHST Center has been working jointly with the other services and has chaired the Joint Intermodal Logistics Working Group (JILWG) for the past 4 years. This group has put joint PHST on the map which resulted in J4 and TRANSCOM sponsoring joint PHST initiatives. While critical, there still remains Navy unique PHST requirements to support initiatives such as SEABASING and shipboard handling and stowage systems aboard new Ships

Over the last decade, the PHST Center has won 12 design awards from various professional associations, which is the benchmark set to be the NAVSEA Technical Warrant holder for Ordnance PHST. It is this recognition and level of service that brings Program Managers and Defense Contractors to the Center to do business together. If this is lost, along with the business base, which allows us to do the work resulting in award winning products, then the ultimate impact is degradation to products and services to the Operational Forces, which negatively impact Fleet readiness and safety.

During BRAC 95 a scenario to move the energetics capability resident at Indian Head to China Lake was evaluated. There was disagreement between Indian Head and China Lake regarding the facility and equipment investment required, how much capability really needed to be retained, and the need to move or ability to hire people to support the technical capability. After considerable discussion and analysis including Flag level review, the cost to move the capability at Indian Head to China Lake was fixed. Once COBRA analyzed this cost, the ROI did not support the scenario.

In 1999 in response to the section 912c legislation another review of the potential to consolidate the capability resident at Indian Head with that at China Lake was conducted. Since this was not being done under a BRAC legislation the focus was somewhat different, but did include an analysis of facilities, equipment and people at both sites engaged in energetics work. This study also concluded that there were facilities, equipment and technical capabilities at Indian Head that were not resident at China Lake. A few examples of this were gun propellant development, underwater warheads, and energetics manufacturing technology.

Over the past few years, the Navy has formed the Naval Energetics Enterprise (NEE). This coalition includes the NAVSEA energetics capabilities resident at Indian Head, Dahlgren, and Crane and the NAVAIR energetics capability resident at China Lake and Point Mugu. This enterprise is under the leadership of the Vice Commanders of NAVSEA and NAVAIR. An Energetics IPT is the action arm of the NEE and is lead by NAVSEA's Ordnance Product Area Director and NAVAIR's 4.7 competency leader. The NEE has concluded that each site brings unique and needed technical capability to the warfighter, that collaboration among the sites improves the quality and timeliness of the technical solution, that no site has the capability to do it all, and that overlap and redundancy is small and getting smaller.

IHDIV currently has 60% of the Navy's in house energetics workload and the largest energetics S&T workload in the Navy. The workforce includes 55PhD's working on energetics technology in addition to over 600 S&E's at the masters and bachelor level. This workforce is experienced and knowledgeable yet at the same time being continually refreshed with outstanding new talent. This intellectual capability is necessary to meet Navy and DoD warfighter needs, it could not be easily and rapidly recreated and there would be significant cost, time, and risk associated with moving and reconstituting the knowledge and experience.

Synergy between S&T, product development and low rate manufacturing resident at Indian Head provides a unique opportunity to rapidly field new technologies to give our warfighter's an advantage against an unpredictable enemy. This has been demonstrated numerous times during the war on terror. Synergy and collaboration between Indian Head and China Lake as well as the other members of the NEE is beginning to yield dividends in cost, responsiveness, and quality of solutions to warfighter needs. Physical consolidation has not shown itself to be cost effective in the past and has the potential to further fracture a very fragile technology area that is absolutely critical to providing the warfighter safe, reliable, capable, and affordable weapons.

DCN: 11690

Naval Surface Warfare Center, Indian Head Division an Ideal Location for Navy Energetics

Over the past two decades the Navy has consolidated energetic operations at the Indian Head site. The Indian Head energetics facilities are ideally sized to meet current and future low volume requirements for any type of explosive or propellant. The facilities are multi-purpose, which reduces the costs in all phases of the life cycle. Navy has already invested millions of dollars in new and safer processing technology and in developing the next generation of energetics experts.

Why the Indian Head (IH) site?

IH is located on a peninsula with only its northern border (land) being the Town of Indian Head. Attachment (1) shows that the Potomac River and Mattawaoman Creek serve as natural buffers and the town (nearly fully developed) acts as the final encroachment buffer. Public access is limited and easy to control since there is only one road coming onto the base. The vast majority of the land across the Mattawoman Creek is owned either by the base or the state. Development along the shoreline is restricted by the local Chesapeake Bay Critical Area regulations. Because of these natural barriers the community can not get any closer to the current fenceline. The County and local governments continue to recognize the importance of the Navy's presence at IH by ensuring that future community development is consistent with the activity's ability to support its future energetics mission.

While Indian Head is perfectly located in a secure area, it's also ideally located in close proximity to the Washington and Baltimore areas. The base has access to an unlimited resource pool, from PhDs to any known trade or craft. There are more than fifty colleges and universities within easy driving distance. Both the Navy and Army research labs along with Carderock, Dahlgren and the Patuxent River complex are within less than an hour drive.

IH has worked hard to assure it can accomplish current and future Energetics work within its boundaries by: 1) shifting from a production to RDT&E mission, 2) developing highly insensitive energetic materials and safer processing technologies, and 3) aggressively reducing facility footprint. The progression from a primarily production mission to one of RDT&E has lessened the potential impact by reducing the amount of explosives processed in any operation. The IH facilities were designed to handle much larger explosive loads than current and future mission requires. IH has developed new explosives, which are extremely insensitive and therefore much safer to process and store. They have built new explosive processing capabilities that are much safer and operate with significantly smaller footprint. An aggressive facility reduction effort currently underway has resulted in the consolidation of explosive operations in areas further away from the Indian Head boundaries. This effort has also allowed for the consolidation of operations into the most modern designed facilities with the latest technologies, which are safer to operate. This combination of S&T with the full-scale capability provides the intellectual and physical capacity to rapidly respond with energetic solutions to any kind of warfighter requirement.

DCN: 11690

BRAC Recommendation: "Realign Naval Weapons Station Seal Beach, CA by relocating all Weapons & Armament (W&A), Research, Development, Acquisition, Test & Evaluation (RDAT&E) (except underwater and energetics) to Naval Air Weapons Station, China Lake, CA."

Issue: Relocation of Test, Measurement & Diagnostic Equipment (TMDE) engineering function to China Lake.

Discussion:

- TMDE functions and workload do not properly align under a Weapons & Armament Center of Excellence given that the TMDE life-cycle management functions are centered on technical, maintenance & logistics support for Naval vessels
- TMDE program will be fragmented by separating its engineering component from the logistics and maintenance support that make up the rest of the TMDE life-cycle program
- NAVSEA Technical Authority for TMDE engineering will be impacted

Alternatives:

Option A: Realign/Relocate TMDE engineering function to NSWC Corona instead of China Lake

- Achieves a better mission alignment with NSWC Corona as they are the Technical Authority for the Metrology & Calibration (METCAL) program which closely complements Seal Beach's TMDE Technical Authority
- Creates synergy between TMDE and METCAL programs to provide one single engineering focal point to the Fleet, TYCOMs, SYSCOMS, and PEOs
- Leverages off of existing resources and metrology laboratory infrastructure at NSWC Corona to support both the TMDE and METCAL programs
- Eliminates the potential need for a calibration lab at China Lake at an estimated ROM cost of $3-5M
- Minimizes loss of technical talent due to a more attractive relocation option

Option B: Retain an Integrated TMDE Life-Cycle Program at Seal Beach

- Sharing of common resources and infrastructure between TMDE engineering and existing logistics and maintenance resources creates synergy and efficiencies by:

  - Using existing calibration laboratory resources to quickly replicate ships' test measurements to resolve TMDE technical issues and ensure the proper maintenance and diagnosis of shipboard prime systems
  - Achieving standardization and modernization of TMDE through engineering and logistics evaluations to reduce Fleet's life-cycle costs and maintenance footprint requirements
  - Eliminating the potential need for a calibration lab at China Lake at an estimated ROM cost of $3-5M
  - Providing the Fleet with a "one-stop shop" for the TMDE program

- Ability to provide rapid TMDE technical, logistics, and maintenance support to pier side ships at the Naval Weapons Station for immediate on-board problem evaluation and resolution

DCN: 11690

Response to the Proposed BRAC Commission Recommendations as they affect the Weapons Simulation Department located at the Indian Head Division of the Naval Surface Warfare Center

The BRAC Commission recommendations disclosed on May 13th, 2005 identified that certain portions of the Indian Head Division of the Naval Surface Warfare Center (NSWC/IHD) be realigned such that the Weapons and Armaments Research, Development & Acquisition, and Test & Evaluation (W&A RDAT&E) functions be transitioned to the naval Air Weapons Station China Lake, CA (NAWC/WD). This paper addresses those functions specific to the Weapons Simulation Department of NSWC/IHD.

Point: The function performed at NSWC/IHD supports Weapon System Integration. The product line from the Weapons Simulation Department are developed for the performance verification of weapons fire control system functions, verification of safety critical functions, and the acquisition of fire control data for later reduction and analysis. This equipment provides the ability to perform integration testing and fault insertion to validate the interface between the weapon and the fire control system. Products consists of weapons simulators and special purpose test equipment for nearly all major weapons programs used for the integration testing of the weapons systems installed aboard various surface-, subsurface- and air-launched weapons platforms. These specialized pieces of equipment are designed around the weapons system interface specific to each platform.

Point: This product line is not used for the development or testing of the actual weapon. Products have been created to test the interface between the tactical missile and the fire control system.

Point: The specific BRAC data call to NSWC/IHD leading to the recommendation identified in the BRAC Commission's report did not differentiate between "weapons" and "system integration" engineering activities. Because of this, NSWC/IHD's integration function was incorrectly included under Weapons Development.

Point: The System Integration function performed at NSWC/IHD should be realigned to NSWC/DD and not NAWC/CL. The BRAC Commission report on page 379 (Tech – 15) recommends realignment of Navy surface weapons system integration at Dahlgren, VA. (the Dahlgren Division of the Naval Surface Warfare Center – NSWC/DD). Consolidating NSWC/IHD's system integration would be consistent with the BRAC objective to co-locate similar functions.

Point: The relocation of the systems integration functions relative to the Weapons Simulation Department will result in the loss of over 90% of the uniquely skilled workforce supporting these efforts. The vast majority of the workforce will not make the move to China Lake, hence the loss of knowledge, skills and expertise associated with these functions. This represents over 800 total years of technical experience and will have a significant deleterious effect on Navy programs.

Point: Removing the system integration function from the aforementioned Weapons Simulation Department will cause the eventual demise of this capability that has developed over a period of 40 years. The technical synergy between, Separating system integration from the other components of the Weapons Simulation Department is contrary to the lean six sigma philosophy that recommends groups be co-located when extensive interactions are required between members (relationship

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matrix method). Separating these functions will offset any other efficiencies potentially gained by re-aligning these functions at NAWC/WD.

Recommendation: Reconsider the movement of the NSWC/IHD W&A RDAT&E functions relative to the Weapons Simulation Department identified within the BRAC Commission report, as specific to the BRAC data call that resulted in the decision. Since the functions under consideration for movement are actually weapons systems integration functions, they would be best kept intact by the movement of these functions to the designated consolidation location for Navy surface weapons system integration at NSWC/DD.

Realignment of these functions to NSWC/DD is fully congruent with the stated objectives contained within the BRAC Commission Report. Relocating these functions within the same general geographical area also provides the best opportunity to maintain the same workforce currently performing this function, thus not losing the knowledge, skills and abilities of those personnel that are critical to the sustained success of current and future programs. Fleet and Program Office impacts will be completely minimized.

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DCN: 11690

7/27/05

INDIAN HEAD DEFENSE ALLIANCE

LESTER C. FARRINGTON	(703) 699-2914	LESTER.FARRINGTON@WSO.WHS.MIL
David Epstein	703 699-2947	david.epstein@wso.whs.mil
Chris Goode	202-223-4800	cgoode@hyjekfix.com
Don Fix	202-223-4800	DFIX@HYJEKFIX.COM
John Simmons	202.887.4408	jmsimmons@akingump.com
BERT STEELE	202.887.4146	BSTEELE@AKINGUMP.COM
JOHN TRICK	(703) 768-1696	INDIANHEAD DEFENSE ALLIANCE MEMBER, BOARD OF DIRECTORS
JOHN BLOOM	(301) 753-6345	Indian Head Defense Alliance
JOHN BOHANAN	301-705-9633	JOHN.BOHANAN@MAIL.HOUSE.GOV

What is "Energetics?"

- Defined as, "...explosives, propellants, pyrotechnics, reactive materials, related chemicals and fuels, and their application in propulsion systems and ordnance..." *
- Includes bombs, warheads, mines, fuzes, countermeasures, flares, obscurants, safe-arm devices,
- arming-firing devices, unguided rockets, missile rocket motors, ramjets, gas generators, gun projectiles and propelling charges, and cartridge and propellant actuated devices.

*From the signed Navy Energetics Leadership Board (NELB) and Energetics IPT (EIPT) charters

NAVSEA
NAVAL SEA SYSTEMS COMMAND

NAVAIR

Indian Head

DCN: 11690

OFFICE OF THE DIRECTOR OF
DEFENSE RESEARCH AND ENGINEERING
3040 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-3040

AUG 16 2005

Mr. Frank Cirillo
Director, Review & Analysis
Defense Base Realignment and Closure Commission
2521 South Clark Street, Suite 600
Arlington, VA 22202

Dear Mr. Cirillo:

This letter responds to your request for information concerning the 2005 Base Realignment and Closure recommendations. The specific request was:

> The Navy clearly has stated that Naval Surface Warfare Center (NSWC) Indian Head,is the Navy's center of excellence for energetics. We have received documentation that both Naval Air Warfare Center China Lake and Picatinny Arsenal each have more than 40 employees doing energetics work. Was it intended for these two groups to be moved to Indian Head? If not, why? If so, was the cost included in the page Tech-19 recommendation (Create an Integrated Weapons & Armaments Specialty Site for Guns and Ammunition). If the cost was not included, we will update our chart to show the revised financial data if you provide a Cost of Base Realignment and Closure Actions update.

The intent of the recommendations was to include only one realignment to Indian Head, which is the realignment of NSWC Yorktown. There were no other intentions, thus no need for a modified COBRA run.

Consistent with the Technical Joint Cross Service Group's (TJCSG) strategy, recommendations concerning weapons and armaments consolidate capabilities into three large, integrated Research, Development, & Acquisition, and Test and Evaluation (RDAT&E) centers and two large specialty centers. Consideration was given to consolidate Indian Head's energetic materials capability into one of the integrated RDAT&E centers. However, it was determined that this action was too costly and would jeopardize the fragile intellectual capital that exists in the energetics area. Therefore Indian Head was retained as an energetics site.

Movement of energetics capability from China Lake and Picatinny Arsenal to Indian Head would shift capability from higher military value sites to a lower military value site. It is inconsistent with the TJCSG's strategy, poses similar issues with cost, and jeopardizes intellectual capital.

DCN: 11690

Thank you for the opportunity to respond to your request.

Sincerely,

Alan R. Shaffer
Executive Director
Technical Joint Cross Service Group

DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION
2521 CLARK STREET, SUITE 600
ARLINGTON, VIRGINIA 22202
(703) 699-2950

MEMORANDUM OF MEETING

DATE: **August 1, 2005**

TIME: **10:30 AM – 11:30 AM**

PHONECONS WITH REPRESENTATIVE STENY HOYER:

CONGRESSMAN Steny Hoyer, Maryland (202) 225-4131 ncourt, Commander, Navy Region Southwest, Phone: (619) 532-2925, E-Mail: jose.betancourt@navy.mil

SUBJECT: Congressman Hoyer's positions on certain bases in and near Maryland

PARTICIPANTS:

David Epstein, Senior Analyst, Navy Team*

Lester C. Farrington, Senior Analyst, Joint Issues Team

MEETING SUMMARY:

This write-up documents two phone conversations between Congressman Hoyer and the two senior staffers. This is a summary of the topics generally discussed, but some bases were discussed with one staffer, others with the other, and some with both.

- NSWC Dahlgren, a center for excellence for Navy guns and for ship simulators is performing work that belongs at Dahlgren and the Congressman plans to discuss this matter with Mr. Warner of Virginia. However, Mr. Hoyer appears to see some positives in the DOD recommendation in that Aberdeen would likely benefit from Picatinny becoming the Center of Excellence for **Integrated** Weapons & Armaments Specialty Site for Guns and Ammunition.
- The Congressman is very interested in keeping Indian Head as the Center of Excellence for Energetics. He seems to believe that because Indian Head remained as a potential closure until shortly before the official list was published, it was not seriously considered as a "gainer." He expressed concern that some energetics work appears to be headed to China Lake and other facilities, rather than to Indian Head, where it belongs.
- Mr. Hoyer noted the benefits of St. Inigoes, MD and observed that if the commissioners had not taken pity on Charleston after deciding to close its two major bases, St. Inigoes,

which is free from electronic interference might well have emerged as the center of east coast SPAWAR activities. Along with that observation, may be some concern about the apparent movement towards greater concentration of SPAWAR work in Norfolk.

* Denotes individual responsible for completing the memorandum

DEFENSE BASE CLOSURE AND REALIGNMENT COMMISSION
2521 CLARK STREET, SUITE 600
ARLINGTON, VIRGINIA 22202
(703) 699-2950

MEMORANDUM OF MEETING

DATE: **August 1, 2005**

TIME: **10:30 AM – 11:30 AM**

PHONECONS WITH REPRESENTATIVE STENY HOYER:

CONGRESSMAN Steny Hoyer, Maryland (202) 225-4131

SUBJECT: Congressman Hoyer's positions on certain bases in and near Maryland

PARTICIPANTS:

David Epstein, Senior Analyst, Navy Team*

Lester C. Farrington, Senior Analyst, Joint Issues Team

MEETING SUMMARY:

This write-up documents two phone conversations between Congressman Hoyer and the two senior staffers. This is a summary of the topics generally discussed, but some bases were discussed with one staffer, others with the other, and some with both.

- NSWC Dahlgren, a center for excellence for Navy guns and for ship simulators is performing work that belongs at Dahlgren and the Congressman plans to discuss this matter with Mr. Warner of Virginia. However, Mr. Hoyer appears to see some positives in the DOD recommendation in that Aberdeen would likely benefit from Picatinny becoming the Center of Excellence for **Integrated** Weapons & Armaments Specialty Site for Guns and Ammunition.
- The Congressman is very interested in keeping Indian Head as the Center of Excellence for Energetics. He seems to believe that because Indian Head remained as a potential closure until shortly before the official list was published, it was not seriously considered as a "gainer." He expressed concern that some energetics work appears to be headed to China Lake and other facilities, rather than to Indian Head, where it belongs.
- Mr. Hoyer noted the benefits of St. Inigoes, MD and observed that if the commissioners had not taken pity on Charleston after deciding to close its two major bases, St. Inigoes, which is free from electronic interference might well have emerged as the center of east

coast SPAWAR activities. Along with that observation, may be some concern about the apparent movement towards greater concentration of SPAWAR work in Norfolk.

* Denotes individual responsible for completing the memorandum