

103-06A – A30 –Community Input
Army – Lone Star Army Ammunition Plant– TX
BRAC COMMISSION – FY 2005
COFF: _____ DISPOSITION: Permanent



Lone Star Army Ammunition Plant ***BRAC Analysis***

The Case for privatization of the Lone Star Army Ammunition Plant...

Why should the Lone Star Army Ammunition Plant be privatized?

Because it benefits the DoD more than closure

- Privatization reduces the organic base footprint while maintaining ammunition production capabilities and centers of expertise
- Privatization allows Lone Star to be operated at no-cost to the government
- Privatization retains competitive forces within the US industrial base without cost of ownership to insure the best value to DoD
- Privatization preserves DoD's continued access to D&Z intellectual property and surge capability at no-cost to the government
- Privatization retains jobs and on-going business
- Privatization allows the redevelopment of excess real estate by the Local Redevelopment Authority

Why is privatization better than closure?

Privatization is more cost-effective for the government in the long run

- Privatization reduces the Defense Department's industrial holdings as effectively as closure
- Privatization retains domestic competition in the munitions industry, thereby driving the unit cost of munitions down
- Privatization assigns responsibility for industrial management to industry, and lets industry make decisions about capacity and consolidation.
- Privatization of government owned ammunition bases has been successfully demonstrated in the UK, Australia, and Canada
- Privatization is no-risk. No loss of existing skill base and centers of expertise and no risk of start-up failures at new proposed sites impacting support to the warfighter
- Privatization reduces one-time cost to implement the recommendation by \$40.6M and provides the same net recurring savings as closure of \$17.3M*

***Privatization is the most cost-effective method of
implementing the DoD recommendations***



Lone Star Army Ammunition Plant
BRAC Commission
Review And Analysis



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Considerations for the BRAC Commission in evaluating OSD's recommendations concerning the Lone Star AAP...

- There are inconsistencies in the Military Value and Capacity analysis
- Data calls for Lone Star AAP were inaccurately reported – *Lone Star's manpower and capabilities are misrepresented*
- Lone Star does have critical capabilities which if lost will significantly impact current DoD programs
- The most cost-effective method to implement OSD's recommendations for Lone Star AAP is privatization-in-place

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Conclusion: OSD deviated substantially from the BRAC selection criteria therefore recommend privatization-in-place

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OSD's analysis does not accurately represent Lone Star AAP Military Value...

- OSD used inappropriate attributes to form recommendations – *e.g. How is soil resiliency relevant to ammunition plants?*
- OSD rated Lone Star AAP and RRAD inconsistently – *How could this be true for adjacent facilities?*

	<u>LSAAP</u>	<u>RRAD</u>
■ Soil Resiliency (A-11)	0	4.50
■ Water Quantity (A-12)	.78	2.39
■ Environmental Elasticity (A-38)	.39	1.49

Military Value is the number one BRAC selection criteria, however, it was inaccurately calculated for LSAAP

Reference: Appendix A - Military Value Reports: *LSAAP Military Value summary report; Department of the Army BRAC 2005 Analysis and Recommendations, Volume III, May 2005, Appendix B Military Value Analysis*



OSD's analysis grossly underestimated Lone Star's utilization...

- OSD did not account for the size or complexity of the munitions—detonators were given the same weight as MLRS rockets
- OSD did not account for all production lines – LSAAP's production of hand grenades and primers seems to have been completely ignored

Industrial Joint Cross Service Group's analysis of munitions production at the Lone Star AAP

	Current Capacity	Current Usage	Max. Capacity	Excess Capacity	
				In Excess of Current Usage	In Excess of Max. Usage
Artillery	38,569	---	38,569	38,569	38,569
Cluster Bombs	3,912	---	3,912	3,912	3,912
Mines	57,996	---	57,996	57,996	57,996
Mortars	10,000	---	10,000	10,000	10,000
Pyro/Demo	22,752,222	589,901	22,752,222	22,162,321	22,162,321
Rockets	1,281,297	75,000	1,281,297	1,206,297	1,206,297
Site Total	24,143,996	664,901	24,143,996	23,479,095	23,479,095
% capacity not utilized				97.2%	97.2%

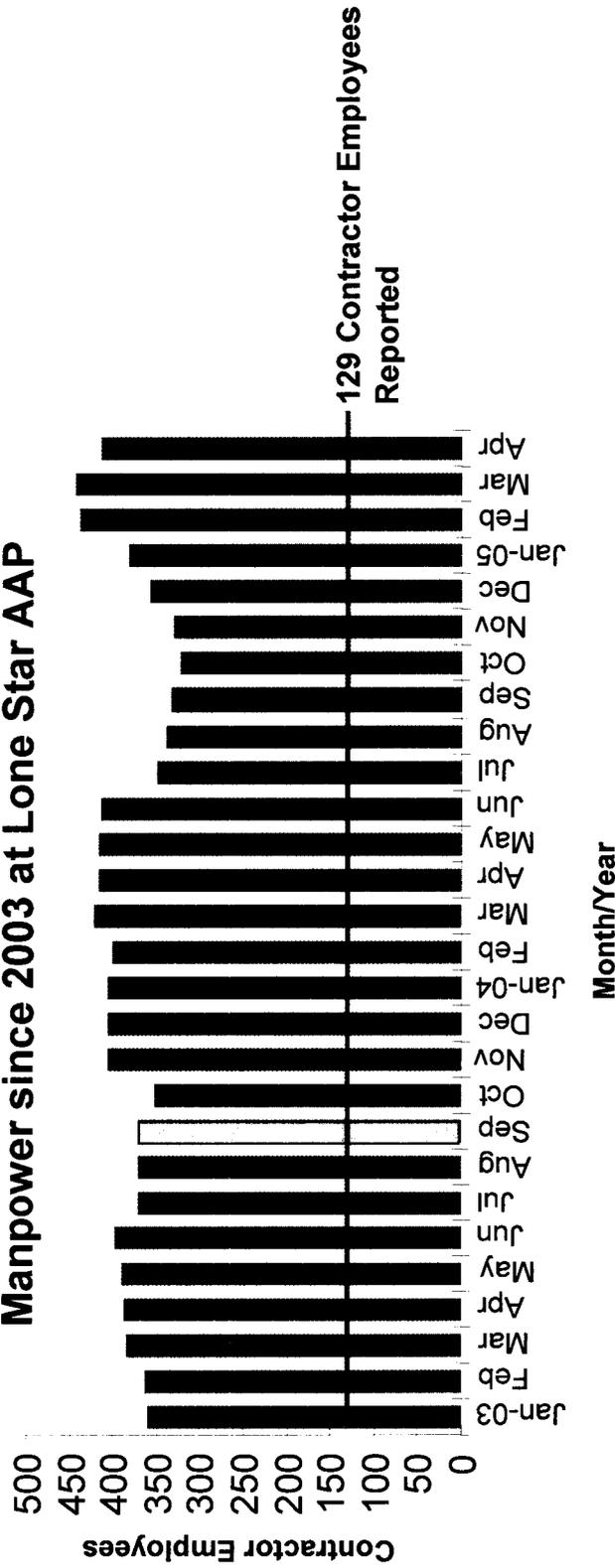
Lone Star is very busy today, but OSD's analysis suggests that it is in mothballs

Reference: Appendix A - Capacity Report: *Industrial Joint Service Group Final Report, May 10, 2005, IJCSG – Munitions/Armaments Capacity Report – Capacity By Site (Page 18 of 35)*

Manpower for Lone Star AAP was inaccurately reported....

- OSD reported LSAAP manpower at only 229 (2 military, 18 civilian, 129 D&Z and 80 indirect)
- Actual manpower at plant in FY2005 is 423 (1 military, 19 civil service, and 403 D&Z)
- Army Stationing and Installation Plan (ASIP) submitted May 23, 2005 also verifies Lone Star AAP current manpower is in excess of 400
- Lone Star's manpower was understated by 242 employees on 30-Sep-03

Manpower since 2003 at Lone Star AAP



Data call does not accurately reflect the actual manpower at LSAAP as of 30-Sep-03 and present

Reference: Appendix A - Manpower Reports: LSAAP Data Call Questions 2420, 2426, 2435 & 2442; Army Stationing and Installation Plan (ASIP) 23-May-05

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Lone Star AAP has critical capabilities and intellectual property that will be lost...

- Much of the intellectual property belongs to Day & Zimmermann
 - Designs for production equipment, processes, and tooling
 - SOPs, Detailed Inspection Plans, Maintenance Work Instructions, etc.
 - Process control programs developed for production of detonators, self-destruct fuzes, and other products
 - Patents on critical production equipment: Chamlee Loader (US #3426946), Cargile Scooper (US #3383020), and Cone & Explosive Extractor (US #6901835)

- Lone Star has critical capabilities
 - Produces, stores, maintains, upgrades, and demilitarizes munitions – *the full scope of activity*
 - Loaded Components (Primers, Detonators, Delays, etc.)
 - FASCAM Gator, Volcano, MOPMS
 - Artillery ICM 105mm, 155mm, MLRS (Grenades)
 - Hand Grenades (HE), Bursters
 - M223/M239 fuze production
 - M53 Delay, M59 Detonator, M67 Hand Grenade, and M223/M239 Fuze Production – *Lone Star sole source items*

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Current DoD programs to be negatively impacted by BRAC recommendations for LSAAP...

- M915 Program (*MLRS and 155MM also applicable*)
 - LSAAP has critical capabilities to produce M234/M235/M236 Self Destruct Fuzez
 - *only source*
 - Single facility LAP capability provides technical advantage and cost savings
 - LSAAP possesses unique engineering expertise with Insensitive Munition (IM) compliant technology
 - LSAAP has developed patented prototype capability to cost effectively recapitalize grenades from stockpiled DPICM artillery shells by removing conventional Comp A-5 explosive and reloading with IM compliant fills
 - \$8.9M manufacturing technology investment made by JMC over the past 3 years to support the M915 program will be lost
- Defense Reutilization Marketing Service (DRMS) Program
 - LSAAP has over 10 years of Demil/Mutilation experience
 - Experienced work force provides efficient operations yielding DRMS cost savings
 - LSAAP is the largest Demil/Mutilation Center for DRMS
 - In FY04 proceeds from 7M lbs of property totaled \$4.34M for DRMS

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Lone Star has critical capabilities which if lost will significantly impact current DoD programs

Reference: Appendix A - Impact Reports: *Information Paper (M915 Program), 22-Jun-05, Information paper (DRMS), 29-Jun-05*

OSD one-time other cost to relocate functions to gaining installations is understated...

<u>One-Time Other Cost</u>	<u>Cobra (\$k)</u>	<u>DZLS/Cobra (\$k)</u>
Lone Star		
Move ICM Equip	3,875	5,523
Equipment for Grenades	150	2,222
Milan (ICM, Hand Grenades, Mortars)		
Mod bldg & install truck loading dock	700	700
Equip upgrade & installation	3,009	3,009
Crane (Demo Charges)		
Facility upgrade	30	30
Equipment & tooling	40	1,242
Iowa (Mines, Detonators/Relays/Delays)		
Facilitize Iowa for detonators	5,000	9,761
Minor upgrade & bldg repair	525	525
Other Functions not considered (Supp Chrg, Primers and MCCM)	0	3,780
Total One-Time Other Cost	13,329	27,492

OSD underestimated one-time other cost to relocate functions to gaining installations by \$14.16 million

Reference: Appendix A - One-time Cost Reports: *Cobra Input Data Report (Cobra v6.10)*, Pages 8-9; *DZLS One-time Other Excluded Cost Detail and Summary*

Explanation of one-time other cost variance...

- OSD excluded \$14.16M in closure related moving costs to establish capabilities at gaining installations
- Cobra cost of \$3,875 to move ICM equipment does not take into consideration relocation of SDF & M223 fuze production, D&Z BLA loading design (required for IM loading) and MLRS Download and Retrofit equipment
- Cobra cost of \$150K for grenade equipment does not represent full scope of hand grenade assembly and pack equipment to relocate
- Cobra cost of \$40K for Demo Charge equipment and tooling does not take into consideration equipment to load sub-munitions
- Cobra cost of \$5,000K to facilitate lowa for detonators does not take into consideration the initiating explosive processing and Cartrac system located at Lone Star AAP which have safety and efficiency standards that do not exist at gaining installation
- Value of proprietary data of incumbent contractor gained from 54 years of operating Lone Star AAP was not taken into consideration – *not included in total*

Total one-time cost to implement recommendation will increase to \$43.14 million

Privatization is the most cost effective method to implement OSD's recommendations....

One-Time Costs	Closure (\$k)	Privatization (\$k)
O&M		
Civ Salary	426	426
Civ Moving	142	142
Unemployment	31	31
Other	7,021	1,918
Mil Personnel		
Other	21	21
Other		
Environmental	5,350	0
1-Time Other	15,984	0
Total One-Time Costs	28,975	2,538
Total One-Time Savings w/Privatization		26,437

With privatization the avoidance of relocating the capabilities results in a one-time savings to DoD of \$40.6M – Also the annual net recurring savings of \$17.3M will remain the same as closure*

Reference: Appendix A - One-time Cost Reports: Total Cobra Realignment Detail Report (Cobra v6.10) – Page 1 of 18

* Source: \$26.4M on-time savings w/ privatization plus \$14.16M one-time other excluded costs



The best outcome is for the Commission to recommend that the Lone Star AAP be privatized-in-place

- **Benefits to privatization-in-place include**
 - Reduces the organic base footprint while maintaining capabilities
 - Lone Star would be operated at no-cost to the government
 - Reduces one-time cost to implement the recommendation by \$40.6M and provides the same net recurring savings as closure of \$17.3M
 - Retains competitive forces within the US industrial base without cost of ownership
 - Preserves contracting operators intellectual property and surge capacity at no cost to the Government
 - Retains jobs and on-going business
 - Allows the redevelopment of excess real estate



*A successful privatization-in-place will require specific language in the report:
DoD must be directed to leave the production equipment on site*

Reference: Appendix A – BRAC Language: *Suggested LSAAP BRAC language*; Appendix A – Case Study: *The case for privatizing the Army Ammunition Plants in the BRAC 2005 process*





Lone Star Army Ammunition Plant

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Appendix A
Supplemental Material

LSAAP Military Value Summary Report

Department of the Army Analysis and Recommendations BRAC 2005, Volume III,
May 2005, Appendix B Military Value Analysis

Attribute	Value	Weight	Model Inputs		Model Outputs	
			Lone Star	RRAD	Lone Star	RRAD
1 Direct Fire Capability	100	5.45%	Label 0	Label 0	0.00	0
2 Indirect Fire Capability	90	4.90%	Label 0	Label 0	0.00	0
3 MOUT Capability	10	0.54%	Label 0	Label 0	0.00	0
4 Heavy Maneuver Area	100	5.45%	Label 0	Label 0	0.00	0
5 Light Maneuver Area	90	4.90%	0	6,803	0.00	0.68
6 Airspace	90	4.90%	Label 0	Label 0	0.00	0
7 General Instructional Facilities	5	0.27%	0	48,846	0.00	0.93
8 Applied Instructional Facilities	5	0.27%	0	0	0.00	0
9 Air Quality	10	0.54%	0	0	10.00	10.00
10 Noise Contours	10	0.54%	Label 10	Label 10	10.00	10.00
11 Soil Resiliency	50	2.72%	0	17,273	0.00	4.50
12 Water Quantity	20	1.09%	719	2,414	0.78	2.39
13 Mobilization History	75	4.09%	0	0	0.00	0
14 Force Deployment	90	4.90%	180	16	0.00	8.81
15 Material Deployment	90	4.90%	365	20	0.00	9.55
16 Operations/Admin Facilities	10	0.54%	0	128,857	0.00	0.44
17 Accessibility	50	2.72%	Label 4	Label 4	3.01	3.01
18 Connectivity	20	1.09%	7	7	6.90	6.90
19 RDT&E Mission Diversity	20	1.09%	0	0	0.00	0
20 Test Range Capability	75	4.09%	Label 1	Label 1	0.54	0.54
21 Munitions Production	50	2.72%	9	0	6.92	0
22 Ammunition Storage Capacity	10	0.54%	947	1,950	1.25	2.57
23 Interservice & Partnering Workload	75	4.09%	93	12	0.22	0.03
24 Maintenance/Manufacturing	50	2.72%	93	1,849	0.24	4.88
25 Supply & Storage Index	10	0.54%	4,675	4,160,051	0.01	6.55
26 Crime Index	50	2.72%	4,847	4,847	3.27	3.27
27 Employment Opportunities	20	1.09%	Label 2	Label 2	1.14	1.14
28 Housing Availability	50	2.72%	Label 7	Label 7	1.11	1.11
29 Medical Care Availability	10	0.54%	0.0022	0.0022	3.14	3.14
30 In-State Tuition Policies	10	0.54%	Label 3	Label 3	10.00	10.00
31 Workforce Availability	20	1.09%	207,627	216,479	1.04	1.08
32 Joint Facilities	50	2.72%	Label 1	Label 2	0.02	0.79
33 Area Cost Factor	75	4.09%	0.89	1	8.85	8.85
34 C2 for Focus Facilities	5	0.27%	Label 0	Label 7	0.00	2.84
35 Installation Unit Cost Factor	20	1.09%	35,461	13,010	0.00	0
36 Buildable Acres	75	4.09%	3,786	413	6.28	8.75
37 Brigade Capacity	100	5.45%	0	0	7.31	1.34
38 Environmental Elasticity	20	1.09%	Label 4	Label 5	0.39	1.49
39 Urban Sprawl	50	2.72%	10,161	12,139	4.95	4.31
40 Critical Infrastructure Proximity	75	4.09%	8	9	3.48	3.91
	1,835	100.00%			1.73	2.61

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

Installations	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
Lake City AAP	Label 0	Label 0	Label 0	Label 0	0	Label 0	2465	0	0	Label 10
Letterkenny AD	Label 0	Label 0	Label 0	Label 0	4815	Label 1	0	0	5	Label 10
Lima Tank Plant	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	8147	10	Label 10
Lone Star AAP	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 10
McAlester AAP	Label 0	Label 0	Label 0	Label 0	923	Label 0	66778	0	0	Label 10
Milan AAP	Label 0	Label 0	Label 6	Label 1	0	Label 0	0	257	0	Label 2
Mississippi AAP	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 10
MOT Sunny Point	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 10
Newport Chem Depot	Label 0	Label 0	Label 0	Label 0	6598	Label 0	0	0	0	Label 10
Picatiny Arsenal	Label 0	Label 0	Label 5	Label 0	46	Label 0	12669	1606	10	Label 10
Pine Buff Arsenal	Label 0	Label 0	Label 0	Label 0	0	Label 0	11694	3299	0	Label 10
Presidio Of Monterey	Label 0	Label 0	Label 0	Label 0	0	Label 0	232659	28434	5	Label 10
Pueblo Chem Depot	Label 0	Label 0	Label 0	Label 0	11000	Label 0	0	0	0	Label 10
Radford AAP	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 3
Red River AD	Label 0	Label 0	Label 0	Label 0	6803	Label 0	48846	0	0	Label 10
Redstone Arsenal	Label 0	Label 2	Label 6	Label 0	7460	Label 6	191522	193338	0	Label 2
Riverbank AAP	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	30	Label 10
Rock Island Arsenal	Label 0	Label 0	Label 0	Label 0	0	Label 0	10532	63571	0	Label 10
Schofield Barracks	Label 9	Label 2	Label 3	Label 2	20504	Label 9	17217	10079	0	Label 10
Scranton AAP	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	5	Label 10
Sierra AD	Label 1	Label 0	Label 1	Label 0	4013	Label 0	7303	221	0	Label 10
Soldier Systems Support Center	Label 0	Label 0	Label 0	Label 0	0	Label 0	2460	520	0	Label 10
Tobyhanna AD	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 10
Tooele AD	Label 0	Label 0	Label 0	Label 0	5191	Label 2	0	0	0	Label 3
Tripler AMC	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 10
Umatilla Chem Depot	Label 0	Label 0	Label 0	Label 1	5133	Label 4	0	0	0	Label 10
USAG Selfridge	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 10
Walter Reed AMC	Label 0	Label 0	Label 0	Label 0	0	Label 0	55513	28770	10	Label 10
Watervliet Arsenal	Label 0	Label 0	Label 0	Label 0	0	Label 0	1525	176	5	Label 10
West Point	Label 2	Label 1	Label 1	Label 0	14101	Label 2	524332	18798	10	Label 3
White Sands MR	Label 9	Label 11	Label 9	Label 4	100000	Label 9	12222	0	0	Label 10
Yuma PG	Label 9	Label 11	Label 9	Label 9	100000	Label 9	37039	0	5	Label 10
Lease - ARPERCEN	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - Army JAG Agency	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - Army JAG School	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - Army Research Office	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - Bailey's Crossroads	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - Crystal City Complex	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - Hoffman Complex	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - HQ, ATEC	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - PEO STRICOM	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Lease - Rosslyn Complex	Label 0	Label 0	Label 0	Label 0	0	Label 0	0	0	0	Label 1
Ideal Installation	Label 9	Label 11	Label 9	Label 10	100000	Label 9	524332	596043	0	Label 10

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

Installations	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
Lima Tank Plant	0	4985	0	158	174	0	Label 8	7	10	Label 1
Lone Star AAP	0	719	0	180	365	0	Label 4	7	0	Label 1
Louisiana AAP	0	1138	0	180	49	107469	Label 10	7	0	Label 1
McAlester AAP	28858	172	0	35	30	118854	Label 8	5	0	Label 1
Milan AAP	2690	10714	0	158	132	0	Label 8	7	0	Label 1
Mississippi AAP	0	0	0	82	365	0	Label 12	7	0	Label 1
MOT Sunny Point	0	772	0	63	26	33283	Label 8	9	0	Label 1
Newport Chem Depot	0	4962	0	111	365	1600	Label 4	7	0	Label 1
Picatiny Arsenal	4731	4481	0	180	365	648748	Label 8	8	36	Label 1
Pine Buff Arsenal	12297	12192	0	149	250	174403	Label 11	9	24	Label 1
Presidio Of Monterey	0	1167	0	60	365	146064	Label 8	7	0	Label 1
Pueblo Chem Depot	22808	138	0	144	221	0	Label 12	7	0	Label 1
Radford AAP	0	25000	0	141	365	156332	Label 4	8	0	Label 1
Red River AD	17273	2414	0	16	20	128857	Label 4	7	0	Label 1
Redstone Arsenal	23299	25000	191	67	89	2146202	Label 4	9	60	Label 1
Riverbank AAP	0	5410	0	180	365	0	Label 8	7	0	Label 1
Rock Island Arsenal	0	0	0	30	44	1229752	Label 2	9	20	Label 1
Schofield Barracks	27990	409	0	48	37	928120	Label 12	7	0	Label 8
Scranton AAP	0	557	0	180	365	33000	Label 8	8	0	Label 1
Sierra AD	30557	4558	0	38	32	73879	Label 10	7	0	Label 1
Soldier Systems Support Center	0	652	0	112	87	181068	Label 8	9	0	Label 1
Tobyhanna AD	0	356	0	53	52	270135	Label 11	9	0	Label 1
Tooele AD	15979	1595	0	63	35	74598	Label 11	7	20	Label 1
Tripler AMC	0	224	0	104	365	0	Label 12	6	0	Label 1
Umatilla Chem Depot	105	3522	0	85	365	35975	Label 4	7	0	Label 1
USAG Selfridge	0	1024	0	101	365	79820	Label 10	8	0	Label 1
Walter Reed AMC	0	25000	1075	85	77	371142	Label 12	8	0	Label 1
Watervliet Arsenal	0	0	0	33	37	61108	Label 10	8	0	Label 1
West Point	2296	1001	0	180	365	574961	Label 8	9	0	Label 1
White Sands MR	1113928	25000	0	68	365	643251	Label 8	10	84	Label 9
Yuma PG	756231	8200	0	145	133	116707	Label 7	7	39	Label 9
Lease - ARPERCEN	0	0	0	180	365	0	Label 8	7	0	Label 0
Lease - Ballston Complex	0	0	0	180	365	0	Label 12	7	0	Label 0
Lease - Army JAG Agency	0	0	0	180	365	0	Label 12	7	0	Label 0
Lease - Army JAG School	0	0	0	180	365	0	Label 8	7	0	Label 0
Lease - Army Research Office	0	0	0	180	365	0	Label 12	7	0	Label 0
Lease - Bailey's Crossroads	0	0	0	180	365	0	Label 12	7	0	Label 0
Lease - Crystal City Complex	0	0	0	180	365	0	Label 12	7	0	Label 0
Lease - Hoffman Complex	0	0	0	180	365	0	Label 12	7	0	Label 0
Lease - HQ, ATEC	0	0	0	180	365	0	Label 12	7	0	Label 0
Lease - PEO STRICOM	0	0	0	180	365	0	Label 8	7	0	Label 0
Lease - Rosslyn Complex	0	0	0	180	365	0	Label 12	7	0	Label 0
Ideal Installation	1113928	25000	32471	10	15	2951971	Label 12	10	88	Label 9

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

Installations	A21	A22	A23	A24	A25	A26	A27	A28	A29	A30
Lima Tank Plant	0	0	586	656	10456	3662	Label 2	Label 7	0.0016	Label 3
Lone Star AAP	9	947	93	93	4675	4847	Label 2	Label 7	0.0022	Label 3
Louisiana AAP	1	0	0	0	418300	6136	Label 2	Label 8	0.0037	Label 3
McAlester AAP	6	7597	0	0	6253847	4743	Label 1	Label 7	0.0000	Label 3
Milan AAP	12	2564	0	0	134600	5019	Label 1	Label 7	0.0008	Label 2
Mississippi AAP	1	132	0	0	301184	4159	Label 2	Label 7	0.0006	Label 2
MOT Sunny Point	0	0	0	0	28485	6574	Label 1	Label 8	0.0028	Label 0
Newport Chem Depot	0	0	0	0	6800	3750	Label 2	Label 7	0.0004	Label 2
Picatinny Arsenal	0	43	0	0	367698	3024	Label 5	Label 3	0.0032	Label 3
Pine Buff Arsenal	6	4037	333	725	1751174	7046	Label 1	Label 7	0.0020	Label 2
Presidio Of Monterey	0	0	0	0	71047	3463	Label 4	Label 1	0.0017	Label 2
Pueblo Chem Depot	0	1804	0	0	4722600	4999	Label 2	Label 7	0.0025	Label 2
Radford AAP	5	496	0	0	457352	3140	Label 2	Label 7	0.0011	Label 0
Red River AD	0	1950	12	1849	4160051	4847	Label 2	Label 7	0.0022	Label 3
Redstone Arsenal	0	0	0	0	1922069	4244	Label 3	Label 8	0.0021	Label 2
Riverbank AAP	2	0	0	0	8880	6027	Label 1	Label 4	0.0016	Label 2
Rock Island Arsenal	0	0	281	980	969649	4016	Label 2	Label 7	0.0019	Label 2
Schofield Barracks	0	0	0	0	801068	6360	Label 5	Label 3	0.0029	Label 2
Scranton AAP	2	0	0	0	3300	2541	Label 1	Label 8	0.0021	Label 2
Sierra AD	0	5460	0	0	2867224	3944	Label 1	Label 7	0.0009	Label 2
Soldier Systems Support Center	0	0	0	0	46101	2920	Label 6	Label 3	0.0045	Label 0
Tobytanna AD	0	0	1313	3157	1398847	2957	Label 2	Label 8	0.0003	Label 2
Tooele AD	0	3568	1	118	2054998	4452	Label 5	Label 7	0.0000	Label 3
Tripler AMC	0	0	0	0	0	6360	Label 5	Label 3	0.0029	Label 2
Umatilla Chem Depot	0	0	0	0	47826	4868	Label 1	Label 7	0.0000	Label 3
USAG Selfridge	0	0	0	0	7403	4298	Label 5	Label 6	0.0028	Label 0
Walter Reed AMC	0	0	0	0	53760	4047	Label 9	Label 3	0.0020	Label 0
Watervliet Arsenal	0	0	63	326	110490	2804	Label 3	Label 5	0.0028	Label 2
West Point	0	0	0	0	99784	2804	Label 6	Label 1	0.0034	Label 2
White Sands MR	0	0	0	0	326994	5078	Label 1	Label 7	0.0014	Label 2
Yuma PG	0	0	0	7	182288	6386	Label 1	Label 7	0.0011	Label 3
Lease - ARPERCEN	0	0	0	0	0	4602	Label 9	Label 6	0.0029	Label 0
Lease - Ballston Complex	0	0	0	0	0	7046	Label 3	Label 3	0.0032	Label 2
Lease - Army JAG Agency	0	0	0	0	0	7046	Label 6	Label 3	0.0032	Label 0
Lease - Army JAG School	0	0	0	0	0	3140	Label 2	Label 4	0.0071	Label 0
Lease - Army Research Office	0	0	0	0	0	4721	Label 9	Label 6	0.0013	Label 0
Lease - Bailey's Crossroads	0	0	0	0	0	4047	Label 9	Label 3	0.0032	Label 3
Lease - Crystal City Complex	0	0	0	0	0	4047	Label 9	Label 3	0.0032	Label 0
Lease - Hoffman Complex	0	0	0	0	0	4047	Label 9	Label 3	0.0032	Label 0
Lease - HQ, ATEC	0	0	0	0	0	4047	Label 9	Label 3	0.0032	Label 0
Lease - PEO STRICOM	0	0	0	0	0	5710	Label 3	Label 6	0.0021	Label 0
Lease - Rosslyn Complex	0	0	0	0	0	4047	Label 9	Label 3	0.0032	Label 0
Ideal Installation	13	7597	1313	3786	6253847	320	Label 9	Label 9	0.0071	Label 3

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

Installations	A31	A32	A33	A34	A35	A36	A37	A38	A39	A40
Lima Tank Plant	512152	Label 2	0.98	Label 0	20413	156	0	Label 5	142375	10
Lone Star AAP	207627	Label 1	0.89	Label 0	35461	3786	0	Label 4	10161	8
Louisiana AAP	342826	Label 7	0.89	Label 0	43445	63	0	Label 7	17354	8
McAlester AAP	122634	Label 5	0.84	Label 7	21870	28347	0	Label 8	2277	10
Milan AAP	320023	Label 4	0.87	Label 0	37893	1848	0	Label 7	20255	5
Mississippi AAP	799660	Label 7	0.84	Label 0	92709	1558	0	Label 7	9824	13
MOT Sunny Point	270718	Label 0	0.87	Label 7	26169	2000	0	Label 2	15090	8
Newport Chem Depot	457384	Label 2	0.98	Label 0	10457	6095	0	Label 7	1447	8
Picatinny Arsenal	2000000	Label 6	1.20	Label 1	12845	2800	0	Label 2	10702	21
Pine Buff Arsenal	458424	Label 5	0.90	Label 7	13678	27	0	Label 5	17677	9
Presidio Of Monterey	285978	Label 0	1.21	Label 1	5554	114	0	Label 8	132119	9
Pueblo Chem Depot	377339	Label 1	0.96	Label 0	49067	14122	0	Label 7	1821	0
Radford AAP	534834	Label 0	0.94	Label 0	21289	343	0	Label 7	6259	6
Red River AD	216479	Label 2	0.89	Label 7	13010	413	0	Label 5	12139	9
Redstone Arsenal	573111	Label 9	0.85	Label 1	3452	3335	0	Label 3	18577	5
Riverbank AAP	1021362	Label 4	1.17	Label 0	27138	25	0	Label 7	126689	10
Rock Island Arsenal	447085	Label 6	1.02	Label 7	7698	306	0	Label 5	27982	9
Schofield Barracks	580558	Label 2	1.67	Label 2	7655	107	2	Label 3	3271	1
Scranton AAP	852591	Label 0	1.05	Label 0	41241	1	0	Label 4	46275	17
Sierra AD	174846	Label 1	1.29	Label 7	43804	5668	0	Label 5	821	4
Soldier Systems Support Center	2000000	Label 6	1.12	Label 0	6701	46	0	Label 7	87130	11
Tobyhanna AD	1380275	Label 8	1.07	Label 4	11774	721	0	Label 5	20185	1
Tooele AD	858514	Label 4	1.05	Label 7	20045	12503	0	Label 5	10133	1
Tripler AMC	580558	Label 7	1.69	Label 0	9587	43	0	Label 5	20588	1
Umatilla Chem Depot	187242	Label 0	1.19	Label 0	26393	0	0	Label 7	1282	2
USAG Selfridge	2000000	Label 4	1.12	Label 7	15301	110	0	Label 5	78283	10
Walter Reed AMC	2000000	Label 5	1.02	Label 7	4013	3	0	Label 5	19397	16
Watervliet Arsenal	900707	Label 5	1.02	Label 7	16639	6	0	Label 2	67454	20
West Point	2000000	Label 0	1.40	Label 2	12064	24	0	Label 2	7387	22
White Sands MR	50251	Label 5	1.00	Label 4	10458	9369	1	Label 2	8078	2
Yuma PG	10535	Label 5	1.30	Label 4	12289	24871	1	Label 8	985	3
Lease - ARPERCEN	0	Label 0	1.09	Label 0	92709	0	0	Label 1	379425	0
Lease - Ballston Complex	0	Label 0	1.02	Label 0	92709	0	0	Label 1	379425	0
Lease - Army JAG Agency	0	Label 0	1.02	Label 0	92709	0	0	Label 1	379425	0
Lease - Army JAG School	0	Label 0	0.92	Label 0	92709	0	0	Label 1	379425	0
Lease - Army Research Office	0	Label 0	1.02	Label 0	92709	0	0	Label 1	379425	0
Lease - Bailey's Crossroads	0	Label 0	1.02	Label 0	92709	0	0	Label 1	379425	0
Lease - Crystal City Complex	0	Label 0	1.02	Label 0	92709	0	0	Label 1	379425	0
Lease - Hoffman Complex	0	Label 0	1.02	Label 0	92709	0	0	Label 1	379425	0
Lease - HQ, ATEC	0	Label 0	0.85	Label 0	92709	0	0	Label 1	379425	6
Lease - PEO STRICOM	0	Label 0	1.02	Label 0	92709	0	0	Label 1	379425	3
Lease - Rosslyn Complex	0	Label 0	1.02	Label 0	92709	0	0	Label 1	379425	5
Ideal Installation	2000000	Label 9	0.74	Label 9	1585	50000	5	Label 9	0	23

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

Lake City AAP	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Letterkenny AD	2.69	0.00	0.00	0.00	0.00	0.48	0.26	0.00	0.00
Lima Tank Plant	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
Lone Star AAP	1.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Louisiana AAP	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
McAlester AAP	3.10	0.00	0.00	0.00	0.00	0.09	0.00	1.27	0.00
Milan AAP	1.92	0.00	0.00	5.80	0.08	0.00	0.00	0.00	0.00
Mississippi AAP	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MOT Sunny Point	2.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Newport Chem Depot	1.85	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00
Picatiny Arsenal	2.33	0.00	0.00	2.77	0.00	0.01	0.00	0.24	0.03
Pine Buff Arsenal	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.06
Presidio Of Monterey	1.35	0.00	0.00	0.00	0.00	0.00	0.00	4.44	0.48
Pueblo Chem Depot	2.03	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00
Radford AAP	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Red River AD	2.61	0.00	0.00	0.00	0.00	0.68	0.00	0.93	0.00
Redstone Arsenal	2.99	0.00	1.00	5.80	0.00	0.75	5.30	3.65	3.24
Riverbank AAP	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rock Island Arsenal	2.14	0.00	0.00	0.00	0.00	0.00	0.00	0.20	1.07
Schofield Barracks	3.95	10.00	1.00	2.12	0.23	2.05	10.00	0.33	0.17
Scranton AAP	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sierra AD	2.49	0.30	0.00	0.23	0.00	0.40	0.00	0.14	0.00
Soldier Systems Support Center	1.96	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.01
Tobyhanna AD	2.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tooele AD	2.48	0.00	0.00	0.00	0.00	0.52	1.01	0.00	0.00
Tripler AMC	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Umatilla Chem Depot	1.31	0.00	0.00	0.00	0.08	0.51	1.00	0.00	0.00
USAG Selfridge	1.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Walter Reed AMC	2.33	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.48
Watervliet Arsenal	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
West Point	1.88	1.03	0.08	0.23	0.00	1.41	1.01	10.00	0.32
White Sands MR	5.16	10.00	10.00	10.00	1.95	10.00	10.00	0.23	0.00
Yuma PG	5.31	10.00	10.00	10.00	7.57	10.00	10.00	0.71	0.00
Lease - ARPERCEN	1.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Ballston Complex	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army JAG Agency	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army JAG School	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army Research Office	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Bailey's Crossroads	1.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Crystal City Complex	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Hoffman Complex	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - HQ, ATEC	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - PEO STRICOM	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Rosslyn Complex	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Iowa AAP	1.78	10.00	10.00	3.38	0.00	0.00	0.00	0.21	0.00
Kansas AAP	1.80	10.00	10.00	3.59	1.58	0.00	0.00	0.00	0.00
Lake City AAP	1.78	10.00	10.00	0.00	8.82	0.00	0.01	0.00	0.00
Letterkenny AD	2.69	8.33	10.00	3.68	0.00	0.00	3.55	7.38	0.71
Lima Tank Plant	1.60	6.67	10.00	0.00	4.36	0.00	0.14	1.73	0.00
Lone Star AAP	1.73	10.00	10.00	0.00	0.78	0.00	0.00	0.00	0.00
Louisiana AAP	1.79	10.00	10.00	0.00	1.20	0.00	0.00	7.02	0.36
McAlester AAP	3.10	10.00	10.00	6.32	0.19	0.00	5.61	8.56	0.40
Milan AAP	1.92	10.00	1.50	0.89	7.24	0.00	0.14	2.80	0.00
Mississippi AAP	1.91	10.00	10.00	0.00	0.00	0.00	1.79	0.00	0.00
MOT Sunny Point	2.09	10.00	10.00	0.00	0.83	0.00	2.88	8.87	0.11
Newport Chem Depot	1.85	10.00	10.00	0.00	4.34	0.00	0.83	0.00	0.01
Picatinny Arsenal	2.33	6.67	10.00	1.51	4.01	0.00	0.00	0.00	2.20
Pine Buff Arsenal	1.84	10.00	10.00	3.47	7.75	0.00	0.22	0.64	0.59
Presidio Of Monterey	1.35	8.33	10.00	0.00	1.23	0.00	3.09	0.00	0.50
Pueblo Chem Depot	2.03	10.00	10.00	5.46	0.15	0.00	0.28	0.95	0.00
Radford AAP	1.51	10.00	3.39	0.00	10.00	0.00	0.31	0.00	0.53
Red River AD	2.61	10.00	10.00	4.50	2.39	0.00	8.81	9.55	0.44
Redstone Arsenal	2.99	10.00	1.50	5.54	10.00	0.06	2.61	4.52	7.27
Riverbank AAP	1.18	0.00	10.00	0.00	4.63	0.00	0.00	0.00	0.00
Rock Island Arsenal	2.14	10.00	10.00	0.00	0.00	0.00	6.29	7.40	4.17
Schofield Barracks	3.95	10.00	10.00	6.21	0.45	0.00	4.16	7.96	3.14
Scranton AAP	1.55	8.33	10.00	0.00	0.61	0.00	0.00	0.00	0.11
Sierra AD	2.49	10.00	10.00	6.53	4.07	0.00	5.24	8.39	0.25
Soldier Systems Support Center	1.96	10.00	10.00	0.00	0.71	0.00	0.81	4.63	0.61
Tobyhanna AD	2.79	10.00	10.00	0.00	0.39	0.00	3.70	6.79	0.92
Tooele AD	2.48	10.00	3.39	4.25	1.64	0.00	2.90	8.08	0.25
Tripler AMC	1.26	10.00	10.00	0.00	0.25	0.00	1.02	0.00	0.00
Umatilla Chem Depot	1.31	10.00	10.00	0.04	3.30	0.00	1.68	0.00	0.12
USAG Selfridge	1.51	10.00	10.00	0.00	1.09	0.00	1.09	0.00	0.27
Walter Reed AMC	2.33	6.67	10.00	0.00	10.00	0.33	1.68	5.18	1.26
Watervliet Arsenal	2.25	8.33	10.00	0.00	0.00	0.00	5.88	7.93	0.21
West Point	1.88	6.67	3.39	0.77	1.06	0.00	0.00	0.00	1.95
White Sands MR	5.16	10.00	10.00	10.00	10.00	0.00	2.59	0.00	2.18
Yuma PG	5.31	8.33	10.00	10.00	6.18	0.00	0.26	2.77	0.40
Lease - ARPERCEN	1.06	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Ballston Complex	0.93	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army JAG Agency	0.94	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army JAG School	0.91	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army Research Office	1.15	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Bailey's Crossroads	1.16	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Crystal City Complex	1.11	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Hoffman Complex	1.11	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - HQ, ATEC	1.27	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - PEO STRICOM	1.01	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Rosslyn Complex	1.20	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Lake City AAP	1.78	3.30	6.90	0.00	0.54	2.31	1.24	0.00	0.00
Letterkenny AD	2.69	7.18	8.10	0.00	0.54	0.00	3.39	0.50	3.74
Lima Tank Plant	1.60	7.18	6.90	1.12	0.54	0.00	0.00	2.14	1.73
Lone Star AAP	1.73	3.01	6.90	0.00	0.54	6.92	1.25	0.22	0.24
Louisiana AAP	1.79	3.30	6.90	0.00	0.54	0.77	0.00	0.00	0.00
McAlester AAP	3.10	7.18	4.80	0.00	0.54	4.62	10.00	0.00	0.00
Milan AAP	1.92	7.18	6.90	0.00	0.54	9.23	3.38	0.00	0.00
Mississippi AAP	1.91	10.00	6.90	0.00	0.54	0.77	0.17	0.00	0.00
MOT Sunny Point	2.09	7.18	8.50	0.00	0.54	0.00	0.00	0.00	0.00
Newport Chem Depot	1.85	3.01	6.90	0.00	0.54	0.00	0.00	0.00	0.00
Picatinny Arsenal	2.33	7.18	8.10	4.02	0.54	0.00	0.06	0.00	0.00
Pine Buff Arsenal	1.84	6.74	9.00	2.72	0.54	4.62	5.31	0.97	1.92
Presidio Of Monterey	1.35	7.18	6.90	0.00	0.54	0.00	0.00	0.00	0.00
Pueblo Chem Depot	2.03	10.00	6.90	0.00	0.54	0.00	2.37	0.00	0.00
Radford AAP	1.51	3.01	7.80	0.00	0.54	3.85	0.65	0.00	0.00
Red River AD	2.61	3.01	6.90	0.00	0.54	0.00	2.57	0.03	4.88
Redstone Arsenal	2.99	3.01	9.20	6.74	0.54	0.00	0.00	0.00	0.00
Riverbank AAP	1.18	7.18	6.90	0.00	0.54	1.54	0.00	0.00	0.00
Rock Island Arsenal	2.14	0.43	9.10	2.25	0.54	0.00	0.00	0.78	2.59
Schofield Barracks	3.95	10.00	7.00	0.00	6.86	0.00	0.00	0.00	0.00
Scranton AAP	1.55	7.18	8.10	0.00	0.54	1.54	0.00	0.00	0.00
Sierra AD	2.49	3.30	6.90	0.00	0.54	0.00	7.19	0.00	0.00
Soldier Systems Support Center	1.96	7.18	9.00	0.00	0.54	0.00	0.00	0.00	0.00
Tobyhanna AD	2.79	6.74	8.80	0.00	0.54	0.00	0.00	10.00	8.34
Tooele AD	2.48	6.74	6.90	2.25	0.54	0.00	4.70	0.00	0.31
Tripler AMC	1.26	10.00	6.00	0.00	0.54	0.00	0.00	0.00	0.00
Umatilla Chem Depot	1.31	3.01	6.90	0.00	0.54	0.00	0.00	0.00	0.00
USAG Selfridge	1.51	3.30	8.10	0.00	0.54	0.00	0.00	0.00	0.00
Walter Reed AMC	2.33	10.00	8.10	0.00	0.54	0.00	0.00	0.00	0.00
Watervliet Arsenal	2.25	3.30	8.10	0.00	0.54	0.00	0.00	0.15	0.86
West Point	1.88	7.18	9.10	0.00	0.54	0.00	0.00	0.00	0.00
White Sands MR	5.16	7.18	10.00	9.53	10.00	0.00	0.00	0.00	0.00
Yuma PG	5.31	4.48	7.10	4.38	10.00	0.00	0.00	0.00	0.02
Lease - ARPERCEN	1.06	7.18	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Ballston Complex	0.93	10.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army JAG Agency	0.94	10.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army JAG School	0.91	7.18	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army Research Office	1.15	10.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Bailey's Crossroads	1.16	10.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Crystal City Complex	1.11	10.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Hoffman Complex	1.11	10.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - HQ, ATEC	1.27	10.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - PEO STRICOM	1.01	7.18	7.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Rosslyn Complex	1.20	10.00	7.00	0.00	0.00	0.00	0.00	0.00	0.00

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

Lake City AAP	1.78	0.01	3.64	0.00	10.00	3.76	4.33	6.02	0.79
Letterkenny AD	2.69	2.82	6.08	2.22	1.11	2.06	10.00	4.87	0.79
Lima Tank Plant	1.60	0.02	5.03	1.14	1.11	2.20	10.00	2.56	0.79
Lone Star AAP	1.73	0.01	3.27	1.14	1.11	3.14	10.00	1.04	0.02
Louisiana AAP	1.79	0.67	1.36	1.14	4.81	5.26	10.00	1.71	5.90
McAlester AAP	3.10	10.00	3.43	0.00	1.11	0.00	10.00	0.61	3.65
Milan AAP	1.92	0.22	3.02	0.00	1.11	1.14	4.33	1.60	2.23
Mississippi AAP	1.91	0.48	4.30	1.14	1.11	0.84	4.33	4.00	5.90
MOT Sunny Point	2.09	0.05	0.71	0.00	4.81	3.95	0.00	1.35	0.00
Newport Chem Depot	1.85	0.01	4.90	1.14	1.11	0.57	4.33	2.29	0.79
Picatiny Arsenal	2.33	0.59	5.98	2.22	4.72	4.53	10.00	10.00	5.42
Pine Buff Arsenal	1.84	2.80	0.01	0.00	1.11	2.75	4.33	2.29	3.65
Presidio Of Monterey	1.35	0.11	5.33	0.35	0.00	2.39	4.33	1.43	0.00
Pueblo Chem Depot	2.03	7.55	3.05	1.14	1.11	3.51	4.33	1.89	0.02
Radford AAP	1.51	0.73	5.81	1.14	1.11	1.57	0.00	2.67	0.00
Red River AD	2.61	6.65	3.27	1.14	1.11	3.14	10.00	1.08	0.79
Redstone Arsenal	2.99	3.07	4.17	2.58	4.81	2.89	4.33	2.87	10.00
Riverbank AAP	1.18	0.01	1.52	0.00	0.32	2.29	4.33	5.11	2.23
Rock Island Arsenal	2.14	1.55	4.51	1.14	1.11	2.66	4.33	2.24	5.42
Schofield Barracks	3.95	1.28	1.03	2.22	4.72	4.12	4.33	2.90	0.79
Scranton AAP	1.55	0.01	6.70	0.00	4.81	2.99	4.33	4.26	0.00
Sierra AD	2.49	4.59	4.62	0.00	1.11	1.25	4.33	0.87	0.02
Soldier Systems Support Center	1.96	0.07	6.14	5.81	4.72	6.27	0.00	10.00	5.42
Tobyhanna AD	2.79	2.24	6.08	1.14	4.81	0.48	4.33	6.90	7.19
Tooele AD	2.48	3.29	3.86	2.22	1.11	0.00	10.00	4.29	2.23
Tripler AMC	1.26	0.00	1.03	2.22	4.72	4.12	4.33	2.90	5.90
Umatilla Chem Depot	1.31	0.08	3.24	0.00	1.11	0.00	10.00	0.94	0.00
USAG Selfridge	1.51	0.01	4.09	2.22	7.66	3.94	0.00	10.00	2.23
Walter Reed AMC	2.33	0.09	4.46	10.00	4.72	2.87	0.00	10.00	3.65
Watervliet Arsenal	2.25	0.18	6.31	2.58	2.52	3.88	4.33	4.50	3.65
West Point	1.88	0.16	6.31	5.81	0.00	4.74	4.33	10.00	0.00
White Sands MR	5.16	0.52	2.93	0.00	1.11	1.96	4.33	0.25	3.65
Yuma PG	5.31	0.29	0.99	0.00	1.11	1.49	10.00	0.05	3.65
Lease - ARPERCEN	1.06	0.00	3.64	10.00	7.66	4.05	0.00	0.00	0.00
Lease - Ballston Complex	0.93	0.00	0.01	2.58	4.72	4.43	4.33	0.00	0.00
Lease - Army JAG Agency	0.94	0.00	0.01	5.81	4.72	4.43	0.00	0.00	0.00
Lease - Army JAG School	0.91	0.00	5.81	1.14	0.32	10.00	0.00	0.00	0.00
Lease - Army Research Office	1.15	0.00	3.46	10.00	7.66	1.89	0.00	0.00	0.00
Lease - Bailey's Crossroads	1.16	0.00	4.46	10.00	4.72	4.43	10.00	0.00	0.00
Lease - Crystal City Complex	1.11	0.00	4.46	10.00	4.72	4.43	0.00	0.00	0.00
Lease - Hoffman Complex	1.11	0.00	4.46	10.00	4.72	4.43	0.00	0.00	0.00
Lease - HQ, ATEC	1.27	0.00	4.46	10.00	4.72	4.43	0.00	0.00	0.00
Lease - PEO STRICOM	1.01	0.00	1.99	2.58	7.66	2.90	0.00	0.00	0.00
Lease - Rosslyn Complex	1.20	0.00	4.46	10.00	4.72	4.43	0.00	0.00	0.00

DEPARTMENT OF THE ARMY—BRAC 2005—ANALYSES AND RECOMMENDATIONS

Lake City AAP	1.78	7.77	0.00	0.00	8.46	0.81	1.49	7.17	3.91
Letterkenny AD	2.69	8.08	0.00	0.00	8.24	5.31	1.49	6.36	6.52
Lima Tank Plant	1.60	8.15	0.00	0.00	7.93	0.53	1.49	0.00	4.35
Lone Star AAP	1.73	8.85	0.00	0.00	6.28	7.31	0.39	4.95	3.48
Louisiana AAP	1.79	8.85	0.00	0.00	5.41	0.22	0.80	3.00	3.48
McAlester AAP	3.10	9.23	2.84	0.00	7.77	10.00	3.45	8.54	4.35
Milan AAP	1.92	9.00	0.00	0.00	6.02	4.73	0.80	2.46	2.17
Mississippi AAP	1.91	9.23	0.00	0.00	0.00	4.17	0.80	5.06	5.65
MOT Sunny Point	2.09	9.00	2.84	0.00	7.30	5.00	0.35	3.51	3.48
Newport Chem Depot	1.85	8.15	0.00	0.00	9.03	8.79	0.80	9.05	3.48
Picatinny Arsenal	2.33	6.46	0.07	0.00	8.76	6.21	0.35	4.76	9.13
Pine Buff Arsenal	1.84	8.77	2.84	0.00	8.67	0.09	1.49	2.94	3.91
Presidio Of Monterey	1.35	6.39	0.07	0.00	9.56	0.39	3.45	0.00	3.91
Pueblo Chem Depot	2.03	8.31	0.00	0.00	4.79	9.93	0.80	8.81	0.00
Radford AAP	1.51	8.46	0.00	0.00	7.84	1.12	0.80	6.48	2.61
Red River AD	2.61	8.85	2.84	0.00	8.75	1.34	1.49	4.31	3.91
Redstone Arsenal	2.99	9.15	0.07	0.00	9.80	6.85	3.63	2.76	2.17
Riverbank AAP	1.18	6.69	0.00	0.00	7.20	0.09	0.80	0.00	4.35
Rock Island Arsenal	2.14	7.85	2.84	0.00	9.33	1.01	1.49	1.44	3.91
Schofield Barracks	3.95	2.85	0.95	7.59	9.33	0.36	3.63	7.97	0.44
Scranton AAP	1.55	7.62	0.00	0.00	5.65	0.00	0.39	0.41	7.39
Sierra AD	2.49	5.77	2.84	0.00	5.37	8.60	1.49	9.45	1.74
Soldier Systems Support Center	1.96	7.08	0.00	0.00	9.44	0.16	0.80	0.02	4.78
Tobyhanna AD	2.79	7.46	0.95	0.00	8.88	2.21	1.49	2.47	0.44
Tooele AD	2.48	7.62	2.84	0.00	7.97	9.87	1.49	4.95	0.44
Tripler AMC	1.26	2.69	0.00	0.00	9.12	0.15	1.49	2.40	0.44
Umatilla Chem Depot	1.31	6.54	0.00	0.00	7.28	0.00	0.80	9.15	0.87
USAG Selfridge	1.51	7.08	2.84	0.00	8.50	0.37	1.49	0.04	4.35
Walter Reed AMC	2.33	7.85	2.84	0.00	9.73	0.01	1.49	2.61	6.96
Watervliet Arsenal	2.25	7.85	2.84	0.00	8.35	0.02	0.35	0.09	8.70
West Point	1.88	4.92	0.95	0.00	8.85	0.08	0.35	5.99	9.57
White Sands MR	5.16	8.00	0.95	5.00	9.03	9.61	0.35	5.71	0.87
Yuma PG	5.31	5.69	0.95	5.00	8.83	10.00	3.45	9.34	1.30
Lease - ARPERCEN	1.06	7.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Ballston Complex	0.93	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army JAG Agency	0.94	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army JAG School	0.91	8.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Army Research Office	1.15	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Bailey's Crossroads	1.16	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Crystal City Complex	1.11	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - Hoffman Complex	1.11	7.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease - HQ, ATEC	1.27	9.15	0.00	0.00	0.00	0.00	0.00	0.00	2.61
Lease - PEO STRICOM	1.01	7.85	0.00	0.00	0.00	0.00	0.00	0.00	1.30
Lease - Rosslyn Complex	1.20	7.85	0.00	0.00	0.00	0.00	0.00	0.00	2.17

IJCSG Summary Military Value Report for Munitions

<i>Activity:</i>	<i>Score:</i>
<i>Munitions Production</i>	
MCALISTER AAP	0.5967
MILAN AAP	0.5708
LONE STAR AAP	0.5319
CRANE ARMY AMMUNITION ACTIVITY	0.4836
NAVSURFWARCENDIV_INDIAN_HEAD_MD	0.4592
IOWA AAP	0.3144
LAKE CITY AAP	0.2992
KANSAS ARMY AMMUNITION PLANT	0.2781
RADFORD AAP	0.2735
SCRANTON AAP	0.2450
NSWC_INDIAN_HEAD_DET_YORKTOWN	0.2042
PINE BLUFF ARSENAL	0.1911
HOLSTON AAP	0.1493

Database Date: 4/18/2005

Page 1 of 2

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IJCSG Summary Military Value Report for Munitions

<i>Activity:</i>	<i>Score:</i>
RIVERBANK AAP	0.1075
MISSISSIPPI AAP	0.0765
LOUISIANA AAP	0.0343

IJCSG - Munitions/Armaments Capacity Report - Capacity By Site

<i>Site</i>	<i>Function</i>	<i>Category</i>	<i>Current Capacity*</i>	<i>Current Usage*</i>	<i>Maximum Capacity*</i>	<i>Capacity in Excess of Current Usage*</i>
USA	LONE STAR AAP					
	MUNITIONS DEMILITARIZATION					
		DEPLETED URANIUM AMMO	482.1	363.0	872.4	119.1 -- 509.4
		HE ICM/BU & SUBMUNITIONS	121.3	7.7	242.7	113.7 -- 235.0
		HIGH EXPLOSIVE MUNITIONS	544.5	387.6	997.4	157.0 -- 609.8
		PROPELLENTS	28.4	0.0	28.4	28.4 -- 28.4
		PYROTECHNICS/INCENDIARY AMMO	1.6	0.0	1.6	1.6 -- 1.6
		Site Total	1,178.0	758.3	2,142.6	419.7 -- 1,384.3
		Percent of Capacity Not Utilized				35.6% -- 64.6%
	Munitions Production					
		Artillery	38,569.0	0.0	38,569.0	38,569.0 -- 38,569.0
		Cluster Bombs	3,912.0	0.0	3,912.0	3,912.0 -- 3,912.0
		Mines	57,996.0	0.0	57,996.0	57,996.0 -- 57,996.0
		Mortar	10,000.0	0.0	10,000.0	10,000.0 -- 10,000.0
		Pyro/Demo	22,752,222.0	589,901.0	22,752,222.0	22,162,321.0 -- 22,162,321.0
		Rockets	1,281,297.0	75,000.0	1,281,297.0	1,206,297.0 -- 1,206,297.0
		Site Total	24,143,996.0	664,901.0	24,143,996.0	23,479,095.0 -- 23,479,095.0
		Percent of Capacity Not Utilized				97.2% -- 97.2%

* Capacity is measured in dlh(k) for Armaments Production/Manufacturing and Munitions Maintenance functions; short tons for Munitions Demilitarization; ksf for Munitions Storage; and lbs or each(s) as applicable for Munitions Production.

LSAAP Data Call Questions & Answers

DODNUM	DODNUM	ROWNUM	QUESTIONNAME	QUESTIONTEXT	ANSWERTYPE	COLCOUNT	PHASE
2420	2420	Z	Number of Contractor Employees and Size of Payroll in Support of Munitions Manufacturing Facility	What are the number of contractor employees supporting munitions production (numeric in Persons (Pers)) and the size of payroll (in thousands of dollars (\$K))? (Note: Use data as of 30 Sep 03)	Fixed Grid	3	2_phase_II
2420	2420	rownum	Munitions Manufacturing Facility	Number of Employees (numeric in Pers) Number of personnel	Size of Payroll (\$K) Thousands of Dollars	changedate	Answersource
2420	2420	1	Contractor Support	129	3414.1	02-Nov-04	
2426	2426	Z	Number of Contractors and Size of Payroll for Munitions Maintenance facility	What are the number of contractor employees supporting munitions maintenance (numeric in Persons (Pers)) and size of payroll (in thousands of dollars (\$K))? (Note: Use data as of 30 Sep 03).	Fixed Grid	3	2_phase_II
2426	2426	rownum	Munitions Maintenance Facility	Number of Employees (numeric in Pers) Number of personnel	Size of Payroll (numeric in \$K) Thousands of Dollars	changedate	Answersource
2426	2426	1	Contractor Support	0	0	02-Nov-04	
2435	2435	Z	Number of Contractors and Size of Payroll for Munitions Storage facility	What are the number of contractor employees supporting storage and distribution (numeric in Persons (Pers)) and size of payroll (in thousands of dollars (\$K))? (Note: Use data as of 30 Sep 03).	Fixed Grid	3	2_phase_II
2435	2435	rownum	Munitions Storage and Distribution Facility	Number of Employees (numeric in Pers) Number of personnel	Size of Payroll (in \$K) Thousands of Dollars	changedate	Answersource
2435	2435	1	Contractor Support			11-Aug-04	
2442	2442	Z	Number of Contractors and size of payroll for Munitions Demilitarization Facility	What are the number of contractor employees supporting munitions demilitarization (numeric in Persons (Pers)) and size of payroll (\$K)? (Note: Use data as of 30 Sep 03).	Fixed Grid	3	2_phase_II
2442	2442	rownum	Demilitarization Facility	Number of Employees (numeric in Pers) Number of personnel	Size of Payroll (in \$K) Thousands of Dollars	changedate	Answersource
2442	2442	1	Contractor Support	0	0	02-Nov-04	

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ASIP Station Report
Units in Base
No Current Filters

SOUTHWEST

Army Base: LONE STAR ARMY AMMUNITION PLANT
Station Code: 48513 INSNO: 48305
Station: LONE STAR ARMY AMMUNITION PLANT
TEXARKANA, TX, 75505-9101

Facility ID: Congressional District: TX-04
Phone: 903-334-1207 GELOC: NPMM

UIC Undes	CARS Unbr Br	Description	SRC ACTCO	EDATE	FY						
Asgmt	TPSN Source	Compo	CCNUM	CCNUM	2005	2006	2007	2008	2009	2010	2011
Type unit: TDA											
WOLHAA	W0LH PLN	LONE STAR ARMY AM	X	OFF	1	1	1	1	1	1	1
			20061001	WOF	0	0	0	0	0	0	0
				ENL	0	0	0	0	0	0	0
XQ	46203	SMS	1	USD	18	18	18	18	18	18	18
				OTH	0	0	0	0	0	0	0
TDA					FY						
					2005	2006	2007	2008	2009	2010	2011
Total Officer					1	1	1	1	1	1	1
Total Warrant					0	0	0	0	0	0	0
Total Enlisted					0	0	0	0	0	0	0
Total USD					18	18	18	18	18	18	18
Total Other					0	0	0	0	0	0	0

Type unit: CONTRACTORS

@0LH01	CONTRACTORS			OFF	0	0	0	0	0	0	0
	DAY & ZIMMERMANN			WOF	0	0	0	0	0	0	0
CM	DAI	Z	20031001	ENL	0	0	0	0	0	0	0
				USD	0	0	0	0	0	0	0
				OTH	400						
					404	404	404	404	404	404	404
@0LH02	CONTRACTORS			OFF	0	0	0	0	0	0	0
	TEXAS RAILCAR STORAGE CO.			WOF	0	0	0	0	0	0	0
CM	DAI	Z	20031001	ENL	0	0	0	0	0	0	0
				USD	0	0	0	0	0	0	0
				OTH	5	5	5	5	5	5	5
@0LH03	CONTRACTORS			OFF	0	0	0	0	0	0	0
	TEC LINENS INC			WOF	0	0	0	0	0	0	0
CM	DAI	Z	20031001	ENL	0	0	0	0	0	0	0
				USD	0	0	0	0	0	0	0
				OTH	22						
					30	30	30	30	30	30	30
@0LH04	CONTRACTORS			OFF	0	0	0	0	0	0	0
	AMERICAN DEHYD FOODS			WOF	0	0	0	0	0	0	0
CM	DAI	Z	20031001	ENL	0	0	0	0	0	0	0
				USD	0	0	0	0	0	0	0
				OTH	25						
					17	17	17	17	17	17	17
@0LH05	CONTRACTORS			OFF	0	0	0	0	0	0	0
	MUNITIONS TECHNOLOGIES DIVISION, DZI			WOF	0	0	0	0	0	0	0
CM	DAI	Z	20031001	ENL	0	0	0	0	0	0	0
				USD	0	0	0	0	0	0	0
				OTH	5						
					2	2	2	2	2	2	2

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ASIP Station Report
Units in Base
No Current Filters

SOUTHWEST

Army Base: LONE STAR ARMY AMMUNITION PLANT
Station Code: 48513 INSNO: 48305
Station: LONE STAR ARMY AMMUNITION PLANT
TEXARKANA, TX, 75505-9101

Facility ID: Congressional District: TX-04
Phone: 903-334-1207 GELOC: NPMM

UIC	CARS	Unbr	Br	Description	SRC	ACTCO	FY	FY	FY	FY	FY	FY	
Undes	TPSN	Source	Compo		EDATE	CCNUM	2005	2006	2007	2008	2009	2010	2011
Asgmt													

Type unit: **CONTRACTORS**

CONTRACTORS

	FY						
	2005	2006	2007	2008	2009	2010	2011
Total Officer	0	0	0	0	0	0	0
Total Warrant	0	0	0	0	0	0	0
Total Enlisted	0	0	0	0	0	0	0
Total USD	0	0	0	0	0	0	0
Total Other	157 458						

LONE STAR ARMY AMMUNITION PLANT

Station Total

	FY						
	2005	2006	2007	2008	2009	2010	2011
Total Officer	1	1	1	1	1	1	1
Total Warrant	0	0	0	0	0	0	0
Total Enlisted	0	0	0	0	0	0	0
Total USD	18	18	18	18	18	18	18
Total Other	157 458						

COBRA INPUT DATA REPORT (COBRA v6.10) - Page 8
 Data As Of 5/2/2005 2:20:07 PM, Report Created 5/2/2005 2:20:09 PM

Department : Industrial
 Scenario File : Z:\Cobra\Munitions&Armaments\IND 0122 Close Lone Star AAP\IND0122 Lone Star AAP _Alt
 05022005.CBR
 Option Pkg Name: Close Lone Star AAP - Alt (move selected workload to Iowa)
 Std Fctrs File : C:\Documents and Settings\Desktop\COBRA 6.10\BRAC2005.SFF

FOOTNOTES FOR SCREEN ONE

=====
 Close Lone Star Army Ammunition Plant, TX. Relocate the Storage and Demilitarization functions to McAlester, OK. Relocate the 105MM and 155MM ICM Artillery, MLRS Artillery, hand Grenades, 60MM and 81MM Mortars functions to Milan AAP, TN. Relocate Mines and Detonators/Relays/Delays functions to Iowa AAP, IA. Relocate Demolition Charges functions to Crane AAA, IN.

FOOTNOTES FOR SCREEN FIVE

=====
 LONE STAR:

FY 07 \$4,025k: \$3,875k is cost to move equipment, tooling for ICM (MA-4 Action 1)
 \$150k is for equipment for grenades (MA-9 Action 4)

FY 08 \$2,722k: Cost to move stock to McAlester (MA-2 Action 3)

FY 09 \$2,600k: \$1,200k Disconnect utilities (MA-9-Action 2)
 \$300k Cost to placed in modified caretaker (MA-4 Action 1)
 \$300k Cost to place in modified caretaker (MA-9 Action 3)
 \$300k Cost to place in Modified caretaker (MA-6 Action 1)
 \$500k Cost to decontaminate, disconnect utilities, and close building (MA-9 Action 4)

FY 11 \$1,300k: From page 12 of criteria 8, Summary of Scenario Environmental Impacts, "COBRA costs"; EBS plus disposal EIS. FY 11 was selected because the shipment of serviceable stock occurs in FY 08 and demil occurs until FY 11. Military Departments wants to make sure permits, waivers, and restrictions are in place by FY 08 and decommissioning is complete by the end of FY 11.

3,494KSF: Fac ShDn is derived from Screen Four - static base information for "Starting Facilities"

FY 06, 07, 08, 09, 10, and 11: \$8,461k in each of these years represents miscellaneous cost that cancels out recurring savings generated by recap cost. Memorandum dated 31 Mar 2005, subject: Recapitalization Savings for Army Ammunition Plants, directs the removal of recap savings from 4 ammunition plants (Kansas AAP, Riverbank AAP, Lone Star AAP, and Mississippi AAP).

MILAN:

FY 07 \$3,759k: \$700k Cost to modify building and install truck loading dock (MA-4 Action 1)
 \$50k Cost for training and travel (MA-4 Action 1)
 \$3,009k Cost for equipment upgrade and installation (MA-9 Action 4)

FY 07 \$1,000k: From page 12 of criteria 8, Summary of Scenario Environmental Impacts, "COBRA costs"; EIS. FY 07 was selected because the shipment of serviceable stock occurs in FY 08 and demil occurs until FY 11. Military Departments wants to make sure permits, waivers, and restrictions are in place by FY 08 and decommissioning is complete by the end of FY 11.

CRANE:

FY 07 \$75k: \$30k for facility upgrade (MA-9 Action 3)
 \$5k for training and travel (MA-9 Action 3)
 \$40k for equipment and tooling (MA-9 Action 3)

FY 07 \$1,050k: From page 12 of criteria 8, Summary of Scenario Environmental Impacts, "COBRA costs"; Air Conformity Analysis and EIS. FY 07 was selected because the Military Departments wants to make sure permits, waivers, and restrictions are in place by FY 08 and decommissioning is complete by the end of FY 11.

IOWA:

COBRA INPUT DATA REPORT (COBRA v6.10) - Page 9

Data As Of 5/2/2005 2:20:07 PM, Report Created 5/2/2005 2:20:09 PM

Department : Industrial
Scenario File : Z:\Cobra\Munitions&Armaments\IND 0122 Close Lone Star AAP\IND0122 Lone Star AAP _Alt
05022005.CBR
Option Pkg Name: Close Lone Star AAP - Alt (move selected workload to Iowa)
Std Fctrs File : C:\Documents and Settings\Desktop\COBRA 6.10\BRAC2005.SFF

FY 07 \$5,525k: \$5,000k to facilitize Iowa for detonators (MA-9 Action 2 (alt 2)
\$525k for minor upgrade and building repair (MA-6 Action 1)

FY 07 \$1,000k: From page 12 of criteria 8, Summary of Scenario Environmental Impacts, "COBRA costs";
EIS. FY 07 was selected because the Military Departments wants to make sure permits, waivers, and
restrictions are in place by FY 08 and decommissioning is complete by the end of FY 11.

McAlester:

FY 07 \$1,000k: From page 12 of criteria 8, Summary of Scenario Environmental Impacts, "COBRA costs";
EIS. FY 07 was selected because the Military Departments wants to make sure permits, waivers, and
restrictions are in place by FY 08 and decommissioning is complete by the end of FY 11.

FY 08 \$1,752k: Cost to receipt stock from Lone Star. (MA-2 Action 3)

FOOTNOTES FOR SCREEN SIX

=====

Lone Star:

OFF/ENL/CIV Scenario Change numbers are derived from Screen Four - Total Officers (2) and Total Civilian
Employees (18).

Personnel are not needed at gaining site. Sufficient personnel and capability already exist.

DZLS One-time Other Excluded Cost Summary							
<i>One-time Other Cost Break Out (Equipment & Facilities)</i>							
Installation	Functions to Receive	Description (One-time Other)	Cobra (\$k)	Subtotals	DZLS /Cobra (\$k)	Notes	Subtotals
Lone Star		Move ICM equipment	\$ 3,875		\$ 5,523	1	
		Equip for grenades	\$ 150	\$ 4,025	\$ 2,222	2	\$ 7,745
Milan	M105MM/155MM ICM Artillery Hand Grenades 60MM & 81MM Mortars	Mod bldg & install truck loading dock	\$ 700		\$ 700		
		Equip upgrade & installation	\$ 3,009	\$ 3,709	\$ 3,709		\$ 4,409
Iowa	Mines Detonators/Relays/Delays	Facilitize Iowa for detonators	\$ 5,000		\$ 9,761	4	
		Minor upgrade & bldg repair	\$ 525	\$ 5,525	\$ 525		\$ 10,286
Crane	Demolition Charges	Facility upgrade	\$ 30		\$ 30		
		Equipment & tooling	\$ 40	\$ 70	\$ 1,242	3	\$ 1,272
McAlester	Storage & Demil		\$ -		\$ -		
					\$ 23,712		
Other Functions Excluded							
	R-Line Primers				\$ 2,502		
	Supp Charge				\$ 1,105		
	MCCM				\$ 173		\$ 3,780
		Total (One-time Other)	\$ 13,329		\$ 27,492		
Notes							
	1 Fuze production (SDF & M223), B-46 D&Z Press Design, MLRS Download & Retrofit equipment						
	2 Hand Grenade assy and pack equipment						
	3 B-2, B-46 sub-munition loading equipment						
	4 10 loaders (M55 (4), M53 (4), M76 (2)), powder processing and Cartrac transfer						
Not considered	Learning Curve to reestablish capability						
	Worker skill base and knowledge (\$55k for training & travel is underestimated)						
	Not have access to DZLS Intellectual property						
	No 105MM w/ SDF capability at Milan						
	Lone Star Detonator powder prep & transfer is more modern/safer facility than Milan						
	Vector presses @ Milan not successful in running IM explosives (DZLS press design)						
	MLRS - cone & explosive extractor (DZLS patented process) part of MLRS IM plan forward and waiver						

DZLS One-time Other Excluded Cost Detail

Items to Relocate	Dismantle		@ \$100/HR	Matl	Weeks	Months
	Wk	Cr				
105 & 155mm ICM & MLRS (Milan)			8,960			15
<i>Detonator & leads below</i>			3,280	896,000		5
Fuze assy - area P			2,720	328,000	43,000	37
Fuze assy - I-30			4,206	272,000	48,500	5
Fuze / Grenade assy - B-44 (2)			10,720	420,571	18,429	20
Body loading - B-46 (2)			7,600	1,072,000	21,143	148
MLRS download - B-10			13,760	760,000	143,500	164
Warhead download B-9				1,376,000	41,500	78
Retrofit Grenade B-4					82,000	54
Note: Vector presses could not load IM explosives					122	19.5
Hand Grenades (Milan)			21,120	2,112,000		13.5
Assembly & Pack	4			110,000		30.5
60 and 81 MM Mortar (Milan)	2				112	
Function existing at Milan	12					28
Mines, Detonators, Relays, Delays (Iowa)						
Loaders (10)	1		10,686	1,068,571	48,214	
Powder preparation			32,640	3,264,000	1,005,000	
Powder supply			32,960	3,296,000	345,000	
HVAC			6,880	688,000	46,000	
Demolition Charges (Crane)						
lead insert & hdn test B-2			2,800	280,000	124	31
Body loading B-46			8,400	840,000	191	52.5
Assy B-46			400	40,000	210	11.25
Other Function excluded						
R-line primers						
R-11						
R-9						
Supp Chg						
MCCM						
Total			199,211	19,921,143	2,606,186	22,527,329

7/6/2005

TOTAL COBRA REALIGNMENT DETAIL REPORT (COBRA v6.10) - Page 1/18
 Data As Of 5/2/2005 2:20:07 PM, Report Created 5/2/2005 2:20:10 PM

Department : Industrial
 Scenario File : Z:\Cobra\Munitions&Armaments\IND 0122 Close Lone Star AAP\IND0122 Lone Star AAP _Alt
 05022005.CBR
 Option Pkg Name: Close Lone Star AAP - Alt (move selected workload to Iowa)
 Std Fctrs File : C:\Documents and Settings\Desktop\COBRA 6.10\BRAC2005.SFF

ONE-TIME COSTS -----(\$K)-----	2006 ----	2007 ----	2008 ----	2009 ----	2010 ----	2011 ----	Total -----
CONSTRUCTION							
MILCON	0	0	0	0	0	0	0
O&M							
CIV SALARY				115	0	287	402
Civ RIF	0	0	0	12	0	12	24
Civ Retire	0	0	0				
CIV MOVING				0	0	0	0
Per Diem	0	0	0	0	0	0	0
POV Miles	0	0	0	0	0	0	0
Home Purch	0	0	0	0	0	0	0
HHG	0	0	0	0	0	0	0
Misc	0	0	0	0	0	0	0
House Hunt	0	0	0	71	0	71	142
PPP	0	0	0	0	0	0	0
RITA	0	0	0	0	0	0	0
FREIGHT				0	0	0	0
Packing	0	0	0	0	0	0	0
Freight	0	0	0	0	0	0	0
Vehicles	0	0	0	9	0	22	31
Unemployment	0	0	0				
OTHER				0	0	0	0
Info Tech	0	0	0	0	184	138	1,918
Prog Manage	583	437	328	246	0	0	0
Supt Contract	0	0	0	251	0	377	629
Mothball	0	0	4,474	0	0	0	4,474
1-Time Move	0	0					
MIL PERSONNEL							
MIL MOVING				0	0	0	0
Per Diem	0	0	0	0	0	0	0
POV Miles	0	0	0	0	0	0	0
HHG	0	0	0	0	0	0	0
Misc	0	0	0	0	0	0	0
OTHER	0	0	0	10	0	10	21
Elim PCS							
OTHER				0	0	0	0
HAP / RSE	0	0	0	0	0	1,300	5,350
Environmental	0	4,050	0	0	0	0	0
Misn Contract	0	0	0	0	0	0	15,984
1-Time Other	0	13,384	0	2,600	0	0	28,975
TOTAL ONE-TIME	583	17,871	4,802	3,315	184	2,218	

cluded Cost Detail

	1000				1				2000												Total	@\$100/HR	Matl	Weeks	Months													
	Dismantle	Wk	Cr	Hr	\$	Pack	Wk	Cr	Hr	\$	Truck	Loads	Transport	Wk	Cr	Hr	\$	Facility Prep	Wk	Cr						Hr	\$	install	Wk	Cr	Hr	\$	Debug	Wk	Cr	Hr	\$	Learning curve
	4	6	960	3,000	4	4	640	3,000		3			2			6,000	2	4	320	6,000	24	6	5,760	20,000	8	4	1,280	5,000	16					8,960	896,000	43,000	60	15
	2	6	480	2,500	2	4	320	3,000		3			2			6,000	6	5	1,200	25,000	4	6	960	10,000	2	4	320	2,000	2					3,280	328,000	48,500	20	5
	12	8	3,840	10,000	4	4	640	9,000		9			2			18,000	26	4	4,160	12,000	26	6	6,240	50,000	26	4	4,160	30,000	52					2,720	272,000	18,429	148	37
	12	8	3,840	10,000	4	4	640	6,000		6			2			12,000	52	4	8,320	50,000	52	6	12,480	50,000	26	4	4,160	20,000	16					4,206	420,571	21,143	164	41
	2	4	320	5,000	2	2	160	2,000		2			2			4,000	52	3	6,240	30,000	16	6	3,840	100,000	2	2	160	2,500	2					10,720	1,072,000	143,500	78	19.5
	2	4	320	1,000	2	2	160	1,000		1			2			2,000	26	3	3,120	25,000	16	6	3,840	10,000	2	2	160	2,500	4					7,600	760,000	41,500	54	13.5
	4	6	960	5,000	2	4	320	4,000		4			2			8,000	4	4	640	10,000	32	6	7,680	35,000	26	4	4,160	20,000	52					13,760	1,376,000	82,000	122	30.5
osives																																						
	8	10	3,200	10,000	8	5	1,600	10,000		10			4			20,000	16	4	2,560	15,000	52	6	12,480	35,000	8	4	1,280	20,000	16					21,120	2,112,000	110,000	112	28
	16	8	5,120	10,000	4	4	640	10,000		10			2			20,000	8	4	1,280	25,000	52	8	16,640	50,000	26	6	6,240	20,000	16					10,686	1,068,571	48,214	124	31
	4	6	960	10,000	3	4	480	5,000		5			2			10,000	78	5	15,600	800,000	52	6	12,480	150,000	26	3	3,120	30,000	26					32,640	3,264,000	1,005,000	191	
	52	6	12,480	15,000	8	4	1,280	5,000		5			4			10,000	52	4	8,320	100,000	52	4	8,320	200,000	16	4	2,560	15,000	26					32,960	3,296,000	345,000	210	52.5
	12	4	1,920	5,000	3	4	480	2,000		2			2			4,000	4	4	640	15,000	20	4	3,200	15,000	4	4	640	5,000	0					6,880	688,000	46,000	45	11.25
	4	2	320	500	2	2	160	1,000		1			2			2,000	3	2	240	5,000	12	3	1,440	10,000	8	2	640	500	8					2,800	280,000	19,000	39	9.75
	6	4	960	300	2	2	160	1,000		1			2			2,000	26	2	2,080	20,000	26	3	3,120	25,000	26	2	2,080	10,000	16					8,400	840,000	58,300	104	26
	1	2	80	100	1	2	80	1,000		1			2			2,000	1	2	80	500	2	2	160	1,000	0	0	0	0	2					400	40,000	4,600	9	2.25
	16	6	3,840	20,000	8	4	1,280	10,000		10			4			20,000	12	4	1,920	30,000	16	4	2,560	40,000	4	4	640	15,000	4					10,240	1,024,000	135,000	64	16
	16	6	3,840	20,000	8	4	1,280	8,000		8			4			16,000	16	4	2,560	50,000	12	6	2,880	50,000	8	4	1,280	15,000	6					11,840	1,184,000	159,000	70	17.5
	12	4	1,920	15,000	8	4	1,280	4,000		4			4			8,000	26	2	2,080	200,000	16	4	2,560	20,000	4	4	640	10,000	12					8,480	848,000	257,000	82	20.5
	1	4	160	1,000	2	4	320	1,000		1			1			2,000	2	4	320	5,000	4	4	640	10,000	1	2	80	2,000	4					1,520	152,000	21,000	15	3.75

INFORMATION PAPER

SFAE-AMO-CAS-MS

22 JUN 05

SUBJECT: Impact to M915 105mm Dual Purpose Improved Conventional Munition (DPICM) cartridge due to recently released BRAC list.

PURPOSE: To relate the impact of the potential BRAC actions on the M915 program.

FACTS:

The Load Assemble and Pack (LAP) facility that supports the M915 program, Lone Star Army Ammunition Plant (LSAAP, operated by Day and Zimmerman Inc. (DZI)), is slated for closure under the 2005 BRAC.

LSAAP supports the M915 program with specialized equipment and personnel that cannot be easily moved or duplicated, including:

- Lone Star is currently facilitized and in production for manufacturing and assembling critical components for the M234 Self Destruct Fuze (SDF). This technology is being leveraged into other programs (M864 155mm artillery, MLRS) to address the politically sensitive unexploded ordnance issue with DPICM submunitions. Any interruption of this capability would jeopardize the fielding of SDF for the M915 and other artillery DPICM munitions.
- LSAAP provides a SYSTEM LAP and self-contained production solution for multiple DPICM artillery projectiles and rocket systems, including the M915. Its capability to manufacture and assemble components for the M915 in a single facility provides a significant technical advantage and cost savings when compared to a distributed fabrication, shipping, and assembly model.
- DZI-LSAAP possesses unique engineering expertise and equipment which enabled the implementation of PAX-2A, a Type 2 Insensitive Munition (IM) compliant explosive fill, into M80 grenade submunitions. The IM fill provides increased survivability to the warfighter and his resources in compliance with current DOD policy. The corporate knowledge base residing at the Lone Star plant was crucial to providing the engineering expertise to transition this technology to an automated the high speed loading process. This technology was also leveraged for use in the larger caliber M42/46/77 submunitions used in 155mm and MLRS systems.
- The industrial base for DPICM grenade bodies is currently non-existent. DZI Lone Star has developed a prototype capability to cost effectively recapitalize grenades from stockpiled DPICM artillery shells by removing the conventional CompA5 explosive and replacing it with IM compliant fills. This is an essential resource for retrofitting and upgrading the existing DPICM ammunition stockpile to meet war reserve and operational requirements.
- The \$8.9M manufacturing technology investment made by JMC over the past 3 years at LSAAP in support of the M915 program will be lost if the facility is closed.

SUMMARY:

Closure of LSAAP would have significant cost and producibility impacts on the M915 program and on other programs as well.

William Vogt
M915/XM916
Project Officer
973-724-8430
OPM CAS

Released by: Mr. Bill Vogt
Project Officer, M915 Program
PM CAS
973-724-9430

INFORMATION PAPER
29-Jun-05

DEFENSE REUTILIZATION MARKETING SERVICE (DRMS) AT LSAAP
POSITIVE AREAS

A. DEDICATED DEMIL WORKFORCE

- a. The contractor personnel are a well-trained and motivated group.
- b. Demil/Mutilation are the only functions of the personnel, there is little down time.

B. ABILITY TO PROCESS PROPERTY

- a. The CDC at Texarkana dispositions totaled 77,633 L/I in Fy04.
- b. The CDC at Texarkana performed Demil for 28,705 L/I in Fy04.
- c. The CDC at Texarkana scrap proceeds totaled \$4,341,207.53 in Fy04.
- d. The CDC at Texarkana processed in excess of 7,000,000 lbs of property in Fy04.

C. ACCOUNTABILITY OF PROPERTY AND DEMIL COST DATA

- a. The contractor work orders are based on the DRMS consolidated inquiry.
- b. This provides a double check on any Document number demilled by the contractor.
- c. Cost data is maintained for all work orders. The document number, quantity, hours expended and the total cost of the work order are listed on the report.
- d. Cost data per MIPR is available so tracking of funding is possible.

D. EXPANSION OF FACILITIES

- a. We have expanded our facilities from 20,000 sq ft of covered storage area to 60,000 sq ft.
- b. We have the go ahead to move our Center to a central location with 10 20,000 sq ft warehouse and a 10,000 sq ft office space if needed.

Suggested LSAAP BRAC Language...

Lone Star Army Ammunition Plant, Texarkana, Texas

Category: Industrial Joint Cross-Service Group

Mission: Munitions and Armaments

One-time Cost: \$28.98 million

Savings: 20 yr NPV: \$164.2 million

Annual: \$17.3 million (after implementation)

Return on Investment: 2012 (1 year)

Requested Final Action: Close (with Privatization-in-place)

Secretary of Defense Recommendation

Close Lone Star Army Ammunition Plant (AAP), TX. Relocate the Storage and Demilitarization functions to McAlester AAP, IL. Relocate the 105MM and 155MM ICM Artillery, MLRS Artillery, Hand Grenades, 60MM and 81MM Mortars functions to Milan AAP, TN. Relocate Mines and Detonators/Relays/Delays functions to Iowa AAP, IA. Relocate Demolition Charges functions to Crane Army Ammunition Activity (AAA), IN.

Secretary of Defense Justification

Capacity and capability for Artillery, Mortars, Missiles, Pyro/Demo, and Storage exists at numerous munitions sites. There are 8 sites producing Artillery, 5 producing Mortars, 9 producing Pyro-Demo, 15 performing storage, and 13 performing Demilitarization. To reduce redundancy and remove excess from the Industrial Base, the closure allows DoD to create centers of excellence, avoid single point failure, and generate efficiencies. Goal is to establish multi-functional sites performing Demilitarization, Production, Maintenance, and Storage. Lone Star primarily performs only one of the 4 functions.

Community Concerns

The Texarkana community believes that the military value calculation performed by OSD for integrated capabilities does not accurately reflect the integrated value of the installation. Lone Star AAP was given credit for performing primarily one of the four function areas used to make up a center of excellence. In reality, Lone Star AAP is a multifunctional site, which performs the full scope of functions; demilitarization, production, maintenance, and storage. The community is also concerned with the capacity analysis which did not take into consideration the size and complexity of munitions or the fact that current capacity and max capacity were reported as equal. Also, the community is concerned that portions of the data call information provided to the OSD are inaccurate since the total manpower for Lone Star AAP was understated by 242 people, which prevented Lone Star AAP from acquiring a site visit. Finally, the community is concerned that all one-time costs were not considered when calculating savings and implementation of the recommendations. The Texarkana community has proposed a public-private partnership as an alternative reuse of the installation if the recommendation to close is approved. The community is concerned that a recommendation not interfere with its proposal.

Community Findings

The community found that OSD excluded \$14.16 million in costs for duplicative and closure related moving costs for system capabilities such as 105MM and 155MM ICM Artillery, MLRS Artillery, Hand Grenades, Detonators/Relays/Delays, and Demolition Charges that will jeopardize warfighter support during the estimated moving time to Milan AAP, TN, Iowa AAP, IA and Crane Army Ammunition Activity (AAA). For example, concerning Detonators, the state of the art initiating explosive processing and transfer system capability located at Lone Star AAP is not present at the gaining installation; however, these costs were not included to upgrade this facility to the same efficiency and safety standards which exist at Lone Star AAP. Cost of preparing and processing special delay mixes used in unique items appear to also be excluded. Other functions which seem to be excluded include; Supplementary Charge, Percussion Primers and Non-Lethal Munitions (MCCM). The community found that OSD failed to consider the value of proprietary data of the incumbent contractor gained from 54 years of operating the Lone Star AAP. The community believes that these exclusions will raise the one-time closure cost to \$43.14 million, which does not include the value of proprietary data of the incumbent contractor. The community found that OSD undervalued the military value and capacity analysis for the integrated capabilities that currently exist at the Lone Star AAP. The OSD used inappropriate attributes to form recommendations and those recommendations were inconsistently reported when compared to neighboring installations. Also, OSD did not account for the size and complexity of the munitions when calculating capacity; Detonators were given the same weight as MLRS rockets. Lone Star AAP is not currently producing at maximum capacity although OSD's capacity analysis indicated current capacity and maximum capacity were equal. This misrepresents the current utilization of Lone Star AAP. However, with the proposed alternative of privatization-in-place, the DoD will realize a one-time cost savings of \$40.6 million and the same net recurring savings as closure of \$17.3 million annually. These findings lead the community to conclude the most cost-effective method to implement OSD recommendations for the Lone Star AAP is privatization. The community strongly urges the Department of Defense to allow privatization of these assets.

Community Recommendations

The community finds the Secretary of Defense deviated substantially from final criteria 1, 4 and 5. Therefore, the community recommends the following: close the Lone Star Army Ammunition Plant, Texarkana, Texas. Transfer workload, equipment and facilities to the private sector or local jurisdiction as appropriate since the private sector can accommodate the workload onsite. To the extent that workload is moved to the private sector, such personnel as are necessary should remain in place to assist with transfer to the private sector; to perform functions compatible with private sector workload, and to carry out any transition activities. The community finds this recommendation is consistent with the force-structure plan and final criteria.



INTERNATIONAL

The case for privatizing the Army Ammunition Plants in the 2005 BRAC process

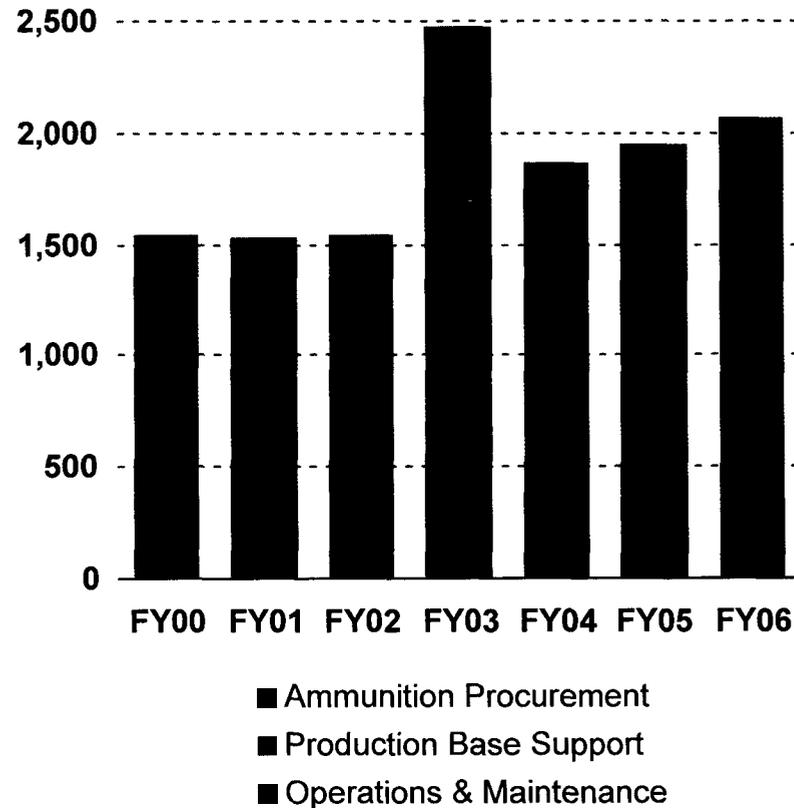
Initial Assessment — 8 June 2005

Where does the Defense Department get its munitions today?

In part, from the Army's own portfolio of industrial facilities

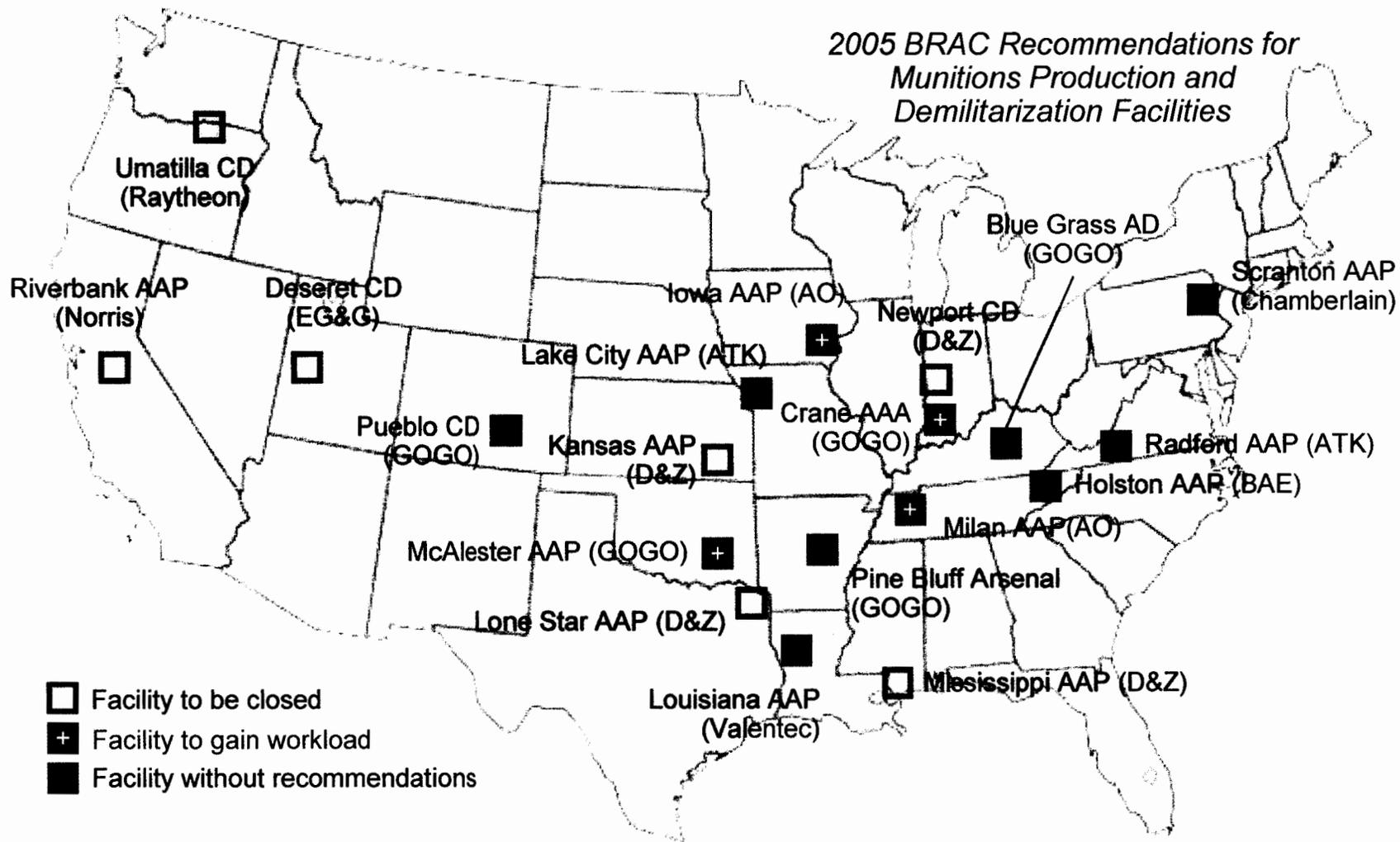
- The Defense Department spends over \$2 billion annually on munitions. The Army is the single executive manager and main customer
- Army spending has been increasing with the counterinsurgency campaign in Iraq
- About 30% of this spending is with eleven government-owned, but contractor-operated (GOCO) Army Ammunition Plants (AAPs)
- About 5% of the spending is with three government-owned, government-operated (GOGO) facilities
- The Army also maintains a wide range of facilities for ammunition storage and demilitarization, including chemical weapons disposal. Some of these are GOGOs and some are GOCOs
- However, about 65% of the Army's munitions spending is with 70 privately-owned plants in the US and a variety of privately-owned international sources
- With so much private ownership, the case for maintaining government ownership is unclear
- The Army has shown little leadership in this matter; the BRAC Commission has the opportunity to do otherwise

**Army Ammunition Spending
FY2000-FY2006
(US \$ MM)**



Source: W. Michael Hix, et. al., *Rethinking Governance of the Army's Arsenals and Ammunition Plants*, MR-1651 (Santa Monica: RAND, 2003); and CRA's analysis of Pentagon budget documents

What does the Secretary recommend for the Army's munitions facilities? Closing seven of the nineteen main sites, but none of the GOGOs



Source: Analysis of the 2005 BRAC list and other data.

CD = Chemical Depot, AD = Army Depot, AAP = Army Ammunition Plant, AAA = Army Ammunition Activity; D&Z = Day & Zimmermann, AO = American Ordnance, ATK = Alliant Techsystems, BAE = BAE Systems. The Umatilla, Deseret, Pueblo, Newport and Blue Grass depots are primarily demilitarization facilities; the rest are primarily production facilities, whether active or in layaway



What does the Secretary expect to save with these closures?

In net present terms, over \$1.8 billion—but mostly at chemical weapons depots

Savings and Direct Job Losses in the Recommendations for Munitions Facilities

<i>Facility to close</i>	<i>Operator</i>	<i>Activities to be moved to</i>	<i>20-year NPV (US\$ MM)*</i>	<i>Direct job losses*</i>
Umatilla CD	Raytheon	“no further use”	681.1	512
Newport CD	D&Z	“no further use”	436.2	571
Deseret CD	EG&G	“no further use”	356.4	248
Lone Star AAP	D&Z	McAlester, Iowa, Milan AAPs; Crane AAA	164.2	149
Kansas AAP	D&Z	McAlester, Iowa, Milan AAPs; Crane AAA	101.4	167
Riverbank AAP	Norris	Rock Island Arsenal	53.3	89
Mississippi AAP	D&Z	Rock Island Arsenal	38.6	54
			<u>\$1,831.2</u>	<u>1,790</u>

- Closing the chemical depots is an obvious move, as they will have finished destroying their stocks by 2008
- Closing the Riverbank and Mississippi AAPs is understandable, as the facilities are in layaway
- *Closing the Kansas and Lone Star AAPs, however, is difficult to understand. An analysis of these decisions reveals problems with OSD's data, methods, and understanding of business economics...*

Source: CRA's analysis of the 2005 BRAC list. Savings and job losses consider all activities at the base.

*Note that OSD's employment figures for several of the plants are disputed by the operating contractors

How does the Secretary justify the recommendations? By stating they would “reduce redundancy and remove excess” from the industry

	<i>Recommendation</i>	<i>Justification</i>
Kansas AAP	Close Kansas AAP. Relocate Sensor Fuzed Weapon/cluster bomb function and missile warhead production to McAlester AAP; 155mm ICM Artillery and 60mm, 81mm, and 120mm mortar functions to Milan AAP; 105mm HE, 155mm HE, and missile warhead functions to Iowa AAP; and detonators, relays, and delays to Crane AAA	Capacity and capability for artillery, mortars, missiles, and pyro/demo exists at numerous munitions sites. There are 8 sites producing artillery rounds, 5 producing mortar rounds, 9 producing pyro/demo, and 13 performing demilitarization. To reduce redundancy and remove excess from the industrial base, the closure allows centers of excellence, avoids single point failure, and generates efficiencies
Lone Star AAP	Close Lone Star Army AAP. Relocate the storage and demilitarization functions to McAlester AAP. Relocate the 105mm and 155mm ICM Artillery, MLRS Artillery, Hand Grenades, 60mm and 81mm mortars functions to Milan AAP. Relocate mines and detonator, relay, and delay functions to Iowa AAP. Relocate demolition charge functions to Crane AAA	Capacity and capability for artillery, mortars, missiles, pyro/demo, and storage exists at numerous munitions sites. There are 8 sites producing artillery rounds, 5 producing mortar rounds, 9 producing pyro-demo, 15 performing storage, and 13 performing demilitarization. To reduce redundancy and remove excess from the industrial base, the closure allows DoD to create centers of excellence, avoid single point failure, and generate efficiencies. Goal is to establish multi-functional sites performing demilitarization, production, maintenance, and storage. Lone Star primarily performs only one of the four functions

*Removing excess capacity may not have the effect that OSD intends.
Centers of Excellence are a long way off—in new locations with new workforces*

Source: *Industrial Joint Cross Service Group Final Report*, 10 May 2005, pp. 42 & 59. The text has been edited slightly for readability

Why not accept the recommendation for the Kansas AAP?

In the first place, because OSD's analysis was seriously flawed

- Kansas employs 314 people, not the 167 that OSD reported
- Artillery shells, mortar shells, and missile warheads are in production, but not in OSD's figures
- Kansas has won future production for precision-guided mortar munitions and spider smart mines
- The utilization calculation did not account for the size of the munition: 1-gram detonators and 1-ton cluster bombs were each considered "units." This made Kansas appear to be in layaway, since the capacity for pyrotechnics production is (by units) so high. The Kansas AAP, however, has several serious production programs underway

Industrial Joint Cross Service Group's analysis of munitions production at the Kansas AAP

	Current Capacity	Current Usage	Maximum Capacity	Excess Capacity	
				In Excess of Current Usage	In Excess of Max. Usage
Artillery	22,580	—	35,380	22,580	35,380
Cluster bombs	112	116	3,112	-4	2,996
Missiles	1,300	130	1,336	1,170	1,206
Mortars	—	—	30,000	0	30,000
Pyro/demo	—	—	3,000,000	0	3,000,000
Rockets	512,000	—	512,000	512,000	512,000
Site total	535,992	246	3,581,828	535,746	3,581,582
% capacity not utilized				100%	100%

Source: CRA's analysis of the 2005 BRAC data release and information provided by D&Z

Why not accept the recommendation for the Lone Star AAP? Again, in the first place, because OSD's analysis was seriously flawed

- Lone Star employs 423 people, not the 229 that OSD reported
- OSD again did not account for all production lines: Lone Star's production of hand grenades seems to have been completely ignored
- At Lone Star, the utilization calculation also did not account for the size of the munition: 1-gram detonators and MLRS rockets were each considered "units." This also made Lone Star appear to be in layaway, again because its capacity for pyrotechnics production is so high. Today, however, the Lone Star AAP is also quite active

Industrial Joint Cross Service Group's analysis of munitions production at the Lone Star AAP

	Current Capacity	Current Usage	Maximum Capacity	Excess Capacity	
				In Excess of Current Usage	In Excess of Max. Usage
Artillery	38,569	---	38,569	38,569	38,569
Cluster Bombs	3,912	---	3,912	3,912	3,912
Mines	57,996	---	57,996	57,996	57,996
Mortars	10,000	---	10,000	10,000	10,000
Pyro/Demo	22,752,222	589,901	22,752,222	22,162,321	22,162,321
Rockets	1,281,297	75,000	1,281,297	1,206,297	1,206,297
Site Total	24,143,996	664,901	24,143,996	23,479,095	23,479,095
% capacity not utilized				97.2%	97.2%

Source: CRA's analysis of the 2005 BRAC data release and information provided by D&Z

What else is wrong with the Secretary's recommendation? Closing the GOCO plants administratively is not the sure way to save money

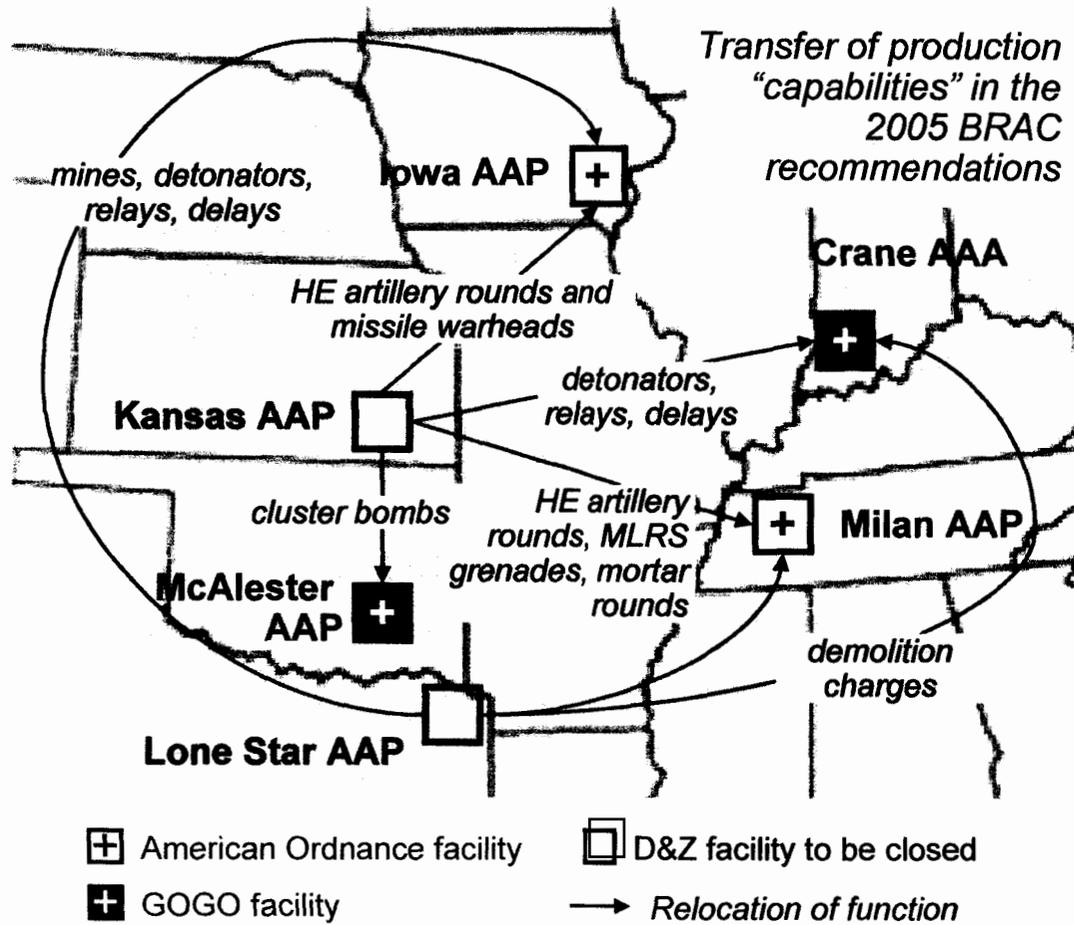
- Closing plants administratively will reduce the problem of redundant capacity but at a cost
- The government may make mistakes in deciding which plants to close
 - The government is only looking at a subset of the plants that produce munitions (GOGOs and GOCOs)
 - Determining the efficiency of a plant is a difficult task
 - Closing the wrong plant could have long-run implications for the customer
- Privatization accomplishes the same goal as administrative closure but with added benefits
 - Privatization eliminates redundant capacity from the government's budget
 - Market forces will ensure survival of the most efficient plants
 - Privatization creates stronger incentives for plants to innovate to reduce costs and bring greater value to the customer in the long-run

.....

Privatization also reduces government owned capacity, but with added benefits

How would these recommendations affect competition in the industry?

They would attempt to strengthen AO and the GOGOs at the expense of D&Z



- The Pentagon's report recommends the transfer of capabilities, but it is unclear that it will move production equipment
- Neither D&Z's staff nor intellectual property will be moved, so the receiving plants will face steep learning curves
- The Pentagon's recommendations have omitted the higher costs of procuring munitions from less efficient producers from its calculations
- Today, five entities in the US produce heavy munitions: D&Z, General Dynamics - Ordnance and Tactical Systems (GD-OTS), American Ordnance (AO), Alliant Techsystems, and the Army itself
- AO is a 50-50 joint venture between D&Z and GDOS, but it is managed as an entirely separate entity
- Thus, the net effect of the recommendations is to reduce the number of entities in the US with heavy munitions capacity from five to four—but with less capable facilities

Source: The 2005 BRAC list; Industrial Joint Cross Service Group Final Report, 10 May 2005, pp. 42 & 59; interviews with D&Z managers; and other research by CRA. NB: AAP = Army Ammunition Plant, AAA = Army Ammunition Activity. Note that the five main firms in the industry today actually experience a less competitive regime than would be expected in another market—governmental allocations have been reducing competitive pressures

Why should the Army Ammunition Plants be privatized?

Because private industry runs industry more efficiently than the Army

- Manufacturing is not a core competency of the Army. No other military service in NATO runs its own internal production operations. The Navy stopped building its own ships in the 1960s, and the government has not built its own aircraft since the 1920s. Manufacturing management is a distraction for the Army, keeping its attention on a non-core function. The PEO for Ammunition should be concerned with inventories, logistics, pricing, *etc.*, but not the actual manufacturing of the product

Transferring functions to the McAlester AAP and Crane AAA is thus a particularly bad idea, as these are government-operated plants whose workload is mostly allocated by the PEO for Ammunition, their primary customer

- Owning real estate and production equipment is an unnecessary economic activity for the Army. With two million tons of munitions in the stockpile and plants in layaway, the Army derives no particular advantage from owning ammunition plants. On the contrary, ownership creates an expectation of usage, which skews the contracting regime towards allocation
- Privatization exposes the plants to the rigors of market competition, which forces continual increases in efficiency. This has been particularly beneficial in Canada (see page 12)
- Closure would mean that the Army would incur front-loaded relocation and construction costs. Privatization would require private firms to make investment and recapitalization decisions, which more efficiently allocate capital than the Army's internal budgeting process. This has been particularly important in the UK and Australia (see page 11)

BRAC Commissions are a more efficient mechanism for industrial restructuring than legislative puts-and-takes.

Corporate decision-making under market pressures, however, is even better

Where has munitions production privatization been successful?

In the UK: Royal Ordnance was privatized in 1987

- Founded in 1560 as the Royal Gunpowder Factory (GOGO)
- Incorporated in 1984 as a Crown Corporation controlling 17 plants and employing some 19,000 staff
- Considered initially for an IPO in the Thatcher government's privatization drive, but the cabinet subsequently sought a strategic buyer
- Privatized to British Aerospace (now BAE Systems)
- Down to ten sites (8 in UK, 1 in US, 1 in France) and just 2,500 staff in 2004 when merged with Alvis to form BAE Land Systems
- Securely in British control: a "golden share" held by the government requires that
 - No foreign shareholder may hold more than 15% of the company
 - The majority of the board must be British subjects
 - The CEO and Chairman must be British
- In the middle of a ten-year, £1 billion "Framework Partnering Agreement" with the Ministry of Defence for the supply of munitions

BAE is now effectively 'Royal Swedish Ordnance' as well—

- Acquiring Sweden's Bofors through BAE's acquisition of United Defense. Bofors has recently become a global leader in smart weapons development
- Major shareholder in Saab, which owns Saab Bofors Dynamics, the primary source of munitions in Sweden and owner of the only large proving ground in the country

Sources: CRA's review of financial statements, analysts' reports, and press releases



Bofors' main facility in Karlskoga, Sweden. Roughly half of Bofors 500 staff now work in R&D, as most production has been transferred to Saab Bofors Dynamics



Where has munitions production privatization been successful? In Australia—Australian Defence Industries (ADI) was privatized in 1999

- Originated in 1888 as the Colonial Ammunition Company
- Purchased and converted into a GOGO in 1927
- Incorporated in 1989 as a Crown Corporation with four wholly-owned munitions plants. The firm promptly consolidated production from these four into the Benalla greenfield site (at right). The government retained ownership of the Mulwala explosives and propellants factory
- Privatized to Transfield Holdings (50%) and Thomson-CSF (50%, now Thales) as part of the Howard (Liberal) government's privatization drive. Assets transferred included aerospace, electronic, and shipbuilding facilities as well as munitions factories
- Produces aircraft bombs, 5.56 mm, 12.7 mm, 20 mm, 25 mm, 105 mm, 127 mm, detonators, grenades, flares, and rocket motors
- Has a "long-term strategic agreement for munitions" with the Australian Department of Defence
- Still operates Mulwala as a GOCO; committed through a long-term agreement with the government to modernize the plant



ADI's munitions manufacturing facility at Benalla in northeastern Victoria

*Munitions plants thus share a trait with military housing:
effective recapitalization virtually requires privatization*

*The military (whether in the US, the UK, or Australia) is
not likely to front modernization funds in the face of
competing budget priorities, but it will provide the cash
flow to the contractor over the long haul*

Sources: ADI Annual Activities Reports; David A. Mayne, *Australian Military Small Arms Ammunition Production 1888–2003*, (September 2004); and CRA's review of operating statements and press releases

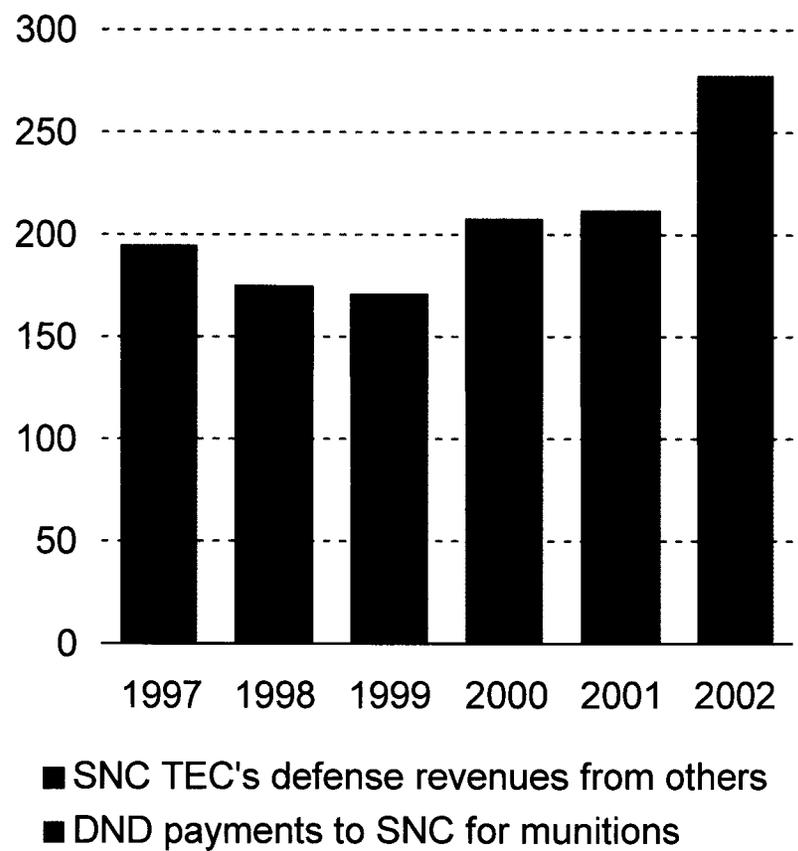
Where has munitions production privatization been successful?

In Canada—Canadian Arsenals Ltd was privatized in 1986

- Founded in 1881 as the Government Cartridge Factory
- Established as a Crown Corporation in 1947
- Some privatizations carried out in the 1960s
- Privatized in 1986 to SNC (now SNC Lavalin) as part of the Mulroney (Tory) government's privatization drive
- Long-term preferred supplier to the Department of National Defence (DND)
- Armaments subsidiary SNC TEC has since become a leading competitor in the international munitions market
 1. Despite the DND's progressive decreases in munitions spending, and
 2. Partly as a result of the DND's shift to fixed-price contracting in 1997

Fixed-price, arms-length contracting provided the incentive to drive down costs—and thus made SNC TEC internationally competitive
- Now a leading supplier to the US ground forces of 105 mm, 120 mm, and 155 mm howitzer and mortar ammunition

SNC TEC's munitions revenues 1997 to 2002 (C\$ MM)



Source: W. Michael Hix, et. al., *Lessons from the North: Canada's Privatization of Military Ammunition Production*, MG-169 (Santa Monica: RAND, 2004). Data provided by the Government of Canada, Maurice Boileau (DND), and Brian Berger (SNC TEC). Analysis and financial conversions provided by CRA. More recent figures were not immediately available. SNC TEC's defense revenues include some monies from the sale of fire protection equipment, but this only furthers the case for privatization



Why is privatization better than closure?

Privatization is more cost-effective for the government in the long run

- Privatization reduces the Defense Department's industrial holdings at least as effectively as closure. At worst, the privatized plant will fail, and the military will not have paid for the closure

As an example, consider SNC TEC of Quebec. SNC is D&Z's most effective competitor in hand grenade production, and a formidable competitor in general. If OSD moves hand grenade production equipment to a GOGO or AO facility, but SNC wins the next contract, then closure will certainly prove to have been less cost-effective for the government than privatization

- Privatization retains domestic competition in the munitions industry. SNC TEC is an excellent firm, and it is the most likely strategic beneficiary of OSD's recommendations should they pass into law
- Privatization assigns responsibility for industrial management to industry, and lets industry make the decisions about capacity and consolidation. There may be overcapacity in the munitions business, but privatization lets the market decide who will win. In the process, the least efficient producers are driven out. The government cannot be assured that it will correctly pick the most cost-effective firms.

Witness OSD's gross misunderstanding of the production economics at the Kansas and Lone Star AAPs: OSD cannot be expected to manage the industry effectively at the plant level. This is why, in the long run, closure by market forces is much more cost-effective than closure by administrative fiat

- Privatization has been successfully demonstrated in the UK, Australia, and Canada. The British and Australian governments are satisfied with BAE and ADI's management of munitions, and SNC TEC in particular has been very effective at reducing its prices by spreading its overheads across export contracts as well. *This has been very cost-effective for the Canadian government*
- Privatization is low-risk. If the privatized Kansas and Lone Star munitions businesses fail, then nothing will have changed—the plants will close all the same

Private industry should be afforded the opportunity to try to make the business successful

About CRA

CRA International is a global consultancy focused on matters of law, regulation, and business strategy. Our projects involve the application of economics and finance to large, complex, high-stakes cases. Our commitment to quality assurance and our blue chip reputation are long-established



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